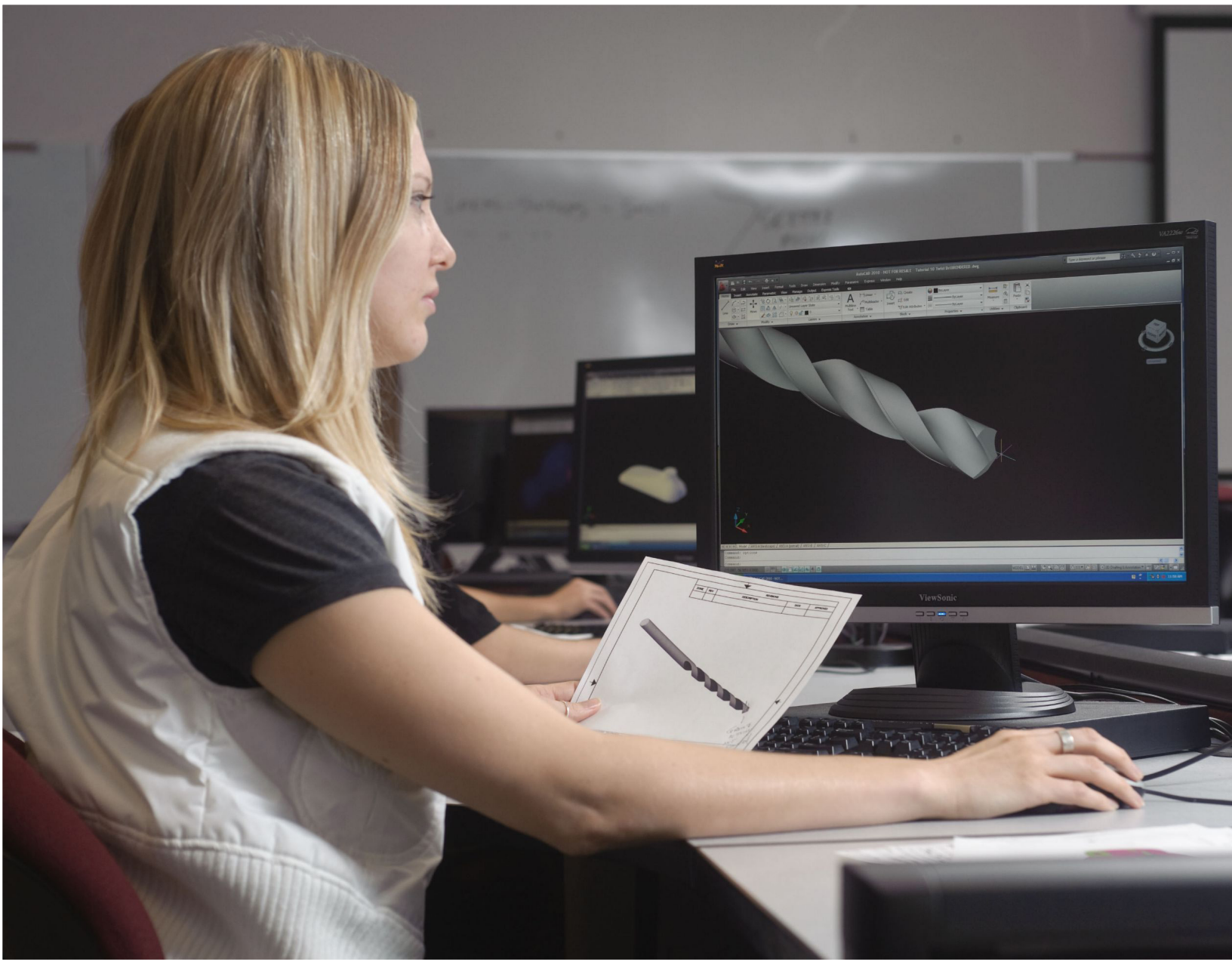
SouthWorks

MakerLab Network


ViewSonic

Dear Supporter:

Do these headlines sound all too familiar to you?

- *STEM Education Results Lag…*
- *Unemployment in Region Remains Stubbornly High…*
- *Manufacturers Overwhelmed By Retiring Baby Boomers…*
- *Middle class jobs are disappearing….*
- *Illinois loses another company to Indiana…*

We want to change these narratives about the Southland. Would you be interested in an opportunity that improves STEM results, bolsters our manufacturers, builds a stronger middle class, and strengthens our region?

SMHEC, a twenty-three year-old consortium of twelve colleges and universities in the region, and our community partners are building a network of MakerLabs on our campuses and in our communities.

What is a MakerLab?
Some describe it as the modern-day shop class, but it's more than that. It is a space filled with modern and traditional tools that allow users to make just about anything. Tools are easily accessible even to middle schoolers, yet powerful enough to build industrial prototypes. In addition to the tools, MakerLabs support the collaborative ethos of the burgeoning Maker Movement.

What happens in a MakerLab?
Students master STEM subjects through hands-on learning and building. Many "find" themselves as "makers", continuing on to engineering and manufacturing careers. Others invent. All develop the critical thinking, problem-solving, and persistence that hands-on, learning-by-doing provides and leads to success in the real world.

MakerLabs provide local manufacturers with access to new tools that they may not have and talent that can help them solve problems they may not be able to surmount on their own.

Tinkerers, innovators and artisans develop viable businesses around the products they are able to prototype and test in the MakerLab.

Please take a few minutes to review this MakerLab brochure and discover additional benefits that MakerLabs will provide to students, residents, businesses, and our greater community.

To accomplish this mission, we need your help. Please contact us to discuss ways that your leadership, participation, financial contributions, used equipment, and mentoring will make a difference for our students, residents, and business community.

Sincerely,

SouthWorks MakerLab Network Committee

MakerLab Network for the Chicago Southland Region

These days the buzz word in manufacturing is MakerLabs. MakerLabs, also called MakerSpaces and FabLabs, are being touted as the latest innovation to assist in improving manufacturing capabilities. And MakerLabs are catching on in the higher education arena, too. The benefits for students who have access to this type of facility are huge: a MakerLab offers the ability to critically think, solve problems, and collaborate while making almost anything. For students, the possibilities are endless.

What is a MakerLab?

What exactly is a MakerLab? One way is to describe it as an open community lab which includes elements from machine shops, workshops, design studios, and collaborative spaces. MakerLabs encourage collaboration and innovation. These spaces are unique because, not only do lab users have access to tools, but they have access to each other's skills and knowledge. MakerLabs can be as small as 1200 square feet with minimal equipment, much of which would fit on a desktop. In this space, students, entrepreneurs, businesses, hobbyists, and artists design and collaborate, making physical objects and electronic products. With enormous possibilities to create life-changing technologies, MakerLabs are an ideal addition to college campuses and the communities they serve.

MakerLabs offer access to powerful tools and work spaces and the opportunity to connect and learn from others. Some have described MakerLabs as the next step in the industrial revolution. The movement has momentum because it is a combination of access, low-cost, and entrepreneurship.

We are inviting you to be part of this effort to bring MakerLabs to our area. Please take a few minutes to read this brochure and find out why we feel this new technology is crucial to the viability of the Chicago Southland and our ability to train a best-in-class-workforce, create strong employment opportunities for residents, and bring high-tech innovation to our local businesses.

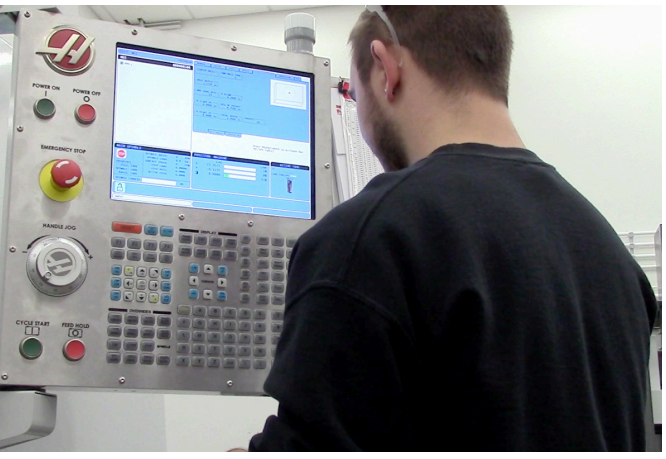
Why the Chicago Southland?

MakerLabs are popping up in various locations and with different sponsors, but none so far with any coordinated services or programs for the Chicago Southland region. Our region is one of the nation's largest manufacturing clusters, but our manufacturers struggle to find a sufficient number of suitable employees. Parts of our region have some of the highest unemployment and lowest household income levels in the country. In addition, many students avoid manufacturing careers or are steered away by parents or advisors because of the outdated perception that manufacturing jobs are dirty, strenuous, and mindless.

With the strong manufacturing base and a large number of higher education institutions in the Chicago Southland, MakerLabs would be an asset to our region. The development of MakerLabs promotes the manufacturing industry, which is a high priority for this region and nationally. The addition of something this high-tech sends a message to companies that we are serious about supporting manufacturing, and that we are serious about providing a trained workforce with up-to-date skills.

MakerLabs provide an opportunity to simultaneously support manufacturing and Science, Technology Engineering, and Math (STEM) education efforts in kindergarten through college. STEM student performance in this region, in all grades, lags state and national levels. Improved STEM performance would provide students with broader and stronger career opportunities.

The addition of MakerLabs also supports the Governor's and Illinois Department of Commerce and Economic Opportunity's (DCEO) plan to encourage regional partnerships, build the infrastructure for innovation, promote entrepreneurship, and focus more resources on the state's most distressed communities. MakerLabs are specifically cited in the DCEO plan as integral to leveraging growth in manufacturing - a high priority industry cluster. A MakerLab network in the Southland would not only stimulate the growth of manufacturing, but would support the economic growth of our communities in need.



Network Already in Place

Entities are already collaborating to develop a network of MakerLabs in the region.

The South Metropolitan Higher Education Consortium (SMHEC)

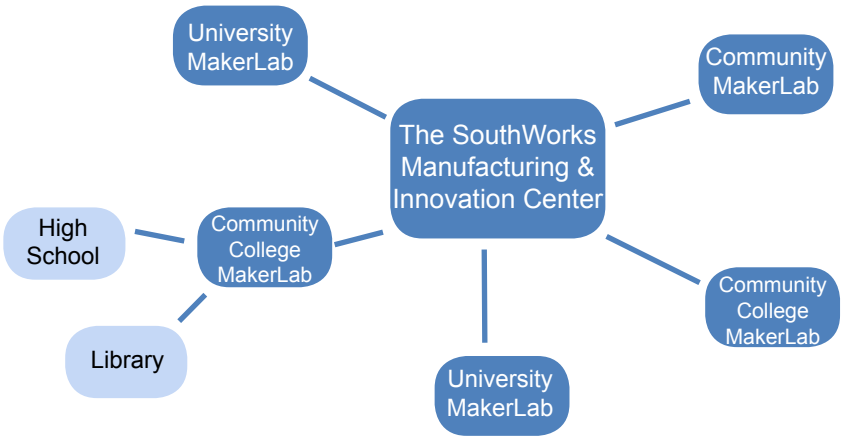
One advantage the Chicago Southland has is the existence of SMHEC – a collaboration of two-year and four-year higher education institutions with a proven track record of success.

The 22-year old group represents 12 of the Southland's higher education institutions which collectively are the second largest employer in the region. The five community colleges and seven universities are committed to regional development, particularly supporting the nationally vital local manufacturing and logistics industry clusters. SMHEC members have manufacturing training experience, assets, and academic programs.

Chicago Green Manufacturing Partnership (CGMP)

A joint venture between the Chicago Southland Economic Development Corporation (local economic development entity), OAI (a national non-profit workforce development organization), and local community colleges. CGMP sources, trains, and places students for jobs in computerized machine tool operations and programming (CNC machine technology), skills that will earn them credentials through the Manufacturing Skills Standard Council and the National Institute of Metalworking Skills.

These partners are proposing the development of a regional network of 10 MakerLabs created in a Hub and Spoke configuration. Each of the participating SMHEC member schools would develop a MakerLab (spoke) which would be connected to a centrally located Manufacturing Center (hub). Community and high school based MakerLabs are also a part of the network. The Manufacturing Center would complement and supplement the equipment, programming, and services available at each spoke.



Communities a MakerLab Network Serves

Existing Businesses

The MakerLab will provide the ability to rapid prototype and have access to tools and space they may not possess. In addition, they will be able to test new manufacturing processes the lab's equipment makes possible. Any business can use the MakerLab. Electronic component suppliers, for instance, may see the MakerLab as an opportunity to prototype end-products using their components.

Entrepreneurs

Both student and community entrepreneurs will benefit from the tools, space, and community to support their inventions. Other resources (incubator, etc.) to support the business issues of maker entrepreneurs will be provided through the network hub.

College Students

Community college technical students, university engineering, entrepreneurship, design and arts students will have the capacity to design and create using the advanced machinery and software in the labs.

High School and Middle School Students

Access to the MakerLab will provide enhanced STEM and arts opportunities, an updated view of manufacturing skills, and enhanced opportunities to practice critical thinking, visualization, and problem-solving skills.

Job Seekers/Existing Workers

Leveraging the technical training offered at partnering colleges through CGMP and other programs, job seekers and existing workers can hone skills and obtain certifications.

General Public

Labs may offer classes for those wishing to make a single item or interested in finding out whether Maker activities are for them. Groups from park districts, arts programs, Scouts, and seniors programs could be interested.

Artists/Crafters/Hobbyists

The traditional artisans and crafters can experiment with the tools and processes of the MakerLab. The lab does not replace their traditional work, but can augment and broaden their palettes.

The benefits of a MakerLab network include:

- Build a strong, relevant workforce for our region's manufacturers;
- Provide services to support local manufacturing;
- Attract new manufacturers to the region;
- Establish the image of manufacturing jobs as sophisticated, hi-tech and clean;
- Align workforce training to the needs of advanced manufacturers;
- Expand the number of students choosing STEM careers and provide them needed skills;
- Cultivate strong partnerships between employers and higher education;
- Provide a local connection to the critical National Network of Manufacturing Innovation in Chicago, Detroit, and Ohio which directly impact our region's industry clusters.

Consider joining us in this effort to bring a MakerLab network to the Chicago Southland.

For more information about MakerLabs in general or the SouthWorks MakerLab Network, go to: tinyurl.com/SouthWorks-MakerLabs