Outlook

2-3 items for weekly w/ Ben

From Mark Ignash (MEDC) <ignashm1@michigan.org>
Date Mon 11/25/2024 7:06 AM
To John Gutierrez (MEDC-Representative) <gutierrezj5@michigan.org>

John,
Here are a few items from last week for consideration to include in your weekly w/ Ben based on my activities (I may not have this much each week, however there was a good deal of activity last week to capture):

- Advancement of space sector campaign – last week I was able to realize steps forward for all current lines of effort, including
  - Innovation Hub: RFI development and plan to release, as well as development of potential partnership with UM
  - Space Challenge – USCG has reengaged, and I'm working to further develop our partnership with USSPACECOM in this regard. Planning committee for this effort is also being finalized.
  - Space COI – planning for the next meeting is moving forward, we are targeting January/February. Work on the vision of these meetings going forward is progressing.
  - In-market engagement – I am locked in for SFA SpacePower Conference in December, and Andy Dallas will be joining to support.
- Aerospace States Association
  - We are beginning to crystalize our engagement profile for the coming year, and last week I held a call with Katelyn Wilcox and Tony Vernaci to begin to lay out plans and requirements to execute. At minimum this will include:
    - Four virtual ASA quarterly meetings
    - ASA Annual meeting (in-person)
    - ASA/State of Michigan inaugural event – tentatively we are looking to build onto AIAM's preexisting Legislator Day which would provide an ideal forum for this activity
- NADWC Development
  - Held joint call with MING and UM to explore feasibility of rocket testing at Camp Grayling. If this pans out, this would create a win for both NADWC asset development/utilization, as well as space asset development w/in Michigan

-Mark

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December 6, 2024

INFORMATION PAPER

Subject: Office of Defense & Aerospace Innovation (ODAI) Monthly Summary of Activities

1. **Purpose**. Provide Ben Marchionna a summary of ODAI's activities for November 2024.

2. **Key Areas of Interest**.

- **ODAI Resourcing**. ODAI is evaluating emerging personnel requirements. After the assessment is finalized, we will provide our recommended growth plan.
- **ODAI Strategic Plan**. ODAI is focused on developing a draft of the State's strategic plan for Defense & Aerospace Innovation. The goal is to have the first draft ready for MEDC input prior to Michigan Military Advisory Board's first meeting on January 16, 2025.
- **Military Advisory Board**. This board will provide advice on National Security needs, Department of Defense programs and plans and the Service priorities, gaps and challenges specifically associated with materiel requirements. The members of the Military Advisory Board shall then advise and make non-binding recommendations to the MEDC and the ODAI with respect to focusing investments and assets to accelerate industrial alignment with DoD challenges. ODAI/MEDC is providing contracting support for this board. Three of four members of this board are on contract
    - Admiral Moran, U.S. Navy (Ret.) – MEDC legal is currently verifying registration in LARA. Meanwhile, ODAI has requested that MEDC legal advance the agreement concurrently with the confirmation process.

3. **Events.**

- On November 1, ODAI participated in a meeting with members of the Michigan Air National Guard (MIANG) to discuss collaborating to obtain Federal Lab designation for the Kelly Johnson Joint All-Domain Innovation Center.
    - Federal Lab designation is key to support a Michigan based, MING/MEDC centered Partnership Intermediary Agreement (PIA).
    - Participants from the MIANG included Col Mike Whitefoot and CMSgt Thomas Crider.
- On November 1, ODAI met with US Space Command's Academic Engagement Enterprise (AEE) Program team. The University of Michigan is exploring involvement, and there's potential for other Michigan institutions to participate as well. This engagement aligns with our Space sector strategy and the talent development pillar. We'll be discussing further collaboration internally with the MEDC Talent Team.
- On November 4, ODAI participated in the TAG Executive Huddle and the Macomb County Aerospace and Defense Committee Meeting.
    - Multiple business and government leaders participated, including Sen. Webber.

- On November 5, ODAI participated in a meeting with DEFENSEWERX, a 501 (c)(3) that operates multiple Partnership Intermediary Agreements with Federal partners/labs, as well as operates10 active innovation hubs.
    - These innovation hubs include DHS, DOE, SOCOM, AFRL, Navy, Marine Corps, and NRO.
    - ODAI will continue to explore potential partnership for PIA opportunities.
- On November 6, ODAI participated in an information meeting with the Department of Defense's Office of Strategic Capital (OSC).
    - On September 30, 2024, the OSC announced its first Notice of Funding Availability (NOFA). This NOFA outlines the eligibility criteria and application process for OSC loans aimed at accelerating the commercialization and scaling of production for critical technologies.
    - The funding will support companies' equipment needs in 31 technology categories identified in the FY24 National Defense Authorization Act (NDAA).
- On November 6, ODAI participated in a meeting with the University of Michigan to understand:
    - A potential opportunity for rocket test infrastructure within MI, and potentially the NADWC. Pending additional vetting by ODAI, next steps will be to connect with MING to discuss interest/feasibility.
    - Potential development of a “Enhancing Leadership in Environmentally Viable Aviation with Transformative Enabling Solutions (ELEVATES) Facility”, which would be an integrated testbed for the development of advanced hybrid propulsion and power solutions to achieve zero-emission sustainable aviation. Nadia Abunasser, MEDC Federal Programs Director, also joined this meeting.
- On November 7, ODAI led a planning session with the Michigan Military Coalition (e.g., NDIA, WID, etc.) for a Michigan Defense & Aerospace Summit (MIDAS) Leadership Forum to be held in Lansing during September 2025.
    - The MIDAS leadership forum aims to collaboratively preserve and expand the state's defense footprint.
    - Invitees will include innovation centers, resource groups, academia, industry and government leaders, economic groups, tribes, and chambers statewide, the summit will focus on leveraging these diverse entities to explore diversification and expansion opportunities within the defense and aerospace industries.
    - ODAI will be targeting senior DoD/DHS leaders and Federal/State legislators to participate as speakers.

- On November 8, ODAI participated in a Navy sponsored event at Macomb Community College.
    - ODAI met privately with RDML Pete Small, USN (Deputy Commander for Ship Design, Integration, and Engineering, Naval Sea Systems Command)
- On November 8, ODAI participated and sponsored in the Women in Defense: Defense After Dark Gala.
- On November 11, John Gutierrez was interviewed by Macomb County Executive Mark Hackel, during a Veterans Day Live Broadcast on radio station WJR.
- On November 12, ODAI participated in a quarterly meeting with the APEX Accelerators to refine the CY25 ODAI Defense & Aerospace Townhalls. These Townhalls are a part of ODAI's outreach program, as ODAI informs local stakeholders of the opportunities and resources available to Michigan's defense and aerospace businesses. The CY25 schedule is as follows (exact dates are still being confirmed):
    - January 2025 - Move America APEX Accelerator in Dearborn, MI.
    - February 2025 - East Michigan APEX Accelerator. Represents Huron, Tuscola, Sanilac, Shawassee, Genesee, Lapeer, and St. Clair counties.
    - March 2025 - West Michigan APEX Accelerator. Represents Mason, Lake, Osceola, Oceana, Newaygo, Mecosta, Montcalm, Kent, Muskegon, Ottawa, Ionia, Allegan, and Barry counties.
    - April 2025 - Schoolcraft College APEX Accelerator & Wayne State APEX Accelerator (1 event). Represents Livingston, Washtenaw, Monroe, Wayne, and Oakland counties.
    - May 2025 - Macomb Regional APEX Accelerator. Represents Wayne County.
    - June 2025 - Northeast APEX Accelerator and Northwest APEX Accelerator Combined (One in the Upper Peninsula and one in Upper Michigan). Represents Cheboygan, Presque Isle, Otsego, Montmorency, Alpena, Crawford, Oscoda, Alcona, Roscommon, Ogemaw, Iosco, Emmet, Charlevoix, Antrim, Kalkaska, Missaukee, Wexford, Grand Traverse, Manistee, Benzie, Leelanau, Mackinac, Chippewa, Luce, Schoolcraft, Alger, Delta, Menominee, Marquette, Dickinson, Iron, Baraga, Keweenaw, Houghton, Ontonagon, and Gogebic counties.
    - July 2025 - South Central APEX Accelerator. Represents Clinton, Eaton, Ingham, Jackson, Hillsdale, and Lenawee counties.
    - August 2025 - Southwest APEX Accelerator. Represents Berrien, Van Buren, Cass, Kalamazoo, St. Joseph, Calhoun, and Branch counties.

- On November 13, ODAI participated in an Aerospace Industry Association of Michigan luncheon in Grand Rapids, MI.
- On November 14, ODAI engaged with our local Foreign Commercial Service Officer with the Department of Commerce with the intent of further developing ODAI's relationship with the Foreign Commercial Service (FCS).
    - The FCS recently approached ODAI with aerospace supply chain requirements for the Peruvian Army.
    - ODAI is continuing to explore this opportunity with the Peruvian Army, as well as a partnership with FCS.
- On November 14, ODAI participated in the Defense Integrate and Innovate Summit in Troy, MI.
    - Sponsored in partnership with ODAI and Oakland Thrive
    - The event was attended by ~207 people
- On November 15, ODAI provided an update to the Michigan Legislative Aerospace & Defense Caucus.
- On November 18, ODAI met with Tribal leaders from the Waseyabek Nottawaseppi Huron Band of Potawatomi and toured their supplier portfolio on the west side of Michigan.
- On November 19, ODAI met with the Michigan Israel Business Accelerator (MIBA) and Spear UAV, an Israeli company that has expressed interest in a deeper engagement within Michigan. ODAI facilitated introductions with the USMC PM Light Armored Vehicle Office, the Joint Light Tactical Vehicle Program Office, and with AM General.
- On November 19, ODAI met with the Aerospace & Defense Caucus Co-Chairs and the Detroit Chamber. The Chamber aims to elevate Michigan's defense industry by forming an alliance of stakeholders to develop a statewide defense and aerospace strategy through a public-private partnership.
    - The Detroit Chamber's proposal is concerning because it directly competes with the mission of ODAI.
- On November 19, ODAI hosted a tour for the Co-Chairs of the Aerospace & Defense Caucus at Velocity in Sterling Heights, MI.
- On November 20, ODAI met with 313 Industries, Inc. in Warren, MI.
- On November 21, ODAI participated in the Beyond Visual Line of Sight (BVLOS) contract kick-off meeting with Thales, OFME, DMVA, and MDOT.

- On November 21, ODAI, the Aerospace Industry Association of Michigan, and MEDC protocol held a call to plan the next steps for Michigan following our recent membership in the Aerospace States Association (ASA).
    - The ASA is a non-partisan 501(c)(3) organization including Lieutenant Governors, Governor-appointed delegates, state legislators, and representatives from territorial and tribal governments. Associate members are from aerospace businesses, organizations, and academia. ASA is unique in advocating for state-based perspectives on federal aerospace policy.
- On November 21, ODAI held a call with COL Lanczy (Camp Grayling Base Commander), the University of Michigan, and the Space Finance Corporation to discuss developing rocket test capabilities within the NADWC. COL Lanczy will review with this concept his team and follow up with any additional questions or concerns before determining next steps.
- On November 21, ODAI met with MEDC legal to discuss the timeline and framework for releasing an RFI (Request for Information) for establishing a Space Innovation Hub in Michigan. Progress continues smoothly, with no concerns about the RFI release.
- On November 22, ODAI participated in an initial meeting to discuss establishing a Michigan Drone Innovation & Manufacturing Center with the Centropolis Defense Hardtech Accelerator.
    - The Michigan Drone Innovation & Manufacturing Center is a collaborative initiative designed to position Michigan as a national leader in defense drone technology development and manufacturing (UGVs, AMRs, UAVs, VTOLs).
    - A partnership between the Michigan Economic Development Corporation (MEDC) and the Centrepolis Defense Hardtech Accelerator could offer comprehensive support for the commercialization of advanced drone technologies. This includes design, engineering, prototyping, and manufacturing, ensuring a smooth transition from concept to deployment.
- On November 22, ODAI met with Col Whitefoot and CMSgt Crider from the Michigan Air National Guard, as well as representatives from the Roosevelt Group to discuss a potential way forward for the Kelly Johnson Joint All-Domain Innovation Center to achieve Federal Lab status.
- On November 22, ODAI met with representatives from the Italian Consulate in Detroit. ODAI will be participating in an Italian Space Day event on December 16th.
    - This event will celebrate 60 years of Italy in space and will highlight Michigan's growing leadership in space innovation. Michigan's aerospace and engineering

sectors are crucial in advancing space technologies and contributing to the U.S. space economy.

- On November 25, ODAI met with SAPA Transmission in Sterling Heights, MI about a potential opportunity for expansion.
- On November 25, ODAI met with the University of Michigan's Space Institute to discuss their application for a new Space Force Institute focused on Advanced Remote Sensing. U of M is a key partner in our space campaign, particularly in developing a Space Innovation Hub. Remote sensing is a promising area for collaboration and alignment.
- On November 25, ODAI met with the MEDC attraction team to discuss attracting Beyond Vision, a drone manufacturer seeking its initial US footprint. They require integration into local Advanced Aerial Mobility (AAM) ecosystems, VC financing, partnerships, and in-state drone demos.
- On November 26, ODAI met with Brig Gen Mike Dudzik, USAF (Ret.) from IQMRi for a discussion on recent Artic Forum activities, the Connected Vehicle Cybersecurity Center, and follow on ODAI support activities.

4. <u>Significant Upcoming Events in December</u>.

- On December 10, ODAI will co-sponsor and host a Defense Innovation Consortium Conference at Central Michigan University.
    - The purpose is to discuss the development of a Defense Innovation Consortium, comprised of State's mid to small-sized universities, to leverage their collective strength to support the National Defense Strategy and the National Defense Industrial Base improvement strategy.
        - This Consortium would enhance the state's capacity to compete for Federal research, development, and innovation grants.
    - Currently, the College of Engineering Deans from Central Michigan University, Detroit Mercy, Eastern University, UM Dearborn, UM Flint, Grand Valley State University, Kettering University, Lawrence Tech, Michigan Tech, Oakland University, Saginaw Valley State University, Western University are interested in attending.
- On December 11, ODAI will meet with RENK America in Muskegon, MI.
- On December 16, ODAI will participate in a tour of the Waterfront Petroleum Terminal with the Detroit Port Authority.
- On December 16, ODAI will participate in the Italian Consulate of Detroit's Italian Space Day event.

- On December 18, ODAI will attend and participate in a NADWC focused Director's offsite at Camp Grayling with representatives from the MING.
- On December 19, ODAI will participate in a partnership discussion with the Michigan Manufacturing Technology Center in Plymouth, MI.
- On December 20, ODAI will meet and provide an update to the Michigan Legislative Aerospace and Defense Caucus.

Prepared by: John T. Gutierrez, Jeanne Schabath-Lewis, and Mark Ignash

Approved by: John T. Gutierrez, (586) 318-9110

Outlook

ODAI Monthly Summary of Activities (March 2025)

From John Gutierrez (MEDC-Representative) <gutierrezj5@michigan.org>
Date Fri 4/11/2025 1:24 PM
To Ben Marchionna (MEDC) <marchionnab@michigan.org>
Cc Mark Ignash (MEDC) <ignashm1@michigan.org>; Jeanne Schabath-Lewis (MEDC) <schabath-lewisj@michigan.org>

1 attachment (53 KB)
ODAI Monthly Summary (Mar 25).pdf;

Hi Ben,

Please find the attached summary of ODAI's activities for March 2025. As we previously discussed and for your awareness, I wanted to highlight some notable activities and accomplishments by Jeanne and Mark during this timeframe.

Jeanne

1. Rafael Advanced Defense Systems – Expansion Efforts

Through Jeanne's continued engagement with Rafael Advanced Defense Systems (RADS), Macomb County Economic Development successfully secured a location and funding for RADS under the International Landing Zone at the Velocity Center in Sterling Heights. Given RADS' priority to establish a presence within the Defense Corridor, this site was identified as the optimal location. A public announcement regarding this domestic expansion is scheduled for mid-April, further solidifying Michigan's role in supporting defense-sector innovation and investment.

2. Michigan Maritime Strategy Engagement

Jeanne participated in the Michigan Maritime Strategy event **at** the University of Michigan, where she delivered a briefing on the M3 Initiative. Based on her expertise, she was invited to lead a workshop later that same day, further contributing to the discussions. The full-day event provided valuable opportunities to establish strong connections and engage in meaningful conversations, all of which will help advance preparations for the June Supplier Conference.

3. Veteran Business Engagement & Workforce Development Efforts

Jeanne initiated discussions with Keith King, CEO of the National Veteran Business Development Council, to explore opportunities for Team ODAI and Workforce Development to strengthen engagement with veteran-owned and service-disabled veteran-owned businesses (SDVOSBs) in Michigan. This collaboration aims to attract and support veteran entrepreneurs, while enhancing workforce development efforts tailored to veterans. The initiative aligns with key objectives, including the DoD's 5% SDVOSB procurement goal and the Governor's commitment to cultivating, retaining, and attracting talent to Michigan.

Mark

1. Space Campaign Update.
Mark successfully completed the review and consolidation of the Space Hub RFI and has begun the development of hub requirements. Additionally, efforts are underway to onboard a third-party vendor to facilitate the Space Hackathon Challenge, which is scheduled to take place this Fall.

2. AeroMart Montreal.

Mark played a pivotal role in the successful execution of AeroMart Montreal, facilitating engagement with 20 Michigan companies and coordinating approximately 400 B2B meetings. These efforts have already yielded promising initial outcomes, with anticipated deals ranging from $50,000 to $8 million over the next 6 months to 2 years. Additionally, through a developing relationship with the Polish Investment & Trade Agency, Mark has helped establish a potential on-ramp for business attraction opportunities, further expanding Michigan's global economic reach.

3. Silicon Crossroads Microelectronics Commons (SCMC) Hub Engagement

Mark, serving as the State of Michigan's representative on behalf of MEDC/ODAI, actively participated in the SCMC Hub Members Meeting, presenting to the Hub membership. As part of his engagement, he successfully secured a commitment from ARI, the Hub lead, to host the next SCMC Members Meeting in Michigan, coinciding with the SemiMidwest Expo, which will also take place in the state. This strategic alignment provides Michigan a valuable opportunity to engage with nearly 1,000 hub members from industry and academia, all focused on advancing lab-to-fab innovation in microelectronics for the DoD.

Please let me know if you have questions or would like to further discuss. Thanks.

Best, John

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Outlook

ODAI Space Campaign & Innovation Hub

From Mark Ignash (MEDC) <ignashm1@michigan.org>
Date Tue 12/23/2025 8:50 AM
To Alison Todak (MEDC) <todaka@michigan.org>

2 attachments (9 MB)
Revised_Space_Strategic_Plan_Campaign_FY26AD_MI.docx; Innovation Hub One Pager v2_mei.pptx;

Alison,

As referenced prior when we met, for your review/awareness please see attached for our current FY26 space campaign (which will be embedded in our overall ODAI strategy) as well as a one-pager describing the innovation hub. Let me know if you have any questions, and in the meantime, enjoy the holidays!

-Mark

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Outlook

ODAI's Summary of Monthly Activities (December 2024)

From John Gutierrez (MEDC-Representative) <gutierrezj5@michigan.org>
Date Tue 1/7/2025 3:27 PM
To Ben Marchionna (MEDC) <marchionnab@michigan.org>

1 attachment (126 KB)
ODAI Monthly Summary (Dec 24).pdf;

Ben,

Please find the attached summary of ODAI's activities for December 2024. As we previously discussed and for your awareness, I wanted to highlight some notable activities and accomplishments by Jeanne and Mark during this timeframe.

Jeanne:

- Jeanne has been leading the planning for the M3 Supplier Conference, scheduled for mid-June 2025. After extensive discussions, it was decided to hold the conference after MDEX and before GVSETs and Gold Coast. We are currently waiting for the Navy to confirm the date. This timing aligns with the completion of the first Macomb Community College (MCC) cohorts. We aim to involve General Dynamics Electric Boat, Huntington Ingalls, and Newport News. Once the date is confirmed, we will host a "Get Ready for the Navy" webinar. Additionally, Jeanne has connected Barron Industries with MCC for workforce development. Barron Industries is Michigan's leading investment casting house for defense. MCC will continue discussions and explore potential expansion of the M3 workforce development program, possibly including castings.
- Jeanne has volunteered to join the new NDIA initiative to create a policy committee. We are extremely excited that she is going to be part of this effort, as it will greatly benefit ODAI. The goal is to leverage NDIA Michigan to enhance policies and funding for companies in the state. This is the first time the NDIA Michigan Chapter is adopting an approach that has been successful in other states.
- Jeanne successfully completed the first 4-month "2 at 2s" webinar series on transitioning into defense and aerospace. She recently announced the second series, "Air and Space," which will feature NASA and Missile Defense. Stakeholders have requested another CMMC session focusing on the breakdown of the 3 levels, which is being planned as a pop-up webinar in the New Year. Jeanne is also starting to solicit speakers for the third webinar series, "Sea."
    - For your awareness, the "2 at 2s" webinar series has garnered significant popularity. I've received numerous compliments about Jeanne's performance from multiple stakeholders who have participated.

Mark:

- Mark successfully published the Space Innovation Hub Request for Information (RFI) on schedule. It is now available on the MEDC public notices page and is set to close on January 24, 2025.

- Mark had a successful engagement at the SFA Spacepower Conference, where he established key contacts with SpaceWERX, NSTXL Space Enterprise, Keystone Space Collaborative, and others. He is now working to connect these contacts with our ecosystem through the 2's at 2's webinar and other forums, aiming to link Michigan's industry with space opportunities.

- Mark led the planning efforts for AUVSI Xponential 2025, which will be the final Xponential conference before it comes to Detroit in 2026. To increase our presence as we prepare to host next year, this year's strategy includes a significant Team Michigan pavilion that can host up to 12 companies and partners. A cross-functional MEDC team, led by ODAI and including members from OFME, Business Attraction, and MARCOMM, is being assembled to attend the event.

Please let me know if you have any questions or would like to further discuss. Thank you.

Best, John

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Outlook

ODAI's Summary of Monthly Activities (November 2024)

From John Gutierrez (MEDC-Representative) <gutierrezj5@michigan.org>
Date Thu 12/5/2024 1:44 PM
To Ben Marchionna (MEDC) <marchionnab@michigan.org>

1 attachment (137 KB)
ODAI Monthly Summary (Nov 24).pdf;

Ben,

Please find the attached summary of ODAI's activities for November 2024. As we previously discussed and for your awareness, I wanted to highlight some notable activities and accomplishments by Jeanne and Mark during this timeframe.

Jeanne:

- Jeanne is an exceptionally talented and proactive addition to the ODAI team. She independently created and consolidated documents from other MEDC teams, establishing an ODAI Document Repository and Index Library.
- She successfully led multiple planning sessions with the Michigan Military Coalition for the Michigan Defense & Aerospace Summit (MIDAS) Leadership Forum, set for September 2025 in Lansing, developing the initial agenda, task tracker, program, and event roadmap.
- Additionally, Jeanne engaged with Tribal leaders from the Waseyabek Nottawaseppi Huron Band of Potawatomi and toured their supplier portfolio on the west side of Michigan. She facilitated discussions on potential future investments, introduced them to prime contractors outside of Michigan, and discussed the upcoming MIDAs Conference. Jeanne's contributions significantly enhanced our team’s capabilities and outreach.

Mark:

- Mark is demonstrating superb leadership in securing ODAI’s partnership with U.S. Space Command, including their commitment to the upcoming Space Community of Interest meeting and Space Challenge.
- He is also expertly guiding the Connected Vehicle Cybersecurity Center (CVCC) and Arctic Forum Initiatives, engaging in advanced discussions with the IQM Research Institute on further development and federal funding for the CVCC asset at Selfridge ANGB, and strategically positioning Michigan in the Arctic domain.
- In addition, Mark is leading the Silicon Crossroads Microelectronics Commons Hub, collaborating with partners in Indiana and Illinois to craft a 2025 strategic approach. He is integrating the Talent Team into this initiative, ensuring workforce development remains a priority. His efforts are driving significant progress and creating valuable opportunities for Michigan.

Please let me know if you have any questions or would like to further discuss. Thank you.

Best, John

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Outlook

Re: DIU Engagement - ODAI Space Campaign

From Andrew Dallas <adallas@dallasrd.com>
Date Tue 11/25/2025 10:55 AM
To Mark Ignash (MEDC) <ignashm1@michigan.org>
Cc Helena Krusec CTR <hkrusec.ctr@diu.mil>; John Kormash <john.kormash@grakorgroup.com>

2 attachments (715 KB)
Innovation Hub One Pager Final1.pdf; Space Innovation Hub RFI.pdf;

Helena,

I hope all is well. I am providing a couple docs on the Space Innovation Hub for your review. The first is a one-pager that describes the hub and identifies a need that we need filled, a customer(s) that can help identify one or two proxy problems that the residents of the hub can use when developing their solutions. Perhaps DIU can assist with finding the right organization to help us. The second doc is the RFI we sent to interested parties that we used to help identify the requirements for the hub. These requirements will, in turn, be used to scope the RFP that will be released at the beginning of the 2026 calendar year.

Regarding the USCG, please reach out to CDR David Gonzalez, david.s.gonzalez@uscg.mil (910.398.0595). CDR Gonzalez has been a huge advocate of the Space Hackathon we are currently executing. He can connect you to the right person in the Coast Guard once he learns your interests.

I hope this helps. Let me know if you have any questions.

Andy

From: "Mark Ignash (MEDC)" <ignashm1@michigan.org>
Date: Monday, November 24, 2025 at 4:02 PM
To: Andrew Dallas <adallas@dallasrd.com>
Cc: Helena Krusec CTR <hkrusec.ctr@diu.mil>, John Kormash <john.kormash@grakorgroup.com>
Subject: DIU Engagement - ODAI Space Campaign

Andy,

I had the opportunity to meet up with Helena Krusec this past week, and a few action items emerged.

1. Can you help to facilitate an intro to USCG for Helena? She's been trying to engage to no avail – perhaps our contacts will be open to a discussion with her.
2. Helena is looking to lean in more re: our Space Innovation Hub initiative and ensure both she and her teammates are appropriately read-in to support. Would you be able to share with her any documentation we have on hand (hub vision/description, RFI, etc.) that will help her to be better informed about this?

Helena,

Please let me know if there's anything that I missed re: space.

Thanks!

-Mark

Mark E. Ignash, GWCCM
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Outlook

RE: Due 7 FEB Review & Input: January's ODAI Monthly Summary & Top 3

From Mark Ignash (MEDC) <ignashm1@michigan.org>
Date Fri 2/7/2025 8:55 AM
To John Gutierrez (MEDC-Representative) <gutierrezj5@michigan.org>; Jeanne Schabath-Lewis (MEDC) <schabath-lewisj@michigan.org>

Thanks, John.

I'd actually like to request a cc vs. bcc. as to have a bit more direct connection/visibility with Ben. Perhaps one small way to promote opening of channels. Happy to chat more if you'd like.

Thanks,

-Mark

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From: John Gutierrez (MEDC-Representative) <gutierrezj5@michigan.org>
Sent: Friday, February 7, 2025 5:43 AM
To: Mark Ignash (MEDC) <ignashm1@michigan.org>; Jeanne Schabath-Lewis (MEDC) <schabath-lewisj@michigan.org>
Subject: Re: Due 7 FEB Review & Input: January's ODAI Monthly Summary & Top 3

Mark,

Not a problem at all, I have tried to always bcc you and Jeanne. I will continue to do so in the future. Thank you.

John

John T. Gutierrez

Colonel, U.S. Marine Corps (Ret.)
Executive Director, Office of Defense & Aerospace Innovation
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Mobile: +1 (586) 318-9110 | gutierrezj5@michigan.org

From: Mark Ignash (MEDC) <ignashm1@michigan.org>
Sent: Thursday, February 6, 2025 10:50 PM
To: Jeanne Schabath-Lewis (MEDC) <schabath-lewisj@michigan.org>; John Gutierrez (MEDC-Representative) <gutierrezj5@michigan.org>
Subject: RE: Due 7 FEB Review & Input: January's ODAI Monthly Summary & Top 3

John,

I forgot to note in my prior email however can you please cc Jeanne and I on these emails to Ben with the monthly updates? I think you may have in the past however just wanted to note this just in case.

Thanks!

-Mark

Mark E. Ignash, GWCCM
Strategic Initiatives & Ecosystem Development Director
Michigan Office of Defense & Aerospace Innovation (ODAI)

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Mobile: +1 517-256-0774 | ignashm1@michigan.org

From: Mark Ignash (MEDC)
Sent: Thursday, February 6, 2025 7:27 PM
To: Jeanne Schabath-Lewis (MEDC) <schabath-lewisj@michigan.org>; John Gutierrez (MEDC-Representative) <gutierrezj5@michigan.org>
Cc: Mark Ignash (MEDC) <ignashm1@michigan.org>
Subject: RE: Due 7 FEB Review & Input: January's ODAI Monthly Summary & Top 3

Team,

Please see attached for the doc with my inputs.

Also, my three items for January:

1. Appointment as Vice-Chair of NDIA-Michigan's inaugural Aerospace Committee. I will have ability to help craft the Chapter's strategy towards aerospace, which I foresee aligning with the ODAI framework of traditional aviation, advanced aerial mobility, and space.
2. Brokered ODAI/MEDC membership within U.S. Space Command's (USSPACECOM) Academic Engagement Enterprise (AEE), as noted within the monthly summary.
3. Developed and delivered initial aerospace asset map for usage at in-market engagements, covering traditional aviation and space for near-term events. A follow-on version to include additional advanced aerial mobility assets will be developed next.

In additional to the above and for Team ODAI primarily at this stage, for team awareness please see below for my near-term priorities (I'd be glad to further discuss any/all topics):

- IDEX planning and execution
- Contractor invoice/report processing, prioritizing MMAB
- IQMRi Grant (CVCC, Arctic Forum, SCIF, Data Center)
- TRG Contract
- AUVSI Xponential Planning
  - Recruitment
  - UTC marketing alignment
- Space Challenge/Hackathon
  - Contract development for services to facilitate challenge and provide technical support
  - Refine USCG problem set
  - Explore alignment with West MI - Coast Guard City
- Space innovation hub
  - Synthesis of RFI responses & next steps assessment
- Proposal Writing Services Grant Program
  - Vendor contract amendments

Thanks,

-Mark

Mark E. Ignash, GWCCM
Strategic Initiatives & Ecosystem Development Director

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From: Jeanne Schabath-Lewis (MEDC) <schabath-lewisj@michigan.org>
Sent: Wednesday, February 5, 2025 4:08 PM
To: John Gutierrez (MEDC-Representative) <gutierrezj5@michigan.org>; Mark Ignash (MEDC) <ignashm1@michigan.org>
Subject: RE: Due 7 FEB Review & Input: January's ODAI Monthly Summary & Top 3

Cheers,

-Jeanne Schabath-Lewis

Jeanne Schabath-Lewis
Stakeholder Engagement Director
Michigan Office of Defense & Aerospace Innovation

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300 N. Washington Square | Lansing, MI 48913
Mobile: +1 517-420-9305 | schabath-lewisj@michigan.org

From: John Gutierrez (MEDC-Representative) <gutierrezj5@michigan.org>
Sent: Wednesday, February 5, 2025 2:46 PM
To: Jeanne Schabath-Lewis (MEDC) <schabath-lewisj@michigan.org>; Mark Ignash (MEDC) <ignashm1@michigan.org>
Subject: Due 7 FEB Review & Input: January's ODAI Monthly Summary & Top 3

Team,

Please find the attached (draft) monthly summary of ODAI's significant activities, as well as those significant activities for February 2025. As always, review and provide your inputs/edits via track changes. Last, please provide your "top 3" if you have not already done so. Thank you.

Best regards,
John

John T. Gutierrez, PMP
Colonel, U.S. Marine Corps (Ret.)
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Outlook

RE: January COI

From Mark Ignash (MEDC) <ignashm1@michigan.org>
Date Mon 11/10/2025 9:22 AM
To 'Andrew Dallas' <adallas@dallasrd.com>; John Kormash <john.kormash@grakorgroup.com>

Thanks, Andy. I've adjusted the invite.

-Mark

Mark E. Ignash, GWCCM
Strategic Initiatives & Ecosystem Development Director
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From: Andrew Dallas <adallas@dallasrd.com>
Sent: Monday, November 10, 2025 8:49 AM
To: Mark Ignash (MEDC) <ignashm1@michigan.org>; John Kormash <john.kormash@grakorgroup.com>
Subject: Re: January COI

Mark,

Yes, I can make 0800 work.

Andy

From: "Mark Ignash (MEDC)" <ignashm1@michigan.org>
Date: Monday, November 10, 2025 at 8:35 AM
To: John Kormash <john.kormash@grakorgroup.com>, Andrew Dallas <adallas@dallasrd.com>
Subject: RE: January COI

John,

Please see below for my responses in green.

Andy, I now have a conflict from 1000-1100 – would you be able to meet earlier? Perhaps start at 0800 or 0830 to end at 1000?

Thanks,

-Mark

Mark E. Ignash, GWCCM
Strategic Initiatives & Ecosystem Development Director
Michigan Office of Defense & Aerospace Innovation (ODAI)

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From: John Kormash <john.kormash@grakorgroup.com>
Sent: Friday, November 7, 2025 4:19 PM
To: Andrew Dallas <adallas@dallasrd.com>; Mark Ignash (MEDC) <ignashm1@michigan.org>
Subject: RE: January COI

Hi Mark and Andy,

As January 21 will come quickly given the holidays approaching, I'd like to get out in front of this meeting as much as we can. Perhaps at next weeks team meeting (which I'll be unable to attend), you could touch base on this and I will circle back.

There are a few actions (and others I'm sure I'll miss) that we should consider:

1. Secure the appropriate meeting room/venue at MEDC (let me know if there's someone I should work with) and catering considerations
   I can work with our facilities team to secure the Lake Michigan room (our largest room). We can arrange the room in several ways however I recommend we utilize a U-shape with tables/chairs to facilitate more of a round table feeling and less like a classroom. Thoughts? I can also work with the team to estimate capacity based on desired configuration as well.
2. Zero in on a meeting time for the 21st. 12-4pm??
   Good question. I'd say 12-3pm - time for lunch, quick ODAI updates, and then we can walk into the RFP discussion. We'll want to keep the agenda tight as I suspect (as is already the case) folks are going to want to drill for additional information that we don't have and/or are just unable to provide in accordance with a fair and open process.
3. Publish a 'save the date email' to the COI , the quarterly ODAI newsletter, and perhaps the ODAI website about the meeting date, how to register to attend and sign up for the Lightning pitches.
4. Develop an Innovation Hub website as part of ODAI to support the upcoming meeting as well as RFP related information

a. Does MEDC have access to a preferred registration site such as Eventbrite.com? Or we can include this on an ODAI site (above), or I can come up with an approach
I can ask our events team to put a registration link together through CVENT, and I'd cc you as to help get the ball across the line. We would place this link in our email comms out to the group. Based on recent discussion with our web team, I don't expect a lot of immediate action on site updates – we will need to rely on tight email comms to ensure updates are shared in a timely manner.

5. Begin defining what presentation material is desired to support the COI meeting (Hub-related info) and messaging – yes – Andy, let's make this a focal point for Thursday as well.

Thanks.

John

From: Andrew Dallas <adallas@dallasrd.com>
Sent: Friday, October 10, 2025 10:13 AM
To: Mark Ignash (MEDC) <ignashm1@michigan.org>; John Kormash <john.kormash@grakorgroup.com>
Subject: January COI

Good morning Mark,

Here is a summary of our discussions regarding the January COI meeting.

Date: 21 January 2026
Theme: Space Innovation Hub RFP Industry Day
Location: MEDC Lansing Headquarters
Agenda:

- Welcome and introductions (15 minutes)
- Briefing on the ODAI vision for the Space Innovation Hub (draw from the RFI and recent discussions with the space ecosystem) (45 minutes)
  - Purpose of the hub
  - General approach (roles of ODAI and performer)
  - Delineation of what is within scope (and outside the scope) of the activity
  - Schedule
  - Contracting: type(s), elements of the cost proposal, who is and is not eligible to participate, reporting mechanisms
- Lightning pitches: 5 minute presentations from interested parties to the general audience. (3 hours)
- Wrap up

We also discussed the establishment of an ODAI, Innovation Hub website to support the RFP process. Potential areas of the website might include:

- Registration area
- Contact sheet of interested parties
- Information: Previous RFI, briefings, etc
- Frequently asked questions (FAQ)
- Schedule

Hopefully, this serves as a good working draft for the COI meeting. Let me know if you have any questions.

Have a great weekend and trip to AUSA.

Andy

Outlook

RE: March's Summary of Activities + Top 3

From Mark Ignash (MEDC) <ignashm1@michigan.org>
Date Thu 4/10/2025 4:53 PM
To John Gutierrez (MEDC-Representative) <gutierrezj5@michigan.org>

John,

My top 3 for March –

1. Space Campaign: Finalized review and consolidation of the Space Hub RFI and have begun developing hub requirements. In addition, we've begun to bring a third-party vendor on board to facilitate the Space Hackathon Challenge, targeted for this Fall.
2. Supported successful execution of AeroMart Montreal. With 20 Michigan companies engaged, approximately 400 B2B meetings aligned, and anticipated deals ranging from $50k-$8M over the span of 6 months-2 years, initial outcomes appear very positive. Furthermore, based on a developing relationship with the Polish Investment & Trade Agency, fostered a potential on-ramp of business attraction opportunities as well.
3. As the State of Michigan's (and MEDC/ODAI's) representative on the Silicon Crossroads Microelectronics Commons SCMC Hub, presented to the hub membership at the SCMC Hub Members Meeting. As a component of my engagement at this meeting, I was also able to secure commitment from the Hub lead, ARI, to hold the SCMC Members meeting in Michigan next year, in adjacency to the SemiMidwest Expo which will also be in Michigan. This will provide Michigan the chance to further engage the nearly 1,000 hub members (industry and academia) in Michigan, all focused on innovative lab-to-fab advanced microelectronics for the DoD.

Thanks,

-Mark

Mark E. Ignash, GWCCM
Strategic Initiatives & Ecosystem Development Director
Michigan Office of Defense & Aerospace Innovation (ODAI)

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From: John Gutierrez (MEDC-Representative) <gutierrezj5@michigan.org>
Sent: Tuesday, April 8, 2025 8:12 PM
To: Mark Ignash (MEDC) <ignashm1@michigan.org>; Jeanne Schabath-Lewis (MEDC) <schabath-lewisj@michigan.org>
Subject: March's Summary of Activities + Top 3

Hi Team,

Attached is the summary of ODAI's March activities for your review and feedback. Please use track changes to note any revisions or suggestions. If you haven't already, provide your "Top 3" as well.

I would appreciate your input by the end of the day tomorrow. Thank you.

John

John T. Gutierrez
Colonel, U.S. Marine Corps (Ret.)
Executive Director, Office of Defense & Aerospace Innovation
Michigan Economic Development Corporation | State of Michigan
300 N. Washington Square | Lansing, MI 48913
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Outlook

RE: ODAI Monthly Summary of Activities (March 2025)

From Ben Marchionna (MEDC) <marchionnab@michigan.org>
Date Sun 4/13/2025 7:33 PM
To John Gutierrez (MEDC-Representative) <gutierrezj5@michigan.org>
Cc Mark Ignash (MEDC) <ignashm1@michigan.org>; Jeanne Schabath-Lewis (MEDC) <schabath-lewisj@michigan.org>

Thanks for the summary, Team ODAI!

Ben Marchionna
Chief Innovation Ecosystem Officer
The State of Michigan

From: John Gutierrez (MEDC-Representative) <gutierrezj5@michigan.org>
Sent: Friday, April 11, 2025 1:24 PM
To: Ben Marchionna (MEDC) <marchionnab@michigan.org>
Cc: Mark Ignash (MEDC) <ignashm1@michigan.org>; Jeanne Schabath-Lewis (MEDC) <schabath-lewisj@michigan.org>
Subject: ODAI Monthly Summary of Activities (March 2025)

Hi Ben,

Please find the attached summary of ODAI's activities for March 2025. As we previously discussed and for your awareness, I wanted to highlight some notable activities and accomplishments by Jeanne and Mark during this timeframe.

Jeanne

1. Rafael Advanced Defense Systems – Expansion Efforts

Through Jeanne's continued engagement with Rafael Advanced Defense Systems (RADS), Macomb County Economic Development successfully secured a location and funding for RADS under the International Landing Zone at the Velocity Center in Sterling Heights. Given RADS' priority to establish a presence within the Defense Corridor, this site was identified as the optimal location. A public announcement regarding this domestic expansion is scheduled for mid-April, further solidifying Michigan's role in supporting defense-sector innovation and investment.

2. Michigan Maritime Strategy Engagement

Jeanne participated in the Michigan Maritime Strategy event **at** the University of Michigan, where she delivered a briefing on the M3 Initiative. Based on her expertise, she was invited to lead a workshop later that same day, further contributing to the discussions. The full-day event provided valuable opportunities to establish strong connections and engage in meaningful conversations, all of which will help advance preparations for the June Supplier Conference.

3. Veteran Business Engagement & Workforce Development Efforts

Jeanne initiated discussions with Keith King, CEO of the National Veteran Business Development Council, to explore opportunities for Team ODAI and Workforce Development to strengthen engagement with veteran-owned and service-disabled veteran-owned businesses (SDVOSBs) in Michigan. This collaboration aims to attract and support veteran entrepreneurs, while enhancing workforce development efforts tailored to veterans. The initiative aligns with key objectives, including the DoD's 5% SDVOSB procurement goal and the Governor's commitment to cultivating, retaining, and attracting talent to Michigan.

Mark

1. Space Campaign Update.
Mark successfully completed the review and consolidation of the Space Hub RFI and has begun the development of hub requirements. Additionally, efforts are underway to onboard a third-party vendor to facilitate the Space Hackathon Challenge, which is scheduled to take place this Fall.

2. AeroMart Montreal.

Mark played a pivotal role in the successful execution of AeroMart Montreal, facilitating engagement with 20 Michigan companies and coordinating approximately 400 B2B meetings. These efforts have already yielded promising initial outcomes, with anticipated deals ranging from $50,000 to $8 million over the next 6 months to 2 years. Additionally, through a developing relationship with the Polish Investment & Trade Agency, Mark has helped establish a potential on-ramp for business attraction opportunities, further expanding Michigan's global economic reach.

3. Silicon Crossroads Microelectronics Commons (SCMC) Hub Engagement

Mark, serving as the State of Michigan's representative on behalf of MEDC/ODAI, actively participated in the SCMC Hub Members Meeting, presenting to the Hub membership. As part of his engagement, he successfully secured a commitment from ARI, the Hub lead, to host the next SCMC Members Meeting in Michigan, coinciding with the SemiMidwest Expo, which will also take place in the state. This strategic alignment provides Michigan a valuable opportunity to engage with nearly 1,000 hub members from industry and academia, all focused on advancing lab-to-fab innovation in microelectronics for the DoD.

Please let me know if you have questions or would like to further discuss. Thanks.

Best, John

John T. Gutierrez
Colonel, U.S. Marine Corps (Ret.)
Executive Director, Office of Defense & Aerospace Innovation
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 Graphical user interface, application Description automatically generated
signature_388754608

Outlook

RE: ODAI Space Campaign & Innovation Hub

From Mark Ignash (MEDC) <ignashm1@michigan.org>
Date Tue 12/23/2025 9:02 AM
To Alison Todak (MEDC) <todaka@michigan.org>

Alison,

I forgot to include – the innovation hub is in part predicated on responses to an RFI we published – please feel free to review responses here as well - https://medc.box.com/s/yetll2ypjsualzn02fnypfw77shg4g1t. Some known actors in your realm such as UM, Auto Alley, and MTEC Smartzone responded.

Thanks,

-Mark

Mark E. Ignash, GWCCM
Strategic Initiatives & Ecosystem Development Director
Michigan Office of Defense & Aerospace Innovation (ODAI)

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From: Mark Ignash (MEDC)
Sent: Tuesday, December 23, 2025 8:51 AM
To: Alison Todak (MEDC) <todaka@michigan.org>
Subject: ODAI Space Campaign & Innovation Hub

Alison,

As referenced prior when we met, for your review/awareness please see attached for our current FY26 space campaign (which will be embedded in our overall ODAI strategy) as well as a one-pager describing the innovation hub. Let me know if you have any questions, and in the meantime, enjoy the holidays!

-Mark

Mark E. Ignash, GWCCM
Strategic Initiatives & Ecosystem Development Director
Michigan Office of Defense & Aerospace Innovation (ODAI)

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Outlook

RE: ODAI<>DIU Regional Representative Recurring Sync Call

From Mark Ignash (MEDC) <ignashm1@michigan.org>
Date Tue 1/6/2026 8:32 AM
To 'Helena Krusec CTR' <hkrusec.ctr@diu.mil>

2 attachments (945 KB)
ODAI_Space_Campaign_LOEs_FY26.pdf; Innovation Hub One Pager v2_mei.pptx;

Helena,

Absolutely! I'll plan to dial in at 1pm. As read-ahead material (I believe I failed to share these prior) please see attached for some brief info re the hub effort as well as our FY26 Space Sector LOEs.

Looking forward to our call.

Thanks,

-Mark

Mark E. Ignash, GWCCM
Strategic Initiatives & Ecosystem Development Director
Michigan Office of Defense & Aerospace Innovation (ODAI)

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From: Helena Krusec CTR <hkrusec.ctr@diu.mil>
Sent: Tuesday, January 6, 2026 8:12 AM
To: Mark Ignash (MEDC) <ignashm1@michigan.org>
Subject: ODAI<>DIU Regional Representative Recurring Sync Call

Good morning Mark - is there any chance we can make this meeting virtual today? I don't realize before break that my husband was going to be out of town this week and I'm super behind already trying to get my son moving and out the door to school.

Thanks for your flexibility.

Helena Krusec CTR
Investor Engagement Manager
Defense Innovation Unit (DIU)
U.S. Department of War

Cell: +1 (650) 793-1493
Email: hkrusec.ctr@diu.mil

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Outlook

RE: Prep for Tomorrow

From Mark Ignash (MEDC) <ignashm1@michigan.org>
Date Tue 1/20/2026 7:35 PM
To 'John Kormash' <john.kormash@grakorgroup.com>; Andy Dallas <adallas@dallasrd.com>

John,

That works and thanks for the questions sent earlier – we'll prepare accordingly.

Thanks,

-Mark

Mark E. Ignash, GWCCM
Strategic Initiatives & Ecosystem Development Director
Michigan Office of Defense & Aerospace Innovation (ODAI)

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From: John Kormash <john.kormash@grakorgroup.com>
Sent: Tuesday, January 20, 2026 4:57 PM
To: Mark Ignash (MEDC) <ignashm1@michigan.org>; Andy Dallas <adallas@dallasrd.com>
Subject: RE: Prep for Tomorrow

Sorry Mark. Just seeing this. I plan to arrive at 1100 tomorrow unless you recommend I get there earlier.

John

From: Mark Ignash (MEDC) <ignashm1@michigan.org>
Sent: Tuesday, January 20, 2026 1:51 PM
To: John Kormash <john.kormash@grakorgroup.com>; Andy Dallas <adallas@dallasrd.com>
Subject: RE: Prep for Tomorrow

John,

Andy and I have a call slated at 330pm in prep for tomorrow – would you be able to join?

Thanks,

-Mark

Mark E. Ignash, GWCCM
Strategic Initiatives & Ecosystem Development Director
Michigan Office of Defense & Aerospace Innovation (ODAI)

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From: John Kormash <john.kormash@grakorgroup.com>
Sent: Tuesday, January 20, 2026 1:43 PM
To: Mark Ignash (MEDC) <ignashm1@michigan.org>; Andy Dallas <adallas@dallasrd.com>
Subject: Prep for Tomorrow

Mark, Andy,

Below are a few questions that could come up tomorrow and would be good to consider ahead of time.

1. When is the time period that questions and answers can be conducted? Before RFP release or after and how do they get submitted?
2. Can we get a copy of the prior Hub RFI?
3. Regarding the evaluation criteria, what determines a low score vs a high score in each category?
4. Is MEDC funding released incrementally or all at one time? When?
5. What other MEDC resources could be available to support the Hub? (e.g. SmartZones, APEX, existing MEDC investments that could be leveraged, etc.)

John

Outlook

RE: Space Hub RFI Draft - Using Lucky's AI Tools

From Mark Ignash (MEDC) <ignashm1@michigan.org>
Date Fri 11/21/2025 2:01 PM
To John Gelmisi (MEDC) <gelmisij@michigan.org>

Johnny,

Your prior email reminded me of the below. Appreciate you sharing this and will take this into account as we finalize the RFP!

Thanks,

-Mark

Mark E. Ignash, GWCCM
Strategic Initiatives & Ecosystem Development Director
Michigan Office of Defense & Aerospace Innovation (ODAI)

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From: John Gelmisi (MEDC) <gelmisij@michigan.org>
Sent: Thursday, November 20, 2025 7:05 AM
To: Mark Ignash (MEDC) <ignashm1@michigan.org>
Subject: Space Hub RFI Draft - Using Lucky's AI Tools

Mark,

I know you're busy for Friday's prep. But when you have time, I used my AI tools to create the draft Space Hub RFI below. Maybe it can be helpful as you solidify ODAI's.

REQUEST FOR INFORMATION (RFI)
Michigan Space Innovation Hub Initiative
Issued by: Michigan Office of Defense & Aerospace Innovation (ODAI)
Purpose: Evaluate eligibility, capability, and vision from institutions interested in leading and operating the Michigan Space Innovation Hub.

1. PURPOSE OF THIS RFI

The State of Michigan, through ODAI, is assessing interest and capability from qualified institutions to lead the establishment of a **Michigan Space Innovation Hub** — a statewide anchor for space research, dual-use technology development, workforce pipelines, rapid prototyping, testing, commercialization, and coordination with federal agencies and defense partners.

This RFI will help ODAI:

- Identify which Michigan institutions are best positioned to lead the hub.
- Understand proposed models of governance, partnerships, and execution.
- Assess the technical, research, operational, and financial capabilities of respondents.
- Determine what resources, facilities, and partnerships already exist in Michigan.
- Shape the eventual RFP and funding model.

This is **not** a procurement. It is **information-gathering only**.

---

2. PROJECT OVERVIEW: MICHIGAN SPACE INNOVATION HUB

The future Space Hub will serve as Michigan's central engine for:

A. Research & Technology Development

- In-space propulsion
- Space domain awareness
- Autonomy and AI
- Robotics & on-orbit servicing
- Hypersonics
- Materials, composites, forging/casting, advanced manufacturing
- Radiation-hard microelectronics
- Space communications, advanced antennas, optical comm
- Dual-use defense/space technologies

B. Testing & Prototyping

- Ground test facilities
- Lab infrastructure
- Rapid prototyping capability
- Environmental and vibro-acoustic testing
- SmallSat design, integration, mission ops

C. Workforce & Talent Development

- Engineering programs
- Technician pipelines
- Apprenticeships and short-course certifications
- Veteran upskilling
- Industry-aligned curriculum

D. Consortium & Ecosystem Coordination

- Michigan universities
- Community colleges and skilled-trades training centers
- Space OEMs and supply chain
- Federal agencies (DoD, NASA, NRO, Space Force)
- National labs, FFRDCs, UARCs
- DIU, AFWERX, SpaceWERX, DARPA
- Michigan companies in machining, tooling, sensors, AI, automation, composites, propulsion, etc.

E. Economic Development Objectives

- Job creation and pipeline expansion
- Manufacturing scale-up
- Federal contract growth
- Attraction of new space and dual-use companies to Michigan
- Stronger national-security industrial base

---

3. WHO SHOULD RESPOND

Consortia led by a **Michigan research university** or other qualified Michigan institution.
Ideal respondents include:

- University of Michigan
- Michigan State University
- Michigan Technological University
- Wayne State University
- Western Michigan University
- Oakland University
- Other in-state R1/R2 institutions
- Teams including OEMs, primes, suppliers, national labs, economic development partners, and community colleges.

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4. RFI QUESTIONS
Respondents should answer all sections below.

A. Organizational Capability

1. **Describe your institution's experience in space, aerospace, defense, or dual-use technology development.**
   Include major programs, labs, flight heritage, and current space-related research.
2. **Identify key faculty, researchers, technical leads, and program managers.**
   Include bios and relevant program experience.
3. **Provide a list of active or recent contracts, grants, or partnerships** with:
   - NASA
   - DoD (Air Force, Space Force, Army, Navy, DARPA, DIU, AFRL, NRO, MDA)
   - Industry primes
   - Space startups and OEMs
4. **Describe your institution's experience running large-scale research centers or hubs**.

B. Facilities & Research Infrastructure

1. **Summarize relevant facilities you currently operate**, such as:
   - Aerospace labs
   - Cleanrooms
   - Materials and manufacturing centers
   - Hypersonic tunnels
   - Space systems labs
   - Mission ops centers
   - Propulsion test stands
   - Vibe/shock/thermal-vac test equipment
2. **Identify new facilities or upgrades needed** to fulfill the vision of the Space Hub.
3. **Provide facility access policies, hours, staffing, and external partner integration capability.**

C. Proposed Hub Vision & Operating Model

1. **Describe your proposed vision for the Michigan Space Innovation Hub.**
2. **Provide an operating model**, including:
   - Governance structure
   - Leadership team
   - Partner roles
   - Advisory boards
   - How industry and government partners will be integrated
3. **Propose a statewide consortium strategy.**
4. **Outline how you will ensure participation from:**
   - Community colleges

- Minority-serving institutions
- Workforce development centers
- Michigan manufacturers

D. Partnerships & Ecosystem Engagement

1. **Identify committed or potential partners**, including:
   - OEMs
   - Primes
   - Space startups
   - Tier 1–3 suppliers
   - Federal labs
   - Michigan-based tech and manufacturing firms
2. **Describe how your hub will strengthen Michigan's defense and aerospace supply chain.**
3. **Provide letters of interest (if available)** from partners.

E. Workforce Development

1. **Describe your proposed workforce strategy** for:
   - Engineers
   - Technicians
   - Trades
   - Veterans
   - Apprenticeships
   - Undergraduate pathways
   - Upskilling programs
2. **Identify existing programs that can be expanded.**

F. Commercialization & Economic Development

1. **Describe how the hub will support Michigan industry growth**, including:
   - Tech transfer
   - Startup incubation
   - SBIR/STTR support
   - Prototype-to-production transition
   - Supply chain development
2. **Propose measurable economic development outcomes.**

G. Business Model & Funding

1. **Provide a preliminary high-level cost estimate** for:
   - Staffing
   - Facility operations
   - Equipment
   - Maintenance
   - Program management
   - Consortium coordination
2. **Identify potential cost-share opportunities** (university, industry, federal, philanthropic).
3. **Propose KPIs and reporting structure** for ODAI.

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5. SUBMISSION GUIDELINES

- Responses should not exceed **25 pages** (excluding appendices).
- Appendices may include resumes, facility photos, equipment lists, letters of support, or org charts.
- Submit as a single PDF file.

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6. EVALUATION CRITERIA (PRELIMINARY)

ODAI will evaluate responses based on:

1. **Technical capability and space research depth**
2. **Existing facilities and readiness**
3. **Strength of partnerships and industry integration**
4. **Workforce development capacity**
5. **Track record executing large federal research programs**
6. **Economic development alignment**
7. **Statewide engagement and inclusion**
8. **Feasibility, scalability, and long-term sustainability**

If you like this, there is more.

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MICHIGAN OFFICE OF DEFENSE AND AEROSPACE INNOVATION

Michigan Space Innovation Hubs
A Response to Request for Information for RFI-CASE-428178

Submitted by

University of Michigan

1. Contact Information of Respondent

Contact Information of the Respondent:	University of Michigan 3003 S State St, Ann Arbor, MI 48109

Point of Contact:	**Mirko Gamba** Associate Professor Department of Aerospace Engineering University of Michigan 1320 Beal Ave, Ann Arbor MI Email: mirkog@umich.edu Tel. 734-764-6675

List of individuals contributing to the response to the RFI:

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Chris Ruf	Professor Climate and Space Sciences Engineering University of Michigan Email: cruf@umich.edu
Liang Sim	Principal, LS Aerospace Consulting Email: LSim@LSAerospaceConsulting.com

2. Respondent's Background, Area of Expertise, and Experience

Name	**Background, expertise and experience**
Mirko Gamba	Propulsion, aerothermodynamics, instrumentation, diagnostics methods, laser diagnostics, academia, research and development, laboratory testing of systems, development of testing infrastructure and prototypes
Denise Graves	Commercialization, innovation, entrepreneurship, mentoring and connections to Michigan's ecosystem. Funding matches support for translation of technology to the commercial market as the Commercialization Program Director through the Michigan Translational Research and Commercialization (MTRAC) program for Transportation and Mobility.
Giusy Falcone	Guidance, navigation and control, autonomous decision-making, artificial intelligence, extended reality (XR), space systems engineering
Patrick McNally	Prototype and space flight instrumentation development, space systems engineering, space environmental testing, project management
Benjamin Jorns	In-space propulsion, plasmadynamics, laser-based diagnostics
Oliver Jia-Richards	Spaceflight mechanics, orbital mechanics, astrodynamics

James Cutler	Space systems, cubesats, space communications, flight software, experiential learning, entrepreneurship
Aaron Johnson	Engineering education
Lori Ploutz-Snyder	Kinesiology, mussel and bone function and structure, human spaceflight
Chris Ruf	Remote sensing
Liang Sim	Aerospace business strategy, market and competitive analysis, business development, executive education

3. Innovation Formation and Management

In this RFI response, we first elaborate a possible vision and guiding principles for the hub (pages 4-6) before answering the specific questions listed in the RFI (page 6 onwards).

Mission and Vision: A Michigan Space Innovation Hub ("hub" throughout this RFI) should spur innovation in space research, education, business (entrepreneurship, commercial manufacturing and operations), and government activities (e.g., civil and military operations, policy development) in ways that uniquely differentiate Michigan from other states and nations. This could include:

- Consolidating Michigan as a leading national hub for space research and higher education, building upon existing expertise in remote sensing, space propulsion, space systems, and engineering design, while expanding into the law, business, and finance;
- Attracting space entrepreneurs and startups, leveraging many Michigan-based resources that support entrepreneurship;
- Incentivizing established companies or institutions (including government institutions) to establish major footprints (offices, manufacturing, operations) in the state; and
- Expanding Michigan's automotive manufacturing expertise into space (and broader aerospace) manufacturing; in parallel, making Michigan a leading training ground for a skilled space industry workforce, including both "blue collar" and "white collar" skillsets.

To maximize hub effectiveness with limited resources, the hub should not duplicate capabilities that existing institutions already offer. For example, in southeast Michigan,

entrepreneurs already have access to services offered by Ann Arbor SPARK and multiple University of Michigan centers (Zell Lurie Institute, Center for Entrepreneurship, and more). For researchers, existing University of Michigan facilities include the Space Physics Research Laboratory (SPRL, described below), the Plasmadynamics & Electric Propulsion Laboratory (PEPL), and other research laboratories that offer expertise and facilities for space vehicles, mobility, logistics, and manufacturing.

Locations and Structure: We envision a hub organized and managed by a centralized structure, located at a single physical location. The centralized structure coordinates the services and activities across multiple affiliated elements, which may grow over time and be distributed over the State of Michigan territory. Some services and infrastructure may be housed directly within the centralized structure, while others may be housed at partner institutions.

Within this view, we then envision that the central location of the hub is initially located within a building, and then potentially expands into a complex that encompasses multiple buildings to accommodate specialized infrastructure to support hub activities. For example, in the near term the hub could be located within office space at an existing building at one of the constituents that supports the administrative and management needs of the hub. Then, as services expand, membership grows, and needs evolve, the footprint may grow into a dedicated building. Over time, as specific needs and interests are identified and supported by the member institutions, the physical location could grow further into a building complex comprising a number of colocated services and infrastructure. At the same time, affiliated institutions support the hub by providing specific capabilities or resources and geographic coverage. Within this overall structure, the hub takes the form of a statewide “space innovation network”, rather than just a single location. If this structure is also integrated by providing support for remote and digital services, the overall structure of the hub would essentially be a hybrid network.

Our RFI response presents initial ideas for the central management of a hub based in the Ann Arbor / greater metro Detroit area, which is part of the broader statewide network. Ann Arbor / Detroit would be an ideal location for a hub because it already has desirable hub attributes including an urban location, high quality real estate (for both offices and manufacturing), existing services for entrepreneurs and students, proximity to companies, proximity to major airports and waterways, proximity to lawmakers (in Lansing), and funding sources (venture capital, large banks, etc). The area also offers a high quality of living, which can facilitate the retention and attraction of talent that support the growth of industry in the domain.

Members and Membership: We envision that the hub uniquely capitalizes and builds upon the capabilities that existing institutions offer throughout the State. In practice, this is realized through a consortium of academic, industry, and government partners, led by an anchor institution that manages the hub and provides core technical expertise and unique services to the entire community. While the University of Michigan could serve as an anchor institution for this Ann Arbor hub, we recognize that multiple institutions across Michigan will partner to offer complementary services, geographical coverage, and parallel initiatives throughout the State.

Michigan is home to nationally and internationally recognized universities and colleges that support education and research at the highest levels; this includes the University of Michigan, Michigan State University, Western Michigan State, Michigan Technological University, and more. In addition, multiple community colleges support technical workforce development, including St. Clair Community College and Grand Valley Community College, etc. These institutions already have research and development activities, including dedicated laboratory spaces and facilities that can support the growth of industry in the domain.

The hub membership structure would be a fee-based membership, with fees based on institution size (number of employees, income, etc.), level of services received, and level of participation in offering services or infrastructure back to other hub members. A tiered membership structure can support the concept of forming a horizontally integrated network of participating entities, rather than a single hub with a top-down structure offering services only. Such a structure can facilitate networking, collaboration, growth and integration of all stakeholders.

Performance Metrics: Metrics to measure hub performance could include:

- Economic value generated;
- Number of jobs created and maintained;
- Number of startups launched;
- Number of retained students graduating from Michigan colleges and universities;
- Number of existing missions or new missing that are supported by hub's members or the hub itself;
- Value of federal funding brought to Michigan companies to support early stage innovation development or technology transition.

a) What format makes the most sense for the hub: physical, virtual, hybrid?

The hub should offer physical, virtual, and hybrid access. Offering physical space and services for R&D and manufacturing capabilities is essential. However, it is also

important that the hub offers a virtual environment and services to support entities that need digital or virtual services, or that may not be able to gain physical access to some of the physical spaces and services. Furthermore, some services can intrinsically be offered virtually, such as consulting, access to secure environments (e.g., secured cloud information management and sharing, videoconferencing), mentorship, etc., reducing overall administrative cost while providing full geographic coverage.

A hub would be formed by a network of distributed assets, with virtual tools connecting the different elements. Engineers, developers and operators in the Space domain routinely use virtual tools to connect to distributed global assets (satellites, ground stations, data centers, operation centers) with distributed teams around the world. Therefore, the hub should be capable of supporting this virtual environment along with physical infrastructure for fostering networking, exchanges, collaborations and technical and non-technical support.

b) How can we ensure a culture of innovation exists should the hub be virtual?

The hub should educate members on the use of the virtual spaces for creating and fostering collaboration, the creation of online communities, working groups, peer-to-peer mentorship, education on the use of virtual resources and spaces, and strategies for interacting in a virtual environment. For this reason, connections to academic institutions and programs that are outside of the Space domain, but still support community building and culture development, are essential to a hub based on a cooperative consortium structure.

There should be a seamless exchange of ideas, information, and models such as model based engineering (MBE) and computer aided design (CAD) models. Secure file sharing is essential, as discussed below. The virtual connections should allow interactivity beyond just Teams/Zoom meetings such as shared visual resources (such as interactive TV) and physical resources (3D printing and rapid prototyping).

An example of an existing program that supports innovation in both a physical and virtual environment is the Michigan Translational Research and Commercialization (MTRAC) program for Transportation and Mobility hosted within UM's Innovation Partnerships. This is a statewide hub program supported in part by the Michigan Strategic Fund with administration through the Michigan Economic Development Corporation (MEDC) and provides valuable support for innovation projects both in person and virtually. This program along with the other hubs have seen significant success in translating technology from universities into the commercial market. Bringing

the experience of entities like MTRAC can help the hub develop a culture of innovation in a hybrid structure that is envisioned here.

c) How does the physical infrastructure of the hub differ when used for supporting national security over that when used to support dual use activities?

Specified differences will depend on the details of the activity and domain. A common difference is the level of security that must be exercised for both physical and digital assets. The limiting factor is meeting security requirements for activities that support national security, which means that spaces may not be flexible. Thus in practice, the infrastructure that supports dual use activities may have to be completely separate from other activities. As a consequence, the hub should offer support in terms of the following services:

- Office space for open conversation and collaboration, from ideation to prototyping.
- Space or access to space (e.g., through hub consortium members) for open events, like a large auditorium to accommodate social and professional events (e.g., expositions and forums), with the ability to host professional events with ITAR/CUI restrictions.
- Space with specialized infrastructure, that can be digital or physical, to support early R&D research; this would include infrastructure to:
    - Test or certify components or systems for space (e.g., thermo-vacuum testing, vibration testing, radiation testing);
    - Certify components or systems for flight;
    - Conduct communication and data transmission, and
    - Perform rapid prototyping and light manufacturing. At a minimum, this infrastructure should be secured to support ITAR/CUI work.
- Office space to conduct restricted conversations (ITAR/export controlled, CUI and classified). This means that for supporting classified interactions, a SCIF should be present (with SCIF terminal). For classified conversations, this will require physical access, while for purposes that cover ITAR/CUI information this can be done in person but also by enabling and hosting remote meetings (CUI lines, ZoomGov, etc.).
- The hub should have the legal and administrative support needed to support the acquisition and maintenance of security clearances.
- The facility should at least be able to support laboratory / research work that is ITAR and CUI for small businesses from the early to late stages of product development.
- The facility should at least be able to support rapid prototyping and small volume manufacturing of components and systems at the ITAR and CUI levels for small

businesses and members at the late stages of product development. This could take the form of a makerspace. A maker space structure (described below) could encourage collaboration and innovation among teams.

d) Office type—can large common areas or segregated offices?

The hub should offer the following office and interaction spaces:

- Limited time office space, using a shared co-working model. This model can offer a flexible working environment, maintain low cost to the members, and foster networking, communication and collaboration. If the office space is located near professional expertise and researchers (e.g., partner institutions), such a model can also support tech transition and domain expertise support.
- Common areas for hosting events and larger meetings, including hub-wide events, like yearly innovation forums, expositions, conferences, etc.
- Segregated offices to host individual conversations in a secure environment (confidential discussion, ITAR/CUI, etc.).

e) Should computer resources or data bases be provided by the hub? How so?

The hub should provide computer resources to support unique services such as access to specialized software, access to communication networks, satellite communication, data centers, etc. The collaborative information should be managed and secured by the hub and not the responsibility of any individual contributor.

The hub could also offer direct access to space assets through collaborations or partnership with communication agencies and companies. This would help build bridges between space assets and ground systems.

The hub can provide computer-based collaborative tools to be used by participants including virtual prototyping tools, MBE, and model-based systems engineering (MBSE) tools. Michigan-based tool suppliers may want to provide tools for use by participants to stimulate growth of their user base.

f) What type of telecommunications do you suggest being provided to the tenants?

As discussed above:

- Secure phones for ITAR/CUI conversations;
- Secure remote teleconferencing (zoom gov for ITAR/CUI);
- SCIF with terminal for classified discussion and access to information;

- For non-export controlled collaboration and communications, consider portable/movable cameras, OWLS systems, T1V systems, and other telecommunications that enhance the virtual meetings;
- Network access to space assets, for example through services offered via partnership with space communication entities to support operation, data transfer, and analytics, e.g., a partnership with Michigan-based service providers such as Atlas Space Operations.

g) Should the facility provide access to accredited Sensitive Compartmented Information Facility (SCIF) space; what impacts are associated if the SCIFs are located off-site at a nearby location?

Yes - as discussed above, a SCIF should be included for access and discussion of sensitive information, preferably be co-located with other infrastructure.

A laboratory space within a SCIF environment to support digital and physical testing would also be valuable. The hub should also be able to support fabrication and flight qualification testing of components, sub-systems / systems that support national defense (classified R&D).

h) Conference and meeting rooms: Can conference/meeting rooms be shared with other residents, or do they need to be dedicated to an organization?

Facilities can be shared but there should be a trusted framework for the system and information that is exchanged. Conversations and data should be secure among the appropriate hub participants.

i) Is there a need for laboratory space and, if so, describe the requirements?

We will refine requirements after the hub's mission is finalized. For now, we propose general guidelines - the hub should:

- Include available space to expand facilities for small businesses that use the hub. As a small business grows, the hub should envision that the small business will develop prototype electronic, mechanical, software, and other systems that will need lab space;
- Be located near other facilities (academic, industrial, or government) that can be utilized by hub members for fabrication, assembly, and test of flight hardware, including space environmental testing (also see part (j) below);
- Include a shared maker space for hub members (especially small business) for rapid prototyping of ideas into physical models. Maker space resources include

fabrication systems (CNC machines, laser cutters, 3D printers), electronics tools (soldering stations, oscilloscopes), traditional workshop tools (power tools, welding), and textiles and crafting systems (looms, embroidery systems).
- Provide or be close to field work sites as well for testing and experimentation (radio, laser, propulsion, flight experiments).

j) Describe other equipment that should be considered for inclusion in the hub

As before, we will refine requirements after the hub's mission is finalized, but can currently envision equipment such as (if not already described above):

- Large displays;
- Large format printing to poster size;
- 3D immersive environments (augmented / extended reality) with simulator and motion capture for autonomous space vehicles;
- Test facilities to support flight testing (thermovacuum, vibration, electromagnetic interference, radio frequency test ranges, etc.);
- Specialized test equipment that can be shared such as GPS simulators; data acquisition systems; optomechanical testing equipment; vibration testing instrumentation; low- and high-speed imaging and measurement systems (visible, ultraviolet, infrared, etc).

k) What type of "operational" services should be provided: janitorial, security, guards, etc?

In addition to typical commercial / academic building services, we will likely need security guards for spaces supporting classified activities. We may also need additional safety services for hazardous operations.

l) Describe if you have interest in the hub having a cafeteria?

As before, we will refine requirements after the hub's mission and location are finalized. For example, if the hub is located on an isolated building complex, then a space for social interaction, relaxation and dining would be desired; if the hub is located within an urban environment surrounded by restaurants and cafes, this may not be required.

4. Services provided

a) What services should the hub provide?

- Skills training and networking
    - Entrepreneurial training,

    - How to develop a “pitch deck” for investors
    - Security briefings on security threats
    - Security briefings from the Federal Bureau of Investigation
- Innovation methodologies/frameworks/commercialization/mentoring (training/certification/professional
- development)
- Space Industry Days (space-tech events, showcase small businesses, etc.)
- Distinguished visitor events (CEOs/CTOs/CIOs) (NASA/AFRL/DARPA)
- Academia mentorship events (hiring events/internships/scheduled hub events)
- Other? (please describe)

As described in previous sections, a hub should be a state-wide resource, with the goal of providing an environment to connect people or entities from different areas (geographically and intellectually) and empower and enable them to develop solutions for Space-relevant challenges, to be more quickly responsive and competitive in attracting contracts, and support their manufacturing, testing, evaluation and certification of their Space systems and solution. The Hub should therefore provide a space to provide members access to specialized services, tools and infrastructure to mature their solutions.

Importantly, the hub should not only focus on science and engineering, but also medicine, law and policy, business and finance, and more. Being open to other areas will allow a broader Michigan community to contribute to the growth in the Space economy across areas and disciplines.

The hub could work with the team at U-M Innovation Partnerships, which supports entrepreneurial and innovation initiatives on a statewide basis. This collaboration would help to support innovation and commercialization activities with the support of mentors and funding programs.

If the hub is managed by a consortium that includes or is led by an academic institution, the hub and its members could directly gain access to the main educational program at the various member institutions.

b) Marketing and Strategy

The Hub should support marketing and strategies in two forms:

1. By providing marketing to the various activities supported and grown from the hub, to market the successes of the hub and raise awareness of its operation

and opportunities it provides to attract talent, funding and businesses to Michigan.

2. By fostering and organizing events for networking and technical exchanges with the national and international landscape, within commercial and defense applications, to offer a space to individual hub members and to the hub itself the ability to develop strategies and case studies for helping direct resource allocations within MI industries and government offices.

c) Access to partners and collaborators

A critical element of a hub should be to foster and generate an ecosystem that integrates collaborative spaces and partnerships to solve challenging problems in the space domain. Key needs are:

- Developing shared testing facilities that both startups and academic researchers can access. This would help lower the barriers for new companies needing specialized equipment while fostering collaboration between industry and academia.
- Leveraging Michigan's rich history in automotive and robotics to focus on autonomous systems, such as rovers, spacecraft docking, or on-orbit servicing. This would connect the state's existing expertise in automotive autonomy to the expanding space industry.
- Expanding current programs and creating new focused programs to support space-tech startups through funding opportunities, pitch competitions, and mentorship could help attract and retain space ventures in Michigan, strengthening the local innovation ecosystem. Working with UM's Innovation Partnerships team, programs, mentors and entrepreneurial collaborations would provide a good starting point and ramp up to these services.

d) Opportunities to meet, interview, and employ (as co-ops) future talent (students attending a university program using the Innovation Hub space)

A hub will serve as an internship coordinator connecting local students with local space industry partners, and providing the students with professional development. A hub could also facilitate the connection of industry partners with academic programs, for both educational and research activities. This could include leveraging courses like the Space Systems or CubeSat Development course at University of Michigan.

The hub could enable existing colleges and universities to develop new skills and reskill workers in Michigan (e.g. automotive technicians) to work on space systems. This

would directly support the manufacturing base within the state and encourage non-space businesses to expand into the space industry.

e) Opportunity to meet and talk to future employers (for a student attending a university program using the Innovation Hub space)

Yes, as described in 4(d).

5. **What services should be provided for professional growth?**

- Mentoring
- Internship program
- Professional seminars and training for residents
- Innovation methodologies/frameworks to guide small businesses through deployment of products/services
- Other? (please describe)

A hub should definitely provide these low-cost, high-impact services - most likely with partners that already provide these services (for example, MTRAC, Ann Arbor SPARK, University of Michigan's Center for Entrepreneurship and Zell Lurie Institute, and others already listed above).

6. **Are there existing innovation asset(s) and/or program(s) within Michigan that may be able to support in part or in total an innovation hub effort such has been described in this RFI?**

Academic institutions: The State of Michigan is home to nationally and internationally recognized universities and colleges that support education and research at the highest levels. Furthermore, a number of community colleges are present throughout the territory who support technical workforce development. Examples are the University of Michigan, Michigan State University, Western Michigan State, Michigan Technological University, St. Clair Community College, etc. Each of these universities and colleges bring unique strengths to a space innovation hub. The hub should promote and facilitate collaboration between academic institutions across the state, and facilitate connection between small business and expertise, infrastructure and workforce within academic institutions.

Opportunities can be supported for researchers and students to work together across the state on the development of new technologies and skills through consortia, research centers, and other cooperative research and educational activities. Examples of in-state synergistic research and education that could be fostered include:

- Michigan State Fraunhofer Center for diamonds and coatings and the Space Electronics Center in collaboration with University of Michigan's Lurie Nanofabrication Facility to develop new sensors and electronics for remote sensing and other applications
- Ferris State's Space Cybersecurity Institute working together with Lake Superior State University, other universities, and many community colleges to develop joint academic programs for students to gain certification and practical experience in secure communications.
- Michigan Tech's COMP composites research institute for Moon/Mars exploration in collaboration with other universities such as the UM Michigan Materials Research Institute to collaborate on new engineered materials for the space industry.
- Western Michigan's Aerospace Laboratory for Plasma Experiments (ALPE) collaborating with Michigan Tech and the University of Michigan in the development and testing of advanced electric propulsion technologies

University of Michigan: a (non-exhaustive) list of existing capabilities includes:

- **Space Physics Research Laboratory (SPRL)**, which provides end-to-end capabilities for the development of space instrumentation, systems, and small spacecraft through the professional engineering, project management, fabrication, and administrative personnel, and through the facilities for design, fabrication, and testing of space hardware. This includes process knowledge to meet the stringent requirements for space hardware and software development and delivery. Personnel that are trained in fabrication, machining and electronics assembly to NASA and Dod standards are available to support the hub. SPRL has electronic test facilities, clean rooms, thermal vacuum chambers, vibration tables, and other facilities for functional and environmental testing to space requirements. Experienced project and proposal managers are available to support development and execution of proposals and projects with hub members, resulting in demonstrable prototype and flight hardware for further industry investment. SPRL works with Michigan small businesses in the space industry such as Orbion, Calumet Electronics, Zero Hour, Protomatic, and others.
- **Plasmadynamics and Electric Propulsion Laboratory (PEPL)**. This facility has the largest academic vacuum chamber in the world with an equivalent value of over $20M. It is heavily leveraged by NASA, DoD, and industry (SpaceX, Aerojet, Northrop Grumman, Lockheed) for the testing, development, and qualification of in-space propulsion technologies. This lab is CUI-compliant with plans to support Secret level testing for near-term DoD strategic needs.
- **Space Strategic Technology Institute:** The University of Michigan is the lead of a new $35M Space Strategic Technology Institute focusing on the development

of advanced in-space propulsion and space nuclear technologies. This institute has eight university partners and six small business partners from Michigan as well as the broader nation. The institute has several connections with industry and defense primes including USSF, AFRL, NASA, Lockheed, Westinghouse, BWXT, Northrop Grumman, and Aerospace Corporation.

- **Michigan Exploration Lab (MXL)** is an expert in small satellite missions and innovating novel space capabilities. We developed the first cubesat missions for NSF, NASA JPL, and the first missions to go deep space. MXL can support space-flight-based research, training, and mission deployment.
- **Michigan Space Grant Consortium (MSGC):** The mission of the MSGC is to create, develop, and promote programs that reflect NASA strategic interests and support cooperation between academia, industry, state and local government in science and technology in Michigan. Various opportunities for educational and research funding are available. The consortium offers networking, events, and mentorship opportunities.
- **Michigan Translational Research and Commercialization (MTRAC) Advanced Transportation Innovation Hub**: MTRAC for Advanced Transportation Innovation Hub is a statewide program supporting translational research projects that have high commercial potential, with the ultimate goal of launching new technologies into the mobility and transportation sectors. Faculty researchers from all public institutions of higher education, hospital systems and non-profit research centers in the state of Michigan are eligible to submit proposals for grant funding consideration. Since the inception of the program, 164 proposals have been submitted with 89 projects funded, resulting in 25 startup companies and achieving over $96 Million in follow-on funding.

7. Are there Federal (to include but not limited to Department of Defense) organizations, programs, and/or resources that that could play a role in hub development that should be considered?

The Department of Defense's Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs provide opportunities for small businesses to secure funding and resources for cutting-edge technology development. To support these efforts, the Space Innovation Hub can be a key component in building an ecosystem that guides businesses through the proposal process, connects them with mentors, and provides access to prototyping facilities. While organizations like BBC Entrepreneurial Training & Consulting already contribute significantly to this space, the hub can complement these efforts by focusing specifically on space-related projects and filling support gaps for entrepreneurs pursuing DoD funding opportunities.

Additionally, U.S. Space Command (USSPACECOM) is pivotal in national security and space operations, offering opportunities for partnerships in areas like satellite communications, space domain awareness, and debris mitigation. The Space Innovation Hub can facilitate these collaborations by organizing joint research initiatives, hosting industry days, and curating technology showcases tailored to USSPACECOM's needs. By doing so, the hub would provide businesses and researchers with a direct line of sight into defense needs, helping position Michigan as a key player in addressing critical national space challenges.

SpaceWERX, the innovation arm of the U.S. Space Force, is another key partner driving advancements in space technology through collaboration between the military, academia, and private industry. The hub can establish ties with SpaceWERX by participating in their programs, such as the Orbital Prime initiative, and encouraging Michigan-based companies to engage in their innovation pipelines. By acting as a liaison, the hub can ensure local businesses are well-positioned to pitch their ideas, navigate funding processes, and build technologies aligned with SpaceWERX's goals, further strengthening Michigan's role in the national space economy.

Space Innovation Hub

A Response to Request for Information

RFI-CASE-428178

Document Number: RFI-CASE-428178 Response

Version: 1.0

11 January 2025

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Revision History

Revision	Date	Revision Summary
1.0	11 January 2025	Initial release.

Reference Documents

Document Name
Michigan Economic Development Corporation, Request for Information, Space Innovation Hubs, December 18, 2024

Contents

Figures

Introduction

The Stratagem Group, LLC, an indirect subsidiary of ARKA Group, L.P. company, hereafter collectively referred to as "ARKA," is pleased to submit this response to the Request for Information (RFI-CASE-428178) related to a future Space Innovation Hub in the State of Michigan released by the Michigan Economic Development Corporation (MEDC) Office of Defense and Aerospace Innovation (ODAI) on 18 December 2024.

ARKA's Responses

Our responses to each of the seven (7) RFI items is presented below. Where our responses follow text copied from the RFI, those responses are in **Bold text** to distinguish the response text from the RFI text. We have added an additional section #8 to include information that we believe may be beneficial and not discussed or described elsewhere.

1. Contact Information of the Respondent

a) Organization and business name and address.

ARKA Group, L.P.
1200 Joe Hall Drive
Ypsilanti, MI 48197

b) Name, title, email and phone number of the individual(s) responsible for the respondent's RFI response.

Mike Caplan
Senior Engineering Manager
Telephone: 734-480-5003
Email: michael.caplan@maxar.com

2. Respondent's Background, Area of Expertise, and Experience

With a heritage arising from Perkin-Elmer and Itek Corporation, ARKA Group, L.P. (ARKA) is a leader in developing and fielding hardware and software solutions for national security programs that are vital to our nation's safety. ARKA's mission-critical systems are deployed on a range of platforms spanning all parts of the national security domain. From space hardware to a modern software factory, warfighter protection sensors to next generation ground applications, unmatched precision optics to world class geospatial analytics, ARKA is at the center of the technology development in national security. We are committed to mission excellence, and we

partner with our customers to develop best-of-breed solutions for their most challenging problems.

One of ARKA's oldest heritage companies was founded in 1946 when the University of Michigan established the Michigan Aeronautical Research Center (MARC), which later became the Willow Run Laboratories (WRL). WRL researchers successfully developed the first Synthetic Aperture Radar (SAR), which produced the first high-resolution radar image in August 1957, and several of the earliest airborne multispectral scanners, technologies that are the foundation of today's commercial remote sensing satellites. With a rich, nearly-80-year heritage as a university research center, the not-for-profit Environmental Research Institute of Michigan (ERIM), and now as a for-profit company, the Michigan ARKA team continues to develop innovative remote sensing solutions for critical national security and commercial missions. Figure 1 illustrates the succession of Michigan-based academic and corporate entities that is now part of ARKA.

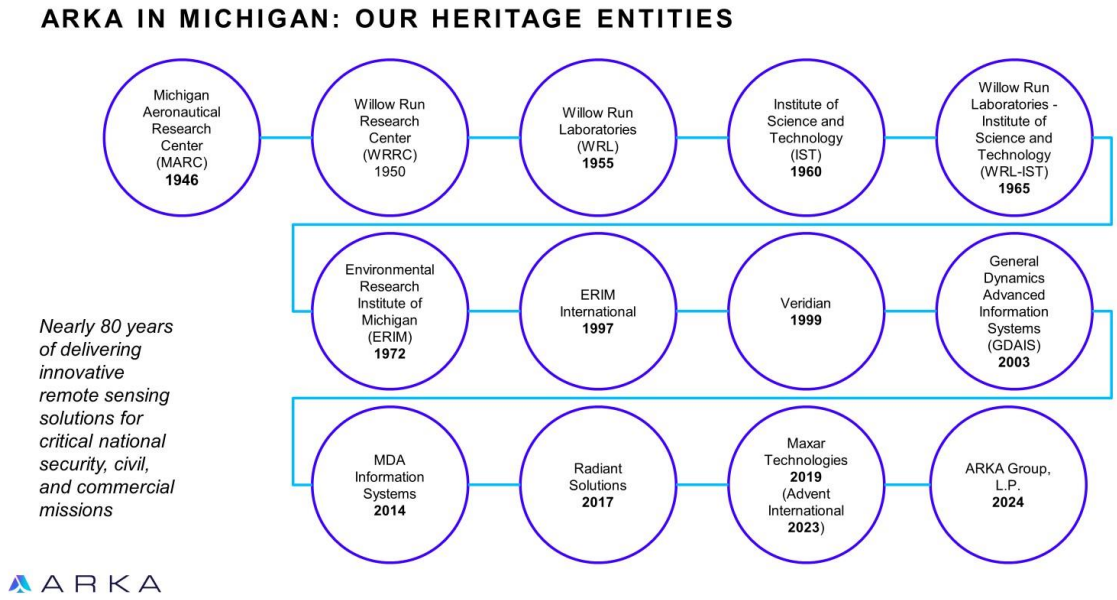

Figure 1. History of academic and corporate entities that is now ARKA

After thirty years in Ann Arbor, the company relocated in August 2005 to a new building in Ypsilanti Township in Washtenaw County. This new facility was specially constructed for the business. It houses multiple, large secure work areas, ground and airborne testbed platforms, electronics and optics labs, a high-bay and fabrication shop for prototyping and limited-production builds, and an RF anechoic measurement chamber. Figure 2 presents an aerial photograph of the ARKA Michigan facility.

Figure 2. The ARKA Ypsilanti Township, Michigan, Facility

Today, our Michigan-based Radar and Sensor Technologies team delivers end-to-end remote sensing solutions spanning sensor modeling, image formation and characterization, object detection, image feature extraction, and information dissemination. We deliver modern software solutions that transform radar and electro-optical data into actionable intelligence to enable rapid human and AI decision making. Long-recognized as a unique, national asset, we continue to be a leader in building, maintaining, and delivering sensor and signature processing algorithms and analytics for maritime, ground, air, and space domains.

3. Innovation Formation and Management

a) What format makes the most sense for the hub: physical, virtual, hybrid?

ARKA supports the notion that a "Space Innovation Hub" is a physical, central location that provides offices, communications, meeting and collaboration spaces, and mentorship and entrepreneurial training for businesses and academic programs that are attracting talent and creating new products and services in Michigan's Space Economy. We believe that a physical location is the best way to stimulate the creation of those new products and services, expand upon a rich talent base, and create stronger relations between private companies and academia.

That said, ARKA does not believe the activities of a permanent, physical Space Innovation Hub should be limited to solely supporting the interests of the entities within its walls. The Space Innovation Hub should regularly provide other entities in Michigan's Space Economy with training, professional development, and other activities in a hybrid format.

The benefits of a strictly virtual format, which provides networking opportunities for businesses and academia, can be better achieved by establishing a Michigan Space

Business Roundtable (MSBR). The MSBR could be modeled after the Colorado Space Business Roundtable, which offers open-source knowledge transfer that keeps its members informed of public, private, and legislative initiatives and other influences in order to support growth of the Space Economy in Colorado.

b) How can we ensure a culture of innovation exists should the hub be virtual?

A robust and consistent calendar of events, education, and networking opportunities to create momentum in the Michigan Space Community would be requirement. For example, meetings or briefings from government organizations, highlights of academic research, speaker series, networking and recruiting events, and business-to-business meetings to facilitate connections across the community could be held in a virtual format. However, some of these events should be in person—and held on a routine basis—to enhance the viability of the Space Community.

c) How does the physical infrastructure of the hub differ when used for supporting national security over that when used to support dual use activities?

Programs that support national security missions almost always require secure facilities and additional operational services and restrictions that limit participation to US citizens. Furthermore, many space technologies fall under the export control of either the International Traffic in Arms Regulations (ITAR) or the Export Administration Regulations (EAR). While there are dual-use activities that could be supported by the Michigan Space Innovation Hub, national security and export control requirements will limit participation in the Hub to companies and academic programs comprised of US citizens.

Under the conflicting assumptions that (1) the Hub includes secure facilities to support national security programs, and (2) the Hub does not want to impose a requirement that all employees or students are US Citizens, a newly built or modified building would be necessary to separate spaces potentially occupied by foreign nationals. These construction challenges would include separate entries/exits, separate badge systems, HVAC and cable run isolation, and isolation of any/all secure areas located on floors above and below newly formed space that would house foreign nationals.

Alternatively, ODAI could consider a Space Innovation Hub with a separate facility dedicated to national security to adhere to these security and export requirements.

d) Office type—can large common areas or segregated offices?

Segregated offices with badge-controlled access should be provided or developed for individual companies and academic programs in order to protect the confidential nature of their separate businesses. General co-working spaces are plentiful in the State already and to distinguish itself, the Space Innovation Hub should be focused on providing facilities and spaces for companies and academic programs focused on the Space Economy and helping grow these and other entities in a central facility.

e) Should computer resources or data bases be provided by the hub? How so?

No, with the exception of telecommunication networks, companies should supply their own IT infrastructure.

f) What type of telecommunications do you suggest being provided to the tenants?

The Hub should provide the ability to connect to potential government customers ("pipes" for secure networks needed for communications with the government), communications infrastructure that can be cost prohibitive for nascent companies.

g) Should the facility provide access to accredited Sensitive Compartmented Information Facility (SCIF) space; what impacts are associated if the SCIFs are located off-site at a nearby location?

If ODAI has reason to believe that a shortage of SCIF space (including Special Access Program Facility (SAPF) space) is limiting the growth of companies in Michigan's Space Economy, the Space Innovation Hub should provide, or build out, SCIF/SAPF Compartmented Area (CA) spaces to meet the commercial demand. Further, there are some indications that some Michigan university programs, which in the past avoided pursuing government grants of a classified nature, are now open to the idea of executing on classified research and development grants and contracts. These university programs may desire an off-campus CA facility to host these classified activities.

Standing up CA space and getting operating accreditations from government agencies is a costly and time-consuming process. Many small businesses have failed in their first few years because they developed a business plan around bidding on classified government contracts without ensuring they have ready and immediate access to accredited CA space.

Noting the facility construction constraints identified in our response in section 3c related to separating spaces utilized by non-US Citizens, ODAI has a few approaches it can take to provide CA space for residents of the Space Innovation Hub:

- **Retrofit existing facilities to accommodate CA spaces**
- **Build a new facility from the ground up designed to accommodate CA spaces**
- **Partner with an existing company that has extra CA spaces or the square footage available in its facility to construct additional CA spaces**

The first two approaches will be the costliest to the State and Hub entities by far. Aside from potential real estate acquisition costs, these costs include the costs of construction to build or modify facilities to the Intelligence Community Directive (ICD) 705 technical specifications; installing secure communication lines, alarm, camera, and badging systems; hiring a security team to operate the CAs along with guard services; and obtaining government accreditations.

The third approach noted above would offer ODAI and the Hub's mature businesses, industry startups, and academic programs the lowest-cost-of-entry option to gain access to CA spaces. The costs of building out additional CA spaces within an existing facility that already hosts such spaces will be relatively cost effective since the supporting infrastructure and security staff would already be in place. The Hub entities can then enter into lease agreements with the hosting company to use the CA spaces and be up-and-running quickly.

h) Conference and meeting rooms: Can conference/meeting rooms be shared with other residents, or do they need to be dedicated to an organization?

Each individual company or academic program should have their own, private and secure small meeting room. Larger, common conference room space can be shared between organizations on an as-needed basis.

i) Is there a need for laboratory space and, if so, describe the requirements?

Laboratory space and requirements will be unique to each company and academic program and those entities should be responsible for their particular research needs.

j) Describe other equipment that should be considered for inclusion in the hub

See our next response.

k) What type of "operational" services should be provided: janitorial, security, guards, etc?

Provision of operational services is one of the critical components of the Space Innovation Hub that will encourage companies and academic institutions to use the Hub. Spreading the high cost of operational services provisioned by the Hub across multiple entities (as part of lease costs) will allow those taking part to focus their investments and revenues in research and growth rather than operations. Examples of these services could include alarm systems, cameras, guard services, janitorial services, and customer accreditations. Beyond janitorial and security services, the Hub could consider a professional services organization that stocks a pantry to ensure sundries are regularly available. Additionally, the Hub could partner with organizations such as FedEx, UPS, local gyms, IT equipment purveyors, and other business partnerships to incentivize Hub participation.

l) Describe if you have interest in the hub having a cafeteria?

Depending on the location and facility, a cafeteria could be beneficial, however, food services can be a significant investment and that money might be better spent on selecting a premium location where local food options are readily available within a short walk. At a minimum, it would be advantageous to invest in a professional services organization (see "operational" services response above) that stocks a pantry with food, coffee, etc. for use by members of the Hub.

4. Services Provided

a) What services should the hub provide?

The Space Innovation Hub should include components of an accelerator program for new and established businesses. With that assumption, the Hub should include the services and resources in line with modern accelerators, with a focus on the Space Economy. Additionally, fundamental learning such as entrepreneurial training and security briefings from Government organizations should be considered.

- Skills training and networking:
  - Entrepreneurial training,
  - How to develop a "pitch deck" for investors
  - Security briefings on security threats
  - Security briefings from the Federal Bureau of Investigation

  The Space Innovation Hub should invite speakers and coaches who can mentor early-stage companies; provide training on entrepreneurship, government contracting, export control, and Intellectual Property protection; and present briefings on cybersecurity and physical security threats for those in the sensitive technology sector. The Hub also can offer "pitch" days with Angel companies and provide partnering opportunities with state-level accelerators and growth organizations (e.g., Michigan Founders Fund, Michigan Central, etc.)
- Innovation methodologies/frameworks (training/certification/professional development)

  The Hub could partner with local facilitators and consultants on organizational psychology and provide resources on how to run effective organizations as founders seek to transition their ideas to sustainable businesses. Similarly, the Hub could provide training resources to help organizations receive discounted certifications (PMP, Agile, SAFe, etc.) that improve their organization's operations.
- Space Industry Days (space-tech events, showcase small businesses, etc.)

  At least quarterly, there should be in-person events featuring a distinguished speaker from the State Legislature, major investors, venture capitalists, government organizations, academic leadership, or others in State leadership positions. Similarly, the Hub could host an annual or semi-annual job fair to connect talent with companies that are hiring along with a "Research Day"

where academic programs feature recent research relevant to members of the Hub and the general public.

- Distinguished visitor events (CEOs/CTOs/CIOs) (NASA/AFRL/DARPA)

  See our response under "Space Industry Days"

- Academia mentorship events (hiring events/internships/scheduled hub events)

  See our response under "Space Industry Days"

- Other? (please describe)

  See our response under "Space Industry Days"

b) Marketing and Strategy

The Space Innovation Hub could connect organizations with local marketing and strategy firms and provide materials to assist organizations in marketing their expertise and products and services.

c) Access to partners and collaborators

At its core, the Space Innovation Hub is a place where companies and academics can network, whether they are physically located in the Hub, a member of the MSBR, or part of the broader Michigan Space Economy. As the Hub matures, providing access to those adjacent to the Michigan Space Economy would be a good resource for member organizations.

d) Opportunities to meet, interview, and employ (as co-ops) future talent (students attending a university program using the Innovation Hub space)

Connecting businesses with students and vice versa is a key benefit of the Space Innovation Hub, especially since the Hub will host both companies and academic programs seeking physical spaces to foster research and technology commercialization. Providing semi-annual career fairs and connecting interested students with co-op, internship, and full-time jobs will ensure companies in the Michigan Space Economy have a pipeline of talent and that Michigan retains that talent.

e) Opportunity to meet and talk to future employers (for a student attending a university program using the Innovation Hub space)

See our response in section 4d.

5. What services should be provided for professional growth?

Resources that fuel corporate and academic growth are crucial to the Space Innovation Hub's success. Each of the below services identified in the RFI are integral to that growth and we have noted these, or similar, services in our responses in section 4.

a) Mentoring

b) Internship program
c) Professional seminars and training for residents
d) Innovation methodologies/frameworks to guide small businesses through deployment of products/services
e) Other? (please describe)

6. Are there existing innovation asset(s) and/or program(s) within Michigan that may be able to support in part or in total an innovation hub effort such has been described in this RFI?

ODAI should market the Space Innovation Hub to and partner with other local innovation hubs and accelerators—such as Ann Arbor Spark, Middle Michigan Economic Development Corporation, Michigan's University Research Corridor, and Michigan Central Station. These organizations have established resources that can be used by the Space Innovation Hub rather than recreated.

The Michigan Space Innovation Hub should leverage the coursework and academic staff at the University of Michigan Business School's Entrepreneurial Leadership Program and, in particular, some of its new classes on space technology and its intersection with business and regulation.

7. Are there Federal (to include but not limited to Department of Defense) organizations, programs, and/or resources that that could play a role in hub development that should be considered?

ODAI should reach out to the Michigan Sea Grant, a cooperative National Sea Grant College Program operated by the University of Michigan, Michigan State University, and the National Oceanic and Atmospheric Administration (NOAA).

Another Federal resource is NOAA's Great Lakes Environmental Research Laboratory (GLERL), with locations in Ann Arbor and Muskegon. GLERL develops and operates remote sensing technologies, including from space, for scientific observations in the Great Lakes.

The Department of Defense's Defense Innovation Unit (DIU) launched its Hybrid Space Architecture effort in 2021. In November 2023, DIU expanded this effort to pursue commercial solutions for persistent sensing, data transport, high-performance edge

computing and data fusion. Current DIU Hybrid Space Architecture research activities[1] include:

- Peacetime Indications & Warnings
- Responsive Access to Mission-Designated Orbits
- Reduced Latency Communications & GPS Resiliency
- Hardware-to-Software Transformation Modernization
- Multi-Orbit Operations & Logistics

Future space-related funding opportunities out of DIU are certain.

In addition, the not-for-profit strategic investment firm IQT (formerly In-Q-Tel) serves as a similar accelerator for technologies that could be used by national security organizations and connecting those resources to the Space Innovation Hub would benefit member organizations.

8. Additional beneficial information that is not described above

ODAI should create success criteria metrics to measure the Space Innovation Hub's effectiveness. Such metrics could include:

- How many organizations have joined the physical Hub space? How many organizations are virtual participants?
- How are affiliate organizations growing? What connections to new technologies or Government contracts have been established?
- How many organizations are actively seeking to join the Hub?
- How many people/organizations attend in person and virtual events?
- How many students are hired into co-op, internship, and full-time positions through job fairs or other Hub-related networking events?

ODAI also should conduct annual surveys of Hub participants to evaluate the value of Space Innovation Hub events and programming to ensure the Hub is advancing the business and academic needs of its affiliate organizations.

[1] https://www.diu.mil/solutions/portfolio#Space

A Response To:

REQUEST FOR INFORMATION

Michigan Economic Development Corporation for Space Innovation Hub

January 10, 2025

Submitted by:
Fairmount Properties, LLC.

FAIRMOUNT PROPERTIES

200 Park Ave • Suite 220
Orange Village, OH 44122

216.514.8700

FairmountProperties.com

TABLE OF CONTENTS

Letter of Transmittal

January 10, 2025

RE: Michigan Economic Development Corporation's Request for Information on Space Innovation Hub Program

Fairmount Properties is pleased to submit our proposal for information in support of the Michigan Space Innovation Hub. With over 25 years of experience and a portfolio exceeding $2 billion in transformative developments, we have consistently demonstrated our expertise in delivering large-scale, sustainable innovation ecosystems that drive economic growth, forge strategic partnerships, and create opportunities for communities.

Michigan is at a pivotal moment in space innovation, with the state's strategic vision positioning it as a key contributor to the emerging space economy. The Space Innovation Hub offers a transformative opportunity to solidify this role and drive Michigan's leadership in the sector. Fairmount's proven track record in developing innovation hubs, such as the $200+ million Marshall University Innovation District and the $100 million Ball State University Performing Arts Center and Center for Innovation, underscores our ability to translate bold visions into impactful, purpose-built projects.

Our leadership in creating intentional and impactful innovation ecosystems is powered by a dedicated innovation team focused on tailoring strategies to regional strengths and challenges. Through a deep regional assessment and fostering of strategic partnerships, we ensure our projects align with local needs while driving long-term transformation. This approach has led to significant achievements, including securing $45 million in state funding for the Marshall Innovation District and the Institute for Cyber Security, $500,000 in private donations for the Marshall Innovation Resource Hub, and $20 million from the Lilly Foundation for Ball State University.

Fairmount's dual perspective as an advisor and experienced developer enables us to deliver realistic, actionable recommendations grounded in market realities. Unlike firms that provide static evaluations and plans, we bring the real-time adaptability required to navigate the fast-paced and dynamic landscape of real estate and innovation hub development. With corporate space needs, market trends, financing requirements, and public incentives constantly evolving, our expertise allows us to craft solutions that not only address these challenges but are also designed for effective implementation.

We view the creation of a development plan as the beginning of a collaborative process, not the end. Should we be fortunate enough to be selected, we would be honored to contribute our expertise to the execution and long-term success of the Michigan Space Innovation Hub. Thank you for your time and consideration. We look forward to the opportunity to work together on this transformative initiative.

Thank you for your time and consideration.

Sincerely,

***Randy Ruttenberg**, Principal, Fairmount Properties*

The Institute for Cyber Security at Marshall University, part of Fairmount's Marshall University Innovation District development

Company Information

Company Background | Project Team | Main Contact

Founded in 1998, Fairmount Properties is a Cleveland-based real estate development and advisory firm at the forefront of creating transformative innovation districts that bridge education, healthcare, and technology. As a leader in shaping the future of 'Eds, Meds, & Innovation,' Fairmount is committed to building vibrant, future-focused communities where cutting-edge research, advanced healthcare, and entrepreneurial excellence converge to drive meaningful progress and global impact.

Through strategic programming and development, we integrate critical infrastructure for research, healthcare, and innovation alongside retail, entertainment, office, hospitality, and residential spaces. Our large-scale, multi-faceted projects are designed to become hub of discovery and advancement, fostering economic growth and societal transformation.

By engaging in collaborative visioning with research institutions, private-sector partners, and local communities, we forge strong public-private partnerships that bring visionary developments to life. Our team excels in fostering collaboration and building consensus, ensuring our projects become catalysts for innovation and prosperity, where education, healthcare, and industry intersect to transform economies and enhance quality of life.

A fully integrated organization, Fairmount Properties offers comprehensive, end-to-end services:

Advisory
Fairmount's innovation team crafts tailored programming for innovation districts, leveraging strategic collaboration and stakeholder engagement to foster industry partnerships, community inclusion, and interdisciplinary ecosystems. By integrating research, development, and entrepreneurship with specialized facilities, we drive economic growth, social equity, and long-term competitiveness.

Fairmount's BSU Performing Art Center and the Center for Innovation development

Financing
The success of any project hinges on a well-structured and achievable capital stack. Our team excels in public financing, leveraging expertise in tax increment financing, bonding, tax credits, and state and federal programs. We also specialize in innovation, brownfield, and transportation funding sources. Fairmount brings investors with proven track records to the table, offering a competitive edge by integrating diverse private and public funding streams. This approach enables us to craft viable capital stacks for complex public-private initiatives.

Design and Construction
Innovation projects require thoughtful decision-making. Fairmount ensures strategic planning, innovative design, and seamless execution by approaching each project from our partners' perspective. With extensive experience in complex developments, we create sustainable, resilient projects that positively impact communities, fostering pride and delivering lasting value.

Residential
Fairmount has developed over 1,500 residential units across the country since 1998, catering to diverse markets with a range of housing options. Our projects include market-rate housing, for-sale townhomes, and professional housing tailored to young professionals, medical staff, and other university- and healthcare-affiliated users.

Branding
Branding plays a pivotal role in shaping each district's unique identity. Fairmount collaborates with stakeholders to synthesize and evolve a district's vision into cohesive branding, marketing, wayfinding, and signage

programs. These efforts position each district as a destination for creative people, innovative ideas, and thriving businesses.

Community Building
Public gathering spaces are central to every Fairmount innovation district, hosting events such as business expos, performances, art and innovation festivals, and international food and wine festivals. These spaces bridge the educational, medical, and research communities with the broader public, creating vibrant hub for living, working, shopping, and recreation.

Project Team

Fairmount's team of professionals are recognized for its leadership in the Eds, Meds, & Innovation development industry, consistently delivering high-quality expertise and results. With each team member bringing a distinct skill set, they are united by a shared commitment to collaboration, transparency, and dedication—qualities that are essential in achieving their partners' goals.

Randy Ruttenberg
Founder/Principal

Adam Fishman
Principal

Rebecca Molyneaux
Executive VP, General Counsel

Brice Hamill
VP, Design + Planning

Adam Branscomb
VP, New Development

Foroozan M. Pour ***(primary contact)***
VP, Innovation District Strategies & Development

Kelley Stetter
COO

Rhonda Singer
Development Project Manager

Cole Kruschke
Development Associate

Main Point of Contact

Foroozan M. Pour
Vice President of Innovation District Strategies & Development

(216) 514-8700 x 107
fpour@fairmountproperties.com

Experience

Marshall University | Huntington, WV

Marshall Innovation District anchored by the Brad D. Smith Center for Business and Innovation

- ***Phase I: Brad D. Smith Center for Business and Innovation - Opened January 2024***
- ***Phase II: Marshall Innovation District -***
- ***Scheduled to open 2027***
- ***Phase I: Approximately $45 million***
- ***Phase II: Approximately $160 million***

Funding:

- ***$45 million from WV Economic Development***
- ***$7 million from Department of Labor***
- ***$500,000 from Huntington Bank***
- ***Member of the federal Regional Technology and Innovation Hub (Tech Hub) Program***

Advisory – Programming

Fairmount's first and most critical step in the development of an innovation district is the programming. Through our extensive experience we recognize that this important phase will guide the design and construction of the project. The Fairmount innovation team spent over 20 months programming the Marshall Innovation District. Our approach began with a deep understanding of the region's economic landscape, building a coalition of leadership and key stakeholders, and identifying regional strengths to create a solid foundation for a thriving and sustainable innovation district. In addition to establishing impactful and sustainable programs for the innovation district, securing funding to support its design, development, and long-term growth was equally critical—an area where our innovation team has consistently delivered successful results.

In our approach to programming the Marshall Innovation District, we recognized that Huntington West Virginia, like many cities of comparable size in the Appalachian region, was facing a great deal of economic and regional demands that needed to be addressed through additional and better job opportunities. Our innovation team determined that the fundamental goal of an innovation district for the Huntington region was a district-wide program that focused on job creation in areas of core competencies and strength while concurrently equipping the community with educational credentials and workforce skills necessary to compete and succeed in these jobs. Through our partnership with Marshall University, our innovation team identified key areas of distinction for the innovation district that serve as the foundation of the innovation district programs which are cybersecurity, advanced manufacturing, entrepreneurship, and energy.

PHASE I

Brad D. Smith Center for Business and Innovation

Phase I of the district's development culminated in January 2024 with the completion of the Brad D. Smith Center for Business and Innovation, a transformative 78,000 SF, $42 million facility. Designed to revolutionize education, innovation, and entrepreneurship, the center serves as the new home of Marshall University's College of Business. It features state-of-the-art spaces, including a multi-story forum, a 360-seat auditorium, a 100- seat multi-purpose classroom, and specialized media and finance labs, all aimed at fostering academic and professional excellence. Through its innovative programs and initiatives, the Brad

D. Smith Center for Business and Innovation drives talent development, equipping graduates with the skills needed to thrive in competitive industries. By offering tailored training and development, it helps students stay agile and innovative, positioning them for success in an ever-evolving market. The Brad D. Smith Center for Business and Innovation is the catalytic anchor for phase II.

PHASE II

Marshall Institute for Cyber Security
A National Center of Excellence for Cybersecurity in Critical Infrastructure

The Brad D. Smith Center for Business and Innovation served as the initial investment and anchor for the Marshall Innovation District. Leveraging this foundational opportunity, our innovation team advanced into phase II of the programming with the creation of the Institute for Cyber Security. Through strategic collaboration, the cybersecurity program forged a partnership with the Department of Defense Information Network (DODIN) to provide specialized training aligned with DODIN's workforce needs. This partnership led to the designation of the Marshall Institute for Cyber Security as the second National Center of Excellence for Cybersecurity in Critical Infrastructure.

The Institute for Cyber Security became the second major anchor in the Marshall Innovation District, providing the foundation for Fairmount's innovation team to conduct an economic study for the West Virginia Department of Economic Development. In partnership with Marshall University, we secured $45 million in state funding to support the development of the Institute for Cyber Security. This cutting-edge, 73,000-square-foot facility collaborates with the Department of Defense Information Network (DODIN) to drive advanced research and development in cybersecurity, fostering innovation and strengthening national defense capabilities. Its mission is to shape the Department of Defense's cyber workforce through advanced training and strategic partnerships. The Institute brings together public, private, and academic sectors to develop technologies that protect global critical infrastructure, utilizing proactive, threat-informed guidelines to ensure resilient network operations and mitigate cyber risks to DoD missions. Through these efforts, the Institute aims to lead in global cybersecurity excellence and inspire future innovations.

Marshall Advanced Manufacturing Center (MAMC)

The next phase of programming focused on integrating the Marshall Advanced Manufacturing Center (MAMC) into the innovation district in a cohesive and comprehensive way. Fairmount innovation team's strategy involved relocating MAMC from downtown Huntington to a new 45,000 SF facility within the innovation district, while simultaneously expanding its capabilities to enhance its impact.

MAMC is a national leader in machining, additive manufacturing, apprenticeships, and supply chain innovation. Its new facility, equipped with $22 million in state-of-the-art manufacturing technology, offers unparalleled resources for students, entrepreneurs, and businesses of all sizes. Industry leaders, including Toyota and Nucor, two of the largest manufacturers in West Virginia, leverage MAMC's expertise to design new products and access training. The Marshall

Advanced Manufacturing Center was awarded a $7 million grant in support of workforce programs from the Department of Labor.

Innovation Resource Hub
To support the regional entrepreneurship ecosystem, Fairmount's innovation team created the Innovation Resource Hub as an entrepreneurial center that partnered with Marshall's College of Business iCenter. The Innovation Resource Hub brings together a set of supportive services that are essential in venture creation at all levels. Fairmount's unique approach to programming the Innovation Resource Hub received $500,000 in support from Huntington Bank.

The Hub is an innovative space that connects students, educators, entrepreneurs, researchers, and makers with essential resources, such as workshops, mentorship, and access to funding resources to transform ideas into impactful ventures. Using Design Thinking as the foundation of venture creation, the Hub's comprehensive support services will help entrepreneurs navigate business complexities. It will serve as a highly productive discovery environment, a powerful driver of economic growth, and an effective magnet for top talent.

Center for Medical Technology and Innovation
As the programming of the Marshall Innovation District became more cohesive, Fairmount's innovation team identified the need for dedicated buildings to accommodate companies interested in locating within the district, advancing collaboration and partnerships. The Center for Medical Technologies and Innovation provides a point of entry to the innovation district for early-stage companies. This 20,000 SF, two-story facility will feature customizable labs and interactive workspaces. Designed to foster collaboration among Marshall University, Marshall Health, and industry partners, it supports early-stage companies in advancing strategic partnerships with the Institute for Cyber Security, Marshall Advanced Manufacturing, and the Innovation Resource Hub.

Innovation Building
Fairmount's programming of the district's new 60,000 SF state-of-the-art office building offers a range of flexible spaces from traditional offices to open floor plans for companies experiencing accelerated growth. This modern facility is designed to meet diverse operational needs of companies enhancing efficiency and driving growth. The proximity of this building allows for close collaboration with the Marshall Institute for Cyber Security and Marshall Advanced Manufacturing.

Residential
The innovation team's approach to integrating residential spaces within the innovation district is to provide professionals the opportunity to live close to work and recreation, with the option to walk to their destinations. Walkability is crucial in an innovation district because it fosters connectivity and spontaneous interactions, both of which are key to collaboration and the exchange of ideas. By creating easily accessible, pedestrian-friendly environments, walkability enhances the overall experience, attracting talent and businesses, and encouraging people to engage more fully in the district—ultimately driving innovation and economic growth.

Placemaking
To support a dynamic innovation district, programming must include thoughtful placemaking. The Marshall Innovation District is

positioned to attract major companies looking to establish operations in an environment with well-strategized programming. Companies focused on growth understand that attracting a modern workforce is best achieved through innovation-centric, high-density, mixed-use spaces that integrate live, work, play, and learn opportunities. With this in mind, the Marshall Innovation District is designed with ground-level amenities such as restaurants, coffee shops, yoga studios, and retail.

In preparation for the programming of Marshall Innovation District the Fairmount innovation team has visited and benchmarked the following innovation districts/centers:

- Cortex Innovation Community
- Stanford's Bio-X Clark Center
- Shriram Center, Stanford University
- d.School, Stanford University
- Mill19 Carnegie Mellon University
- Kendall Square, Boston, MA

REFERENCES

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Ball State University | Muncie, IN

BSU Performing Arts Center and the Center for Innovation

- ***Scheduled to open 2026-27***
- ***Approximately $100 million***

Funding:

- ***$20 miilion Lilly Grant***

The Ball State University Performing Arts Center and Center for Innovation is a five-site development with the Center for Innovation as a key anchor. The site selected for the Center for Innovation is optimally located on the edge of campus not only allowing ease of access for students but also the community.

Advisory – Programming of the Center for Innovation

Fairmount's innovation team spent 14 months programming the Ball State University Center for Innovation with the final 3 months in active weekly in-person stakeholder meetings and programming exercises.

PHASE 1 – Establishing Vision & Approach

The primary objective of the initial phase was to articulate the project's comprehensive vision and outline a strategic approach for establishing key priorities, which served as the foundation for setting targeted goals. Fairmount's innovation team initiated the process through information gathering and site visits, beginning with a series of weekly in-person meetings for 3 months with an 18-member Steering Committee. The Steering Committee brought together a diverse group of individuals with varied experiences, ensuring comprehensive and well-rounded feedback for the programming process. This collaborative approach helped define the Center for Innovation's vision.

Through early evaluation, the Fairmount team identified the need for a strategic approach that supports an ecosystem bringing together BSU students, faculty, the Muncie community, and the private sector to drive productivity, promote job creation, launch entrepreneurial ventures, and attract and retain skilled talent. The Center for Innovation strategic programming will be based on:

- Bolstering entrepreneurship and start-up growth
- Infusing innovation throughout the campus culture
- Advancing private sector partnership/ collaboration
- Strengthening support for small businesses
- Creating multiple access points to resources for individuals of all skill levels and background.

PHASE 2 – Program Options

The Fairmount innovation team identified key academic and non-academic programs that would work together to provide a comprehensive set of resources aligned with the Center's vision. Given the varied structures, goals, and processes of each group, it was essential to establish best practices for collaboration. This required further stakeholder engagement with end users, including students, small business owners, and organizations like the Chamber of Commerce.

PHASE 3 – Refine Preferred Program

The final program refinement focused on enhancing the Center's ability to strengthen private sector partnerships and cultivate a robust network of stakeholders dedicated to collaboration. The Fairmount innovation team identified three key industry partners—Dell,

Google, and Pepsi—based on their existing relationships with the university and their important roles in the region. This approach explored innovative strategies for integrating these partners into the Center for Innovation, laying the foundation for more comprehensive and inclusive planning with additional organizations and groups.

In preparation for the programming of Ball State's Innovation District, the Fairmount innovation team visited the following innovation districts/centers:

- Purdue University
- Mill19 Carnegie Mellon University
- TechTown Detroit
- The Garage, Northwestern University
- Mason Innovation Exchange at George Mason University
- University of Maryland IDEA Factory

Performing Arts Center & Hotel
The Performing Arts Center will be one of two anchors of the district, fostering artistic talent and innovation. Adjacent to the center, a 95-key Tapestry by Hilton hotel will feature a performance-themed restaurant, rooftop bar, and lounge with views of the entire arts and innovation district.

Mixed-Use Development
Across from Performing Arts Center, a multi-story mixed-use development will offer 85-90 market-rate apartments designed for university faculty, staff, researchers, and healthcare workers from IU Health Ball Memorial Hospital. The ground floor will include a BSU Barnes & Noble community bookstore, creating a seamless blend of residential and commercial spaces.

Residential Community
A residential community of 25 single-family townhomes and patio villas, ranging from 1,600-2,200 SF, will offer private outdoor spaces, two-car garages, and shared amenities like a Village Green, walking paths, and a gazebo. These homes will provide residents with a vibrant living environment connected to the district's innovation ecosystem.

REFERENCE

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Rowan University | Harrison Township, NJ

Wellness Village and Innovation Hub Development

Scheduled to open 2027

200+ million

In partnership with Rowan University and collaboration with Inspira Health, Fairmount is leading a multi-phased innovation mixed-use development. This transformative initiative is designed to harness and amplify the region's current momentum, catalyzing long-term growth and unlocking the full potential of Southern New Jersey. While each development phase will be programmed around unique goals, every use will contribute to a cohesive strategy for the overall transformation of the 200+ acre site. Fairmount's leadership will ensure that all site uses align with a unified vision, driving decisions that shape a sustainable and dynamic future for the region, reshaping it for generations to come.

Inspira Corporate Headquarters

Adjacent to the Inspira Medical Center Mullica Hill, a new 25,000-square-foot administrative headquarters will be developed to support Inspira's operations, housing approximately 100 employees. Strategically located along SR-55, this building will maintain both a visual and programmatic connection to the medical center, which opened in 2019. As Inspira continues to prioritize this site for expanding its system's facility needs, its role as a committed anchor institution will play a pivotal part in shaping the innovation district's future. The job creation and workforce impact from Inspira will lay a strong foundation for the district's next phase of growth and development, reinforcing Fairmount's leadership in driving this transformative project.

Innovation Hub Anchored by Medical Office Building and Retail

This site will support a range of uses—including an innovation hub, healthcare, and commercial spaces—integrated both programmatically and physically with the strategic priorities of the anchor institutions, Rowan University and Inspira Health, and drawing further inspiration from the South Jersey Technology Park (SJTP) across the street.

The innovation spaces will be complemented by community-focused retail, restaurants, and office spaces, which will serve the needs of Inspira Medical Center, Rowan University, adjacent redevelopment areas, and the broader community. Early planning envisions several retail options, including multi-tenant inline spaces and outparcels, thoughtfully positioned across the site.

Development will be coordinated to ensure seamless multi-modal connectivity for both vehicles and pedestrians. This will enable medical professionals, hospital visitors, and district workers to easily access dining, shopping, services, and wellness options. Through a well-executed merchandising strategy, the development will encourage foot traffic, driving people outside and into the district to patronize nearby food and service providers. Fairmount's leadership will guide the integration of these elements, ensuring alignment with the district's overarching vision and goals.

Innovation Hub

The primary objective is to position Rowan University and Inspira Health as co-anchors of the innovation district, aligning them with complementary users who will flourish through

collaborative partnerships in innovation, education, and research. This approach fosters next-generation educational and workforce training opportunities. Fairmount's leadership team will strategically guide the innovation district's programming, focusing on establishing key priorities that drive long-term success. This vision includes developing a resource-rich innovation hub that offers collaborative spaces for startups, entrepreneurial labs, maker spaces, and services for IP, venture capital, and commercialization. The hub also supports mature companies seeking proximity to institutional partners, unlocking unique opportunities for collaboration and innovation. These companies may actively contribute to Rowan's curriculum development, research initiatives, and capital campaigns, ensuring alignment with shared goals and growth opportunities.

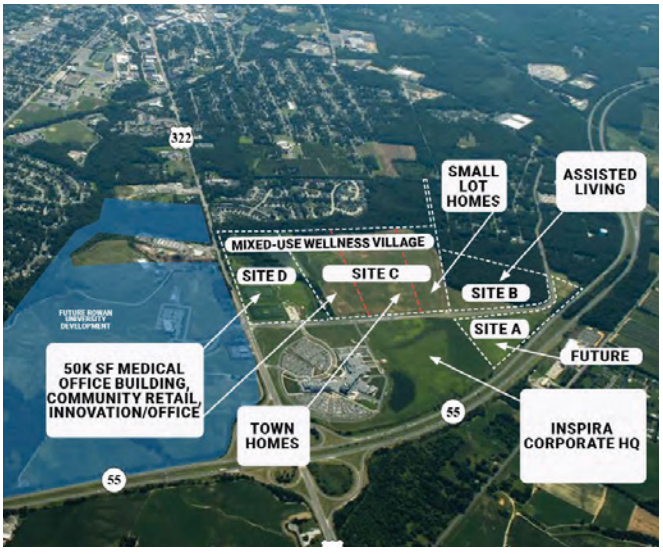
University-Linked Residential and Wellness Village

A phased approach to the development of single-family homes and townhomes will introduce a variety of price points and home styles, broadening appeal to a diverse range of buyers in the region. The inclusion of an active adult community, designed for residents 55 and older, will offer low-maintenance, single-story living options that cater to retirees, with convenient access to healthcare services. This community will be programmatically linked to the University, creating unique opportunities for residents to audit classes, attend cultural and sporting events, participate in speaker series, mentor younger generations, volunteer, and engage in a vibrant, multigenerational environment that supports physical, mental, and social well-being.

Through Fairmount's partnership with a nationally recognized, award-winning operator of retirement communities, the team is dedicated to developing a university-affiliated retirement community that fosters lifelong learning and active engagement.

Wellness Village

The Wellness Village concept is a carefully designed, intentional theme that defines the entire development. It draws synergy from the adjacent Innovation Hub, Inspira Medical Center, Rowan University, healthy dining options, wellness-focused retail and services, medical office buildings (MOB), for-sale residential units, university-linked housing, and continuum-of-care living options. By concentrating tenants and amenities dedicated to therapy, exercise, recovery, nutrition, mindfulness, spirituality, social engagement, music, and art, the Wellness Village fosters a holistic environment focused on preserving and enhancing health rather than merely treating illness. Fairmount's leadership will guide the integration of these diverse elements, ensuring the village embodies a forward-thinking approach to health and well-being, aligned with the innovation district's overarching vision.



Work Plan and Proposal

A Cohesive Vision for Michigan's Space Innovation Hub

Hybrid Format for a Space Innovation Hub

A hybrid format offers the ideal foundation for Michigan's Space Innovation Hub, combining the strengths of physical and virtual components to maximize accessibility, collaboration, and innovation. Fairmount's proven expertise in programming, designing, and building innovation ecosystems ensures that this approach creates a dynamic environment where talent, academia, industry, and government stakeholders converge to advance space-related research and development.

The physical component would feature a central innovation campus with state-of-the-art laboratories, collaborative workspaces, and secure areas for sensitive projects, designed to foster innovation and attract top-tier talent. Drawing on Fairmount's extensive experience in creating functional and adaptable facilities, key features such as clean rooms, rapid prototyping labs, and flexible workspaces would ensure the Hub meets diverse stakeholder needs. Complementing this, the virtual component would leverage an interactive online platform hosting features like hackathons, innovation challenges, and project management tools, enabling global participation regardless of geographic constraints. This seamless integration of physical and virtual spaces, supported by Fairmount's expertise, creates an inclusive ecosystem that drives innovation, collaboration, and economic growth.

Ensuring a Culture of Innovation Virtually

The Space Innovation Hub would foster a culture of innovation through community-led challenges and targeted innovation programs. Leveraging Fairmount's knowledge of innovation ecosystem development, the Hub would launch open challenges to address pressing space-related problems, providing a platform for multidisciplinary collaboration and generating cutting-edge solutions. These programs would also include virtual accelerators offering mentorship, funding access, and business development resources to support startups and established organizations. Fairmount's ability to design programs that integrate industry, academia, and government ensures that these initiatives align with broader economic and technological goals. Gamification strategies, such as leaderboards and rewards, would further enhance engagement, fostering a sense of community while driving progress toward impactful outcomes.

Advancing National Security and Dual-Use Infrastructure

Central to our approach is Fairmount's extensive experience working with the Department of Defense and our deep understanding of the stringent requirements for secure facilities. This expertise is exemplified by our partnership with the Department of Defense Information Network (DODIN) in programming, designing, and constructing the Marshall University Institute for Cyber Security, one of only two National Centers of Excellence for Cybersecurity in Critical Infrastructure in the United States. This collaboration highlights our ability to deliver state-of-the-art, secure environments that drive innovation while addressing critical national defense needs.

The Marshall Institute for Cyber Security is a 73,000-square-foot facility that serves as a cornerstone of the Marshall Innovation District. Designed to advance cybersecurity research and development, the facility includes secure spaces, a planned Sensitive Compartmented Information Facility (SCIF), private sector partnership areas, advanced laboratories, conference rooms, classrooms, offices, and event spaces. This project was made possible by a $45 million state funding initiative secured through an economic study conducted by Fairmount's innovation team for the West Virginia Department of Economic Development in collaboration with Marshall University.

In partnership with DODIN, the Institute for Cyber Security is a driving force for advanced research, fostering innovation, and strengthening national defense capabilities. Its mission is to shape the Department of Defense's cyber workforce through advanced training and

strategic partnerships, while uniting public, private, and academic sectors to develop technologies that protect critical infrastructure.

Building on this foundation, Fairmount applies its proven expertise in programming and designing secure infrastructure to create physical environments that address the unique needs of national security-focused operations and dual-use activities:

- **National Security Projects:** The inclusion of SCIF spaces is critical for facilities supporting classified operations. These spaces, compliant with stringent classified information handling standards, feature reinforced walls, acoustic shielding, intrusion detection systems, robust access controls, and advanced encryption capabilities to ensure seamless and secure operations. While on-site SCIFs are indispensable for hubs with significant national security operations, facilities with lower demand may benefit from leveraging existing nearby SCIF-equipped facilities. This off-site approach reduces high costs but introduces logistical challenges, including secure transportation of classified materials, robust encryption protocols, and chain-of-custody processes. Reliance on off-site SCIFs also diminishes direct control over secure operations and requires careful planning to mitigate risks.

- **Dual-Use Activities:** Fairmount's design philosophy prioritizes adaptability and collaboration, with program laboratories and maker spaces that encourage interdisciplinary research and innovation. These facilities are equipped with advanced prototyping tools enabling researchers and entrepreneurs to develop and refine technologies efficiently. By fostering collaboration while maintaining security measures, this integrated approach ensures a balance between secure operations and innovative research.

Fairmount's experience in developing secure and adaptable spaces ensures that both national security and dual-use activities are supported effectively. By integrating innovation with security, these environments position facilities as vital resources for advancing excellence and fostering collaboration across the public, private, and academic sectors.

Laboratory Space

Advanced laboratory spaces are essential for supporting the research, development, and testing needs of a modern innovation hub. These facilities must be equipped with state-of-the-art tools and adaptable features to accommodate a wide range of space-related projects and technologies, enabling users to develop innovative solutions in a highly functional and controlled environment.

A clean room environment is critical for the assembly of precision components. These spaces must adhere to stringent cleanliness standards to ensure reliability and performance. Clean rooms should be designed with specialized zones to support varying levels of contamination control, enabling high-sensitivity assembly and rigorous testing operations.

To address the evolving needs of diverse projects, the Space Innovation Hub should incorporate adaptable laboratory modules. These modular spaces can be reconfigured quickly to support a variety of research and development activities, from materials testing to system integration. Flexible infrastructure—such

as interchangeable workstations, adjustable power supplies, and scalable lab equipment—ensures that the Hub can effectively cater to research priorities ranging from early-stage innovation to prototyping and testing.

By integrating clean rooms and adaptable laboratory modules, the Hub will establish a comprehensive platform that supports cutting-edge research. This flexible, future-ready approach ensures the Space Innovation Hub remains a vital resource for innovation and the development of space-related solutions.

Telecommunication

Should the Space Innovation Hub establish partnerships with federal agencies for research and development, the federally issued Unified Facilities Criteria (UFC) will serve as a critical resource, providing guidelines for the planning, design, and construction of telecommunications infrastructure to ensure secure and reliable systems that meet critical operational needs.

Office Spaces and Meeting Rooms: Balancing Collaboration and Security

The design of office spaces within the Space Innovation Hub should adopt a zoned approach, effectively balancing open collaboration areas with secure private spaces. Leveraging Fairmount's expertise in programming, designing, and constructing dynamic innovation environments, the Hub will address diverse stakeholder needs while fostering creativity and maintaining operational integrity. Our team's extensive experience in delivering tailored solutions ensures that these spaces seamlessly integrate functionality, flexibility, and security.

Open collaboration zones will feature shared workspaces, lounges, and reconfigurable meeting areas designed to encourage interaction, networking, and cross-disciplinary idea-sharing. Flexible and modular layouts will create a vibrant and engaging environment that promotes teamwork and innovation among stakeholders. For stakeholders managing proprietary or sensitive work, private offices and laboratories will provide optimized privacy and security.

Conference and meeting rooms will emphasize flexibility and functionality, with adaptable layouts for routine collaboration and dedicated spaces equipped with enhanced security for sensitive discussions. Advanced virtual collaboration tools, including high-definition video conferencing and AR/VR systems, will enable seamless hybrid meetings and global connectivity.

This integrated design promotes a dynamic ecosystem that supports collaboration, innovation, and secure operations, ensuring the Hub is a cutting-edge facility for local and global engagement.

Placemaking

Placemaking is central to Fairmount's approach in fostering dynamic innovation ecosystems, serving as a foundation for its programming, design, and development strategies. By creating environments that attract talent, drive innovation, and encourage collaboration, Fairmount positions innovation hubs as focal points in the ecosystem. These hubs integrate state-of-the-art facilities with vibrant public spaces, such as green areas, restaurants, and cultural attractions, to enhance interaction, knowledge sharing, and quality of life. This thoughtful approach ensures that innovation hubs meet operational needs while creating inclusive environments that attract and retain top-tier talent, driving sustainable innovation and growth.

Resources, Partnerships, & Initiatives
Workforce development, entrepreneurial resources, and private sector partnerships are foundational to a region's economic growth and essential for sustaining a thriving innovation ecosystem. Fairmount's expertise in designing and implementing these programs positions it to guide the Space Innovation Hub in developing a dynamic and inclusive talent pipeline. With a proven track record of tailoring initiatives to industry and community needs, Fairmount will support the Hub in advancing workforce readiness, fostering public-private collaboration, and promoting sustainable growth within Michigan's space economy.

- **Private Sector Partnership Program:** A strategic initiative that connects businesses with academic and workforce programs to align industry needs with talent development, innovation, and technological advancements.

- **Targeted Workforce Training:** Collaborate with educational institutions to develop training programs aligned with the specific needs of the space sector, from technical roles to advanced research positions. Develop workforce pipeline with corporate partners.

- **Stackable Micro-Credential Program:** Offer certifications in areas such as satellite systems, advanced manufacturing, and space technologies to support career growth and adaptability.

- **Apprenticeship and Internship Programs:** Create structured hands-on learning opportunities to prepare workers for entry- and mid-level roles while supporting local businesses.

- **Diversity and Inclusion Initiatives:** Launch recruitment programs that focus on underrepresented groups, ensuring equitable access to opportunities within the space economy.

- **Digital Job Skills Portal:** Develop an online platform for training resources, certifications, and job listings to centralize workforce development tools.

- **Youth STEM Engagement Programs:** Partner with schools to inspire K-12 students through early exposure to STEM and space-related careers, building a future talent pipeline.

- **Innovative Learning Center:** Establish a physical space for technical workshops and training sessions focused on manufacturing, design, and emerging space technologies.

- **Entrepreneurial Support Network:** Provide resources such as mentorship, funding opportunities, and business development programs to empower startups and innovators in the space sector.

- **Design Thinking Entrepreneurial Workshop:** Equips participants with creative problem-solving techniques and innovative strategies to develop user-centered solutions and drive entrepreneurial success.

These initiatives will equip Michigan's workforce with the skills and resources necessary to thrive in the space economy while fostering a culture of innovation and collaboration that drives long-term economic growth.

Federal & State Resources

- **National Space Grant College and Fellowship Program**
  This NASA initiative supports space-related research, education, and public outreach.
- **Michigan SmartZones**
  These designated tech hubs encourage collaboration between universities, businesses, and community organizations to promote innovation and commercialization of new technologies.
- **Detroit Region Aerotropolis**
  This economic development area focuses on advanced air mobility and drone infrastructure.
- **University Research Corridor (URC)**
  An alliance between Michigan State University, the University of Michigan, and Wayne State University, the URC aims to transform and diversify Michigan's economy through research and innovation.

Conclusion

Fairmount's extensive expertise in programming, designing, and building innovation ecosystems uniquely positions it to guide the development of Michigan's Space Innovation Hub. With a proven track record of delivering adaptable, secure, and collaborative spaces, Fairmount has successfully integrated workforce development initiatives, private sector partnerships, and advanced infrastructure into innovation-focused projects. Its experience spans the creation of dynamic environments that support research, entrepreneurship, and public-private collaboration, ensuring alignment with industry and community needs. This depth of experience enables Fairmount to deliver a comprehensive approach that drives technological advancement, fosters talent development, and supports the long-term sustainability of Michigan's space economy.

Response to the MEDC Space RFI

Date Submitted: December 31, 2024

IQM Research Institute
24 Frank Lloyd Wright Drive Suite H-1200
Ann Arbor, Michigan 48106

Mr. James Miles
COO/Vice President
Jim.Miles@iqmri.org
734 635 1116

Table of Contents

1.0 Contact Information of the Respondent

a. Organization and business name and Address:

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Ann Arbor, Michigan 48106

b. Name, title, email, and phone number of the individual(s) responsible for thee respondents RFI response:

Mr. James Miles
COO/Vice President
Jim.Miles@iqmri.org
734 635 1116

2.0 Respondent's Background, Area of Expertise and Experience:

2.1 Background of IQM Research Institute

IQM Research Institute (IQMRI) is a 501.C.3 non-profit organization providing applied S&T research and development for commercial firms and Federal Government agencies. Located in Ann Arbor, Michigan IQMRI was formed in 2014 as an outgrowth of the heritage ERIM organization that since 1946 developed leading-edge technologies for US Government and Department of Defense applications. IQMRI is a research institution as defined in Section 4(3) of the Stevenson-Wydler Innovation Act of 1980 -- an organization that is operated exclusively for scientific or educational purposes.

IQMRI technical efforts range from non-biased studies, research & development projects, to hardware and software prototype demonstration efforts. IQMRI conducts programs under strict non-disclosure agreements with Industry and classified programs with US Government customers.

All IQMRI employees are US citizens. The Institute maintains an accredited DoD Information Security program for projects from unclassified through Top Secret SCI, including High Side Communications and SCIF offices. IQMRI is in full compliance with NIST 8000 requirements as well as with approved DCAA rates and external audit compliance. The IQMRI Ann Arbor offices maintain conference rooms and access to larger meeting areas which can support video meetings using Teams software. The IQMRI Washington DC office is a TS/SCI SCIF facility with classified communications and terminals. In addition, this facility has both unclassified and TS/SCI conference rooms for larger meetings.

Figure 1-IQMRI Ann Arbor Location

2.2 Areas of Expertise

IQMRI is organized along six major technical areas:

- Artificial Intelligence research and applications with focus on human cognition
- Embedded Cyber Security technology for hardware and software products.
- Advanced Materials for Hypersonic aerospace and commercial vehicle platforms.
- Space Systems and Space Derived Data for analytic based products
- Medical Diagnostics for Human Performance, Pathogen Detection, and Environmental Safety
- Next Generation Electronics and Sensors for commercial and US Government Customers

Recent IQMRI customers include MEDC, National Reconnaissance Office, DARPA, US Army Futures Command, Office of the Secretary of Defense, Office of Naval Research, Automotive Original Equipment Manufacturers (OEMs) and tier suppliers, Research Consortiums, and small businesses. IQMRI has over 44 staff members of scientists, engineers, and operating staff, and also leverages leading technical consultants. IQMRI is experienced in the execution of Grants, Cost-plus-Fixed Fee and Firm Fixed Cost contracting.

2.3 Experience:

2.3.1 MEDC Sponsored Michigan Space Community of Interest (COI)

IQMRI has participated for over 24 months in the development of the Michigan Space Community of Interest effort. This included:

- Identification of Firms, Organizations, and Educational Institutions within Michigan working in the Space domain.
- Organizing COI meetings both in-person and virtually

- Engaging outside Space experts to provide ecosystem overviews and domain specific presentations to the COI members.
- Providing insights into emerging Federal business opportunities and relevant Space Conferences to COI members
- Working with MiNG Leadership on integration of Michigan National Guard into the Space Force missions.
- Participated in the State of Michigan Space Strategic Plan (led by Andy Dallas).

2.3.2 Select Staff Space Experience

Michael Dudzik – As a former USAF (Space) General Officer, he has over 20 years of military and classified space assignments, including: space systems acquisition & development, budgeting and programming, and space launch, satellite operations, and workforce education & training. As a former Lockheed Martin Corporate Vice President, his commercial experience includes hypersonic systems, small satellite development, space debris & data analytics, space communications and space launch vehicles. As a business leader, he brings insights into reducing gaps and barriers into corporate decisions and issues that prevent organizations from entering new markets.

Melaine Corcoran – A 20-year space professional within both Government and Industry. She has held senior Leadership positions and Consultant roles with satellite sensor development firms in Michigan. Her background includes extensive experience in classified space programs and with the Civil space sector, including NASA and the Department of Commerce. Her technical background in space data analytics for multi-modal imagery (SAR, visible, multi-spectral, and hyperspectral) is relevant to future applications for R&D programs, military imaging, agriculture, and urban planning needs. In addition, she provides a proven pathway to advise small and start-up firms in Marketing and Strategy, points of contact to Government and industry partners and distinguished visitors.

Megan Crawford – She is an entrepreneur, business educator, space industry pioneer, experienced executive, and investor, Meagan co-founded the world's longest-running space business plan competition, and has taught, coached, and advised hundreds of space startups through their earliest stages – including some of the current generation of successful companies. She routinely engages with the VC community and many of the small space startups Nationwide. Her expertise will also support start-up funding for startup formations.

Stanley Kennedy Jr– A 40-year aerospace professional and founder of a Oakman Aerospace, a space firm supporting military and classified space programs, he brings insights into pathways into operational needs. A current focus is the development of the Kinross satellite space professional education center. Kinross is a unique construct for Michigan to bring to the commercial and military space ecosystem as there is no similar non-military education capability outside the military school at Vandenburg SFB. In addition, his background is small satellite development, participation in the SmallSat community (Utah State University) and industry networking allow for engaging the COI members in new business development.

Joanne Kerr – A highly effective Administrator of Projects, budgets, schedules and data items. She has had extensive experience with coordinating the Space COI, organizing meetings and follow-up reports. In addition, she has coordinated other MEDC projects, DoD and commercial projects at IQMRI.

3.0 Innovation Formation and Management

a. What format makes the most sense for the hub?

IQMRI suggests this entity be operated using a hybrid Hub & Spoke approach through an accelerator-style business model like the Ann Arbor SPARK construct. The Hub should be led by a not-for profit to minimize any conflict of interest and augmented by a small staff of full and part time individuals. The current MEDC Space Community of Interest (COI) is expected to be the core membership. The Spokes are an important aspect of the Hub as they can provide regional support and specific technical & educational assistance. At a minimum, the Spokes should include working level staff from least two Universities, regional economic development organizations, and a dedicated representative from the Michigan National Guard.

The Hub & Spoke can be implemented using a two phased approach. The Phase 1 start-up can be operational within 60 days operating in a leased office facility, with offices, cubicles, a commons technical area, kitchen area, and a conference room similar to the accelerators at the SPARK and Velocity Center (possibly through a temporary co-use arrangement). The Phase 1 Hub operations are envisioned to be fully funded by MEDC.

In the Phase 2, the Hub & Spoke construct can be expanded to include specific Labs and a SCIF office space either onsite or operating remotely at other leased or Government facilities. A recommended task within the Phase 1 is to develop the requirements to define the laboratory needs and The Phase 2 Hub is envisioned to by funded by a combination of MEDC and participant subscription funding.

For purposes of this White Paper the term "Hub" is meant to encompass the Hub & Spoke construct and the COI membership.

IQMRI recommends the Hub be a hybrid of physical and virtual. The Hub will require full time and part time staff of dedicated manhours to collect and organize the information from multiple sources. Several business models of a Phase 2 Hub exist within Michigan such as NAMC and Auto ISAC that also provide member services for a subscription fee as well as leveraging outside funding from government organizations. Therefore, a small physical staff, operating in unclassified and SCIF facilities, would support the larger membership meeting and engagement needs.

Based upon our experience with the previous COI member meetings, inclusion of guest speakers, etc. - one lesson learned is that organizations involved in space efforts within Michigan are located across wide geographic distances such that there would likely support the greater use of

virtual/video meetings to cost effectively engage membership. A recommendation is to hold one or two general physical membership meetings annually with 10 to 11 to take place virtually.

b. How to ensure a culture of innovation exist if the hub is virtual?

Leveraging Michigan's Space Strategy document and past COI meeting practices especially that of invited speakers as a baseline and updating each annually. IQMRI also suggests two additions to the previous COI meeting formats which may enhance the culture of innovation into the Hub and the virtual meetings. First, is a dedicated approach that continues to address those critical and evolving needs of the Space ecosystem to influence IRAD of existing Michigan organizations and create new startup opportunities. By dedicating a segment of Hub work statement and each virtual meeting to framing/reporting space customer-stated needs to the COI, these engagements will better align "real" needs to Michigan COI member capabilities or allow them to move to new opportunities. As second addition is to add a dedicated segment in each monthly meeting to report on the calendar of space related Conferences, Workshops, and solicitation opportunities to the COI membership. The focus of both additions is to increase short- and long-term customer relationship building opportunities.

c. How does the physical infrastructure of the hub differ when used for supporting national security over that when used to support dual use activities?

The Hub must include physical offices as well as virtual means. The national security space ecosystem operates at the TS/SCI level whereas the dual use ecosystem is predominately operated at the unclassified level. IQMRI recommends a two phased approach to establishing the Hub – develop the unclassified Hub in Phase 1 and expand to the classified Hub in Phase 2.

The pace of build out of a national security space infrastructure is dominated by two key issues, cleared staff and cleared facilities. Today, the lag time between submitting a staff member for a new TS/SCI clearance range from 8 months to 14 months once approval is granted by the host organization. Therefore, the unclassified operations can began almost immediately whereas the SCIF operations have a lag time.

One short term workaround is that if cleared members of the COI, with agreement of their respective customer, can make available SCIF meeting facilities, then a subgroup of COI members can engage jointly in early discussions. The results of the classified meetings cannot be shared with the general/non-cleared COI membership. However, becoming aware of the general technical and funding of national security opportunities may allow new organizations to invest in staff clearances and facilities. The classified facility issue also aligns with the MEDC focus on increasing the number of SCIFs in Michigan.

d. Office type – can larger common areas or segregated offices?

IQMRI suggests limiting the fixed costs of offices and conference facilities for the Hub to leased facilities and leveraging existing MEDC facilities wherever possible - including existing office space within an existing MEDC accelerators (SPARK and Velocity Center) if available or unused office space within an existing organization. Secondly, the use of the large common area at the

Velocity Center in Sterling Heights or Domino Farms, on a as needed reduces basis, reduces the lease costs. The SCIF office costs are TBD.

e. Should computer resources or data bases be provided by the Hub?

Web based and email resources are generally covered in the G&A of the organization and are not broken out unless needed for a very specific/unique need. Suggest that the Hub organizations be required to meet CMMC level 2 or higher and provide their own IT service support.

Specific computer processing resources available to Hub membership for data processing be limited to PC and analytic workstations (under $10,000 in cost). This range of computer resources in processing speed and storage can support proposals and conduct IRAD to bid on new procurement. Upon award, higher end computer resources are normally charged to the Contract as the need is specific to that Contract. IQMRI recommends that an annual allotment be set aside each year to purchase computer resources for the Hub (physical or cloud based) but that the Hub retain equipment ownership of purchased hardware as the equipment is purchased with public funds.

Data base costs are often a high-cost element for small and start up data analytic firms. For example, unclassified SAR and EO/IR data bases that reside on the Cloud can cost between $3000 – 5,000 a month or more to access, process and restore. Classified data bases require SCIF/JWICS accessibility. Data base costs are a clear barrier to entry for early-stage firms. IQMRI recommends that an allotment for annual data base acquisition be set aside to fund these costs which can be addressed in Phase 1.

f. What type of telecommunications are suggested being provided to the tenants?

Depending on resources available, there are three potential telecommunications approaches that can support the Hub and COI member engagement. First, a bare minimum approach is to limit telecommunications to Web based engagement (email and Teams) that is CMMC level 2 or higher. This approach aligns with the new Federal communications guidelines as a result of the Salt Typhoon cyber-attack. A second approach is to add 1-3 dedicated cell phone lines for each tenant's use in order to enhance the bare minimum costs so that the use Signal or other secure messaging methods are available. Third, MEDC to engage an appropriate US Government organization to create a dual-use office SCIF at Selfridge, MSP, CBP, or similar with full JWICs capability that a cleared tenant can use.

g. Should the facility provide access to accredited SCIF space, what impact are associated if the SCIFs are located off-site at a nearby location?

The SCIF access is the most complicated aspect of the Hub. There are three pathways -leverage an existing SCIF, build out a new SCIF at the Hub location, and lease a facility in the Washington DC area (not optimum but timely) Either approach requires customer use approval. Offsite location use on an "as needed basis" is far less expensive than building a new SCIF.

Those organizations and staff that utilized SCIFs are accustomed to working with remote or semi-remote SCIF locations. For example, IQMRI's Washington team works under similar

arrangements as the SCIFs are geographically removed from unclassified offices. If the physical SCIF is remote, the Hub can reimburse staff members for travel mileage to and from unclassified offices and SCIF locations to offset costs.

The construction of a dedicated Hub SCIF in an existing building is a second pathway. As a rule of thumb, permission to build a SCIF must be approved by a customer, the cost is normally between $1300 - $1800 per sq ft, and construction is 6-8 months with the requirement to be inspected and certified.

With Customer approval, a short-term lease at a "SCIF Hotel" in the greater Washington DC area can be acquired for approximately $4000 -$5000 per month. The cleared Hub members would be required to assume travel costs (nominally $1000 per trip) but the exit costs should projects not be acquired are far less than building out a comparable SCIF in Michigan without the prospects of a long term contract.

h. Is there a need for laboratory space and, if so, describe the requirements?

This is an area for further consideration in the Hub planning process in Phase 1. The Hub may want to consider identifying multiple facilities that can be used for difference types of labs.

Laboratory space is usually dependent upon the intended use. Class 10-100 clean rooms are used for satellite assembly, whereas hardware/software integration labs are needed for bench level prototype demonstrations. More common today is organization's practice of the use of outsourced facilities to reduce costs.

IQMRI suggest that instead of building out a single laboratory space for all to use, MEDC could consider supplemental grants to those organizations requiring specific lab capabilities to rent the needed lab space locally. For example, in the Ann Arbor area there are firms that will lease lab space on a project-by-project basis and modify for specific needs (at an additional cost) if required. Likewise, some Universities and Government agencies can accept research projects with outside organizations for specific testing and evaluation – each University has different criteria as the facilities/equipment are State property. US Government agencies (NASA and AFRL) can use CRADAs to support lab activities if there is a shared interest in the data.

i. Describe other equipment that should be considered in the Hub?

This is an area for further consideration in the Hub planning process if a central Lab facility is desired. Laboratory equipment has two cost components – acquisition price (purchase & initial training on the equipment use) and annual operating cost (upgrades, recalibration, & repair). Comments in Section i above also apply.

j. What type of operational services should be provided: janitorial, security, guards, etc?

For unclassified facility operational services, including janitorial and maintenance, these services are normally included in the lease costs.

For a classified SCIF requirements these operational services are "customer" dependent per the applicable security classification guide. Janitorial services for an owned SCIF must be paid for by the Hub. For a leased SCIF. the operational services are normally included in the lease cost.

k. Describe if you have interest in the hub having a cafeteria?

TBD. Locating the day-to-day working Hub activity in an existing office building with an independent food service capability would be preferable and efficient. Having an inherent capability to cater food and beverage to Hub meetings is preferred by not mandatory. A SCIF location will likely not require a cafeteria. IQMRI experience with SCIF catering is that it can be offset by delivery of sandwiches, pizza, etc for lunch meetings.

4.0 Services Provided

Sections a-e. Services, Innovation Methodologies, Industry Days, Visitors, Academic Mentors, Marketing, Strategy, Access and Opportunity Generation.

IQMRI has reviewed the outline of listed topics and agrees that these are all fundamental to the Hub and the business development efficiency needed by Michigan organizations to enter the dual use and classified ecosystem.

IQMRI suggests that the Services portion of Hub as described is a 2- 3 person FTE role (combined FT and PT staff) in addition to small subcontracts to team members of university faculty and specific consultants. Intrinsic to the Hub services is the ability to leverage from outside vendors whenever it is less expensive and better aligned to the Hub mission. For example, access to partners and collaborators is related to attendance at conferences and workshops. To this end, the Hub can identify and advocate for members to attend specific space Conferences, Industry days, and workshops. Likewise, connections with Distinguished visitors can provide for virtual webinars or live discussions on topics of interest. The depth of the Services provided must address both the short-term and long- term vectors of the space ecosystem needs. This is an issue for the Phase 1 requirements definition process.

5.0 What services should be provided for Professional Growth?

The educational and mentoring role of the Hub will be seminal to the growth of space technology programs and the "stickiness" of these jobs in Michigan. Today, Michigan is a net exporter of STEM field graduates to other regions of the United State. To achieve the goals of the Michigan Space Strategy, developing the pipeline to upskill, re-skill and educate employees to space jobs is needed as a central pillar of the Hub. Michigan has strong University programs in the education components needed for space jobs – aerospace engineering, computer science, AI/ML, sensor physics, communications, among others.

Mentoring and Internships are fundamental to developing the current and near-term workforce. The Hub can leverage best practices past and current other Michigan workforce initiatives. For example, the DoD VICEROY program at the University of Detroit Mercy built out a funded

program to re-skill, upskill and educate vehicle cybersecurity talent for the military and civilian programs. The Kinross program plans a similar effort to develop Space Operators for USSF and the civilian organizations.

Likewise, the SPIE conferences provide state of the art information on space sensors, image processing of space data, and related technical areas. The Hub can leverage the venue by sending students to present paper and attend technical sessions to develop stronger insights. This is important to develop a greater depth from graduate students in specific domain expertise.

IQMRI believes that the educational needs of the Space ecosystem is a leverage that Michigan can use as a starting brand to enter the hardware and data analytics segments faster than creating a NASA/DoD element in the State. With a strong workforce pipeline and State Legislative support for tax credits, these are critical elements to encouraging startups in Michigan.

6.0 Existing Innovation Assets within Michigan to Support Part of all of the Hub

There are several organizations that can be leveraged within the State of Michigan to support the Hub mission and goals as Spoke members:

- The Apex (former PTAC) offices can provide basic information for startups and small businesses that are not familiar with doing business with the Government. Government contracting, accounting and regulations are often a challenge to smaller firms. The Hub can help to direct members to local Apex offices to assist in awareness and support.
- The Michigan National Guard can support field testing and data collection for IRAD and demonstration testing. Gaining access to sensor data, collection sites and experimentation with actual warfighters is gap that MiNG can fill at little or no cost to the small firm.
- The University of Michigan Space Institute is the central focal point for space-related activities across the entire University campus, including basic research and applied design programs.
- Local and Regional Economic Development Organizations can provide support and assistance to small firms entering or expanding into the Space market.

7.0 Are there Federal organizations, programs and/or resource that could play a role in the Hub development that should be considered?

A primary goal of the Phase 1 effort will need to break out the US Space budget for DoD, NASA, DOC, SDA, MDA and other organizations to target funding opportunities for FY 25-30. For example, the US Space Force budget for 2024 was $19.2 B for RDT&E and $4.7B for Procurement. The NASA budget was $ 1.1B for Space Technology and $7.5 B for Science. The other Federal organizations exceed $24B.

A major goal of the Hub must be to assume a greater leadership role to identify Federal opportunities, build customer intimacy, and great value for these organizations in order to develop long term sustainable relations for funded opportunities.

MEDC & ODAI: RFI-CASE-428178
Michigan Space Innovation Hubs

Kall Morris Response to RFI-CASE-428178

Respondents are asked to respond to and provide information for the following items:

1. **Contact Information of the Respondent**
    a. **Organization and business name and address.**

    Kall Morris Inc (KMI)
    Address: 130 W Washington St, Suite L-6, Marquette, MI 49855

    b. **Name, title, email and phone number of the individual(s) responsible for the respondent's RFI response.**

- Adam E. Kall
    - Co-Founder & Director of Science
    - adam@kallmorris.com
    - (563) 505-5844
- Austin J. Morris
    - Co-Founder & Director of Engineering
    - austin@kallmorris.com
    - (815) 219-1234
- Troy M. Morris
    - Co-Founder & CEO
    - troy@kallmorris.com
    - (815) 528-8665
- Liza Fust
    - Director of Operations
    - liza.fust@kallmorris.com
    - (989) 640-4238
- Cameron C. Penny
    - Business Relations Manager
    - cameron.penny@kallmorris.com
    - (313) 646-5746

2. **Respondent's Background, Area of Expertise, and Experience**

    Kall Morris Inc (KMI) is a space logistics company developing services to unlock the full potential of critical space missions for satellite operators. The co-founders combine experience with NASA AI/ML, defense aerospace rapid prototyping, and commercial business development for variable mission solutions. The company is led by these three driven

co-founders, an early employee who has risen to management, and experienced advisors and partners across academic, government, and space technology fields to tackle the problems of in-space logistics. KMI is a driver of economic development for the growing aerospace industry in the rural UP (UP) and is involved with local efforts such as Michigan Founder's Fund (MFF), Junior Achievement, elementary student engagement, Mind Trekkers, MiSTEM, Higher Orbits Go For Launch in Sault Ste Marie, Northern Michigan University's (NMU) high school career fair and 3 Minute Thesis event, Michigan Technological University (MTU) American Institute of Aeronautics and Astronautics (AIAA), and STEM Forward, as well as nationwide consortiums including COSMIC and CONFERS. Each respondent detailed below drives the success and community engagement of KMI on the local, national, and international level.

Troy M. Morris leads industry collaboration, company growth, and execution of organizational strategy at KMI as CEO, leveraging his bachelor's degree in Psychology/Behavior Analysis from NMU. Presenting technical publications in multiple disciplines, he is sought as a speaker and commenter across industry, academia, and government.

Adam Kall leads the development of orbital dynamics calculations, mission planning and projections, and software development as Director of Science. His education includes two bachelor's degrees each in Mathematics and Computer Science respectively from NMU, and a master's degree in Data Science from Elmhurst University. His experience prior to KMI was in automation and AI algorithms for revenue optimization.

Austin Morris leads hardware technology development, strategic direction, and project management as Director of Engineering. He accomplishes this by leveraging his education, including a bachelor's degree in Mechanical Engineering Technology from NMU and a background in Research and Development (R&D), rapid prototyping, and product development, particularly in his previous experience as a civilian contractor on Army and Department of Defense (DoD) contracts to develop experimental flight demonstrators and advanced flight control technologies.

Liza Fust leads company compliance, communication, and organization as Director of Operations. Her education includes a bachelor's degree from NMU in English Writing with a minor in Communication Studies, with substantial experience, including formal communication and historical research, publication across a variety of genres and styles, and technical writing for grants and proposals ranging from geotechnical to aerospace pursuits.

Cameron Penny as Business Relations Manager leads development of interorganizational relationships and has years of experience helping start-ups, construction, marketing agencies and event teams, and large automotive companies grow their client base while delivering stellar performance. Earning his bachelor's degrees from Lake Superior State University (LSSU), he studied International Business and Marketing, with an applied emphasis on developing new technologies.

3. **Innovation, Formation, and Management**
    a. **What format makes the most sense for the hub: physical, virtual, hybrid?**

The KMI team believes the most equitable and inclusive solution for a Michigan Space Innovation Hub should be a hybrid solution. This hybrid HUB network should include a distributed network of hub locations managed by either a stand-alone non-profit (501c3) with representatives from participating companies in the space industry.

A single physical location, without remote access to resources or a community, doesn't meet the full needs of the intended community. The team at KMI understands firsthand the value that can be gained from working with a hybrid Space Innovation Hub. Our experience and successes with these types of organizations include:

- NewSpace Nexus Accelerator/Hub [Hybrid]
- SpaceWerxs Challenge Program [Hybrid]
- HyperSpace Challenge program [Hybrid]
- Creative Destruction Lab [Hybrid]
- Seraphim Space Accelerator [Hybrid]
- Global Innovation Catalyst [Virtual]
- Catalyst Accelerator [Hybrid]
- SDA Tap Lab [Hybrid]
- Colorado Springs Space Foundation Discovery Center [Hybrid]

Among these accelerator hubs, such as NewSpace Nexus in New Mexico or Catalyst Campus in Colorado, most offer in-person coworking spaces and events, as well as hybrid programming and remote computer and software access to companies that aren't local to the respective hubs or programs. These organizations have large in-person events a few times a year at different hosted hub locations and frequently host hybrid events. Further nonphysical consortiums like COSMIC and CONFERS are tremendous examples of support systems that operate across the Space Industry without requiring a physical space.

One of Michigan's special attributes is the diversity that exists throughout the state, from the automotive heritage of Detroit through the tip of the

Keweenaw Peninsula, where the first rocket from Michigan reached space. The geographic sprawl of innovative communities across Michigan demonstrates a consistent push towards a technological edge while showcasing specialization as unique as the communities in which these entities are found. The Michigan Space Innovation Hub provides an opportunity to draw together those specializations and support communities across the state.

b. How can we ensure a culture of innovation exists, should the hub be virtual?

There are numerous ways to continue building on the culture of innovation that exists naturally within the Space industry's hybrid structure. Companies presently operating in this industry meet virtually, travel for testing or verifications of hardware, collaborate on proposals or software development on webcalls or in person, and do other necessary everyday business. For example, COSMIC and CONFERS held both in-person and virtual events for members in 2024 that were successful and engaging for attendees and accommodating to those with differing availability to travel. These organizations would be strong partners to look to for guidance on measuring a culture of innovation.

A Space Innovation Hub that does not include a hybrid or remote option would be innovative in name only and would not match the technological nature of the space industry. Space itself is the "most remote" work environment humanity currently engages with. The very nature of the growing space economy requires the ability to work beyond the traditional limitations of walls and borders as our technologies, and even members of our teams, arrive in orbit. A connected Michigan space economy must connect across the physical terrestrial, virtual, and orbital terrains. In considering a Michigan Space Innovation Hub it is important to consider how a culture of collaborative innovation can be ensured should the hub be confined to a single physical location.

KMI is not alone in operating a company in the space sector with a heavy inclusion of remote work and distributed facilities. Companies from start-ups to the household-name primes and industry benchmarks recognize that employees and coordinated efforts can thrive without sharing a conference table, and often thrive by including those with different work styles and locations. This is not to dismiss the value that comes from sharing a physical space, but rather to highlight modern success in hybrid environments and acknowledge the wide geographic spread of Michigan's space industry as such that a single physical location might not suit.

It is KMI's opinion that a distributed network of satellite hubs and a virtual presence is the best solution. If a Michigan Space Innovation Hub were to be entirely virtual without a physical presence, one of the standards of the virtual community should be to assist in coordinating in-person meetings for sponsored programs at locations rotating around the state. This will encourage in-state networking and distribute economic support across multiple Michigan communities.

c. How does the physical infrastructure of the hub differ when used for supporting national security over that when used to support dual use activities?

There is little to no difference between what would be needed to support national security compared to what would be used to support dual use or strictly commercial activities.

d. Office type—can large common areas or segregated offices?

Due to the security concerns with Space activities, segregated (and sound-dampened) offices will be necessary for any physical location to be of use. The entire facility would not need this, but access controlled or private areas would be required. In addition, a common area could be utilized for less secure work, if that common space were also arranged where individuals and teams could have privacy for their computer work.

A mix of "Zoom rooms," bookable conference rooms, and a large general space support a mix of uses, users, and privacy needs. Soundproof bookable conference rooms are of particular importance for companies to have a place to meet. For a hybrid architecture, the "Zoom rooms" provide an ideal collaborative space, as well as the ability to meet privately.

e. Should computer resources or data bases be provided by the hub? How so?

Since many of the requirements for NIST 800-171 and CMMC cybersecurity standards require physical hardware that is secured, computer resources need to be owned by the companies, not the HUB. The service provided by the HUB should be secured network closets, much like a personal storage facility but with internet, power, and climate control capabilities to support server hardware.

In addition to the physical computer resources, a HUB could be an excellent pathway for companies to connect with a centralized Point of contact (POC) for NIST/Security cooperation.

Depending on the programs/services offered, the HUB could manage the access to the Universal Data Library (UDL), while not managing the actual hardware. Additionally, a secure, local, and privately hosted server setup would provide an alternative to companies outsourcing this service currently.

f. What type of telecommunications do you suggest being provided to the tenants?

- Highspeed internet, specifically fiber
- A dish or ground-based connection to assets in space would not be needed, especially given that Michigan partners like Atlas Space, based in Traverse City, can supply this to the Michigan space community.

g. Should the facility provide access to accredited Sensitive Compartmented Information Facility (SCIF) space; what impacts are associated if the SCIFs are located off-site at a nearby location?

There will be a limited need for access, and this should be provided by a potential Government Sponsor (USSF) of the HUB Programming. The Commercial Space Ecosystem doesn't require a SCIF.

Though SCIFs are an incredibly important resource to aerospace companies, especially those that cannot yet qualify or afford a facility clearance or private SCIF, the construction and maintenance for the certification of a SCIF comes in at a prohibitive level. A State level agreement to have secured access to existing facilities is the best solution and supports existing infrastructure and make the resource available. The utilization of existing SCIFs with a State agreement is a good example of how a distributed Hub network is a potential solution for a Michigan Space Innovation Hub.

Should access to an accredited and mobile SCIF space be required, there are two Michigan-based manufacturers that are capable of building such a space that could also be mobile, should there be a need to relocate the SCIF to an offsite location.

h. Conference and meeting rooms: Can conference/meeting rooms be shared with other residents, or do they need to be dedicated to an organization?

Conference/meeting rooms do not need to be dedicated to organizations, but should be soundproofed for privacy (no doors with gaps that allow anyone outside to hear the conversation). It would be beneficial for at least

one conference room to be interior to the building and have no windows for security.

i. Is there a need for laboratory space and, if so, describe the requirements?

Laboratory space and needs will vary depending on the type of product or service that a company is producing. With this, there will inevitably be a broad range of “Lab Needs” to be met. Outlined below are types of lab or prototyping spaces that could be beneficial to the processes and materials that a start-up or collaborating team could use in a shared Innovation Hub:

- Heavy Industrial Area
  - Description: Workshop/laboratory space suitable for activities such as welding, grinding, and other dust-generating fabrication activities.
  - Frequency of Use: Near-daily
  - Current Solution: Set up an in-house facility, separated from other work areas as best as possible.
- Light Industrial Area
  - Description: Workshop/laboratory space suitable for activities such as machining, soldering, sheet metal forming, and other non-dust-generating fabrication activities
  - Frequency of Use: Daily
  - Current Solution: Set up in-house facility.
- Component/System Assembly Area
  - Description: A secured area with suitable flat-top workbenches and available workspace to assemble fabricated components together for initial integration and system checkouts. Kept cleaner than Light Industrial Area, but not necessarily to Clean Room specified standards.
  - Frequency of Use: Daily
  - Current Solution: Set up in-house facility
- Computer / Flat-Satellite Testing Area
  - Description: A secured area for components of a satellite to be laid out and wired together to test control systems and software.
  - Frequency of Use: Weekly
  - Current Solution: Convert a conference room into a testing room as needed. Extensive setup and tear-down time inefficiencies.
  - Partner Example: Toulouse, FR office for ExoSat
- Clean Room
  - Description: Clean room installation to meet or exceed necessary satellite component assembly standards such as ISO-5 cleanliness requirements.

    - Frequency of Use: Monthly
    - Current Solution: Travel to out-of-state or commercial provider options, but no practical or affordable options.
- Acoustic - Silent Space
    - Description: Anechoic chamber to minimize acoustic environment for proper testing of noise level generated and sustained by component hardware.
    - Frequency of Use: Monthly
    - Current Solution: Travel to out-of-state laboratories or convert a conference room into a testing room as needed. Extensive setup and tear-down time inefficiencies.
- Mission Control Demonstration/Practice Space
    - Description: Multiple controller stations with multiple large wall-mounted screens, all networked together and to a dedicated server infrastructure.
    - Frequency of Use: Daily
    - Current Solution: Remote practice with employee computers, suffering from connectivity and latency issues.
- Office Space
    - Description: Generalized office space for usage by traditional officeworking employees.
    - Frequency of Use: Daily
    - Current Solution: Establish in-house office space as possible, otherwise forcing employees to work exclusively from home.
- General Purpose Workroom
    - Description: Generalized office space that can be utilized for traditional office work or can be segmented off to serve as a conference room when the need arises.
    - Frequency of Use: Daily
    - Current Solution: Establish in-house space as possible or make do without it.

j. Describe other equipment that should be considered for inclusion in the hub.

- TVAC Testing Capabilities
    - Reason for Test: Component and assembly survivability testing prior to exposure to space environment.
    - Frequency of Use: <10 times per year
    - Current Solution: Travel to out-of-state laboratories
    - (Installed at KMI and necessary for In-house operations or (Could be provided through Hub or Partners)
- Acoustic Testing Capabilities

    - Reason for Test: Component and assembly acoustic output and susceptibility testing to assess designation per standards.
    - Frequency of Use: <5 times per year
    - Current Solution: Travel to out-of-state laboratories or convert a conference room into a testing room as needed. Extensive setup and tear-down time inefficiencies.
    - Current Solution with Partners: Local Radio station sound booth and recording space
- EMI Testing Capabilities
    - Reason for Test: Component and assembly radiated emissions and electromagnetic interference susceptibility and survivability testing.
    - Frequency of Use: <5 times per year
    - Current Solution: Travel to out-of-state laboratories
- Vibration Testing Capabilities
    - Reason for Test: Component and assembly vibrational survivability testing prior to exposure to launch forces.
    - Frequency of Use: <5 times per year
    - Current Solution: Travel to out-of-state laboratories
- 3D Printing Prototyping Capabilities
    - Frequency of Use: >100 times per year
    - Current Solution: Purchase hardware to establish in-house setup
- Metal Machining/Manufacturing Capabilities
    - Frequency of Use: <50 times per year
    - Current Solution: Purchase hardware to establish in-house setup or contract out at very high cost

k. What type of "operational" services should be provided: janitorial, security, guards, etc?

For a physical shared Michigan Space Innovation Hub, it would be helpful to have the following roles:

- Lab manager to coordinate the maintenance of equipment
- Administrative Manager at the hub to manage reservable spaces, assist visiting hub users, manage the cafeteria, and coordinate other operation staff
- Janitorial for consistent maintenance where there are no consistent tenants
- Outdoor maintenance. As we are proud Michiganders, the external maintenance for snow removal and mitigation against ice is important, if not managed by a landlord.

With proper security hardware and software, and a front desk admin tracking visitors, an in-person security force would be excessive.

l. **Describe if you have interest in the hub having a cafeteria?**

Depending on the size of an in-person hub, the facility could support the local economy by hosting a local caterer for a cafeteria or to stock a takeaway refrigerator kiosk. This also maximizes efficiency for meetings to stay on site without interruption to work or for those utilizing and visiting the hub. Having complimentary coffee/espresso machines, a common-use fridge, and a selection of locally supplied snacks that are provided by the facility would encourage more folks to work from the location.

4. **Services Provided**
    a. **What services should the hub provide?**
        i. **Skills training and networking**
            1. **Entrepreneurial training,**
            2. **How to develop a "pitch deck" for investors**
            3. **Security briefings on security threats**
            4. **Security briefings from the Federal Bureau of Investigation**
        ii. **Innovation methodologies/frameworks (training/certification/professional development)**
        iii. **Space Industry Days (space-tech events, showcase small businesses, etc.)**
        iv. **Distinguished visitor events (CEOs/CTOs/CIOs) (NASA/AFRL/DARPA)**
        v. **Academia mentorship events (hiring events/internships/scheduled hub events)**
        vi. **Other? (please describe)**
    b. **Marketing and Strategy**
    c. **Access to partners and collaborators**
    d. **Opportunities to meet, interview, and employ (as co-ops) future talent (students attending a university program using the Innovation Hub space)**
    e. **Opportunity to meet and talk to future employers (for a student attending a university program using the Innovation Hub space)**

5. **What services should be provided for professional growth?**
    a. **Mentoring**
    b. **Internship program**
    c. **Professional seminars and training for residents**
    d. **Innovation methodologies/frameworks to guide small businesses through deployment of products/services**
    e. **Other? (please describe)**

Addressing both RFI points 4 and 5; A Hybrid Space Innovation Hub should include the services listed below. This is not intended to be an exhaustive list, but rather the initial framework by which the leadership of the Innovation Hub would

work together with partners and stakeholders to ensure the most immediate needs are addressed.

For the professional development of all stakeholders, there would need to be several professional and workforce development programs in place. Once fully operational, and working in concert with the partners locally, remotely, and across the state, a Michigan Space Innovation Hub should provide access to:

- Skills Training and Professional Development
  These would include, but are not limited to:
  - Start-up & Entrepreneurial training
    - Services, workshops, mentoring, and trainings through partnerships with SBDC, SBIR & STTR Trainings
    - Services, workshops, mentoring, and trainings through partnership with the APEX Accelerator
    - Services, workshops, mentoring, and trainings through partnership with other start-up or incubator programs based outside of MI.
    - Business founding guidance and examples
    - Marketing and Customer Acquisition Strategy
    - Innovation methodologies/frameworks for product development and problem-solving
      - These would include, but are not limited to LEAN, AGILE, and other training or certifications.
    - Human Resources certifications
    - Information Technology, remote technologies, and Smart workspace development
    - Access to Michigan SmartZone business & technology support & resources
    - Business administrative training (EIN, taxes, etc)
    - The Hub, whether virtual or physical, would be well set up to host training from Michigan success stories for leadership, like ZingTrain of Ann Arbor's Zingerman's legacy, or workforce methodology, as in Menlo Innovations, both of which provide training
    - Shared specialization training, as in hosting training for Adobe Suite, Quickbooks, or other common training that would be better shared across a hub than held as a burden by a small company for one or two of their team
  - Fundraising and Investor Trainings, Workshops, and Practice
    - How to develop a "pitch deck" for investors
    - Writing successful grant proposals, including SBIR & STTR proposals. KMI has been awarded over $5.6M from our work on such proposals.
    - Pitch deck reviews and critiques.
    - Presentation reviews and critiques.

        - "Fresh Eyes" reviews, where individuals from other hub areas that have had limited interaction with a group provide a fresh perspective.
    - Industry-specific security preparedness
        - International Traffic in Arms Regulations (ITAR) Trainings
        - NIST 800-171 and CMMC guides and reviews
        - Controlled document best practices
        - Security briefings on industry threats - with feedback from relevant partners for context.
        - Security briefings from the Federal Bureau of Investigation
        - Training through Nova Space and their sister company Space Workforce Institute that is creating standards for space certifications, led by leaders from the certification industry.
        - Access to an accredited and mobile SCIF space
            - There are two Michigan based manufacturers that are capable of building such a space that could also be mobile, should there be a need to relocate the SCIF to an offsite location.
- Community Building and Networking
    - Access to partners and collaborators
    - Space Industry Days (space-tech events, showcase small businesses, etc.)
    - Distinguished visitor events (CEOs/CTOs/CIOs) (NASA/AFRL/DARPA)
    - Academia mentorship events (hiring events/internships/scheduled hub events)
    - Conference attendance coordination
    - TEDx Event Hosted to both provide the best visibility and access to leading minds.
    - Virtual & In-Person Connections
    - Rotating Happy Hours - Inclusive events held in locations around the state to feature and celebrate participating companies and partners.
    - Through direct connections or co-locations with MI Educational institutions, there should be opportunities for students and instructors to connect with participating Hub companies.
        - Opportunities to meet, interview, and employ (as co-ops) future talent (students attending a university program using the Innovation Hub space)
        - Opportunity to meet and talk to future employers (for a student attending a university program using the Innovation Hub space)
- Other? (please describe)
    - All of the above aspects would link to growing a workforce development program. From integrated events with high school

robotics, to 1:1 training with entrepreneurs; supported programs would have a cumulative impact.
    - The Michigan Space Innovation Hub would be well positioned to facilitate confidence for Michigan investors to invest in the Michigan space economy. From research and investor conversations, we know Michigan investors are interested in space technology, but do not have the record or expertise for them to feel confident in these investments currently.
    - Among the technical resources and programming, a Flat Sat or orbital demonstration systems (such as the LSSU orbital program) would be valuable learning and business advancement tools.

6. **Are there existing innovation asset(s) and/or program(s) within Michigan that may be able to support in part or in total an innovation hub effort such has been described in this RFI?**

   Yes, absolutely. Examples are noted below:
   - Smart Zones & MEDC Small Business Hubs
     - As a current network locally supporting business and innovation, these locations around the state are a natural supporting partner.
   - Michigan universities and colleges with space focused programs and resources, including but not limited to:
     - Northern Michigan University (NMU)
     - Lake Superior State University (LSSU)
     - University of Michigan (U of M)
     - Michigan State University (MSU)
   - Existing Companies operating in the Space Industry
     - KMI has developend

7. **Are there Federal (to include but not limited to Department of Defense) organizations, programs, and/or resources that could play a role in hub development that should be considered?**

   Yes, absolutely. Examples are noted below:

   - Defense Innovation Unit - DIU
   - AFWERX / SPACEWERX
   - SBDC
   - NASA (Internal Programs: Game Changer & Tipping Point)

8. **Please include any additional information that you believe may be beneficial that is not described above.**

   KMI would be interested in discussing options to co-host or coordinate aspects of the hybrid or distributed Space Innovation Network Hub. Much of the necessary equipment has already been acquired by KMI and is currently utilized <10% of

the time. Supporting a physical hub would allow for better use of the equipment without additional costs of acquisition.

KMI is currently in the exploratory phase of conducting a facility search. Should a distributed Hub network be the favored approach, this would impact the size and type of physical space we secure.

Lastly, KMI received support for the response shared above from partners and colleagues operating in the State of Michigan either as companies, or employees who have elected to work remotely from Michigan to support companies based elsewhere. Some of these partners have submitted their own RFI submissions, and others provided a review and additional content for this response. Those partners included CisLunar Industries, ATLAS Space Operations, KSAT (Kongsberg Satellite), and others..

Thank you for the opportunity to contribute and we look forward to continuing working alongside the efforts of the MEDC and ODAI to grow Michigan's role in the global space industry.

MEDC RFI-CASE-428178 Response

MTEC SmartZone

In partnership with Michigan Technological University

1. Contact Information of the Respondent

a) MTEC SmartZone, 600 E. Lakeshore Drive, Houghton, MI 49931
https://www.mtecsz.com/about-us/

b) David Rowe, CEO – MTEC SmartZone. drowe@mtecsz.com. Phone: 906-487-7000
Patrick Visser, CCO – MTEC SmartZone. pvisser@mtecsz.com. Phone: 906-487-7000
Jim Baker, Senior Associate VP of Research & Innovation – Michigan Technological University jrbaker@mtu.edu. Phone 906-487-3459

2. Respondent's Background, Area of Expertise, and Experience

David Rowe and Patrick Visser: Technology business incubation and acceleration services. Research and development execution and collaboration. Startup business development, capital fundraising, strategic partner and customer engagement.

Jim Baker: The Senior Associate Vice President for Research at Michigan Technological University provides strategic leadership and direction while focusing on the planning, implementing, improving, and evaluating the sponsored programs and sponsored accounting, industry contracting and the technology commercialization units while promoting operational improvements.

The role of the Senior Associate Vice President for Research is to help the unit efficiently handle the administrative needs of a growing research institution, improving the coordination of activities across divisions and serving researchers in a stronger capacity as the University achieves institutional research goals.

- Negotiation of grant and contract terms and conditions
- Intellectual property strategy and licensing
- Startup business development
- Innovation and technology commercialization

3. Innovation Formation and Management

a) What format makes the most sense for the hub: physical, virtual, hybrid?

We propose a physical hub in conjunction with a hybrid approach utilizing connectivity with offsite collaborators. We propose the Space Hub incorporate a flexible industrial facility and office/conference room space to simultaneously accommodate multiple companies or products under development. The facility will contain meeting rooms to facilitate virtual connectivity with collaborators remote to the physical space. The Space

Hubs concept is congruent with the Advanced Manufacturing and Materials Innovation Center (AMMIC) for which MTEC is in the planning and development stage. The AMMIC is proposed to be located at the Hancock Business and Technology Park, in close proximity to Michigan Technological University, the Keweenaw Research Center, the Advanced Power Systems Research Center and a number of research and development and advanced manufacturing companies including: Orbion Space Technology, ThermoAnalytics, Great Lakes Sound and Vibration, Calumet Electronics, REL Inc., Loukus Technologies and Royale, Inc. For more information regarding the proposed AMMIC facility, please see Appendix A. This facility can be readily adapted to host the Space Hub. We propose that a section of the AMMIC facility be constructed to include physical space for advanced materials and manufacturing cells, two different sized vacuum chambers, a shared workshop to include a variety computer numerically controlled manufacturing production equipment and a larger scale (compared to that currently at MTU) planetary technology surface development laboratory.

A hybrid model allows for just-in-time delivery of support services and network engagement with a physical facility as necessary for prototype development, demonstration, and early-stage scaleup.

b) How can we ensure a culture of innovation exists should the hub be virtual?

Active in-person networking and collaboration within the Space Hub Innovation Center itself combined with a hybrid virtual format enables an expanded breadth of collaboration in a time and cost-effective manner.

c) How does the physical infrastructure of the hub differ when used for supporting national security over that when used to support dual use activities?

The hub needs scalable, sensitive, robust, and flexible physical and electronic security infrastructure and practices at a level appropriate for a breadth of activities. An elevated level of security is required to protect both national security and company proprietary interests but must be balanced with appropriate openness to cultivate a culture of collaboration and innovation. Primarily, the hub needs to have its physical and electronic infrastructure in a way that is robust and actively managed to eliminate risk of compromising national security and participating company proprietary interests but also needs to consider infrastructure outside of protected areas for collaboration and sharing of non-sensitive information. The Space Innovation Hub will utilize state of the art communications security equipment (firewalls, etc.) and incorporate an unclassified controlled information communications room to be made available to qualified users.

d) Office type—can large common areas or segregated offices?

Both types of accommodation are necessary to address security interests but also to allow for effective and efficient collaboration and networking. The proposed Space Hub Innovation Center can include private office space, an open space with several workstations, a smaller conference room for collaborative meetings of smaller groups, a larger conference room to accommodate larger groups, and a community room that can accommodate groups of up to 40 or more people who may gather for various space industry related events.

e) Should computer resources or databases be provided by the hub? How so?

Information and access security would be a significant requirement for hub-provided computer resources. Providing computers and computing resources may be necessary depending on the needs of hub participants but would need to be carefully assessed from a cost/benefit/risk standpoint.

f) What type of telecommunications do you suggest being provided to the tenants?

Telecommunications security would be a significant requirement for any infrastructure or services provided to hup participants. Required infrastructure would need to be carefully assessed from a cost/benefit/risk standpoint. High speed fiber is available at the proposed site.

g) Should the facility provide access to accredited Sensitive Compartmented Information Facility (SCIF) space; what impacts are associated if the SCIFs are located off-site at a nearby location?

Constructing and managing a SCIF incurs substantial cost and risk. If tenant companies require access to a SCIF, such cost and risk would need to be carefully evaluated and planned into development of the hub. The proposed location of the AMMIC and Space Hub Innovation Center includes enough property to construct a stand-alone SCIF facility should resources become available. Facilities and electronic infrastructure should be designed to be compliant with NIST SP 800-171 as a default to allow for routine, robust, and reliable handling of Controlled Unclassified Information is available to all hub tenants as a default.

h) Conference and meeting rooms: Can conference/meeting rooms be shared with other residents, or do they need to be dedicated to an organization?

In order to facilitate a culture of innovation and collaboration, conference and meeting rooms should be available in a manner that does not result in unintended security risk.

i) Is there a need for laboratory space and, if so, describe the requirements?

If resources are available, laboratory space would be useful to allow the development, analysis and testing of advanced materials. Capabilities of the laboratory facilitate acceptance testing of components and products that may be incorporated into launch vehicles or equipment destined for orbit. These capabilities should include mechanical and electrical functional testing, vibration testing, thermal cycling, vacuum cycling, performance in a vacuum environment, liquid or propellant flow and leak testing, finite element analysis capabilities, 3-point bend and tensile testing, among others.

j) Describe other equipment that should be considered for inclusion in the hub

The hub should be designed with a breadth of space technology applications in mind. In addition to conventional launch and orbital technologies, other applications including extraplanetary operations and space mining should be contemplated. Equipment needed to be considered for the Space Hub Innovation Center includes the following:

- Vacuum chambers (one large & one small) capable of 1-billionth atmosphere
- Various computer numerically controlled manufacturing equipment such as:
  - Precision CNC milling machine.
  - CNC plasma cutter
  - CNC multi-axis lathe
  - CNC laser cutter
  - CNC drilling machine
  - CNC router
  - CNC electric discharge machine
  - CNC small/micro-tube bending machine.
- Injection molding, sand casting and squeeze casting machines
- Induction melting furnace.
- Press brake
- 3D wire and small tube bending machine.
- Scanning electron microscope
- 3D printing capabilities including a 3D metal printer.
- Shaker table
- Faro Arm

k) What type of "operational" services should be provided: janitorial, security, guards, etc.?

The hub should offer conventional accelerator operational services plus physical and information technology security services.

l) Describe if you have interest in the hub having a cafeteria?

A cafeteria is not necessary.

4. Services Provided

a) What services should the hub provide?

Services provided to the Space Hub could include services provided by MTEC SmartZone, the Advanced Materials and Manufacturing Accelerator, Michigan Tech's Office of Commercialization and Innovation, Michigan Tech's Aerospace Engineering program, the Michigan Manufacturing Technology Center and entities such as the Small Business Development Center and MichiganWorks!
These services would include services currently being provided in the ecosystem which include skills training and networking, entrepreneurial training, market analysis, prototyping, mentorship, fundraising (pitch deck and proforma development), cybersecurity best practices and professional development training.
The Space Hub Innovation Center can host events specific to the commercialization of space including demo days and technological conferences.

b) Marketing and Strategy

The Space Hub Innovation Center will be promoted as a place where innovation and commercialization related to the emerging space economy can flourish.

c) Access to partners and collaborators

The Space Hub Innovation Center will be conveniently located near one of the nation's leading research institutions – Michigan Technological University. Michigan Tech is an R-1 research university. Its College of Engineering includes an aerospace engineering degree curriculum. The region includes a number of companies engaged directly in space technology or have the design, engineering and precision manufacturing capability to support space technology commercialization. These include: Orbion Space Technology, ThermoAnalytics, Great Lakes Sound and Vibration, Calumet Electronics, REL Inc., Loukus Technologies, GS Engineering, Kall Morris and Royale, Inc. Orbion Space Technology launched seven years ago with the help of MTEC SmartZone and Michigan Tech's Office of Innovation and Commercialization. They have grown to become the world's leading manufacturer of plasma-ion thrusters for use in satellites. REL was one of the pioneers in space technology in the Upper Peninsula of Michigan. In response to the space shuttle Challenger disaster, after many prime NASA contractors failed, REL was able to design, engineer and manufacture a heat shield repair kit for the space shuttle program that could be used in orbit. REL's work allowed the space shuttle program to return to flight, an accomplishment for which they received substantial recognition from NASA and the White House. See Appendix B for more information regarding companies in the local ecosystem engaged in space related research, engineering, design and product manufacturing.

d) Opportunities to meet, interview, and employ (as co-ops) future talent (students attending a university program using the Innovation Hub space)

e) Opportunity to meet and talk to future employers (for a student attending a university program using the Innovation Hub space)

In response to 4.d) and e): Given the proximity to Michigan Tech and their extremely successful career fair programming via their Office of Career Services, there will be many opportunities to engage co-op students and interns, as well as attract companies for them to achieve their human resource pipeline development initiatives and goals.

5. **What services should be provided for professional growth?**

a) Mentoring

Ample mentorship opportunities will be available from researchers and faculty at Michigan Tech and companies in the regional ecosystem.

b) Internship program

Local companies already provide internship opportunities and will continue to do so.

c) Professional seminars and training for residents

These activities can be provided via Michigan Tech, MTEC SmartZone, the Michigan Manufacturing Technology Center, Gogebic Community College and the Copper Country Intermediate School District.

d) Innovation methodologies/frameworks to guide small businesses through deployment of products/services

Other? (please describe)

6. **Are there existing innovation asset(s) and/or program(s) within Michigan that may be able to support in part or in total an innovation hub effort such has been described in this RFI?** These assets have been described above.

7. **Are there Federal (to include but not limited to Department of Defense) organizations, programs, and/or resources that that could play a role in hub development that should be considered?**

Michigan Tech and the companies discussed above have an extensive network of contacts within the Department of Defense and the National Science Foundation which may be incorporated into activities and projects at the Space Hub Innovation Center.

Appendix A: Innovation Center

MTEC SmartZone

Advanced Manufacturing & Materials Innovation Center (AMMIC) – Space Hub

MTEC SmartZone & Michigan Tech University Announce Major Economic Development Initiative

PROJECT: Pilot Flex-Space Facility to address nationwide gap in commercialization pathway

TOTAL ESTIMATED PROJECT COST = $12M to $14M

Michigan – Identified Commercialization Gap

Shared pilot facilities are open access test sites that bring innovations from the laboratory into industrial practice

- Currently no shared pilot-scale facilities in the U.S.
- Pilots are a critical stage of development towards commercialization
- State of Michigan has an opportunity to lead the way!

MTEC SmartZone & MTU Immediate Pilot Needs

We have the entrepreneurs but are missing the key physical space needed to commercialize technology

- A leading space-tech manufacturing company
- Six university spinout startups- plastic recycling, hardwood timber, med-tech, battery recycling, others
- Controlled Unclassified Information Center

We do not want to lose these companies to other states with pilot capacity for testing & validation.

Solution – Flexible Pilot Manufacturing Facility

MTEC & Michigan Tech University ($100M+ research) are pursuing development of an Advanced Manufacturing & Materials Innovation Center (AMMIC) to accommodate late-stage R&D, pilot-scale & commercial demonstrations.

MTEC SmartZone

MTEC SmartZone is one the most successful Smart Zones in the state commercializing new startup technology companies.

In the last year, our clients have generated $105.9 million in sales and $32 million in investment, with a total $597 million follow on funding since 2003.

Rendering of the proposed Advanced Manufacturing & Materials Innovation Center

"This facility will not only create jobs, but also foster a vibrant ecosystem for advanced materials and advanced manufacturing companies. By leading this effort, we will support long-term prosperity for our community and for the state of Michigan"

David Rowe
CEO, MTEC SmartZone
mtecsz.com
drowe@mtecsz.com
(720) 252-4209

Appendix A: Innovation Center (continued)

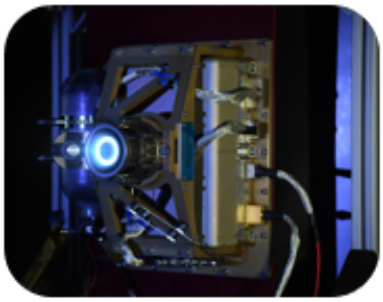
MTEC SmartZone

Advanced Manufacturing & Materials
Innovation Center Project – Space Hub

The Commercialization Gap - R&D / Pilot Facilities

The Upper Peninsula of Michigan has a strong base of small and medium size (SMEs) advanced manufacturing companies. In addition, Michigan Technological University (MTU) spins out a consistent quantity of manufacturing/materials startups through innovators from engineering, advanced materials, and other disciplines.

MTEC SmartZone, serving both client bases, is consistently unable to provide one essential type of resource for these clients to enable successful commercialization - access to pilot and commercial demonstration facilities.



Facts [1]

While large firms often have their own in-house pilot lines, SMEs typically cannot spend their limited funds to build and operate their own pilot line. Thus, SMEs secure third party-controlled pilot line capacity to meet their testing and validation needs. This is not an option in the Upper Peninsula.

- Shortage of shared pre-industrial-scale production facilities in the U.S. at both the R&D- and pilot-scale production capacity ranges.
- Extends product development and qualification timelines for producers at every step of the supply chain.
- There are currently no shared pilot-scale facilities in the U.S.
- Meanwhile, Europe has developed a robust ecosystem of shared pilot-scale production lines (LiPLANET).

Sources 1| Li-Bridg 2| SBA HubZone Map: https://tinyurl.com/47tsk8af

Benefits & Impact

Federal/State Program Qualifications: Michigan HUB Zone; Michigan 48C energy community (per Metropolitan Statistical Areas); Justice40 adjoining area census tract. [2]

Economic Growth

Attracting new businesses, fostering innovation, and encouraging companies to set up local operations

Industry Collaboration

Facilitate collaboration between manufacturers including technology, best practices, processes, and more

Workforce Development

Enhance the skills of the local workforce through workshops, training programs, and certifications.

A well-trained workforce is crucial

Applied Research & Development

Attracting new businesses, fostering innovation, and encouraging companies to set up local operations

Supply Chain Enhancement

Strengthen the supply chain for various industries, which is valuable during disruptions or market fluctuations

Attracting Investment

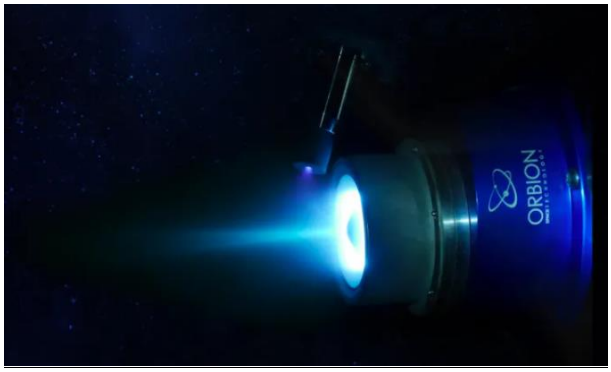
Companies seeking to leverage advanced materials or explore innovative manufacturing methods

MTEC SmartZone

Appendix B: Space Technology Related Companies in the Western U.P. Region

Orbion Space Technology – Houghton, MI

Seven year old startup manufacturing plasma-ion satellite thrusters.



Calumet Electronics – Houghton, MI

Advanced manufacturing of HDI PCBS, RF & microwave PDBS, IC substrates and phased array technology.

Calumet Electronics designs, engineers, and manufactures high reliability printed circuit boards for high performance products. Circuit boards that must stand up to the most demanding applications and environments. Our passion for excellence in every board ensures consistent and reliable performance that our customers depend on.

ThermoAnalytics – Calumet, MI, Novi, MI, Muchen, Germany, and Tokyo, Japan

Thermal simulation software that meets the demands of inventive design and production timelines.

Understanding Spacecraft Thermal Control

Responsible for maintaining proper temperature levels in the harsh environment of space, the thermal control system is a critical component of any satellite. This system typically uses a combination of passive and active techniques to manage temperature using radiation and conduction. Using advanced modeling and simulation tools, like MuSES, these systems can be designed and optimized to consider various factors including heat generation, dissipation, and distribution. Understanding these systems is crucial for mission planners and engineers to ensure mission success.

Simulations in Space

Besides passenger and defense aircraft, you can also simulate satellites and other space-related systems in TAITherm. TAITherm's customization capabilities allow you to input custom weather files to simulate the different sun patterns a satellite will encounter as it travels through space. You can also analyze the high and low temperatures at different points in its travel. Use TAITherm to determine the effects of radiation exchange and conduction around a design in a bounding box, and how it reacts to the vacuum environment and cold temperatures in space.

Great Lakes Sound and Vibration – Houghton, MI

GLSV designs custom exhaust systems for military aerospace, ground combat vehicle, and naval applications. GLSV designs, engineers and manufactures products to withstand shock, vibration, extreme environments, fatigue, & other loading conditions.

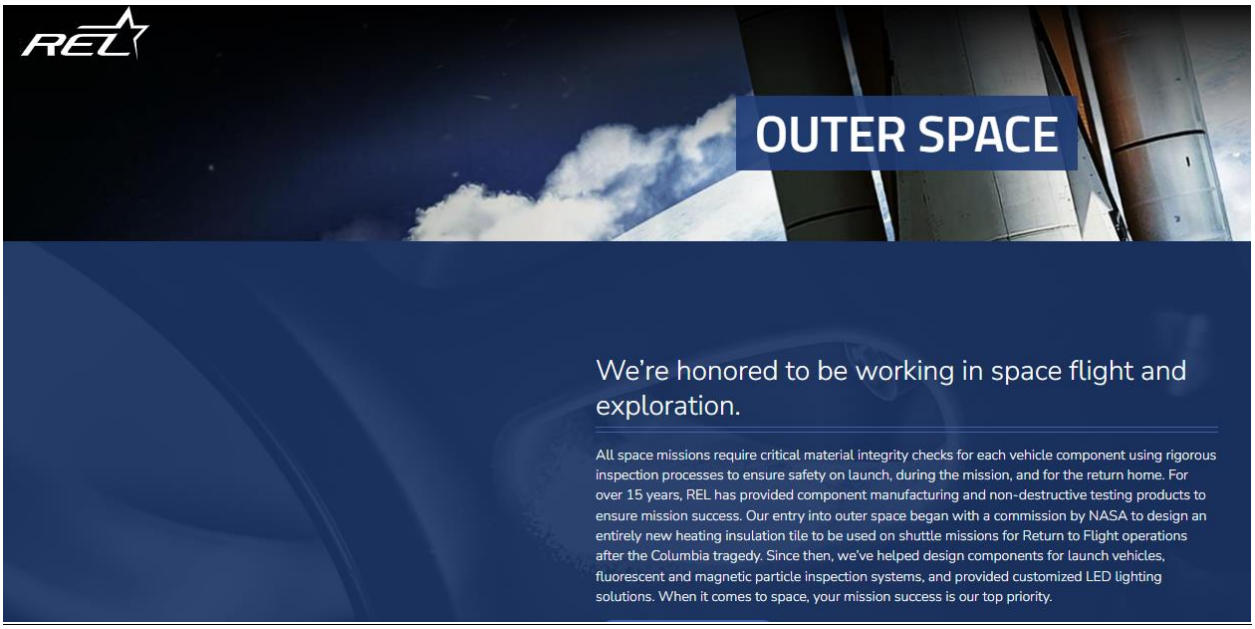
Valiant - Griffon Aerospace

Kall Morris, Inc. – Marquette, MI

A space logistics company dedicated to sustainable orbital operations by providing innovative relocation services. Leveraging proprietary software, exclusive hardware, and critical partnerships, KMI is developing a commercially viable system that extends and enhances vital space missions and relocation for active and legacy space assets.

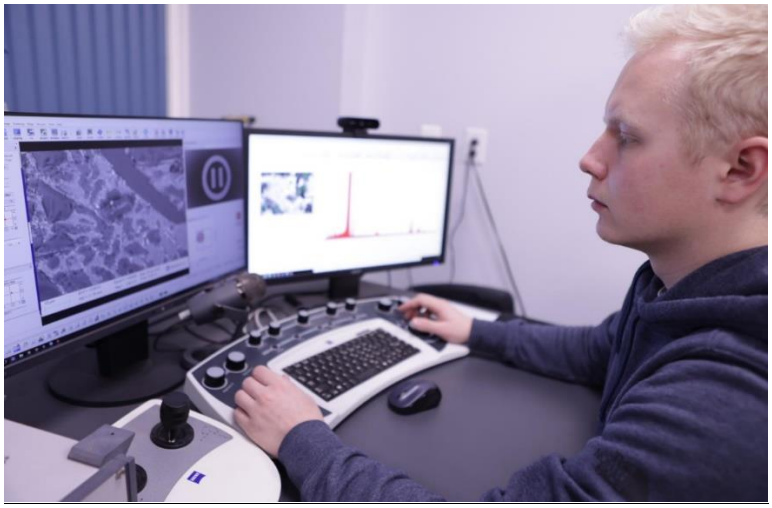
REL, Inc. – Calumet, MI

Global leader in the design, engineering and manufacture of high strain rate and non-destructive testing equipment, as well as precision machining and advanced material/alloy development. Developed and manufactured the ceramic heat shield repair kit that allowed NASA's Space Shuttle program to return to flight after the Columbia disaster.



Loukus Technologies, Inc. – Calumet, MI

Loukus Technologies specializes in advanced materials research and development with particular expertise in metal matrix composite materials; high temperature alloys; aluminum and magnesium alloy development; high integrity and high pressure die castings of extremely difficult shapes; mechanical, micro-structure and dynamic testing capabilities; and nanoscale reinforcement alloys.



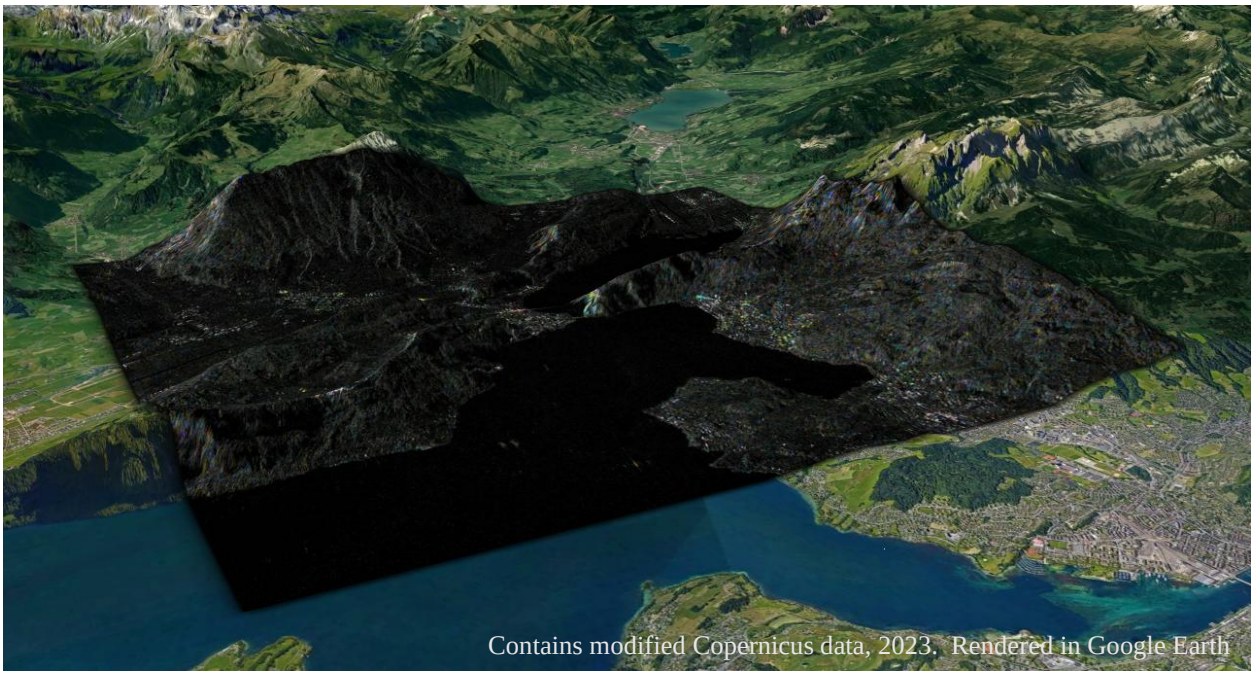
HIGH TEMPERATURE ALLOYS →

ALLOY DESIGN

Loukus Tech specializes in the creation of hybrid MMC products with newly developed high temperature alloys. The technology readiness level (TRL) of existing alloys is 5-6. Using in-house equipment and tooling, Loukus Tech brings the new alloys to a TRL of 6.

Wolverine Radar

MEDC Space Innovation Hub RFI Response



RFI Solicitation: MEDC RFI-CASE-428178

Company Name: Wolverine Radar Company

Company UEI: EX9FS9FRDT75

Company Address: 1102 Ravenwood St. Ann Arbor, MI 48103

Company Phone: +1 734 383 0710

Response Contributor(s): Jeff Pennings

Respondent Background

Jeff Pennings is founder and CEO of Wolverine Radar. Wolverine was founded in 2021 with the mission of making synthetic aperture radar data from space a truly dual-use industry through the creation of software tools that optimize satellite operations and grow the pool of commercial data customers. Mr. Pennings started his career as a radar systems engineer at General Dynamics AIS in Ann Arbor Michigan in 2004. During a 14-year stint at the office he rose through the ranks and became a prominent thought leader in the classified US government radar community. In 2018, Mr. Pennings was recruited to open a Michigan office of Ursa Space Systems and tap into the region's deep subject-matter expertise in radar algorithm development. After a productive stint with the company he was recruited to be the first Michigan employee of Orbital Effects, Inc (R2 Space) as they planned to relocate the headquarters from Washington DC to Ann Arbor, MI. During his time at OFX, he served as the Chief Technology Officer and was responsible for recruiting and retaining space engineering talent for the company's Ann Arbor office and architecting and executing the company's technological go-to-market strategy.

Innovation Formation and Management

Space innovation is a challenging endeavor. Innovation requires mastery and mastery requires experience. Gaining experience in space systems design is not easily done through standard K-12 curriculums and 4-12 year university programs can just scratch the surface of what it takes to become a subject matter expert in a space-related discipline. The expectation that a single facility can provide enough resources to accelerate this process for residents of all counties in the large state of Michigan is unrealistic. Rather than single center of gravity for the state's space innovation, Wolverine Radar recommends a different approach to seeding the next generation of space innovation in the state. This alternative vision involves partnering with existing universities and startup incubators that already have facilities and real estate geographically distributed all over the state. To complement these existing entities the state should set up a small administrative office in a centrally located location that serves as a connecting engine between all of these disparate parts.

Our experience as a space startup in the state has been that the state is not lacking in physical spaces or startup mentors but rather, it lacks the proper financial environment to make space-themed small businesses flourish. As a primary mission, the Space Innovation Hub should partner with local financial institutions to underwrite loans and lines of credit to aspiring entrepreneurs looking to create the next successful commercial space company. The fundamental problem with space innovation in Michigan is that launching a new venture pertaining to space technology is unfamiliar to the region's investor community. SBIR grants are a good place to start but their project scope and durations create tremendous challenges and risks for aspiring entrepreneurs as their base grant amounts are not enough to cover even a single employee's salary (at competitive local rates) over the company's first year of operations. Space companies are a poor fit for the local investor community due to the naturally slow path to recurring revenue in the industry. Out-of-state money is available, but oftentimes the company can run out of runway through the simple act of trying to raise outside money.

The problem that space startups encounter in a particularly difficult way in Michigan is that it is difficult to develop something truly disruptive in the space industry without spending a significant amount of time in the field. During that time on the job, technologists are likely to develop a higher standard of living than traditional new-grad college student founders. Their cash requirements are different, and their ability to take risks diminishes due to outside family obligations. These mid-career innovators need an additional set of security arrangements to ensure that, if their idea doesn't change the world as they hope it will, they haven't sacrificed their standard of living and way of life in the process. The problem is fundamentally financial and, in our experience, *a Space Innovation Hub solution that doesn't address this financial aspect of the problem will not be successful in creating lasting impact in the region*.

The Space Innovation Hub should partner with local banks to be an underwriting agency for forgivable loans and lines of credit that are linked to years of operation in the State of Michigan after award. While these instruments would be similar to SBIR or MIETF grants, they should be larger dollar amounts that *actually cover the costs* of the first few years in a space startup. The purpose of using loans and lines of credit as financial vehicles instead of grants is that the state can set more stringent terms for how many jobs the companies retain in Michigan during their early years of operation. This will dissuade out-of-state companies from attempting to access the funds with no plans to operate in the state long-term. The more in-state employees hired, the more loan forgiveness the company will receive. Ideally, Michigan-based companies would experience the program as non-dilutive capital to help supplement their other sources of revenue.

The Hub should identify talented individuals with revolutionary ideas that may or may not have received SBIR/STTR grant funding and provide them with additional financial tools to help keep the lights on between SBIR phases and during the customer discovery phase. This added layer of financial support will encourage national venture capital investors to notice Michigan as a good place to re-locate ventures due to the presence of non-dilutive capital and will also encourage prospective founders to take the plunge into entrepreneurship due to the reduced risk profile afforded by the carefully crafted financial instruments.

While there should be a centralized physical presence with good transportation links to the rest of the state, the purpose of this space should be essentially a pitch center designed for companies to interface with Hub leadership and apply for the program. The Hub leadership should be well connected to the numerous other startup incubators in the state as well as have strong connections with universities and military installations to help connect space startups to lab space, SCIF space and the investor community. There are many good programs to help new startups already (Wolverine has worked out of Ann Arbor Spark Central for almost 3 years) but the primary barrier to success is the lack of willingness within the investment community to fund startups without near-term recurring revenue opportunities. Dedicated state money to prime the pump could tip the scales and encourage private investors to see the sector as a sound investment with a large potential upside with minimal short term risk.

Services Provided

In our vision of the innovation hub, creating a physical meeting space with more than one conference room is not necessary. Additionally, duplicating space research labs such as particle accelerators or vibration tables for environmental qualification is unnecessary. Hot-desk locations for startup employees is a duplication and competition with existing temporary office space providers. Entrepreneurial training should be outsourced to the existing incubators as well as pitch deck coaching. The Hub could organize presentations on security threats but should expect participants from all over the state so the forum for the events could be rented conference space in university buildings or local convention centers due to the sporadic nature of the presentations. Distinguished visitor events should be coordinated with community meet-ups and should be organized in such as a way the participants from all over the state can attend. While there is always a temptation to create "innovation theatre" through fancy facilities and star-studded guest speaker line-ups, it is important that state prioritizes solving the underlying financial difficulties of early stage space companies rather than just creating more distractions. If the state puts its money directly into the startups, rather than spending on new facilities, the money will percolate back into the existing labs and incubators in such a way that all regions of the state will benefit and the investor community will begin to see the state as a strong partner for future big ideas.

Professional Growth

The Michigan National Space Grant and MI-STEAM programs are excellent internship programs and they should be advertised to all participants in the Hub program. Hub staff should connect aspiring entrepreneurs with established scientists in the state's universities to help craft better SBIR proposals. The Hub should encourage participants to enroll in local incubators in their operating area for startup and business leadership training.

Partnerships

As was mentioned in the previous paragraphs of this document, the Space Innovation Hub should primarily be a connector organization and should partner with local banks, all universities with space programs and all the existing startup incubators to not duplicate efforts.

Federal Support

The Hub should partner with APEX accelerators to help match companies and aspiring entrepreneurs with business opportunities.

Michigan Economic Development Corporation
REQUEST FOR INFORMATION
Space Innovation Hubs

1. **Contact Information of the Respondent**

   a. Organization and business name and address.

   Automation Alley – 2675 Bellingham Dr, Troy, MI 4808

   Lean Rocket Lab – 133 W Michigan Ave, Jackson, MI 49201

   Centrepolis Accelerator at LTU – 21415 Civic Center Dr #100, Southfield, MI 48075

   b. Name, title, email and phone number of the individual(s) responsible for the respondent's RFI response.

   Lisa Stief – VP of Operations, Automation Alley, stiefl@automationalley.com, 248-457-3230

   Brandon Marken – Founder/CEO, Lean Rocket Lab, brandon@leanrocketlab.org, 517-247-9151

   Dan Radomski – Executive Director, Centrepolis Accelerator, dradomski@ltu.edu, 248-204-2452

2. **Respondent's Background, Area of Expertise, and Experience**

   a. Automation Alley

   Facilitating collaborations between academia, government, and private sector entities

   Automation Alley and its partners have served as a catalyst for collaboration between academia, government, and private sector entities, leveraging its robust network, innovative programs, and proven track record of driving economic growth and technological advancement in Michigan. Automation Alley welcomes teaming opportunities as a prime or sub to further the objectives of this effort. By aligning the interests of these key stakeholders, Automation Alley ensures a unified approach to solving complex challenges and fostering innovation.

   i. Communication and Outreach

- **Robust Online Presence**: Automation Alley's website, attracting substantial views annually, serves as a central hub for information dissemination as the Michigan Digital Transformation Insight Center. With an average of over 100,000 monthly visitors, the website is an effective platform for reaching a broad audience.

- **Multi-Channel Communications Efforts**: Leveraging a mix of digital communications, direct outreach, public relations, and event communications, Automation Alley can ensure comprehensive coverage and multiple touchpoints with potential program participants.

- **Extensive Network Utilization**: Through its vast membership base of over 3800 members and access to the Michigan Manufacturers Database, which includes profiles of over 17,000 small to mid-sized manufacturers across Michigan, Automation Alley can target outreach efforts effectively beyond its immediate members. Automation Alley worked with the MEDC to develop a statewide CRM of all small to mid-sized manufacturers in Michigan that includes an automated process to maintain the integrity of the data in this CRM.

ii. **Integr8:** Automation Alley has hosted Integr8 in various formats. Integr8 has previously been put on as an expo with speakers and breakout events. In 2024, Integr8 hosted 11 roundtables involving industry, academia, and government. These events fostered open discussions about emerging technologies, resulting in actionable playbooks that outline key takeaways and strategies. A Summit brought together all participants to align on advancements and innovation, emphasizing cross-sector collaboration. These events exemplify Automation Alley's ability to bring stakeholders together for meaningful dialogue and actionable outcomes.

iii. **AMHUB:** Automation Alley was designated by the World Economic Forum as the Advanced Manufacturing Hub (AMHUB) for North America, part of WEF's Global Network of AMHUBs. As the only AMHUB for North America, Automation Alley elevated Michigan's seat at the table to make a difference on a global scale by aligning Michigan's position in the production ecosystem with the global direction of Industry 4.0. By aligning Michigan's advanced manufacturing capabilities with global trends, Automation Alley brings best practices to regional stakeholders and highlights Michigan's strengths on an international stage. This alignment ensures

that Michigan's private sector, government, and academic institutions are well-prepared for global Industry 4.0 demands. This partnership transformed into the creation of the US Center for Advanced Manufacturing funded by Oakland County and MEDC.

iv. **International Business Services:** Automation Alley's International Business Services, supported by the MEDC, connects Michigan companies to global markets. Through 51 trade missions with 474 companies since 2001, Automation Alley has facilitated over $2.19 billion in export sales and created or retained more than 11,000 jobs. Its expertise in international trade trends and best practices has earned it three U.S. Department of Commerce E-Star awards (2008, 2013, 2021). These efforts integrate private sector growth with government-led initiatives to enhance Michigan's economic reach. In addition to trade missions and shows, Automation Alley hosts companies in a landing space to support those looking to relocate to Michigan.

v. **Project DIAMOnD:** Automation Alley recognized that the manufacturing base in the state of Michigan was the ideal landscape to create a distributed manufacturing network, strengthening the Michigan manufacturing and entrepreneurial ecosystem. Project DIAMOnD, funded by Oakland County and the Department of Treasury, is creating a regional network of small manufacturers and guiding them through adopting additive manufacturing to strengthen the economy by increasing their competitive edge. During the first phase of Project DIAMOnD, Automation Alley distributed new equipment and software to over 300 local manufacturers. Phase two includes a 10-week hands-on training and expert mentoring of 250 companies to ensure their success in digital transformation. This includes the construction of the Digital Transformation Center which houses advanced additive manufacturing equipment accessible to the ecosystem. This program is currently in process of expanding statewide.

vi. **Cyber Security Programs:** Automation Alley, funded by the Department of Energy, is involved in two programs: the Oakland University Cybersecurity Center, which focuses on reducing security risks in energy delivery systems through R&D and education, and the CyManII Cybersecurity Program, which aims to secure digitalization and create a cybersecurity playbook for smart manufacturing. These programs are in response to growing trends that show cybersecurity is often overlooked by companies as they move through their Industry 4.0 journey. Both

programs require collaboration between academia, industry partners, and government resources to assess ongoing threats.

vii. **US Center for Advanced Manufacturing:** The US Center for Advanced Manufacturing (US Center), funded jointly by the MEDC and Oakland County in partnership with Automation Alley. While Automation Alley focuses on Michigan-based initiatives, the US Center expands its reach by engaging local, state, and federal stakeholders to design and evaluate policies that support industrial transformation. Key initiatives of the US Center include fostering disruptive innovation, developing new business models (e.g., the transition from internal combustion engines (ICE) to electric vehicles (EV)), and addressing the workforce and sustainability challenges associated with these shifts. By participating in the World Economic Forum's global network, the US Center positions Automation Alley to gain valuable insights into entrepreneurial trends and advanced manufacturing strategies worldwide. This partnership empowers Automation Alley to create programs, services, and outreach efforts that help Michigan businesses adapt to global industry trends, remain competitive, and lead in advanced manufacturing innovation.

viii. **DMSMS:** Automation Alley was under contract with the US Army from 2009-2024. Through this contract, Automation Alley ran a Diminishing Manufacturing Sources and Material Shortages (DMSMS) program which included data management and analytics services. Specifically, Automation Alley conducted ten Industrial Base studies to examine both existing and anticipated problem areas for the domestic manufacturing base. These ranged from broad supplier count analyses to in-depth studies on specific industry segments such as electronics and embedded sensors. Automation Alley also performed Sustainment Engineering Risk Assessment (SERA) studies on several vehicle platforms for the Ground Vehicle Systems Command (GVSC – Formerly TARDEC). Additionally, Automation Alley built and managed the Industrial Base VisCom tool, a database identifying and managing contact information and capabilities of defense companies throughout the US.

Insight

i. **Integr8 Playbooks**: These playbooks collectively generated 31.7 million impressions and 927,000 views/clicks throughout 2024, cementing Automation Alley's position as a global leader in Industry 4.0 and advanced manufacturing

narratives. In Q1 FY2025 alone, impressions reached 5,444,656 and we received 237,863 views.

ii. **Articles and Thought Leadership**: Automation Alley works closely with industry experts to craft impactful articles that highlight emerging trends, best practices, and cutting-edge innovations. These articles are published on our website, shared with news outlets, and distributed to our industry partners to position Michigan as a leader in advanced manufacturing.

iii. **White Papers**: In collaboration with manufacturers, academic institutions, and technology providers, Automation Alley publishes in-depth white papers on critical topics such as Industry 4.0 adoption, advanced manufacturing, and digital transformation. These publications provide actionable insights and strategic recommendations for businesses navigating technological disruption.

iv. **R&D Publications**: By partnering with academic institutions and research organizations, Automation Alley contributes to and disseminates R&D publications that address key challenges and opportunities in manufacturing and technology. These publications showcase the region's advancements in innovation and serve as a resource for industry.

v. **Case Studies**: Automation Alley highlights success stories from Michigan manufacturers and startups that have successfully implemented Industry 4.0 technologies. These case studies serve as practical examples of how businesses can overcome challenges and achieve measurable results through innovation.

vi. **Tech Talks**: Through events and webinars, Automation Alley hosts Tech Talks featuring industry experts, innovators, and thought leaders. These talks delve into topics like emerging technologies and trends, offering insights that drive progress across sectors. Recordings and key takeaways are made available online to ensure accessibility for a global audience.

vii. **Tech in Innovation Report**: Our globally recognized Technology in Industry Report focused on the pillars of Industry 4.0 that we see driving global manufacturing into the future. With insights from our growing manufacturing and technology ecosystem, is a comprehensive, collaborative effort – filled with emerging trends, challenges and opportunities, expert interviews, and case studies from industry

leaders – that will arm you with all the knowledge you need to help guide your business into the future.

viii. **Michigan Manufacturing Database**: Through the Automation Alley Business Incubator Grant, Automation Alley supports the MEDC's Signature Initiative mission to assist 50% of Michigan manufacturers, roughly 6,200, in adopting Industry 4.0 technologies. This effort includes a comprehensive evaluation of the state's manufacturing ecosystem and collaboration with statewide partners and other stakeholders. Automation Alley worked with the MEDC to develop a statewide database of approximately 17,000 small to mid-sized manufacturers in Michigan. The database includes automated third-party validation to maintain data integrity, verifying company addresses and enriching profiles with detailed information such as congressional district, Cage code, address, industry type, size, and ownership designations (e.g., women- or minority-owned businesses). Contacts are verified as they are added, and new contacts can be sourced. Analytics from this enriched data provide high-level insights into the Michigan manufacturing ecosystem, helping inform policy, workforce initiatives, and research efforts. Automation Alley has also developed APIs to connect public and private databases, enhancing the quality and accessibility of manufacturing data for ecosystem partners. Access to individual and aggregated data is available, creating value for MEDC and regional EDOs while supporting government, industry, and academia with actionable insights about Michigan's manufacturing landscape.

Fostering innovation and entrepreneurship

i. **Gateway and SmartZone**: Automation Alley serves as a SmartZone enabled by the MEDC and is in the sixth year of managing a Gateway program for early-stage tech companies. These activities serve small companies by identifying companies in need of assistance, reviewing, and vetting needs, and connecting clients to the Michigan resources such as the Business Accelerator Fund, First Customer Program, SCIP, T3N, MTRAC, Emerging Tech Fund, Bootcamp/Accelerator opportunities, Pre-Seed Funds, etc. Automation Alley's role in tracking client growth and progress toward Second Stage growth exemplifies our commitment to long-term business development.

ii. **Industry 4.0 Accelerator:** In 2020, Automation Alley, in partnership of Lawrence Technological University's Centrepolis Accelerator (CA) and Lean Rocket Lab

(LRL), successfully launched the Industry 4.0 Accelerator. This entrepreneurship program is designed to accelerate the commercialization of emerging industry technologies and to introduce these technologies to Michigan's manufacturing sector. One year after the launch, Automation Alley, CA, and LRL received funding from the US Economic Development Administration to support the operational needs of this Accelerator to serve more startups. Automation Alley is the prime on this grant and it sunset in September 2024.

iii. **CRADA**: Automation Alley currently has a Cooperative Research and Development Agreement (CRADA) in place with the Ground Vehicle Systems Center in Warren, Michigan. This CRADA seeks to match government and commercial parallels on a variety of technology areas.

iv. **Investment funds**: Automation Alley has a wealth of experience in early-stage investing and investment/loan portfolio management. Since 2004, Automation Alley has invested in 58 different companies, comprising 38 fixed income and 20 equity investments, and has deployed over $8.5 million in capital. Our rigorous due diligence process covers identifying opportunities, collaborating with partners, managing investment review boards, handling legal paperwork, and providing and managing funds. Our methodologies for follow-up with unsuccessful applicants, portfolio management for successful applicants, and deal restructuring have been validated by an audit.

v. **The 7Cs Program**: In 2015, the MEDC supported Automation Alley's highly successful 7Cs program, an entrepreneurship accelerator aimed at supporting and advancing small businesses and startups in Southeast Michigan, particularly those in advanced manufacturing. This program guided entrepreneurs through a comprehensive seven-step process that spanned from the initial concept of their technology to its commercialization. Key features of the 7Cs program included coaching and mentorship, capital investment, promotional material for the company, and connecting companies with leadership resources. The program's goal was to accelerate the growth and market readiness of small businesses by providing crucial support and resources, helping them navigate the path from innovative ideas to successful market entry within 12-24 months.

b. Lean Rocket Lab (LRL)

i. **Certified SmartZone:** LRL is a Michigan Economic Development Corporation (MEDC) Certified SmartZone, specializing in fostering innovation and supporting startups and small businesses.

ii. **Small Business Support Hub:** LRL serves as a critical support hub for small businesses, offering mentorship, business development, and coworking space tailored to manufacturing and technology entrepreneurs.

iii. **Women's Business Center:** LRL operates as a Women's Business Center, providing targeted resources and programming to support women entrepreneurs in technology and manufacturing.

iv. **Grant Expertise:** LRL has been the recipient of numerous state and federal grants related to manufacturing technology and entrepreneurship, allowing us to fund and scale impactful programs.

v. **Collaborative Ecosystem:** LRL collaborates with Michigan's leading research universities, including the University of Michigan, Michigan State University, and Wayne State University, to connect businesses with cutting-edge research and talent.

vi. **Extensive Network:** Through our relationships with investors, manufacturers, and industry experts across the manufacturing sector, LRL provides unparalleled access to resources, expertise, and funding opportunities for innovators and entrepreneurs.

c. Centrepolis Accelerator at Lawrence Technological University

i. **Support for Advanced Manufacturing Startups**: Expertise in accelerating hardware manufacturing and clean technology companies, including those focused on cleantech, climate tech, and circular economy solutions. Provides clients with access to product development resources and technical support to accelerate commercialization.

ii. **Inclusivity and Outreach**: Strong emphasis on supporting underserved communities, with programs specifically designed for minority-, women-, and veteran-owned businesses. Partnerships with organizations like the Michigan Minority Supplier Association and Michigan Women Forward ensure inclusive involvement in its programs.

iii. **Innovative Programming**: Runs programs like the Design for Manufacturing program, Cleantech, Climatech & Circular Economy Accelerator to support companies working on sustainability and energy efficiency. Provides incubator services, including technical vetting, mentoring, and access to demonstration funds for piloting new technologies.

iv. **Regional and Statewide Partnerships**: Collaborates with Automation Alley and Lean Rocket Lab on the Industry 4.0 Accelerator, integrating statewide resources to scale advanced manufacturing technologies. Works with local and regional manufacturing councils and the MEDC to connect startups with manufacturers and strategic partners.

2. Innovation Formation and Management

a. What format makes the most sense for the hub: physical, virtual, hybrid?

A hybrid model is recommended, integrating physical space for collaboration and virtual platforms for broader accessibility.

b. How can we ensure a culture of innovation exists should the hub be virtual?

Establish regular networking, training events to upskill our ecosystem for emerging opportunities; leveraging automation and digital tools to connect stakeholders remotely. Automation Alley can communicate with their 3,800 members and keep them informed of opportunities, programs, and advancements in their region.

c. How does the physical infrastructure of the hub differ when used for supporting national security over that when used to support dual use activities?

Modular infrastructure can support dual-use activities. Modular infrastructure allows for reconfiguration of spaces based on project requirements. Automation Alley's CRADA can be utilized for discussions when needed. Secure IT infrastructure to manage classified or sensitive data, often air-gapped from public networks. This approach ensures cost efficiency, fosters collaboration, and aligns with the growing demand for dual-use technologies in aerospace and space innovation.

d. Office type—can large common areas or segregated offices

e. Should computer resources or databases be provided by the hub? How so?

A database with resources can be requested but should not be readily available for everyone.

f. What type of telecommunications do you suggest being provided to the tenants?

Secure IT infrastructure to manage classified or sensitive data, often air-gapped from public networks.

g. Should the facility provide access to accredited Sensitive Compartmented Information Facility (SCIF) space; what impacts are associated if the SCIFs are located off-site at a nearby location?

A SCIF should be utilized from the ecosystem off-site. Costs are too high to create and manage one on our own.

h. Conference and meeting rooms: Can conference/meeting rooms be shared with other residents, or do they need to be dedicated to an organization?

i. Is there a need for laboratory space and, if so, describe the requirements?

Utilize the network for testing labs for defense-grade hardware, military-grade communication systems, and simulation environments for national security scenarios. However, dual-use activities may require access to public or commercial networks for innovation and testing. This may be solved by utilizing academic resources around the state. Automation Alley's CRADA allows for a pathway to using DoD laboratories for test and evaluation purposes.

j. Describe other equipment that should be considered for inclusion in the hub.

k. What type of "operational" services should be provided: janitorial, security, guards, etc?

l. Describe if you have interest in the hub having a cafeteria?

3. Services Provided

a. What services should the hub provide?

i. Skills training and networking

- Entrepreneurial training – Gateway, Accelerators, etc.

- How to develop a "pitch deck" for investors

  Gateway/Smartzone/SmartHub network, workshops with Accelerators

- Security briefings on security threats

  Market intelligence from government and private sector, Space Force, FAA, FBI, NASA, etc

- Security briefings from the Federal Bureau of Investigation

  Automation Alley has connections with FBI and regularly brings them in to brief our membership

ii. Innovation methodologies/frameworks (training/certification/professional development)

Workforce development analysis from industry and academics, partnering with academics and community resources for training

iii. Space Industry Days (space-tech events, showcase small businesses, etc.) –

Automation Alley can convene partners for events such as roundtables, panels, tech talks, expos, etc.

iv. Distinguished visitor events (CEOs/CTOs/CIOs) (NASA/AFRL/DARPA)

Yes, built into events for target organizations/fed agencies to interact with community and inspire

v. Academia mentorship events (hiring events/internships/scheduled hub events) Other? (please describe)

The hub should partner with academics for innovation and research, which allows for collaboration opportunities for mentorship and internships.

b. Marketing and Strategy

Yes, the goal is to bring this innovation and space opportunities to Michigan. By marketing that our manufacturing is steadily digitizing their operations, becoming more agile, this will open opportunities for our manufacturing base to support space

innovation in Michigan. Automation Alley helps with branding and strategy for many programs.

c. Access to partners and collaborators

Yes, through partnerships with organizations that support collaboration.

d. Opportunities to meet, interview, and employ (as co-ops) future talent (students attending a university program using the Innovation Hub space)

Yes, have co-op events during industry day events, etc. Our membership includes 120 academic institutions and programs.

e. Opportunity to meet and talk to future employers (for a student attending a university program using the Innovation Hub space)

Automation Alley regularly facilitates job fair opportunities with the ecosystem.

4. What services should be provided for professional growth?

a. Mentoring

b. Internship program

Industry, Academics, and Government partners should offer internships/co-ops if they want to be part of the Hub

c. Professional seminars and training for residents

d. Innovation methodologies/frameworks to guide small businesses through deployment of products/services

Entrepreneurship, Accelerators, Gateway resources along with SBDC programs and academic partnerships.

e. Other? (please describe)

5. **Are there existing innovation asset(s) and/or program(s) within Michigan that may be able to support in part or in total an innovation hub effort such has been described in this RFI?**

   a. UM Ann Arbor Space Institute wind tunnels - https://aero.engin.umich.edu/research/shared-facilities/

   b. MTU Propulsion research lab – https://aerospace.mtu.edu/

   c. WMU - https://wmich.edu/mechanical-aerospace/research

   d. MAC - https://www.michiganaerospace.com/

   e. Michigan Scientific Corporation - https://www.michsci.com/industries/aerospace-research-and-development/

   f. Aerospace Industry Association of Michigan (AIAM) – https://aiamnow.com/

   g. Michigan Space Grant Consortium – https://www.mispacegrant.org/

   h. MAMA - https://www.michman.org/about/

6. **Are there Federal (to include but not limited to Department of Defense) organizations, programs, and/or resources that that could play a role in hub development that should be considered?**

   a. UM Ann Arbor $35M for a Space Force Hub - https://www.thomasnet.com/insights/university-of-michigan-space-force-hub-propulsion/

REQUEST FOR PROPOSALS

MICHIGAN ECONOMIC DEVELOPMENT CORPORATION

2026 SPACE INNOVATION HUB

RFP-CASE-449622

REMINDER

Please check your proposal to make sure you have included all of the specifications in the Request for Proposals. In addition, please submit an electronic version of each of the following:

- Technical Proposals (Section II-A);
    - Signed physically or electronically and valid for at least 90 days (Section III-B);
    - Additional Certification (Section III-R);
- Price Proposal (Section II-B);
- Signed Independent Price Determination Certificate (Attachment A);
- (Optional) Signed Strategic Focus Points scoring verification (Attachment B); and
- Conflicts of Interest Disclosure (if applicable) (Section III-G).

BIDDERS ARE RESPONSIBLE FOR ASSURING THAT THE FOLLOWING IDENTIFYING INFORMATION APPEARS IN THE SUBJECT LINE OF YOUR EMAIL: *"RFP-CASE-*449622 *Technical Proposal" / "RFP-CASE-*449622 *Price Proposal",* with *Company Name*, and *"message 1 of 3",* as appropriate, if the bid consists of multiple emails. THE MEDC HAS NO OBLIGATION TO CONSIDER ANY PROPOSAL SUBMITTED WITHOUT THIS IDENTIFYING INFORMATION INCLUDED IN THE SUBJECT LINE OF YOUR EMAIL.

The Michigan Economic Development Corporation (the "MEDC") will not respond to telephone inquiries, or visitation by Bidders or their representatives. Bidder's sole point of contact concerning the RFP is below and any communication outside of this process may result in disqualification.

Contract Services
Michigan Economic Development Corporation
300 North Washington Square, 3rd Floor
Lansing, Michigan 48913
contractsandgrants@michigan.org

IMPORTANT DUE DATES

- **March 20, 2026, at 3:00 p.m.:** Questions from potential Bidders are due via email to contractsandgrants@michigan.org. Please note: The MEDC will not respond to questions that are not received by the above date and time. In addition, questions that are phoned, faxed or sent through regular mail will not be accepted.

- **March 27, 2026, by close of business:** Responses to all qualifying questions will be posted on the MEDC's website, https://www.michiganbusiness.org/449622.

- **June 1, 2026, at 3:00 p.m.:** Electronic versions sent separately of each of your Technical Proposal and Price Proposal due to the MEDC via email to contractsandgrants@michigan.org. **Proposals will not be accepted via U.S. Mail or any other delivery method.**

Table of Contents

REQUEST FOR PROPOSAL
2026 SPACE INNOVATION HUB
RFP-CASE-449622

This Request for Proposals (the "RFP") is issued by the Michigan Economic Development Corporation (the "MEDC"), Contract Services unit (the "CS"). CS is the sole point of contact with regard to all bidding and contractual matters relating to the services described in this RFP. CS is the only office authorized to change, modify, amend, alter, clarify, etc. the specifications, terms and conditions of this RFP and any contract(s) awarded as a result of this RFP (the "Contract"). CS will remain the SOLE POINT OF CONTACT throughout the bidding process. ***The MEDC will not respond to telephone inquiries, or visitation by Bidders or their representatives. Bidder's sole point of contact concerning the RFP is below and any communication outside of this process may result in disqualification.***

Contract Services
Michigan Economic Development Corporation
300 North Washington Square
Lansing, Michigan 48913
contractsandgrants@michigan.org

SECTION I
STATEMENT OF WORK

A. PURPOSE

The MEDC is seeking proposals from one or more bidders to establish the Michigan Space Innovation Hub to create and/or harness the requisite infrastructure, resources, and programmatic support to grow the existing Michigan space economy & space industrial base, providing support services to Michigan businesses at all stages/levels, as well as services for promoting professional growth for Michigan residents, with a statewide level of reach and impact. Physical infrastructure may include (but is not limited to) offices, meeting and collaboration spaces, laboratories, telecommunications, and equipment. It may also provide databases and/or data sets that can be used for the development of analytical tools and other applications. By designing an agile and dynamic Space Innovation Hub construct, Michigan will allow for future growth potential and expanded collaboration with larger space organizations within industry, academia, and government.

The Space Innovation Hub may provide support and/or resources for any space related technology under development within Michigan's ecosystem. This includes advancing innovations, technologies, and products that fall within the technology scope of the space sectors described in the Michigan Space Strategic Plan: Space Research; Remote Sensing; Digital Engineering; In Space Assembly and Manufacturing (ISAM) and/or manufacturing in general.

Furthermore, the hub will likely act as a central focal point for business activity within Michigan's regional and statewide space sector. As such, the Innovation Hub may provide business services to support businesses engaged in (or interested in) the space economy at varying growth stages. These services may include but are not limited to business training and classes regarding leadership and running a business to include classes on budgeting, marketing, customer support, and diversification into and/or growth within the space sector. Services may also provide road mapping to local, regional, state, and national programs and resources. Finally, the services may also include talent attraction/retention support through job postings and employment boards and networking events.

Regarding talent growth, the Space Innovation Hub may provide talent development services. Since the Hub would act as a professional focal point for its residents it would be advantageous to provide professional training programs, university student mentorship events, guest presentations, networking, and social events. It may also provide student intern programs matching future graduates of space related programs with businesses that run the gamut from large businesses to small early-stage companies. Finally, the Space Innovation Hub may provide development opportunities through the execution of technical challenges (e.g., hack-a-thons, etc.) and technical demonstrations and may also provide support/services not predicated within this RFP (please feel free to expound on proposed support and services within your RFP response).

B. BACKGROUND STATEMENT AND OBJECTIVES:

Background:

Michigan's existing space ecosystem was founded through significant participation in space-based programs dating back to the 1940s when the United States' first space programs were established. Michigan participants in these early years of the U.S. space program included

significant industry and academia engagement and investment. Recently, Michigan organizations have provided renowned research and development associated with Cubesats, deep space exploration, Spaced composites, space propulsion systems, and more. Michigan's ecosystem continues to work on space-based technology and applications such as satellite-based remote sensing, Low Earth Orbit traffic and debris, Space research and development, and manufacturing of spacecraft and satellite components.

This strong basis of experience and ongoing workforce and manufacturing strength provides Michigan with an opportunity to further diversify its Aerospace economy by supporting and expanding this extant ecosystem of academic programs and industry participants in a growing Space Economy.

In response to this opportunity Michigan completed a Space Strategic Campaign Plan in 2024. The resulting Strategic Plan emphasized that a highly qualified and respected workforce provides the impetus that can lead Michigan's growth in the Space Economy. Establishing this will require: (1) leveraging the excellent, world-class research being performed by Michigan's space ecosystem, (2) concentrating on talent development, retention, and attraction, (3) creating an environment that allows an individual's entrepreneurial spirit to flourish, and (4) leveraging of Michigan's second-to-none manufacturing and R&D prowess.

Currently, Michigan-serving programs exist that address workforce, technology, and business development and provide offerings that support activities such as technology translational research and commercialization, early-stage industry/technology growth and development, business retention and growth, and several more. **None, however, maintain a strong focus, if any, on the Space domain**. **The establishment of a Space Innovation Hub will create a core space-domain-enabling-and-activation asset that could provide key capabilities supporting industry development/attraction/retention, retention and attraction of talent, and development of new technologies supporting the growth of Michigan's space economy.** A Space Innovation Hub would invigorate the Michigan Space ecosystem and prepare it for growth in the coming years by addressing the following areas:

- Other states with a large space ecosystem have a well-orchestrated space industry, and Michigan is currently advancing in that direction. An Innovation Hub in Michigan could play a role as a leading accelerant and **catalyst** for orchestrating Michigan's space industry.
- Michigan maintains a robust and diversely situated R&D and manufacturing base, however on current theme, no nexus point firmly exists to lend focus of Michigan's manufacturing base towards Space; the Innovation Hub can serve both a strategic and tactical role in this regard
- Michigan universities have excellent Aerospace programs that are producing elite talent, and opportunities exist to promote the breadth of industry (aerospace & space) opportunities with graduates within Michigan. Furthermore, a space innovation hub could support development of an organized approach focusing on transitioning graduates into the Michigan space workforce.

NOTE: Only one (1) award is contemplated, and a multiple-award scenario is not expected, however, The MEDC reserves the right to award all or any part of this RFP and, based on what is in the best interest of the MEDC. The MEDC will select the successful Bidder after considering the price, value and quality of the bids.

Objectives:

C. QUALIFICATIONS

I. Eligibility Requirements of the Program Administrator

Describe your organization's eligibility directly related to and within the terms of the criteria below:

- Designation as the Space Innovation Hub entails a commitment to manage the program for a term that at minimum is equal to the period of performance proposed within respondent's overall proposal.
- The Administrative Awardee, Host Organization/Institution, or Program Administrator (PA) must be a Michigan-based non-profit organization. *(Michigan based organization means: headquartered in Michigan and/or having a significant presence that has business operations located in Michigan).*
- PA must demonstrate capacity to administer business support programs as well as secure and manage matching funds.
- PA must propose and establish an innovation hub governance structure, which could include (but is not limited to) a Board of Directors and/or an independent program Advisory Committee comprised of members from industry, research universities, and not-for-profits around the state. MEDC and ODAI shall have a position(s) within the governance structure that is developed, proposed, and effectuated by respondent if awarded.
- PA must maintain financial and administrative records for all subawards.
- PA must employ a role responsible for oversight, budget, performance, and compliance reporting to the MEDC.
- The PA's effectiveness in developing and implementing the program is evaluated based on pre-established metrics, as reported through quarterly progress reports, site visits, and ongoing communication with MEDC/ODAI staff.
- PA must promote this program to grow awareness of the program on a state and national level.

II. Program Minimum Requirements:

Location and Structure: It is envisioned that the Space Innovation Hub will be a hybrid entity offering both physical and virtual access, as to maximize statewide reach and accessibility. It may consist of a central hub with a network of distributed assets located throughout the state of Michigan. The central hub would organize and manage both the physical and virtual aspects of the hub. This centralized structure would also coordinate the services and activities across multiple affiliated and partnered organizations that are distributed throughout Michigan. It is anticipated that some services and infrastructure would be housed directly within the centralized structure, while others may be housed at partner institutions/sites/locations throughout the state of Michigan.

In your proposal, please provide a thorough description of the location and structure of the Hub and how you would leverage/partner with other Michigan assets, organizations, and/or programs to help support entities that are both in relatively close proximity to, and remote, from the centralized physical hub, noting the need for the ability to maintain statewide reach and

offerings via an adequate breadth and depth of services and resources. Also discuss facilities, such as but not limited to testing labs and manufacturing sites, that could be utilized/partnered with to supplement the capabilities provided by the hub.

Office Space: The Hub shall provide general office space (private and open spaces) for daily use by in-office working tenants and/or members of Michigan's space industrial base. Proposals should consider and address privacy concerns associated with the various tenants activities when offering both physical and virtual assets for use. Physical space might consist of shared workrooms/offices; open and private conference rooms; and space for open events and networking/gatherings.
The space for open events could include supporting classes, workshops, and briefings on (by example and not limited to):

- Skills Training and Professional Development,
- Fundraising and Investor Trainings, Workshops, and Practice,
- Industry-specific topics,
- Community Building and Networking, and
- Others (*please describe*).

Other spaces recommended by the respondent but not discussed here are also within scope of this RFP **– please describe if so desired.**

Labs and Manufacturing: The hub may provide Maker Spaces to support development of rapid prototypes and product/technology proof of concepts. The Maker Spaces shall be shared by all residents of the Hub. Areas to be considered include (but are not limited to) a laboratory, component assembly, small scale (prototype) manufacturing, and testing and evaluation. Other services for larger scale manufacturing, testing and evaluation shall be supported by the local or regional business ecosystem and are not required within the hub itself.
Maker space resources to be considered include (but are not limited to) fabrication systems (CNC machines, laser cutters, 3D printers), electronics tools (soldering stations, oscilloscopes), traditional workshop tools (power tools, welding), and textiles and crafting systems (looms, embroidery systems). A short description of the areas to be considered for the Maker Spaces is provided below.

Light Industrial Area

A space suitable for daily activities such as machining, soldering, sheet metal forming, and other non-dust-generating fabrication activities. This space may include however is not limited to: CNC machinery, injection molding, shaker table, induction melting furnace, press brake, wire and small tubing bending machine, scanning electron microscope, 3D printer, and Faro Arm.

Component/System Assembly Area

A secured area that is used daily and comprised of suitable flat-top workbenches and available workspace to assemble fabricated components for initial integration and system checkouts. It may be kept cleaner than Light Industrial Area, but not necessarily to Clean Room specified standards.

Mission Control Demonstration/Practice Space

This space may be used daily and consist of multiple controller stations with multiple monitors that are networked together and to a dedicated server infrastructure.

3D Printing Prototyping Capabilities

Testing: The Hub should maintain the ability to support the testing and/or certification of components or systems for flight to include but not limited to thermo-vacuum testing; electromagnetic interference; radio frequency testing; radiation testing; and testing of communications and data transmission. To support these tests the test facility might include

specialized test equipment that can be shared such as GPS simulators; data acquisition systems; optomechanical testing equipment; vibration testing instrumentation; low- and high-speed imaging and measurement systems (visible, ultraviolet, infrared, etc.); and 3D immersive environments (augmented / extended reality) with simulator and motion capture for autonomous space vehicles.

Computer Resources and/or databases: The hub may provide computer resources to support unique services such as access to specialized software, access to communication networks, satellite communications, data centers, and the like. The collaborative information will be managed and secured by the hub and not the responsibility of any individual contributor.
It is envisioned that proxy problems, agreed upon with a federal customer, with requisite data, information, workflows, could be available for use by the residents of the hub in developing/testing/advancing technologies. These proxy problems will provide the opportunity for residents to develop solutions such as they address real-world customer needs without being constrained by having to work in a classified environment.
The hub can provide computer-based collaborative tools to be used by participants including virtual prototyping tools and model-based systems engineering (MBSE) tools. Michigan-based tool suppliers may want to provide tools for use by participants to stimulate growth of their user base.

Telecommunications: To the maximum extent practicable, the hub shall provide high speed internet, specifically fiber.

Compliance with Laws and Regulations

The Innovation Hub Operator and all authorized users shall comply with all applicable federal, state, and local laws, regulations, and policies governing data handling, communications, and personnel. This includes, but is not limited to, adherence to requirements related to:

- Personally Identifiable Information (PII)
- Controlled Unclassified Information (CUI)
- National Industrial Security Program Operating Manual (NISPOM), if applicable
- Proprietary and Confidential Information
- Cybersecurity protections and standards
- Export Control regulations, including ITAR and EAR
- Management of U.S. and non-U.S. personnel in accordance with applicable laws and security requirements

The Operator shall ensure that all activities within the Innovation Hub are conducted in a manner that safeguards sensitive information, prevents unauthorized disclosure, and maintains compliance with all relevant statutes and contractual obligations**.**

Items Not Within Scope: Development of a Secret Compartmented Information Facility (SCIF) is not supported by this RFP. A SCIF may be provided under a separate activity with ODAI. Personal equipment, computers, and databases unique to a tenant's specific area of interest also is not within scope of this RFP.

III. xsdfsf

D. DELIVERABLES

The selected Bidder(s) will be required to do the following:

1. XXXX.

SECTION II
PROPOSAL FORMAT

To be considered, each Bidder must submit a COMPLETE proposal in response to this RFP using the format specified. Bidder's proposal must be submitted in the format outlined below. There should be no attachments, enclosures, or exhibits other than those required in the RFP or considered by the Bidder to be essential to a complete understanding of the proposal. Each section of the proposal should be clearly identified with appropriate headings:

A) TECHNICAL PROPOSAL

1. Business Organization and History – State the full name, address, and phone and facsimile number of your organization and, if applicable, the branch office or other subordinate element that will perform, or assist in performing, the work hereunder. Indicate whether it operates as an individual, partnership, or corporation; if as a corporation, include the state in which it is incorporated. Bidder must include a certificate of good standing from the Michigan Department of Licensing and Regulatory Affairs that is dated within 90 days of submission of its proposal.

2. Statement of the Problem – State in succinct terms your understanding of the problem(s) presented by this RFP.

3. Narrative – Include a narrative summary description of the proposed effort and of the services(s)/products(s) that will be delivered.

4. Technical Work Plans – Provide a detailed research outline and timelines for accomplishing the work.

5. Prior Experience – Describe the prior experience of your organization which you consider relevant to the successful accomplishment of the project defined in this RFP. Include sufficient detail to demonstrate the relevance of such experience. Proposals submitted should include, in this Section, descriptions of qualifying experience operating and/or administering innovation-based hub(s) and/or similarly situated innovation-based programming and resources. Please list and detail the **focus area(s)** of the previous program(s)/activity(ies) as well as the **economic impact(s), milestone(s) achieved, metric(s) achieved, and any other details you believe to be salient in this regard** including, but not limited to, project descriptions, costs, and starting and completion dates of projects successfully completed; also include the name, address, and phone number of the responsible official of the client organization who may be contacted.

   The MEDC may evaluate the Bidder's prior performance with the MEDC, and prior performance information may be a factor in the award decision.

6. Project Staffing – The Bidder must be able to staff a project team which possesses talent and expertise in the field of the requirements of this RFP. Identify a Project Manager and staff assigned by name and title. Include biographies, experience and any other appropriate information regarding the work team's qualification for this initiative. Indicate staff turnover rates. Show where the project team will be physically located during the time they are engaged in the work. Indicate which of these individuals you consider key to the successful completion of the work. Indicate the amount of dedicated management time for the Bidder's Project Manager and other key individuals. Do not include any financials for the contemplated work within the Technical Proposal. Resumes of qualifications should be supplied for proposed project personnel.

   Please Note: The MEDC further reserves the right to interview the key personnel assigned by the Contractor to this project and to recommend reassignment of personnel deemed unsatisfactory.

7. Subcontractors – List here all subcontractors that will be engaged to accomplish the project described in this RFP; include firm name and address, contact person and complete description of work to be subcontracted. Include descriptive information concerning subcontractor's organization and abilities. Also, the information provided in response to A-5, above, should include detailed information about each potential subcontractor.

8. Bidder's Authorized Expediter – Include the name and telephone number of person(s) in your organization authorized to expedite any proposed contract with the MEDC. The Technical Proposal must be **signed physically or electronically** by an official of the Bidder authorized to bind the Bidder to its provisions.

9. Statement of Validity – The proposal must include a statement as to the period during which it remains valid; this period must be at least ninety (90) days from **MONTH XX, 20XX**. Additionally, the rates quoted in the Price Proposal must remain firm, as indicated in Section II, for the duration of the contract period.

10. Additional Certification – Pursuant to Public Act 517 of 2012, an Iran linked business is not eligible to submit a bid on a request for proposal, with a public entity.

    If true, Bidders must include the following certification in the technical proposal:

    "Bidder certifies that it is not an Iran-linked business as defined in MCL 129.312."

    Failure to submit this certification will result in disqualification from consideration.

11. Additional Information and Comments – Include any other information that is believed to be pertinent, but not specifically asked for elsewhere.

B) PRICE PROPOSAL

Provide the cost/rate/price information for all firms/persons named in your Price Proposal to demonstrate the reasonableness of your Price Proposal. Attach a schedule of all expenses covering each of the services and activities identified in your proposal.

The MEDC is exempt from federal excise tax, and state and local sales taxes. The Price Proposal should not include taxes.

THE PRICING PROPOSAL MUST BE IDENTIFIED AND SENT SEPARATELY FROM THE TECHNICAL PORTION OF YOUR PROPOSAL ACCORDING TO THE INSTRUCTIONS OF THIS RFP. Separately sealed pricing proposals will remain sealed until the JEC has completed evaluation of the technical proposals.

Bidders please note: Rates quoted in response to this RFP are firm for the duration of the Contract; no price increase will be permitted.

C) PROPOSAL SUBMITTAL

Submit separately marked electronic versions of each of your Technical Proposal and Price Proposal to the MEDC via email to contractsandgrants@michigan.org not later than **3:00 p.m. on MONTH XX, 20XX**. The MEDC has no obligation to consider any proposal that is not timely received. **Proposals will not be accepted via U.S. Mail or any other delivery method.**

BIDDERS ARE RESPONSIBLE FOR ASSURING THAT THE FOLLOWING IDENTIFYING INFORMATION APPEARS IN THE SUBJECT LINE OF YOUR EMAIL: *"RFP-CASE-XXXXXX Technical Proposal" / "RFP-CASE-XXXXXX Price Proposal",* with *Company Name*, and *"message 1 of 3",* as appropriate, if the bid consists of multiple emails. THE MEDC HAS NO OBLIGATION TO CONSIDER ANY PROPOSAL SUBMITTED WITHOUT THIS IDENTIFYING INFORMATION INCLUDED IN THE SUBJECT LINE OF YOUR EMAIL.

SECTION III
RFP PROCESS AND TERMS AND CONDITIONS

A) PRE-BID MEETING/QUESTIONS

A pre-bid meeting will not be held. Questions from Bidders concerning the specifications in this RFP must be received via e-mail no later than **3:00 pm on MONTH XX, 20XX**. Questions must be submitted to:

Contract Services
contractsandgrants@michigan.org

B) PROPOSALS

To be considered, Bidders must submit a complete response to this RFP, using the format provided in Section II of this RFP, by **3:00 p.m. on MONTH XX, 20XX**. No other distribution of proposals is to be made by the Bidder.

The Technical Proposal must be **signed physically or electronically** by an official of the Bidder authorized to bind the Bidder to its provisions. The proposal must include a statement as to the period during which it remains valid; this period must be at least ninety (90) days from **MONTH XX, 20XX**. The rates quoted in the Price Proposal must remain firm for the period indicated in Section II.

C) ECONOMY OF PREPARATION

Each proposal should be prepared simply and economically, providing a straightforward, concise description of the Bidder's ability to meet the requirements of the RFP. Emphasis should be on completeness and clarity of content.

D) SELECTION CRITERIA

Responses to this RFP will be evaluated based upon a three-step selection process. The proposal must address the requirements described in Section II of this RFP.

The first step is an evaluation of which proposals satisfactorily meet the requirements of this RFP as stated in Section II.

1) Step I – Initial evaluation for compliance

   a) *Proposal Content* – Contract Services will screen the proposals for technical compliance to include but not be limited to:

   - Timely submission of the proposal.
   - Technical Proposal and Price Proposal clearly identified and sent separately.
   - Proposal signed physically or electronically by an official of the Bidder authorized to bind the Bidder to its provisions.
   - Proposals satisfy the form and content requirements of this RFP.
   - Bidder has provided a certificate of good standing from the Michigan

Department of Licensing and Regulatory Affairs that is dated within 90 days of submission of its proposal.

2) Step II – Criteria for Satisfactory Technical Proposals

a.) During the second step of the selection process, proposals will be considered by a Joint Evaluation Committee (the "JEC") comprised of individuals selected by the MEDC. Only those proposals that satisfy the requirements described in this RFP, as determined in the sole discretion of the JEC, will be considered for evaluation in Step II. The JEC reserves the right to request additional information from any Bidder.

b.) *Competence, Experience and Staffing Capacity* – The proposal should indicate the ability of the Bidder to meet the requirements of this RFP, especially the time constraints, quality, and recent projects similar to that described in this RFP. The proposal should indicate the competence of the personnel whom the Bidder intends to assign to the project, including education and experience, with particular reference to experience on projects similar to that described in this RFP and qualifications of Bidder's Project Manager and the Project Manager's dedicated management time, as well as that of other key personnel working on this project.

		Weight
1.	Statement of Work	35
2.	Bidder Information	5
3.	Prior Experience	30
4.	Staffing	20
5.	Financial Stability	10
	TOTAL	**100**

c.) Bidders may earn up to an additional ten (10) points by certifying to the applicability of the Strategic Focus Points outlined in Attachment B (the "Strategic Focus Points"). These Strategic Focus Points will be added to the Bidder's technical proposal score, if Attachment B is submitted, t. Attachment B includes instructions for Bidder to submit information regarding the applicability of Strategic Focus Points.

d.) During the JEC's review, Bidders may be required to make oral presentations of their proposals to the JEC. These presentations provide an opportunity for the Bidders to clarify the proposals. The MEDC will schedule these presentations, if required by the JEC.

e.) Only those proposals receiving a score of ***80 points or more*** (which includes the addition of any Strategic Focus Points, as applicable) in the technical proposal evaluation will have their pricing evaluated to be considered for award.

3) Step III – Criteria for Satisfactory Price Proposal

a.) Based on what is in the best interest of the MEDC, the MEDC will award the

Contract considering value, quality, and the ability to meet the objectives of this RFP, of proposals that were approved as a result of this two-step evaluation process.

b.) The MEDC reserves the right to consider economic impact on the State of Michigan when evaluating proposal pricing. This includes, but is not limited to: job creation, job retention, tax revenue implications, and other economic considerations.

c.) The award recommendation will be made to the responsive and responsible Bidder who offers the best value to the MEDC and the State of Michigan. Best value will be determined by the Bidder meeting the minimum point threshold and offering the *best proposal that meets the objectives of the RFP.*

d.) The MEDC reserves the right to award to another "best value" contractor in case the original Awardee does not accept the award.

E) BIDDERS COSTS

The MEDC is not liable for any costs incurred by any Bidder prior to signing of the Contract by all parties.

F) TAXES

The MEDC may refuse to award a contract to any Bidder who has failed to pay any applicable taxes or if the Bidder has an outstanding debt to the State of Michigan or the MEDC.

Except as otherwise disclosed in an exhibit to the Proposal, Bidder certifies that all applicable taxes are paid as of the date the Bidder's Proposal was submitted to the MEDC and the Bidder owes no outstanding debt to the State of Michigan or the MEDC.

G) CONFLICT OF INTEREST

The Bidder must disclose, in an exhibit to the proposal, any possible conflicts of interest that may result from the award of the Contract or the services provided under the Contract.

Except as otherwise disclosed in the proposal, the Bidder affirms that to the best of its knowledge there exists no actual or potential conflict between the Bidder, the Bidder's project manager(s) or its family's business or financial interests ("Interests") and the services provided under the Contract. In the event of any change in either Interests or the services provided under the Contract, the Bidder will inform the MEDC regarding possible conflicts of interest which may arise as a result of such change and agrees that all conflicts shall be resolved to the MEDC's satisfaction or the Bidder may be disqualified from consideration under this RFP. As used in this Section, "conflict of interest" shall include, but not be limited to, the following:

1) Giving or offering a gratuity, kickback, money, gift, or anything of value to a MEDC official, officer, or employee with the intent of receiving a contract from the MEDC or favorable treatment under a contract;

2) Having or acquiring at any point during the RFP process or during the term of the Contract, any contractual, financial, business or other interest, direct or indirect, that would conflict

in any manner or degree with Bidder's performance of its duties and responsibilities to the MEDC under the Contract or otherwise create the appearance of impropriety with respect to the award or performance of the Contract; or

3) Currently in possession of or accepting during the RFP process or the term of the Contract anything of value based on an understanding that the actions of the Bidder or its affiliates or Interests on behalf of the MEDC will be influenced.

H) BREACH OF CONTRACT

Except as otherwise disclosed in an exhibit to Bidder's proposal, Bidder is not in material default or breach of any contract or agreement that it may have with the State of Michigan or any of its departments, commissions, boards or agencies, or any other public body in the State of Michigan. Further, Bidder represents and warrants that it has not been a party to any contract with the State of Michigan or any public body that was terminated within the previous five (5) years because the Bidder failed to perform or otherwise breached an obligation of such contract.

I) DISCLOSURE OF LITIGATION

Except as otherwise disclosed in an exhibit to Bidder's proposal, there is no criminal litigation, investigations or proceedings involving the Bidder (and each subcontractor, if subcontractors will be used to provide the goods/services requested under this RFP) or any of the Bidder's officers or directors or any litigation or proceedings under the Sarbanes-Oxley Act. In addition, Bidders must disclose in the exhibit requested under this Section of the RFP any civil litigation, arbitration or proceeding to which the Bidder (or, to the extent Bidder is aware, any subcontractor) is a party and which involves: (1) disputes that might reasonably be expected to adversely affect the viability or financial stability of the Bidder (or subcontractor); or (2) a claim or written allegation of fraud or breach of contract against Bidder (or, to the extent Bidder is aware, subcontractor), by a governmental or public entity arising out of their business dealings with governmental or public entities. Details of any settlements which Bidder is prevented from disclosing under the terms of the settlement may be annotated as such.

J) FALSE INFORMATION

If the MEDC determines that a Bidder purposefully or willfully submitted false information in response to this RFP, the Bidder will not be considered for an award and any resulting Contract that may have been executed may be terminated.

K) DISCLOSURE

All Bidders should be aware that proposals submitted to the MEDC in response to this RFP may be subject to disclosure under the provisions of Public Act 442 of 1976, as amended, known as the Freedom of Information Act ("FOIA"). Accordingly, confidential information should be excluded from Bidders' proposals. Bidders, however, are encouraged to provide sufficient information to enable the MEDC to determine the Bidder's qualifications and to understand or identify areas where confidential information exists and could be provided. The FOIA also provides for the complete disclosure of the Contract and any attachments or exhibits thereto.

L) PRICES HELD FIRM

LENGTH OF TIME PRICES ARE TO BE HELD FIRM: All rates quoted in Bidder's response to this RFP will be firm for the duration of the Contract. No price changes will be permitted. IN THE EVENT THAT PROPOSED CHANGES ARE NOT ACCEPTABLE TO THE MEDC, THE CONTRACT SHALL BE TERMINATED AND THE MODIFIED CONTRACT SHALL BE SUBJECT TO COMPETITIVE BIDDING.

M) BEST AND FINAL OFFER

At any time during the evaluation process, the JEC may request a Best and Final Offer ("BAFO") from any Bidder. This will be the final opportunity for a Bidder to provide a revised proposal. The scope of the changes allowed in the BAFO will be published as part of the issuance of the BAFO request.

Bidders are cautioned to propose the best possible offer at the outset of the process, as there is no guarantee that any Bidder will be allowed an opportunity to engage in Pricing Negotiations or requested to submit a Best and Final Offer.

N) CLARIFICATION/CHANGES IN THE RFP

Changes made to the RFP as the result of responses made to qualifying questions or concerns will be posted on https://www.michiganbusiness.org/XXXXXX. Applicants are encouraged to regularly check this site for changes or other information related to the RFP.

O) ELECTRONIC BID RECEIPT

ELECTRONIC VERSIONS OF EACH OF YOUR TECHNICAL AND PRICE PROPOSALS SENT SEPARATELY MUST BE RECEIVED AND TIME-STAMPED BY THE MEDC TO CONTRACTSANDGRANTS@MICHIGAN.ORG, ON OR BEFORE **3:00 P.M. ON MONTH XX, 20XX**. Bidders are responsible for timely submission of their proposal. THE MEDC HAS NO OBLIGATION TO CONSIDER ANY PROPOSAL THAT IS NOT RECEIVED BY THE APPOINTED TIME.

P) RESERVATION OF MEDC DISCRETION

Notwithstanding any other statement in this RFP, the MEDC reserves the right to:

1) reject any and all proposals;
2) waive any errors or irregularities in the bidding process or in any proposal;
3) rebid the project;
4) negotiate with any Bidder for a reduced price, or for an increased price to include any alternates that the Bidder may propose;
5) reduce the scope of the project, and rebid or negotiate with any Bidder regarding the revised project; or
6) defer or abandon the project.

The MEDC's decision is final and not subject to appeal. Any attempt by an applicant, collaborating entity, or other party of interest to the project to influence the awards process, to appeal, and/or

take any action, including, but not limited to, legal action, regarding the proposal or awards process in general may result in the applicant's disqualification and elimination from the award process.

Q) JURISDICTION

In the event that there are conflicts concerning this RFP that proceed to court, jurisdiction will be in a Michigan court of law. Nothing in this RFP shall be construed to limit the rights and remedies of the MEDC that are otherwise available.

R) ADDITIONAL CERTIFICATION

Pursuant to Public Act 517 of 2012, an Iran linked business is not eligible to submit a bid on a request for proposal, with a public entity.

Bidders must include the following certification in the technical proposal:

> "Bidder certifies that it is not an Iran-linked business as defined in MCL 129.312."

Failure to submit this certification will result in disqualification from consideration.

SECTION IV
CONTRACTUAL TERMS AND CONDITIONS

A) CONTRACT TERMS AND CONDITIONS

The successful Bidder (the "Contractor") will execute a professional services agreement with the MEDC (the "Contract"), which includes (but are not limited to) the following key terms and conditions:

1) Term of Work – It is estimated that the activities in the proposed Contract will cover the period of MONTH XX, 20XX through MONTH XX, 20XX. The MEDC in its sole discretion, may extend the Term and allocate additional resources, subject to available funding.

2) Payments – Payments under the Contract will be made monthly and after receipt and approval by the MEDC Contract Manager of billing statements/invoices demonstrating that the work for which payment is being requested was appropriately performed.

3) Independent Contractor – The Contractor will act as an independent contractor under the Contract and neither the Contractor nor any employee, agent, or contract personnel of the Contractor is or shall be deemed to be an employee of the MEDC.

4) Taxes – The Contractor is responsible for paying all applicable state and federal taxes incurred by Contractor while performing services under the Contract, including, but not limited to, all applicable income taxes.

5) Access to Records – During the Term of the Contract and for a period of seven years after the end of the Contract, Contractor will maintain reasonable records, including documentation that the requested services were actually performed and shall allow access to those records by the MEDC or its authorized representative at any time during this period.

6) Termination – Either party may terminate its obligations under the Contract by providing the other party thirty calendar days prior written notice of such termination.

   The MEDC may immediately terminate the Contract upon written notice to Contractor if Contractor materially breaches its obligations under the Contract or engages in any conduct which the MEDC, in its sole discretion, determines has or could have an adverse impact on the State of Michigan's or the MEDC's reputation or interests. In addition, the MEDC may immediately terminate the Contract upon written notice to Contractor, without further liability to the MEDC or the State, its departments, agencies, and employees, if Contractor, an officer of Contractor, or an owner of a 25% or greater share of Contractor is convicted of a criminal offense relating to a State, public, or private contract or subcontract; or convicted of a criminal offense including, but not limited to, any of the following: embezzlement, theft, forgery, bribery, falsification or destruction of records, receiving stolen property, attempting to influence a public employee to breach the ethical conduct standards for State employees; convicted under state or federal antitrust statutes; or convicted of any other criminal offense that, in the sole discretion of the MEDC, reflects on Bidder's business integrity.

   Contractor acknowledges that MEDC's performance of its payment obligation is dependent upon the MEDC Executive Committee's continued approval of funding and/or

the MEDC's continued receipt of State funding. In the event that the State Legislature, the State government or any State official, public body corporate, commission, authority, body or employees, including the MEDC Executive Committee:

(i) takes any action which fails to provide, terminates or reduces the funding that is related to the source of funding for the Contract; or

(ii) takes any action that is unrelated to the source of funding for the Contract, but affects the MEDC's ability to perform obligations under the Contract, the MEDC may terminate the Contract by providing thirty calendar days' notice prior to the effective date of cancellation. In the event, however, that the action of the State Legislature, the State of Michigan or MEDC's Executive Committee results in an immediate absence or termination of funding, the Contract may be terminated effective immediately upon delivery of notice to the Bidder. In the event of immediate termination of funding, the MEDC will make payment through the effective date of termination for any undisputed services rendered and expenses incurred.

The MEDC shall have no obligation to Contractor for any fees or other payments incurred in connection with the Contract after the effective date of termination. Upon termination, all work product prepared or produced by Contractor pursuant to the Contract shall be immediately delivered to the MEDC. Payment for any undisputed services rendered and expenses incurred through the effective date of termination will then promptly be made by the MEDC.

7) Confidentiality - Except as required by law, Contractor shall not use or disclose, either before, during or after the Term, any proprietary or confidential information, including, but not limited to, applications, business bids, business plans, economic development analyses, computer programs, databases and all materials furnished to Contractor by the MEDC (collectively, "Confidential Information") without the prior written consent of the MEDC. Confidential Information does not include:

   (i) information obtained by Contractor from third party sources;

   (ii) that is already in the possession of, or is independently developed by, Contractor;

   (iii) that becomes publicly available other than through breach of this subsection; or

   (iv) is released with the prior written consent of the governmental entity or entities that provided the Confidential Information to Contractor.

   Contractor acknowledges that all information provided by the MEDC in connection with Contractor's duties under this Agreement shall be treated as Confidential Information unless otherwise stated in this subsection.

8) State of Michigan Competitors – Any information or knowledge Contractor gains during the course of the Contract concerning the economic development efforts of the State of Michigan or the MEDC or the business conditions or business community in Michigan shall not be disclosed to any public or private party, sovereign authority or foreign government, during the Term and for a period of two (2) years after the later of the end of the Contract, the effective date of termination of the Contract or so long as any information remains confidential pursuant to any contract, law, treaty, resolution or other enforceable promise.

9) Indemnification and Liability Insurance – Contractor shall indemnify, defend, and hold

harmless the MEDC, its Executive Committee, its Corporate Board of Directors, and its employees (the "Indemnified Parties") from any and all liability arising out of or in any way related to Contractor's performance under the Contract, including any liability resulting from any acts of Contractor's employees or agents.

Contractor shall purchase and maintain such insurance to protect the Indemnified Parties from claims that might arise out of or as a result of Contractor's operations. Contractor will provide and maintain its own errors and omissions liability insurance for Contractor's indemnification obligation under the Contract. The insurance shall be written for not less than One Million Dollars ($1,000,000) of coverage, but Contractor's indemnification obligation is not limited to this amount.

10) Assignment/Transfer/Subcontracting – Contractor shall not assign, transfer, convey, subcontract, or otherwise dispose of any duties or rights under the Contract without the prior specific written consent of the MEDC. Contractor agrees that any of Contractor's future successors or subcontractors will be bound by the provisions of the Contract, unless the MEDC otherwise agrees in a specific written consent. The MEDC reserves the right to approve any subcontractors for the Contract and to require the Contractor to replace subcontractors that the MEDC finds to be unacceptable.

11) Non-Discrimination and Unfair Labor Practices - In connection with the Contract, Contractor shall comply with the Elliott-Larsen Civil Rights Act, 1976 PA 453, MCL 37.2101 et seq., the Persons with Disabilities Civil Rights Act, 1976 PA 220, MCL 37.1101 et seq., and all other federal, state and local fair employment practices and equal opportunity laws and covenants that it shall not discriminate against any employee or applicant for employment with respect to his or her hire, tenure, terms, conditions, privileges of employment, or any matter directly or indirectly related to employment because of his or her race, religion, color, national origin, age, gender, height, weight, marital status, or physical or mental disability unrelated to the individual's ability to perform the duties of a particular job or position. Contractor further agrees that every subcontract entered into in connection with the Contract will contain a provision requiring nondiscrimination in employment, as required in the Contract, binding upon each subcontractor.

Pursuant to 1980 PA 278, State Contracts with Certain Employees Prohibited Act (the "Act"), MCL 423.321 et seq., the State shall not award a contract or subcontract to an employer whose name appears in the current register of employers failing to correct an unfair labor practice compiled by the United States National Labor Relations Board. Contractor, in relation to the Contract, shall not enter into a contract with a subcontractor, manufacturer, or supplier whose name appears on this register. Pursuant to section 4 of the Act, the MEDC may void this Agreement if, after the starting date of the Agreement, the name of the Contractor as an employer or the name of the subcontractor, manufacturer or supplier of Contractor appears on the register. A breach of this requirement constitutes a material breach of the Contract.

12) Jurisdiction - The laws of the State of Michigan shall govern the Contract. The Parties shall make a good faith effort to resolve any controversies that arise regarding the Agreement. If a controversy cannot be resolved, the Parties agree that any legal actions concerning the Contract shall be brought in the Ingham County Circuit Court in Ingham County, Michigan, USA. By signing the Contract, Contractor acknowledges that it is subject to the jurisdiction of this court and agrees to service by first class or express delivery wherever Contractor resides, in or outside of the United States.

B) CONTRACTOR RESPONSIBILITIES

The selected Bidder will be required to assume responsibility for all contractual activities offered in this RFP whether or not the Bidder performs them. Further, the MEDC will consider the selected Bidder to be the sole point of contact with regard to contractual matters, including payment of any and all charges resulting from the Contract.

C) ACCEPTANCE OF PROPOSAL CONTENT

If awarded a Contract, the contents of this RFP will become contractual obligations. The following constitute the complete and exclusive statement of the agreement between the parties as it relates to this transaction:

1) This RFP (including subsequent written clarification provided in response to questions raised by email) and any Addenda thereto; and

2) Final executed Contract.

In the event of any discrepancies between the above documents, the final executed Contract shall control. Failure of the successful Bidder to accept these obligations may result in cancellation of the award.

D) PROJECT CONTROL AND REPORTS

1) Project Control

   a) The selected Bidder (the "Contractor") will carry out this project under the direction and control of the Business Support Unit of the MEDC.

   b) The MEDC will appoint a Contract Manager for this project. Although there will be continuous liaison with the Contractor team, the Contract Manager will meet with the Contractor's project manager for the purpose of reviewing progress and providing necessary guidance to the Contractor in solving problems which arise.

   c) The Contractor will submit brief written monthly summaries of progress which outline the work accomplished during the reporting period; work to be accomplished during the subsequent reporting period; problems, real or anticipated which should be brought to the attention of the Contract Manager and notification of any significant deviation from previously agreed upon work plans.

   d) Within five (5) working days of the execution of the Contract, the Contractor will submit a work plan to the Contract Manager for final approval. This work plan must be in agreement with Section III-A of this RFP as proposed by the Bidder and accepted by the MEDC for contract, and must include the following:

      (i) The Contractor's project organizational structure.

      (ii) The Contractor's staffing table with names and titles of personnel assigned to the project. This must be in agreement with staffing of the accepted proposal. Necessary substitutions due to change of employment status and other unforeseen circumstances may only be made with prior approval of the MEDC.

(iii) The project breakdown showing sub-projects, activities and tasks, and resources required and allocated to each.

(iv) The time-phased plan in the form of a graphic display, showing each event, task, and decision point in your work plan.

ATTACHMENT A

INDEPENDENT PRICE DETERMINATION AND PRICES HELD FIRM CERTIFICATION

INDEPENDENT PRICE DETERMINATION

By submission of a proposal, the Bidder certifies, and in the case of a joint proposal, each party thereto certifies as to its own organization, that in connection with this proposal:

1. The prices in the proposal have been arrived at independently, without consultation, communication, or agreement, for the purpose of restricting competition as to any matter relating to such prices with any other Bidder or with any competitor;

2. Unless otherwise required by law, the prices which have been quoted in the proposal have not been knowingly disclosed by the Bidder and will not knowingly be disclosed by the Bidder prior to award directly or indirectly to any other Bidder or to any competitor; and

3. No attempt has been made or will be made by the Bidder to induce any other person or firm to submit or not submit a proposal for the purpose of restricting competition.

Each person signing the proposal certifies that she/he:

A) Is the person in the Bidder's organization responsible within that organization for the decision as to the prices being offered in the proposal and has not participated (and will not participate) in any action contrary to 1, 2, and 3 above; or

B) Is not the person in the Bidder's organization responsible within that organization for the decision as to the prices being offered in the proposal but has been authorized, in writing, to act as agent for the persons responsible for such decision in certifying that such persons have not participated (and will not participate) in any action contrary to 1, 2, and 3 above.

A proposal will not be considered for award if this Attachment A has been altered so as to delete or modify 1 or 3, above. If 2, above, has been modified or deleted, the proposal will not be considered for award unless the Bidder provides, with this Attachment A, a signed statement which sets forth, in detail, the circumstances of the disclosure and the MEDC determines that such disclosure was not made for the purpose of restricting competition.

PRICES HELD FIRM

LENGTH OF TIME PRICES ARE TO BE HELD FIRM: All rates quoted in bidder’s response to this RFP will be firm for the duration of the Contract. No price changes will be permitted.

Signed _____

Date _____

ATTACHMENT B

(OPTIONAL)
STRATEGIC FOCUS POINTS

Up to ten (10) additional points may be added to the technical proposal evaluation score by certifying to the Strategic Focus Points.

Check Box if applicable	Qualification	Possible Points
	1. Bidder is located in a Geographically Disadvantaged area*.	5
	2. 51% or more of Bidder's employees reside in a Geographically Disadvantaged area*	5
	3. Bidder is engaged in a Joint Venture, where one party is a Microbusiness (10 employees or less)	5
	4. Bidder is a veteran-owned business	5
	5. Other innovative programs/practices such as: Mentorship/internship programs, job re-entry programs, And/or apprenticeship programs	5

*Map of Geographically Disadvantaged Area located at the website below; areas are highlighted in brown and blue.
https://www.arcgis.com/home/webmap/viewer.html?webmap=d2f96fbb11cc49169de85cb577278e4b&extent=-92.3919,41.4161,-76.1651,47.8704

Please provide a brief explanation for each item checked above. Additional pages may be attached to this form if needed:

The undersigned, an authorized representative of the Bidder, certifies that the information submitted in this Strategic Focus Points form is true and accurate at the time of submission. The undersigned acknowledges that any misrepresentation made on this Strategic Focus Points form may result in disqualification under this RFP or, if Bidder proceeds to a final written agreement with the MEDC as a result of this RFP, termination of the agreement.

Signed _____

Date _____

MICHIGAN ECONOMIC DEVELOPMENT CORPORATION

Office of Defense and Aerospace Innovation

2026 Space Innovation Hub Grant Request for Proposals

Important Information:

The Office of Defense and Aerospace Innovation (ODAI) will not respond to inquiries via phone, text, email, or in person from applicants or their representatives. During the application evaluation process, applicants and their authorized representatives may not contact the Michigan Economic Development Corporation (MEDC), ODAI, ODAI staff, or any members of the review committee regarding this current application, except through the designated contact listed below. Any communication outside of this process may result in disqualification. The applicant's sole point of contact for the application process is:

Contact Info: MEDC Contracts and Grants
300 North Washington Square, 3rd Floor
Lansing, Michigan 48913

Email to: contractsandgrants@michigan.org

Applicants are responsible for assuring the following identifying information appears in the Subject line of your email: **"2026 Space Innovation Hub" followed by the institution's name.**

Important Due Dates:

- **Month Day, 2026, by 5:00pm:** MEDC's Office of Defense and Aerospace Innovation unit to post application online at www.michiganbusiness.org/public-notices-rfps/.
- **Month Day, 2026, by 3:00 pm:** Questions from potential applicants are due via email to contractsandgrants@michigan.org. Please note: The ODAI/MEDC staff will not respond to questions that are not received by the above date and time. Additionally, questions that are phoned, texted, emailed, or sent through regular mail will not be accepted.
- **Month Day, 2026, by 5:00 pm**: Responses to all qualifying questions will be posted on the ODAI/MEDC's website at www.michiganbusiness.org/advance-application.
- **Month Day, 2026, by 3:00 pm:** Electronic versions of your proposal are due to the ODAI/MEDC via email to contractsandgrants@michigan.org. No proposals will be

accepted via U.S. mail or any other delivery method, except for the above-mentioned established email address. A confirmation email will be sent to the contact(s) listed on the application within 24 hours of receipt by MEDC.

Application Instructions:

Please complete each section of the form carefully while also reviewing the accompanying narrative instructions on pages XXXXXXX. You may cut and paste this form into your own document, but please include and address all the sections. Your proposal/application must be submitted as a word-processed document, using a black font of no less than 11 points for the narrative content. The full application package should not exceed a total of 20 pages.

Section I. - Applicant Information:

Name of Applicant Organization: Click here to enter text.		
Address: Click here to enter text.		
City: Click here to enter text.	**State:** MI	**Zip:** Click here to enter text.
Contact Name: Click here to enter text.		**Title:** Click here to enter text.
Phone: Click here to enter text.	**Email:** Click here to enter text.	
EIN/Vendor Number:		
Requested Funding: $Click here to enter text.		
Timeframe for Requested Funding: Click here to enter text.		
Amount of Cash Matching Funds: $ Click here to enter text.		
Host Program Title (You may change the title): Click here to enter text.		
Institutional Partners: Click here to enter text.		

Section II. - Describe Your Organization's Eligibility:

Click here to enter text.

Section III. - Executive Summary:

Click here to enter text.

Section IV. –Background and Program Description:

Click here to enter text.

Section V. - Prior Program Experience:

Please list experience operating and/or administering innovation-based hub(s) and/or similarly situated innovation-based programming and resources.

For all previous experience, please list and detail the **focus area(s)** of the previous program(s)/activity(ies) as well as the **economic impact(s), milestone(s) achieved, metric(s) achieved, and any other details you believe to be salient in this regard**.

Click here to enter text.

Section VI. - Forecasted Economic Impact: Describe how your program will impact Michigan's industry as well as the overall **statewide** Space Ecosystem.

Click here to enter text.

Section VII. - Targeted Metrics for Proposed Period of Performance: Should your proposal be accepted, these benchmarks will be used to construct the general content of your grant. These should include but are not limited to:

A. Number of Michigan Businesses Supported
B. Number of Business Attraction Opportunities Supported and/or Captured
C. Number of Jobs created and/or retained
D. Number of new product /processes/services developed resultant of Hub support
E. Number of new business opportunities captured
F. Number of invention disclosures and/or patent applications/issuances supported by the Hub
G. Number of Applications for Hub utilization and/or tenancy Approved:
H. Amount of Follow-on Funding Captured (on behalf of the Hub and/or Hub clients). This should include however is not limited to:
    i. SBIR/STTR and Other Federal Funding
    ii. Angel Funds Invested
    iii. Venture Capital Invested
    iv. Bank/Loans
    v. Owner Investments
    vi. Other Investments
I. Number of New Products/Processes/Services Commercialized
J. Provide any other relevant factors to the success of your program

Click here to enter text.

Section VIII. - Milestones and Deliverables: List your planned program Milestones to be performed and achieved during the requested period of funding.

Space Innovation Hub		
Milestones (No Less than 12 Months)	**Completed by (date)**	**Reporting Period (Quarterly)**
Click here to enter text.	Click here to enter text.	Click here to enter text.
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Section IX. –Budget and Cost Proposal

Phase I: Please complete the table below. If you are proposing a period of performance beyond the minimum 12 months, please attach additional table(s) detailing the additional period(s) in quarterly breakdowns as is detailed in the table below.

Note that the *maximum* award value shall be $1.5 Million.

Item Description	**3-month Reporting Period**	**3-month Reporting Period**	**3-month Reporting Period**	**3-month Reporting Period**	**12 Month Totals**
ODAI Contribution	$	$	$	$	$
Estimated Matching Contributions	$	$	$	$	$
Total:	$	$	$	$	$
(Add other lines as needed)					
Personnel	$	$	$	$	$

Other	$	$	$	$	$
Total Direct Costs	$	$	$	$	$
Total Indirect Costs (15% TDC)	$	$	$	$	$
Total:	$	$	$	$	$
Funds Total:	**$**	$	$	**$**	**$**

Phase II (Optional): Per this RFP funding will be awarded for no less than a 12-month period of performance (Defined as Phase I). Respondent may choose to provide details regarding a proposed Phase II period of performance and associated budget. Note there is no expectation that a Phase II be proposed, nor is there any guarantee that should it be proposed, that it would be considered for future funding. For purposes of this RFP, if respondent chooses to share information regarding a Phase II, please treat this as detail outlining future vision for the proposed Innovation Hub beyond this Phase I proposal.

Provide a Phase II (Forecast) if desired.

Boilerplate Budget Template Notes:

1) A maximum of 15% of grant funds may be utilized for indirect grant expenses, administrative costs, or overhead costs.

2) Grant funds not intended for traditional research applications and/or projects

Request for Proposal
Michigan's SPACE Innovation Hub

SECTION I: RFP OPPORTUNITY AND DESCRIPTION

Michigan's existing space ecosystem was founded through significant participation in space-based programs dating back to the 1940s when the United States' first space programs were established. Michigan participants in these early years of the U.S. space program included **significant** industry and academia engagement and investment. Recently, Michigan organizations have provided renowned research and development associated with Cubesats, deep space exploration, Spaced composites, space propulsion systems, and more. Michigan's ecosystem continues to work on space-based technology and applications such as satellite-based remote sensing, Low Earth Orbit traffic and debris, Space research and development, and manufacturing of spacecraft and satellite components.

This strong basis of experience and ongoing workforce and manufacturing strength provides Michigan with an opportunity to further diversify its Aerospace economy by

supporting and expanding this extant ecosystem of academic programs and industry participants in a growing Space Economy.

In response to this opportunity Michigan completed a Space Strategic Campaign Plan in 2024. The resulting Strategic Plan emphasized that a highly qualified and respected workforce provides the impetus that can lead Michigan's growth in the Space Economy. Establishing this will require: (1) leveraging the excellent, world-class research being performed by Michigan's space ecosystem, (2) concentrating on talent development, retention, and attraction, (3) creating an environment that allows an individual's entrepreneurial spirit to flourish, and (4) leveraging of Michigan's second-to-none manufacturing and R&D prowess.

Currently, Michigan-serving programs exist that address workforce, technology, and business development and provide offerings that support activities such as technology translational research and commercialization, early-stage industry/technology growth and development, business retention and growth, and several more. **None, however, maintain a strong focus, if any, on the Space domain. The establishment of a Space Innovation Hub will create a core space-domain-enabling-and-activation asset that could provide key capabilities supporting industry development/attraction/retention, retention and attraction of talent, and development of new technologies supporting the growth of Michigan's space economy.** A Space Innovation Hub would invigorate the Michigan Space ecosystem and prepare it for growth in the coming years by addressing the following areas:

- Other states with a large space ecosystem have a well-orchestrated space industry, and Michigan is currently advancing in that direction. An Innovation Hub in Michigan could play a role as a leading accelerant and **catalyst** for orchestrating Michigan's space industry.
- Michigan maintains a robust and diversely situated R&D and manufacturing base, however on current theme, no nexus point firmly exists to lend focus of Michigan's manufacturing base towards Space; the Innovation Hub can serve both a strategic and tactical role in this regard
- Michigan universities have excellent Aerospace programs that are producing elite talent, and opportunities exist to promote the breadth of industry (aerospace & space) opportunities with graduates within Michigan. Furthermore, a space innovation hub could support development of an organized approach focusing on transitioning graduates into the Michigan space workforce.

NOTE: Only one (1) award is contemplated, and a multiple-award scenario is not expected.

Section I.I: Program Goal

The goal of a Michigan Space Innovation Hub is to **create and/or harness the requisite infrastructure, resources, and programmatic support to grow the existing Michigan space economy & space industrial base, providing support services to Michigan businesses at all stages/levels, as well as services for promoting professional growth for Michigan residents, with a statewide level of reach and impact**. Physical infrastructure may include (but is not limited to) offices, meeting and collaboration spaces, laboratories, telecommunications, and equipment. It may also provide databases and/or data sets that can be used for the development of analytical tools and other applications. By designing an agile and dynamic Space Innovation Hub construct, Michigan will allow for future growth potential and expanded collaboration with larger space organizations within industry, academia, and government.

The Space Innovation Hub may provide support and/or resources for any space related technology under development withon Michigan's ecosystem. This includes advancing innovations, technologies, and products that fall within the technology scope of the space sectors described in the Michigan Space Strategic Plan: Space Research; Remote Sensing; Digital Engineering; In Space Assembly and Manufacturing (ISAM) and/or manufacturing in general.

Furthermore, the hub will likely act as a central focal point for business activity within Michigan's regional and statewide space sector. As such, the Innovation Hub may provide business services to support businesses engaged in (or interested in) the space economy at varying growth stages. These services may include but are not limited to business training and classes regarding leadership and running a business to include classes on budgeting, marketing, customer support, and diversification into and/or growth within the space sector. Services may also provide road mapping to local, regional, state, and national programs and resources. Finally, the services may also include talent attraction/retention support through job postings and employment boards and networking events.

Regarding talent growth, the Space Innovation Hub may provide talent development services. Since the Hub would act as a professional focal point for its residents it would be advantageous to provide professional training programs, university student mentorship events, guest presentations, networking, and social events. It may also provide student intern programs matching future graduates of space related programs with businesses that run the gamut from large businesses to small early-stage companies. Finally, the Space

Innovation Hub may provide development opportunities through the execution of technical challenges (e.g., hack-a-thons, etc.) and technical demonstrations and may also provide support/services not predicated within this RFP (please feel free to expound on proposed support and services within your RFP response).

Section I.II: Program minimal requirements

Location and Structure: It is envisioned that the Space Innovation Hub will be a hybrid entity offering both physical and virtual access, as to maximize statewide reach and accessibility. It may consist of a central hub with a network of distributed assets located throughout the State of Michigan. The central hub would organize and manage both the physical and virtual aspects of the hub. This centralized structure would also coordinate the services and activities across multiple affiliated and partnered organizations that are distributed throughout Michigan. It is anticipated that some services and infrastructure would be housed directly within the centralized structure, while others may be housed at partner institutions/sites/locations throughout the State of Michigan.

In your proposal, please provide a thorough description of the location and structure of the Hub and how you would leverage/partner with other Michigan assets, organizations, and/or programs to help support entities that are both in relatively close proximity to, and remote, from the centralized physical hub, noting the need for the ability to maintain statewide reach and offerings via an adequate breadth and depth of services and resources. Also discuss facilities, such as but not limited to testing labs and manufacturing sites, that could be utilized/partnered with to supplement the capabilities provided by the hub.

Office Space: The Hub shall provide general office space (private and open spaces) for daily use by in-office working tenants and/or members of Michigan's space industrial base. Proposals should consider and address privacy concerns associated with the various tenants activities when offering both physical and virtual assets for use. Physical space might consist of shared workrooms/offices; open and private conference rooms; and space for open events and networking/gatherings.

The space for open events could include supporting classes, workshops, and briefings on (by example and not limited to):

- Skills Training and Professional Development,
- Fundraising and Investor Trainings, Workshops, and Practice,
- Industry-specific topics,
- Community Building and Networking, and
- Others (*please describe*).

Other spaces recommended by the respondent but not discussed here are also within scope of this RFP **– please describe if so desired.**

Labs and Manufacturing: The hub may provide Maker Spaces to support development of rapid prototypes and product/technology proof of concepts. The Maker Spaces shall be shared by all residents of the Hub. Areas to be considered include (but are not limited to) a laboratory, component assembly, small scale (prototype) manufacturing, and testing and evaluation. Other services for larger scale manufacturing, testing and evaluation shall be supported by the local or regional business ecosystem and are not required within the hub itself.

Maker space resources to be considered include (but are not limited to) fabrication systems (CNC machines, laser cutters, 3D printers), electronics tools (soldering stations, oscilloscopes), traditional workshop tools (power tools, welding), and textiles and crafting systems (looms, embroidery systems). A short description of the areas to be considered for the Maker Spaces is provided below.

Light Industrial Area

A space suitable for daily activities such as machining, soldering, sheet metal forming, and other non-dust-generating fabrication activities. This space may include however is not limited to: CNC machinery, injection molding, shaker table, induction melting furnace, press brake, wire and small tubing bending machine, scanning electron microscope, 3D printer, and Faro Arm.

Component/System Assembly Area

A secured area that is used daily and comprised of suitable flat-top workbenches and available workspace to assemble fabricated components for initial integration and system checkouts. It may be kept cleaner than Light Industrial Area, but not necessarily to Clean Room specified standards.

Mission Control Demonstration/Practice Space

This space may be used daily and consist of multiple controller stations with multiple monitors that are networked together and to a dedicated server infrastructure.

3D Printing Prototyping Capabilities

Testing: The Hub should maintain the ability to support the testing and/or certification of components or systems for flight to include but not limited to thermo-vacuum testing; electromagnetic interference; radio frequency testing; radiation testing; and testing of communications and data transmission. To support these tests the test facility might include specialized test equipment that can be shared such as GPS simulators; data acquisition systems; optomechanical testing equipment; vibration testing instrumentation;

low- and high-speed imaging and measurement systems (visible, ultraviolet, infrared, etc.); and 3D immersive environments (augmented / extended reality) with simulator and motion capture for autonomous space vehicles.

Computer Resources and/or databases: The hub may provide computer resources to support unique services such as access to specialized software, access to communication networks, satellite communications, data centers, and the like. The collaborative information will be managed and secured by the hub and not the responsibility of any individual contributor.

It is envisioned that proxy problems, agreed upon with a federal customer, with requisite data, information, workflows, could be available for use by the residents of the hub in developing/testing/advancing technologies. These proxy problems will provide the opportunity for residents to develop solutions such as they address real-world customer needs without being constrained by having to work in a classified environment.

The hub can provide computer-based collaborative tools to be used by participants including virtual prototyping tools and model-based systems engineering (MBSE) tools. Michigan-based tool suppliers may want to provide tools for use by participants to stimulate growth of their user base.

Telecommunications: To the maximum extent practicable, the hub shall provide high speed internet, specifically fiber.

Compliance with Laws and Regulations

The Innovation Hub Operator and all authorized users shall comply with all applicable federal, state, and local laws, regulations, and policies governing data handling, communications, and personnel. This includes, but is not limited to, adherence to requirements related to:

- Personally Identifiable Information (PII)
- Controlled Unclassified Information (CUI)
- National Industrial Security Program Operating Manual (NISPOM), if applicable
- Proprietary and Confidential Information
- Cybersecurity protections and standards
- Export Control regulations, including ITAR and EAR

- Management of U.S. and non-U.S. personnel in accordance with applicable laws and security requirements

The Operator shall ensure that all activities within the Innovation Hub are conducted in a manner that safeguards sensitive information, prevents unauthorized disclosure, and maintains compliance with all relevant statutes and contractual obligations.

Items Not Within Scope: Development of a Secret Compartmented Information Facility (SCIF) is not supported by this RFP. A SCIF may be provided under a separate activity with ODAI. Personal equipment, computers, and databases unique to a tenant's specific area of interest also is not within scope of this RFP.

SECTION II: APPLICATION AND SUBMISSION INFORMATION

Cover Page: Include at your discretion. It will not be counted against the 20-page limit.

Section 1: Applicants Information: Please fill out the general information about your organization. Additionally, your organization's federal Employer Identification Number (EIN) must be provided. If you are not already registered with the State of Michigan as a vendor, please go to this website for directions on how to register for a Vendor Identification Number. Awardee will be required to complete this registration.

Requested Funding: Provide your requested funding amount.

Post-Phase I Funding (Optional): This RFP constitutes a request for proposals to fund at minimum a 12-month period of performance. If you have demand-level data suggesting the need for subsequent funding to support a subsequent period of performance, at your discretion you may provide a table listing follow-on funding needs you are likely to encounter. (Only Phase I funding can be approved at this time, and note that there is no promise, guarantee, nor contemplation of any funding to support follow-on phases. Please ensure hub sustainability is detailed in the appropriate sections of your proposal.)

Amount of Cash Match Funds: Please list and describe in detail the anticipated source(s) and amount(s) of forecasted match funding. As an addendum to your proposal, please provide letter(s) of commitment from anticipated match funding source(s). This addendum will not be counted against the 20-page limit. (Note that **strong preference** will be given to

proposals that are able to clearly articulate ability to secure and leverage match funding.) Furthermore, please note that other funds provided by the state/MEDC/ODAI may not be utilized as match funding.

In-Kind Support: If in-kind support is anticipated from third parties/other sources, please list and describe said support, as well as provide letters of support as an addendum to your proposal. This addendum will not be counted against the 20-page limit.

Host Program Title: This is the Innovation Hub Title. If you would like to change the program's title to better describe it, now is your chance to suggest a new title.

Institutional Partners: Include the name(s) of any/all organizations across the state of Michigan (or otherwise) that will contribute to the operations and successful completion of the program.

Section II: Organizations Eligibility: Describe your organization's eligibility directly related to and within the terms of the criteria below:

Eligibility Requirements of the Program Administrator

- Designation as the Space Innovation Hub entails a commitment to manage the program for a term that at minimum is equal to the period of performance proposed within respondent's overall proposal.
- The Administrative Awardee, Host Organization/Institution, or Program Administrator (PA) must be a Michigan-based non-profit organization. *(Michigan based organization means: headquartered in Michigan and/or having a significant presence that has business operations located in Michigan).*
- PA must demonstrate capacity to administer business support programs as well as secure and manage matching funds.
- PA must propose and establish an innovation hub governance structure, which could include (but is not limited to) a Board of Directors and/or an independent program Advisory Committee comprised of members from industry, research universities, and not-for-profits around the state. MEDC and ODAI shall have a position(s) within the governance structure that is developed, proposed, and effectuated by respondent if awarded.
- PA must maintain financial and administrative records for all subawards.
- PA must employ a role responsible for oversight, budget, performance, and compliance reporting to the MEDC.
- The PA's effectiveness in developing and implementing the program is evaluated based on pre-established metrics, as reported through quarterly progress reports, site visits, and ongoing communication with MEDC/ODAI staff.
- PA must promote this program to grow awareness of the program on a state and national level.

Section III: Executive Summary: Provide an executive overview of your ability to administer and manage the Space Innovation Hub program.

Section IV: Background and Program Description

Include a program narrative. This section's content should contain a summary of the proposed approach that is suitable for dissemination to the public for establishing and managing the Hub; and for providing business support services as such. It should be an explanation of your proposed program and summarize all key associated components.

Management Structure—describe your proposed organizational structure for the Hub (the Board and committee(s), executive management, permanent employees, etc.), process for selecting potential tenants and/or businesses to support, statement of work, and experience of associated individuals/organizations.

Section V: Prior Experience: Describe your prior or related experience in managing activities and services such as those required for a Space Innovation Hub.

Section VI: Forecasted Economic Impact and Sustainability Plan: Express your long-term vision, mission, and goals while also describing your proposed impact and how it might become a key component feeding the space ecosystem within the state.

In relation to sustainability, a well-developed, thoughtful plan should be provided in detail. At minimum this should detail strategy and tactics that will be employed to advance the Hub **beyond** the period of performance proposed and as supported by funds contemplated per this RFP.

Geographic Region Served: Describe how you will, to the maximum extent practicable, serve the State of Michigan as a whole.

Section VII: Targeted Metrics: Describe the distinct, quantifiable, and measurable outcome(s) that support the program's impact. These outcomes are to be focused, specific, and clear. These targets will be the baseline to assess your annual impact and growth. In most cases, it is understood that the early timelines for success and achievement transpire at later stages of business development opportunities. Your initial measurable outcome(s) should include (at minimum but not limited to):

- Number of Michigan Businesses Supported
- Number of Business Attraction Opportunities Supported and/or Captured
- Number of Jobs created and/or retained
- Number of new products /processes/services developed
- Number of new business opportunities captured
- Number of invention disclosures and/or patent applications/issuances supported by the Hub
- Number of Applications for Hub utilization and/or tenancy Approved:
- Amount of Follow-on Funding Captured (on behalf of the Hub and/or Hub clients).

- Number of New Products/Processes/Services Commercialized

<u>Section VIII: Milestones and Deliverables</u>: Please include a table providing the funding plan for Phase 1 (P1) related to your program's milestones. Be specific about what will be conducted and accomplished. Milestones are to be operational in nature. Please provide specific timeframes targeted for the milestones to be achieved. Align these to the quarterly progress report dates, which will be established if/when award is made. *As best as it can be accomplished*, break down the milestones into these 3-month reporting periods.

<u>Section IX: Budget/Cost Proposal</u>: Provide an overview of what your budget will require as related to the categories listed. You may add more line items if needed. Please provide details as to cover the entire duration of the proposed period of performance. *As best as you can accomplish*, align budget items into corresponding three-month reporting periods.

Outlook

Re: Space Innovation Hub RFP-449622 [In-person]

From Nico Espinosa (MEDC) <espinosan1@michigan.org>
Date Tue 2/3/2026 1:38 PM
To Mark Ignash (MEDC) <ignashm1@michigan.org>

Hi Mark,

No problem on virtual, I wasn't sure who all is on site tomorrow, so I grabbed a room just in case, but looks like we'll all be on Teams either way.

Thanks,

Nico Espinosa
Senior Contract Specialist
Michigan Economic Development Corporation
300 N. Washington Square | Lansing, MI 48913
Cell: (517) 420-0028
espinosan1@michigan.org

From: Mark Ignash (MEDC) <ignashm1@michigan.org>
Sent: Tuesday, February 3, 2026 11:41 AM
To: Nico Espinosa (MEDC) <espinosan1@michigan.org>
Subject: RE: Space Innovation Hub RFP-449622 [In-person]

Nico,

I know it says in-person however can I join virtually? There are some sections that I know I need to adjust and I can highlight that tomorrow as well.

Thanks,

-Mark

Mark E. Ignash, GWCCM
Strategic Initiatives & Ecosystem Development Director
Michigan Office of Defense & Aerospace Innovation (ODAI)

Michigan Economic Development Corporation | State of Michigan
300 N. Washington Square | Lansing, MI 48913
Mobile: +1 517-256-0774 | ignashm1@michigan.org

MICHIGAN ECONOMIC DEVELOPMENT CORPORATION | PURE MICHIGAN | MICHIGAN OFFICE OF DEFENSE AND AEROSPACE INNOVATION

Learn more about aerospace and defense in Michigan, as well as services offiered to Michigan businesses and communities by visiting our website and signing up for the ODAI newsletter

-----Original Appointment-----
From: Nico Espinosa (MEDC) <espinosan1@michigan.org>
Sent: Tuesday, February 3, 2026 11:38 AM
To: Nico Espinosa (MEDC); Mark Ignash (MEDC); Odessa Carson (MEDC)
Subject: Space Innovation Hub RFP-449622 [In-person]
When: Wednesday, February 4, 2026 2:30 PM-3:00 PM (UTC-05:00) Eastern Time (US & Canada).
Where: Lake St. Clair (4th-NE cap 12)

Hi Mark & Odessa,

Could we meet to go over some of the materials provided for the Space Innovation Hub RFP-Case-449622? Just need clarity on how a few of these items should be structured for the posting. Feel free to adjust the time as needed. Thanks!

Microsoft Teams meeting

Join: https://teams.microsoft.com/meet/23270289201084?p=aUr5EDnujHYmEXG2qU

Meeting ID: 232 702 892 010 84

Passcode: KR7Az9dh

Need help? | System reference

Dial in by phone

+1 248-340-3787,,879713293# United States, Pontiac

Find a local number

Phone conference ID: 879 713 293#

For organizers: Meeting options | Reset dial-in PIN

SELECTION CRITERIA

Responses to this RFP will be evaluated based upon a three-step selection process. The proposal must address the requirements described in Section II of this RFP. The first step is an evaluation of which proposals satisfactorily meet the requirements of this RFP as stated in Section II.

1) Step I – Initial evaluation for compliance

a) *Proposal Content* – Contracts & Procurement Services will screen the proposals for technical compliance to include but not be limited to:

• Timely submission of the proposal.

• Proposal signed physically or electronically by an official of the Applicant authorized to bind the Applicant to its provisions.

• Proposals satisfies the form and content requirements of this RFP.

2) Step II – Criteria for Satisfactory Proposals

a.) During the second step of the selection process, proposals will be considered by a Joint Evaluation Committee (the "JEC") comprised of individuals selected by the MEDC. Only those proposals that satisfy the requirements described in this RFP, as determined in the sole discretion of the JEC, will be considered for evaluation in Step II. The JEC reserves the right to request additional information from any Applicant.

b.) Competence, Experience and Capacity – The proposal should indicate the ability of the Applicant to meet the requirements of this RFP, especially the time constraints, quality, and recent projects like that described in this RFP. All proposed deliverables should be clearly defined such that a final outcome that achieves the goal can be expected resultant of an award. The proposal should indicate the competence of the personnel whom the Applicant intends to assign to the project, including education and experience, with particular reference to experience on projects similar to that described in this RFP and qualifications of Applicant's Project Manager and the Project Manager's dedicated management time, as well as that of other key personnel working on this project.

		Weight
1.	Applicant Information	10
2.	Staffing/Team	10
3.	Ability to Leverage Match Funding	10
4.	Ability to Demonstrate Understanding of Innovation Hub Vision and Intent	25
5.	Prior Experience with Economic Development, Innovation-based Programming, Program Administration, and the Space Sector	20
6.	Proposed Hub Sustainability Plan	5
7.	Deliverables, Metrics and Definition of Success	20
	TOTAL	**100**

c.) During the JEC's review, Applicants may be required to make oral presentations of their proposals to the JEC. These presentations provide an opportunity for the Applicants to clarify the proposals. The MEDC will schedule these presentations, if required by the JEC.

d.) Only those proposals receiving a score of ***70 points or more*** in the proposal evaluation will have their pricing evaluated to be considered for award.

Michigan Economic Development Corporation

REQUEST FOR INFORMATION

Space Innovation Hubs

December 18, 2024

A. Background

Michigan's existing space ecosystem was founded through the significant participation in space-based programs dating back to the 1940s when the first space programs were established by the U.S. Government. With this participation came the establishment of renowned research programs and private industry, albeit small, to support follow-on government missions in space. Michigan is interested in further diversifying its economy by supporting and expanding this extant ecosystem of academic programs and industry participants in a growing Space Economy.

In response to this opportunity, the Office of Defense and Aerospace Innovation (ODAI) initiated a space sector planning initiative to identify the steps required to best grow Michigan's participation in the Space Economy. A major premise of the resulting Campaign Plan is that a highly qualified and respected workforce provides the impetus that can lead Michigan's growth in the Space Economy. Establishing such a workforce includes creating an environment that allows an individual's entrepreneurial spirit to flourish.

A Space Innovation Hub through its support of innovators and entrepreneurs is a key attractor and developer of talent and business and includes supporting the growth of ecosystems already in place in verticals such as space research. Borrowing from regional SmartZone Incubator models, as well as Fords Innovation District, hubs provide a dynamic and exciting environment for creating new ideas, new products, and new businesses by providing networking opportunities for businesses, academia, private equity, and talent. As such, hubs can strengthen Michigan's space offerings by supporting a culture of innovation focusing on the creation of space-related businesses, products, and/or services. Also, the launch of a Michigan-based Space Innovation Hub will further the regional and national impact to the space industry.

B. Purpose of the Request for Information

The MEDC is requesting information from interested parties to help further shape the above-described Space Innovation Hub(s). The purpose of this RFI is to gain a better understanding of the requirements of an innovation hub to include both physical and soft assets. The information obtained through this RFI may be used to prepare a Request for Proposals for the establishment of an Innovation Hub currently planned for development starting 2026.

THIS RFI IS SEEKING INFORMATION ONLY AND DOES NOT IMPLY, COMMIT, OR GUARANTEE FUNDING IN ANY MANNER NOW OR IN THE FUTURE TO ANY PARTY. THIS RFI IS NOT SEEKING BIDS FOR SERVICES AT THIS TIME.

ANY DOCUMENTS PRESENTED AS A PART OF THE RFI ARE SUBJECT TO DISCLOSURE UNDER THE FREEDOM OF INFORMATION ACT.

C. Request for Information Guidelines

- Responses are due by 3:00pm EST time on January 24, 2025.

- Responses should be submitted via **e-mail only** to **contractsandgrants@michigan.org** as a single Portable Document Format (.pdf) attachment. **Response will not be accepted via U.S. mail or any other delivery method.**

- **RESPONSES MUST INCLUDE THE FOLLOWING IDENTIFYING INFORMATION APPEARS IN THE SUBJECT LINE OF YOUR EMAIL: *"RFI-CASE-428178 with Company Name, and "message 1 of 3" as appropriate if the bid consists of multiple emails.***

- ***The MEDC will not respond to telephone inquiries, or visitation by Bidders or their representatives. Bidder's sole point of contact concerning the RFI is below and any communication outside of this process may result in disqualification.***

- Responses can be a maximum of 20 pages, utilizing twelve (12) point font or greater, submitted as a single .pdf file.

Any change or update to this RFI will be posted on the MEDC website. Such postings shall constitute constructive notice to the general public of any modifications or alterations of the RFI.

D. Request for Information Response

Respondents are asked to respond to and provide information for the following items:

1. Contact Information of the Respondent

a) Organization and business name and address.

b) Name, title, email and phone number of the individual(s) responsible for the respondent's RFI response.

2. Respondent's Background, Area of Expertise, and Experience

3. Innovation Formation and Management

a) What format makes the most sense for the hub: physical, virtual, hybrid?

b) How can we ensure a culture of innovation exists should the hub be virtual?

c) How does the physical infrastructure of the hub differ when used for supporting national security over that when used to support dual use activities?

d) Office type—can large common areas or segregated offices?

e) Should computer resources or data bases be provided by the hub? How so?

f) What type of telecommunications do you suggest being provided to the tenants?

g) Should the facility provide access to accredited Sensitive Compartmented Information Facility (SCIF) space; what impacts are associated if the SCIFs are located off-site at a nearby location?

h) Conference and meeting rooms: Can conference/meeting rooms be shared with other residents, or do they need to be dedicated to an organization?

i) Is there a need for laboratory space and, if so, describe the requirements?

j) Describe other equipment that should be considered for inclusion in the hub

k) What type of "operational" services should be provided: janitorial, security, guards, etc?

l) Describe if you have interest in the hub having a cafeteria?

4. Services Provided

a) What services should the hub provide?
- Skills training and networking
  - Entrepreneurial training,
  - How to develop a "pitch deck" for investors
  - Security briefings on security threats
  - Security briefings from the Federal Bureau of Investigation
- Innovation methodologies/frameworks (training/certification/professional development)
- Space Industry Days (space-tech events, showcase small businesses, etc.)
- Distinguished visitor events (CEOs/CTOs/CIOs) (NASA/AFRL/DARPA)
- Academia mentorship events (hiring events/internships/scheduled hub events) Other? (please describe)

b) Marketing and Strategy

c) Access to partners and collaborators
d) Opportunities to meet, interview, and employ (as co-ops) future talent (students attending a university program using the Innovation Hub space)
e) Opportunity to meet and talk to future employers (for a student attending a university program using the Innovation Hub space)

5. What services should be provided for professional growth?

a) Mentoring

b) Internship program

c) Professional seminars and training for residents

- d) Innovation methodologies/frameworks to guide small businesses through deployment of products/services
- Other? (please describe)

6. Are there existing innovation asset(s) and/or program(s) within Michigan that may be able to support in part or in total an innovation hub effort such has been described in this RFI?

7. Are there Federal (to include but not limited to Department of Defense) organizations, programs, and/or resources that that could play a role in hub development that should be considered?

Please include any additional information that you believe may be beneficial that is not described above.