REQUEST FOR INFORMATION

SUBJECT AREA:
Emerging Technologies and Topics in Advanced Manufacturing

Open Date: 10/07/2019
Close Date: 10/31/2019 5 PM CST
Contact: Sandra Torres, Sandra.torres@mxdusa.org

MxD
1415 North Cherry Ave
Chicago, IL 60642
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MxD OVERVIEW

MxD (formerly the Digital Manufacturing and Design Innovation Institute – DMDII) is where innovative manufacturers go to forge their futures. In partnership with the Department of Defense and the Manufacturing USA network, MxD equips U.S. factories with the digital tools and expertise they need to begin building every part better than the last. As a result, our more than 300 partners focus on developing the next innovation to increase productivity and win more business.

MxD has invested approximately $90 million in more than 60 applied research and development projects in various areas including design; product development; systems engineering; future factories; agile, resilient supply chains; and cybersecurity. It is a goal far too big for any one company to solve on its own. It requires production lines to be embedded with software and sensors and hooked up to the cloud. Only with this ability to send and receive data can the equipment improve itself and learn from every part produced in real-time.

MxD operates from a nearly 100,000-square-foot innovation center near downtown Chicago. Its factory floor features some of the most advanced manufacturing equipment in the world, which partners can use for experimentation and training on everything from augmented reality to advanced simulation techniques.

PURPOSE

The opportunities presented by digital transformation are great but are often impeded by a lack of vision, actionable plans, resources, cyber assurance, and other factors. U.S. manufacturers are faced with an urgent challenge to seize this opportunity and make wise technology investments.

Last year, MxD synthesized the many factors and trends of this moment into a vision for U.S. manufacturing: Every Part Better Than the Last. In 2019, MxD designed and launched projects that integrated multiple technologies to create systems that embody the MxD vision, demonstrate business impact, and overcome real-world impediments.

The purpose of this Request for Information (RFI) is to seek information from academia, research laboratories, innovation centers, incubators/accelerators, and other stakeholders, on emerging and upcoming technology research in advanced/digital manufacturing—preferably in Technology Readiness Levels (TRL) 1-4 that can transition into applied technology research within the next three (3) years.

Any individual from the above may submit a response to this RFI; MxD membership is not required to submit a response but MxD members are encouraged to apply and highlight their current innovative research. All parties with information relevant to the RFI titled subject are encouraged to submit a response.

MxD plans to utilize responses to scope enterprise R&D projects for the institute’s 2020-2022 Strategic Investment Plan (SIP) and digital road mapping, as well as co-sponsoring/co-authoring of
research white papers. It is possible that MxD will select and fund companies or organizations who have responded to this RFI to participate in future projects.

THIS IS A REQUEST FOR INFORMATION (RFI) ONLY. This RFI is issued solely for information and planning purposes – it does not constitute a Request for Proposal (RFP) or a promise to issue an RFP in the future. This request for information does not commit MxD to contract for any supply or service whatsoever. Respondees are advised that MxD will not pay for any information or administrative costs incurred in response to this RFI; all costs associated with responding to this RFI will be solely at the interested party’s expense. Not responding to this RFI does not preclude participation in any future RFP, if any is issued. If a solicitation is released, it will be synopsized on MxD’s website. It is the responsibility of the potential offerors to monitor this site for additional information.

RFI SUBJECT: Emerging Technologies and Topics in Advanced Manufacturing

MxD is in the process of building out a three-year outlook of high-priority technology areas to invest resources in for the purpose of research, development, and demonstration of advanced manufacturing technologies. While many MxD projects focus on deployable outcomes, digital tools and technologies evolve at a rapid pace, and emerging early-stage research and technologies play a crucial role in driving innovation forward by providing the foundation for applied research and later stage commercialization. Among the emerging technologies that can enable transformational growth in manufacturing, the top technology investment areas for manufacturers have included: advanced analytics, modeling and simulation, Internet of Things (IoT) platforms, and digital tools amplifying worker training or remote workers, but is certainly not limited to only these areas.

What emerging technologies show the most promise? If they are adopted and deployed, what is the expected impact? Should the manufacturing industry apply any existing technologies in new and distinctive ways to innovate and/or solve an industry-wide challenge? What challenges do you anticipate in adopting these technologies and what incentives will be needed to drive implementation?

RFI KEY DATES

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<thead>
<tr>
<th>Key Dates</th>
<th>10/07/2019</th>
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<tr>
<td>RFI Released</td>
<td>10/31/2019 5PM CST</td>
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**SUBMISSION INSTRUCTIONS**

Interested parties RFI responses should include:

- **Responder Information:**
  - Organization name, mailing address, and administrative individual’s name, title, and contact information including phone number and email

- **Emerging Technology and/or Topic:**
  - Such as, but not limited to, the digital thread—AR/VR, cybersecurity, additive manufacturing, advanced robotics, biomanufacturing, digital tools applied to supply chain operations, workforce development, etc.

- **Anticipated Technology Readiness Level (TRL):**
  - May provide a range, if necessary. For reference:
    1) basic principles observed and reported,
    2) technology concept and/or application formulated,
    3) analytical and experimental critical function and/or characteristic proof-of-concept,
    4) component and/or breadboard validation in relevant environment

- **Research:**
  - Summarize challenge/problem area,
  - Current-state of research completed,
  - Next-steps to be done which may include use-cases and target markets, with accompanying timelines

- **Responses should be limited to three (3) pages in length. Proprietary information, if any, must be clearly marked.**

All RFI responses should be sent electronically to Sandra.torres@mxdusa.org. Attach a .pdf version of your response to your email with the subject line “RFI Response_<organization name>”

Questions regarding this announcement shall be submitted by email to Sandra.torres@mxdusa.org. MxD does not guarantee that questions received after October 31, 2019 will be answered.