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New Interactive Program Brings Ohio Students Pathways to Manufacturing Jobs

Career counseling tools combine game-based and multi-media platforms to encourage middle and high school students to engage in STEM curriculum

DAYTON, Ohio – LIFT – Lightweight Innovations For Tomorrow, a Manufacturing USA Institute, today announced the launch of new manufacturing career counseling tools for middle and high schools in Ohio. Through this program, teachers in Montgomery County and surrounding areas will have new game-based and multi-media STEM platforms to engage middle and high school students in career exploration and learning.

The program, to be launched in 50 Montgomery County and other counties high schools and their associated feeder middle schools, will deliver Learning Blade® and eduFACTOR programming to the schools to provide the students with ongoing learning opportunities about advanced manufacturing.

Manufacturing in Ohio continues to grow. With more than 735,000 people employed in lightweight-related manufacturing jobs, employers still posted nearly 20,000 job openings online in the fourth quarter of 2016.

“Manufacturing is Ohio’s heritage and the industry here is strong and getting stronger, both in terms of employment and employer demand,” said Ohio Lt. Governor Mary Taylor. “As a state, we need to continue the forward momentum we’ve started by providing as many pathways and opportunities as we can for our students to explore after graduation. That includes providing better and updated information on advanced manufacturing careers to show them it is high-tech, exciting and can lead to successful careers.”

Learning Blade[®], a product of Thinking Media, introduces STEM technologies and career opportunities through an entertaining game-based format. In the web-based system, students pursue engaging missions that solve problems, like helping an injured dolphin or building an orphanage after an earthquake. It features a metals manufacturing mission, “Lightweight Aircraft,” from an earlier LIFT investment.

eduFACTOR is a membership-based, online suite of multimedia resources including a TV series, virtual field trip experiences, technology video series, career pathways video series, hands-on CNC and 3D printing projects, interactive STEM activities, CTE success video series, and more.

“By connecting these two programs across both middle and high schools, we can provide a continuing pathway for these students to see advanced manufacturing as a great career option,” said Tony Bagshaw, managing director, Battelle for Kids, a supporter of LIFT’s efforts to offer this innovative, economic-driven approach that will advance opportunities for students in Montgomery County.

Middle school students who complete selected units on manufacturing careers in Learning Blade will be directed to video resources and activities on the eduFACTOR platform that provide real-life examples of using these skills in exciting applications.

The high schools will have access to a library of multimedia tools to inspire their students towards careers in manufacturing and make learning concepts relevant in the context of a story. It provides teachers with 24/7 access to media, lesson plans, projects and presentations in an easy-to-understand online portal.

“By providing the tools which connect students to skill-building in science, technology, engineering and math throughout their school careers, our goal is to keep them engaged with advanced manufacturing curriculum so they are ready to pursue a career or go on to post-secondary education in these fields,” said Emily DeRocco, director, education and workforce development, LIFT.

“Connecting students with advanced manufacturing is the only way to fill the talent pipeline and close the ever-growing skills gap.”

LIFT, one of the founding [Manufacturing USA](#) institutes, and a part of the National Network of Manufacturing Innovation program, is a Detroit-based public-private partnership dedicated to developing and deploying advanced lightweight metal manufacturing technologies, and implementing education and training programs to better prepare the workforce today and in the future.

ABOUT LIFT

LIFT is a Detroit-based, public-private partnership committed to the development and deployment of advanced lightweight metal manufacturing technologies, and implementing education and training initiatives to better prepare the workforce today and in the future. LIFT is one of the founding institutes of Manufacturing USA, and is funded in part by the Department of Defense with management through the Office of Naval Research. Visit www.lift.technology or follow on Twitter [@NewsFromLIFT](https://twitter.com/NewsFromLIFT) to learn more.



BUILDING 21st CENTURY MANUFACTURING TALENT

A Resource for Career Counseling: Engaging Students in Educational Pathways to Careers in Modern Manufacturing

An Education & Workforce Development Initiative for LIFT...Lightweight Innovations for Tomorrow



THE PROBLEM

The U.S. manufacturing industry faces an increasing shortage of available high-skilled technology-savvy workers. Demand for workers in STEM-related fields is expected to grow 17 percent by 2018, while the number of college graduates in those fields continues to decline. For example, in 2009, just 18 percent of bachelor's degrees awarded were in STEM fields, down from 24 percent two decades ago.

While we are beginning to increase the number of college graduates in STEM fields, the gender and racial gap within the STEM workforce continues to widen. While women comprise 49% of the college-educated workforce, only 14% of engineers are women and just 27% are working in computer science and math positions. Similar disparities exist for Hispanic and African American workers, who account for only six percent of STEM workers.

As reported in the Ohio Quarterly LIFT Report for the fourth quarter of 2016, employers in Ohio posted nearly 20,000 jobs related to lightweighting. The employment growth of lightweighting-related advanced manufacturing jobs in Ohio has gone from 651,800 jobs in 2010 to over 735,000 in 2016, a nearly 13% increase, demonstrating the growing demand for Ohio workers with lightweight manufacturing-related skills and knowledge.

With employer demand on the rise and supply of students on the decline, the manufacturing skills gap is continuing to widen and needs to be addressed with demand-driven, results-oriented solutions.

THE SOLUTION

LIFT, Battelle Education, Thinking Media and Edge Factor are developing a program to guide students towards lightweight metals and other advanced manufacturing careers by engaging them in middle and high schools in Ohio.

The program includes two proven systems – Learning Blade and eduFACTOR - that introduce metals and manufacturing careers, show engaging stories about how these careers can provide exciting and meaningful jobs, and offer activities that demonstrate and strengthen the skills needed to pursue these career paths.

Together, these programs will create a coordinated emphasis on advanced metals manufacturing careers from middle school through high school, pointing students toward post-secondary training for high-demand jobs.

PARTNERS

- Battelle for Kids
- Thinking Media
- Edge Factor
- Ohio STEM Learning Network, operated by Battelle Education
- DRMA – Dayton Region Manufacturers Association
- Fastlane MEP
- Various Ohio School Districts



ABOUT THE PROJECT

Learning Blade[®], a product of Thinking Media, introduces STEM technologies and career opportunities through an entertaining game-based format. In the web-based system, students pursue engaging missions that solve problems, like helping an injured dolphin or building an orphanage after an earthquake. From an earlier LIFT investment, a metals manufacturing mission, "Lightweight Aircraft," has been developed and implemented as part of the Learning Blade curriculum.

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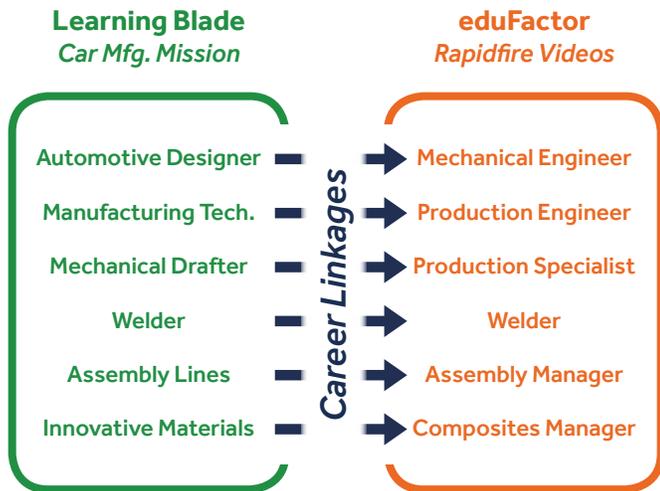
Middle School Engagement:

Students who complete selected units on manufacturing careers in Learning Blade will be directed to video resources and activities on the eduFACTOR platform that provide real-life examples of using these skills in exciting applications.

High School Engagement:

Schools will have access to a library of multimedia tools to inspire their students towards careers in manufacturing and CTE training and make learning concepts relevant in the context of a story. The platform provides teachers with 24/7 access to media, lesson plans, projects and presentations in an easy-to-understand online portal.

Here is an example of how these learning resources make a direct connection between middle and high school activities, using the Learning Blade Car Manufacturing mission and eduFactor's rapid fire videos.



DELIVERABLES

- eduFACTOR will be implemented in up to 50 high schools in Montgomery County, Ohio – including Dayton
- Learning Blade will be implemented in the feeder middle schools for the selected high schools
- Professional development will be available to all participating schools
- Informational sessions will be held to highlight the project in the involved communities

ALIGNMENT TO STRATEGIC FOCUS AREAS



Attracting students and workers to educational pathways and careers in manufacturing



Ensuring students gain STEM foundational skills for success in manufacturing careers



Linking and leveraging resources and related initiatives on the ground today