

SIP Strategy Survey Goals:

- Provides project prioritization targets for MxD
- Aligns our project portfolio to the needs of the Gov't/DIB
- Aligns our project portfolio with investment direction of the Ecosystem
- Highlights potential gaps
- Provides new project ideas

SIP Strategy Feedback Surveys:

Cybersecurity Survey

Supply Chain Survey

Digital Engineering Survey

Future Factory Survey

SIP Strategy Instructions:

- Each survey provides a brief description of a project
- Can be cascaded through your organization to capture opinions from varied groups
- Rank project alignment with organizational needs
- Rank project urgency
- "Other" option is available to provide feedback on the project
 - Technology interest but application is not in alignment
 - Interested in output but not so much the project
- At the end of each section optional text box to provide overall feedback or new project ideas on the project portfolio



2023 SIP Refresh Timeline

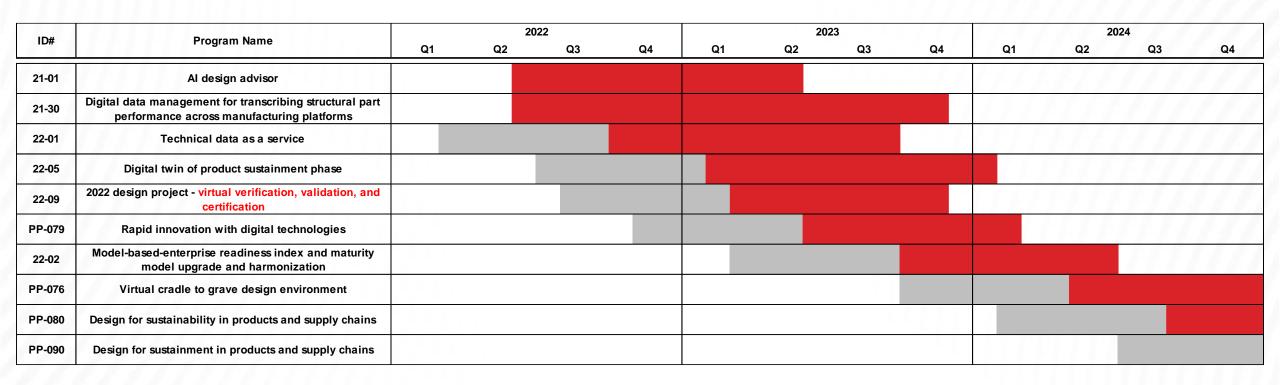
- September 29 | Q3 EC Meeting Review Project Prioritization & Investment Strategy Discussion
- October 14 | SIP Feedback sessions conclude
- November | Draft SIP Refresh Release for Comment
- November 16 | Q4 TAC Meeting Prep for 2023
- December | Q4 EC Meeting SIP Refresh Approval
- January 2023 | 2023 SIP Refresh Released

MxD Project Focus

MxD projects focus on the biggest pain points experienced in manufacturing:

- Workforce and Workforce Skills: Development of workers and augmentation to the workforce
- Change Management: Providing organizations with knowledge before a major undertaking to equip the organization prior to investment.
- Change Implementation: Using technology to minimize disruptions following a change in process/technology/etc.
- Supply Chain: Using digital technologies to inform an organization of its supply chain and potential disruptions
- **Digital Thread Integration:** Applying digital technologies to advance information on products throughout the supply chain and product lifecycle.
- Connectivity: Exploring existing and new protocols in data and information transfer. This includes system and data interoperability
- Security: Includes information and operational technology frameworks, also extends to security challenges for workplace safety and assurance.

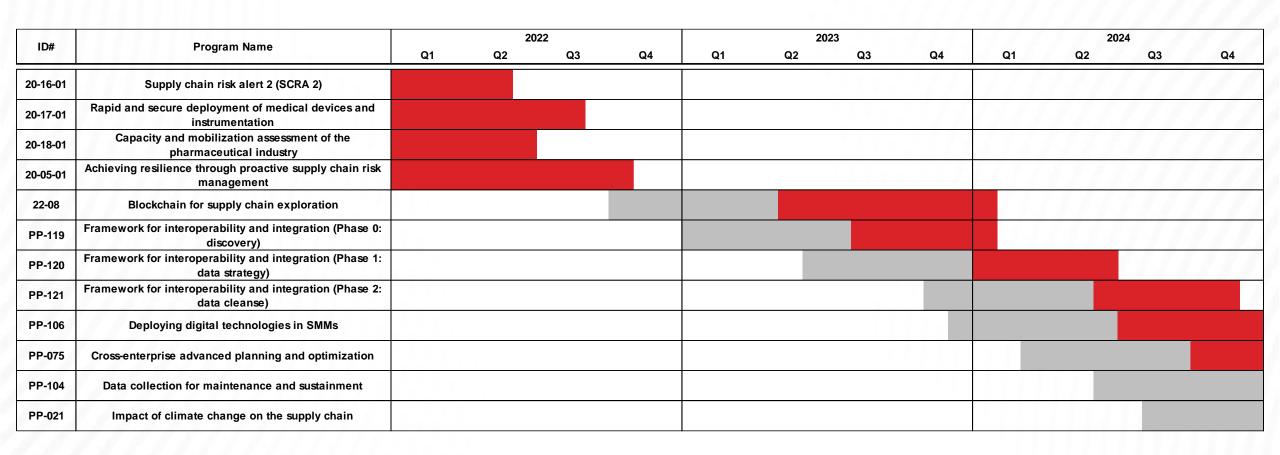
MxD Technology Roadmap - Design



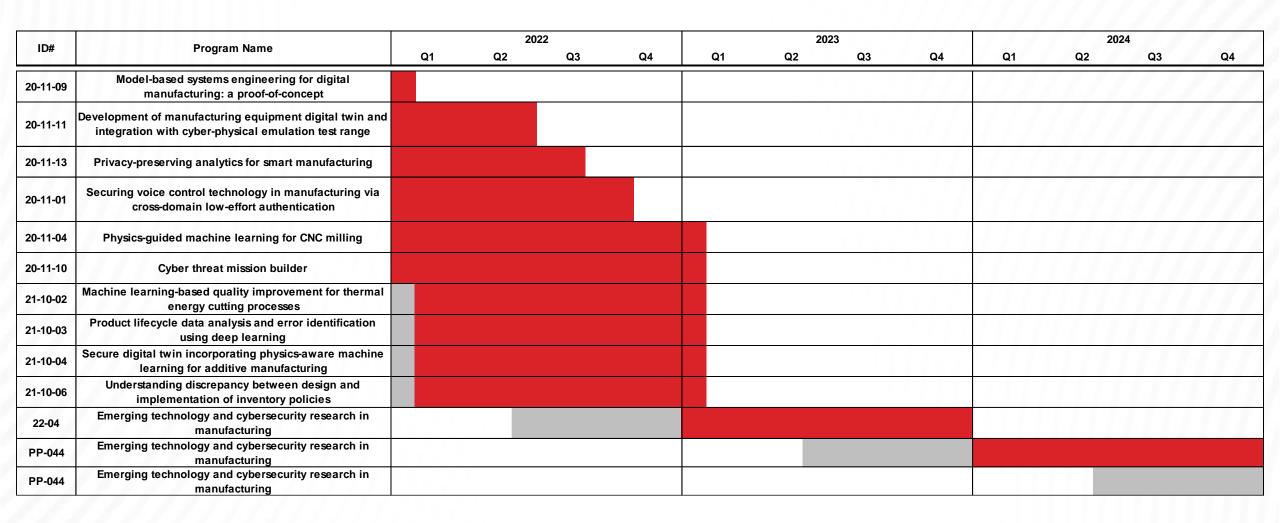
MxD Technology Roadmap – Future Factory

IXU	rechnology Roa	lamap – ruture ractory												
ID#	Program Name	Q1	Q2	2022 Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
20-13-01	Docent technology transfer (Follow-on to 17-04-01)						ı				111	///	11	
19-02-01	Closed-loop measurement control for enhanced robotic performance										777			
19-13-05	Operator 4.0 via fatigue and motion analyses in a human digital twin enabled framework for smart manufacturing									1//				
20-02-07	Smart monitoring and automated real-time visual inspection of sealant application										777	////		
20-04-01	Maximizing your ROI from digital technology as a small manufacturer										(///)	1777	f/f	
21-19	Paladin Howitzer Model Based Enterprise R&D Demonstration										777.	////		
21-36	Rock Island Arsenal modernization													
21-18	5G manufacturing testbeds for military and dual-use applications												77	
21-06	Dynamic scheduling & control for factory operations optimization											177	177	
21-14	Predictive maintenance in manufacturing													
22-03	Digital manufacturing playbooks - Implementation guideline and demonstration at SMMs											777	777	
22-06	Operator health tracking											7771		
22-07	Track and trace spanning the factory and supply chain													
PP-010	Digitalization and visualization of component defects											1111		
PP-100	Data interoperability for industry 4.0													
PP-041	Unifying the model-based definition and the digital twin													
PP-017	Predictive maintenance in a process environment using a digital twin													
PP-077	Virtual inspection of manufacturing													
PP-011	Integrated CNC digital twin													
PP-019	Real-time inventory tracking													
PP-102	AR/VR in maintenance										Mx	D Proprietary	<i>f</i>	

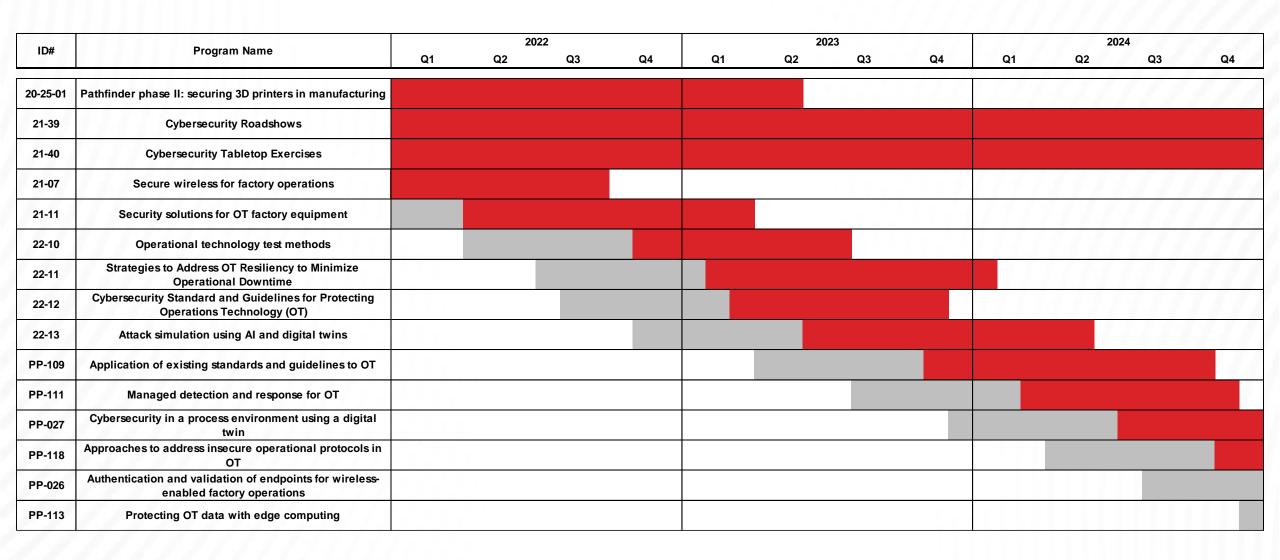
MxD Technology Roadmap - Supply Chain



MxD Technology Roadmap - Emerging Technology



MxD Technology Roadmap - Cybersecurity



MxD Technology Roadmap - Workforce Development

