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# Manufacturing base key to growing state's forest products industry, experts say

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Workers at Connor Sports Flooring LLC produce wood flooring for basketball courts, tracks and other athletic applications. Mark Rudnicki, a professor at Michigan Technological University who also leads the Michigan Forest Biomaterials Institute, visited the Amasa-based company during a tour of wood products facilities in Northern Michigan.

*Courtesy Photo*

While many pieces still need to be assembled, Michigan's growing forest products industry remains on track to transform into a robust and sustainable market.

That's according to industry experts who say the sector's future expansion will depend on establishing a manufacturing base to produce new and innovative wood-based products, including paper and timber.

"We have more wood we can add to the market, but if we want to add jobs, we have to add manufacturing," said Mark Rudnicki, professor of practice in biomaterials at Houghton-based **Michigan Technological University**. "To do that, you have to have a product somebody wants and there's a lot of competition. You need innovation."

Rudnicki also leads the **Michigan Forest Biomaterials Institute**, a collection of academics, state officials and industry leaders that's helmed by Michigan Tech and **Michigan State University** with the aim of growing the state's forest products industry.

Rudnicki and the rest of the institute's members believe establishing an advanced forest materials manufacturing supply chain and attracting companies developing biomaterial technology are key to growing the state's forest products industry.

While the industry already provides a multitude of materials, international scientists are developing a range of related new products, including forest-derived carbon-fiber composites, plastics and chemicals.

"The bottom line is anything you can make out of oil — all the plastics, polymers and chemicals — you can make out of trees," Rudnicki said. "It's not a fossil resource. It's not a million-year-old resource, but a 50- or 80-year-old resource."

While countries in Europe and Canada have invested heavily in developing these biomaterials, the U.S. to date has largely lagged behind. The companies in the U.S. that do work in biomaterials focus more on the products generated from agriculture rather than the forest, according to Rudnicki.

"They haven't realized the forest is another significant source for the biomaterials market for these advanced materials," he said. "We're kind of behind, but that's the opportunity. That's why we're trying to get Michigan out in front. Right now, there are a lot of opportunities for these emerging markets and that's what the institute is really focused on — how we get Michigan to capitalize on these opportunities."

## MAKING PROGRESS

Michigan has already made strides in improving its forest products industry, according to a recent report by Michigan State University that shows the state surpassing the targets laid out by Gov. Snyder during a Forest Products Summit in 2013.

The three targets called for a \$20 billion increase in the industry's economic impact, a 10-percent increase in forestry jobs and a 50-percent increase in the export of "value-added" forestry products, as benchmarked to the industry's 2012 output.

The governor set a goal to achieve those targets by 2018 and called for the state to support the existing forest products industry, particularly by encouraging new “regionally based developments.”

Thus far, the state has surpassed two of its three goals. As of 2014 — the most recent year for which data are available — the forest products industry contributed to \$20.3 billion in economic impact. At the same time, employment in the industry grew by 12 percent from 34,204 jobs in 2012 to 38,291 jobs in 2014, according to the report.

Meanwhile, exports from the industry rose to \$505 million as of 2014, but are still \$221 million short of Snyder’s 2018 goal of \$726 million. The report cites a strong U.S. dollar as holding down exports of wood and paper products.

“When you look at (the data), things are in an upswing at least through 2014 and I believe things are still in a positive light,” said Larry Leefers, associate professor of forest economics and planning at Michigan State University, who authored the report.

Leefers points to Michigan’s sheer diversity of forest-based raw materials as an indicator the industry will continue to lure both innovative technology companies to the state and encourage existing firms to grow.

“When you look at the industry in Michigan, it’s very diverse,” Leefers said. “You have everything from paperboard products to carvings on the art end of things. ... I see this as a very positive thing.”

The diversity of available raw materials helped attract Atlanta-based **Arauco North America**, a manufacturer of plywood, pulp, lumber and other forest products, to invest \$325 million in a new particleboard mill in Grayling in 2015.

As the sector continues to grow, Michigan’s forest products industry has also climbed compared to other states. The state ranked 14th in the country for employment in 2014, an improvement over its rank of 18th two years prior, according to data from The U.S. Cluster Mapping project. The data excludes employment from the furniture manufacturing sector.

Gov. Snyder and his staff are in the early stages of organizing another Forest Products Summit to update its goals, according to a spokesperson.

## GROWING OPPORTUNITIES

Manufacturers, universities and the state plan to continue pushing Michigan’s forest materials industry forward.

Earlier this year, Holland-based **Haworth Inc.** partnered with Michigan Tech to develop 3-D printing technology that uses wood pulp instead of plastic resin to make components such as door handles, as *MiBiz* first reported. Haworth, along with other companies in the West Michigan Zero Waste to Landfill user group, invested \$30,000 with Michigan Tech for a more in-depth feasibility project, said Bill Gurn, manager of facilities maintenance at Haworth.

For its part, the Michigan Forest Biomaterials Institute is currently drumming up support to build a tall wood building, defined as being higher than 10 stories, most likely in Grand Rapids, Rudnicki said.

The organization hosted a meeting in early August to determine the viability and possible locations for the building, which would primarily be constructed from cross-laminated timber, an engineered wood product that can be used in place of concrete and steel. The building would still use steel and concrete in key structural areas and would have non-flammable skin over it.

Wooden buildings cost approximately 15 percent less than a traditionally-constructed structure, according to Rudnicki.

Establishing a tall wood building in Grand Rapids could spawn a manufacturing base primarily for the wood products needed in construction and could serve to catalyze further growth in the industry, Rudnicki said.

“We think Grand Rapids is probably the best city in Michigan and fertile ground for tall wood buildings to grow — and I think it’s a region that has a lot of manufacturing potential,” he said. “You have national forests, you have state forests in your region, so you have the resources as well.”

The Michigan Forest Biomaterials Institute plans to hold the Michigan Forest Bioeconomy Conference in February 2017 in Grand Rapids to bring together more industry groups, state officials and other stakeholders to discuss building a tall wood building as well as other innovations in biomaterial technology.

“It’s going to take collaboration to work together toward this goal from a lot of different sectors,” Rudnicki said. “It’s a sober assessment; this isn’t going to easy.”

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