

The Fab Foundation Announces the Launch of a Low-Cost, High-Impact, Digital Fabrication Kit for Education: Fab-in-a-Box

This kit is designed to reduce barriers to adoption for digital fabrication in classrooms and informal education settings, such as museums and libraries.

BOSTON, MA, US, February 23, 2024 /EINPresswire.com/ -- The 21st-century workforce needs to be flexible, agile, and digitally literate in order to participate fully in the rapidly evolving technology economy. Access to the tools and knowledge of digital technologies is critical to developing those skills.



The ability to use digital fabrication tools, combined with digital design and computer programming, is essential to the future of work. But, historically, these tools have been prohibitively expensive and inaccessible to most students and educators.

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Sherry Lassiter, President and CEO of the Fab Foundation

With that particular concern in mind, the Fab Foundation, a leading advocate for digital fabrication education and innovation across the globe, is excited to announce the launch of a new project in collaboration with MIT's Center for Bits and Atoms (CBA) and supported by Dassault Systèmes and La Fondation Dassault Systèmes: [Fab-in-a-Box](#)—a low-cost, high-impact, digital fabrication kit for education.

“Digital fabrication tools and technologies continue to transform our world. They are shaping the future of our workforce,” says Claire Dorsett, Fab Foundation's Director of STEM Programming for the project. “But too often and for too many, they remain inaccessible—often because of expense. We want to change that.”

A compact [Fab Lab starter kit](#), Fab-in-a-Box is designed to reduce barriers to adoption for digital fabrication in classrooms and informal education settings, such as museums and libraries. It does this by lowering the price point to entry while providing a truly turnkey solution. Everything that's needed to get started arrives on a single, mobile cart.

"Setting up and running a Fab Lab can be intimidating. So, we've taken care of that for you," explains Dorsett. "This kit includes all the infrastructure you need, including built-in material storage and ventilation. You just supply the power."

The cart comes equipped with a commercial laser cutter, 3D printer, and vinyl cutter, as well as an electronics kit to help learners actuate their creations—all for less than \$10,000. Implementation guides are also included, along with a collection of scalable, easy-to-follow activities that teach educators and students how to use the machines. These are designed to be inviting, never intimidating.

"We're bridging the gap between product design and fabrication," explains Suchit Jain, Vice President of Strategy and Business Development for SOLIDWORKS and 3DEXPERIENCE WORKS at Dassault Systèmes. "By making cutting-edge technology accessible to all, we're empowering young learners to turn their ideas and dreams into tangible realities."

Over the coming year, the Fab Foundation will pilot an initial set of kits in schools, libraries, and community centers across the US. Learning activities, instructor guides, and online resources are currently being developed to support the project-based learning curriculum. The project's next iteration will take a less off-the-shelf approach, leveraging cutting-edge research from CBA to create a kit of fabricable parts that can themselves be configured into digital fabrication machines. These will, in turn, enable the fabrication and construction of additional smaller, simpler machines; in other words, this is a kit of machines that can make more and different fabrication machines.

"The first phase of the maker movement was expanding access to rapid-prototyping; this project now pioneers early steps toward the next phase: rapid-prototyping of rapid-prototyping," explains Neil Gershenfeld, Director of MIT's CBA. Students and teachers can use their Fab-in-a-Box to fabricate custom parts and build machines tailored to their specific learning goals. For example, a math class might fabricate parts to build a cycloid drawing machine, exploring algorithmic programming by assembling its linkages in different configurations.

"Connecting the transformative research at the Center for Bits and Atoms and the powerful 3D design tools of SOLIDWORKS from Dassault Systèmes with low-cost infrastructure, support for educators, and engaging STEM activities for young learners brings more inclusive and equitable access to STEM education for students everywhere. We're especially excited to provide more accessible pathways to 21st-century career readiness," says Sherry Lassiter, President and CEO of the Fab Foundation. "This is a really fun project, and something we've wanted to see happen

for a long time.”

The Fab Foundation is a U.S. non-profit 501(c)(3) organization that emerged from MIT's Center for Bits & Atoms. The Foundation's mission is to provide access to the tools, knowledge, and financial means to educate, innovate, and invent using technology and digital fabrication to allow anyone to make (almost) anything, thereby creating new pathways to economic opportunity. It is a global steward of the Fab Lab Network, a community of more than 2,700 technical learning and innovation spaces in more than 125 countries.

MIT's Center for Bits and Atoms (CBA) is an interdisciplinary initiative exploring the boundary between computer science and physical science. CBA studies how to turn data into things and things into data. It manages facilities, runs research programs, supervises students, works with sponsors, creates startups, and does public outreach.

Dassault Systèmes, the 3DEXPERIENCE Company, is a catalyst for human progress. They provide collaborative virtual environments to help businesses and people push the boundaries of sustainable innovation, learning, and production.

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