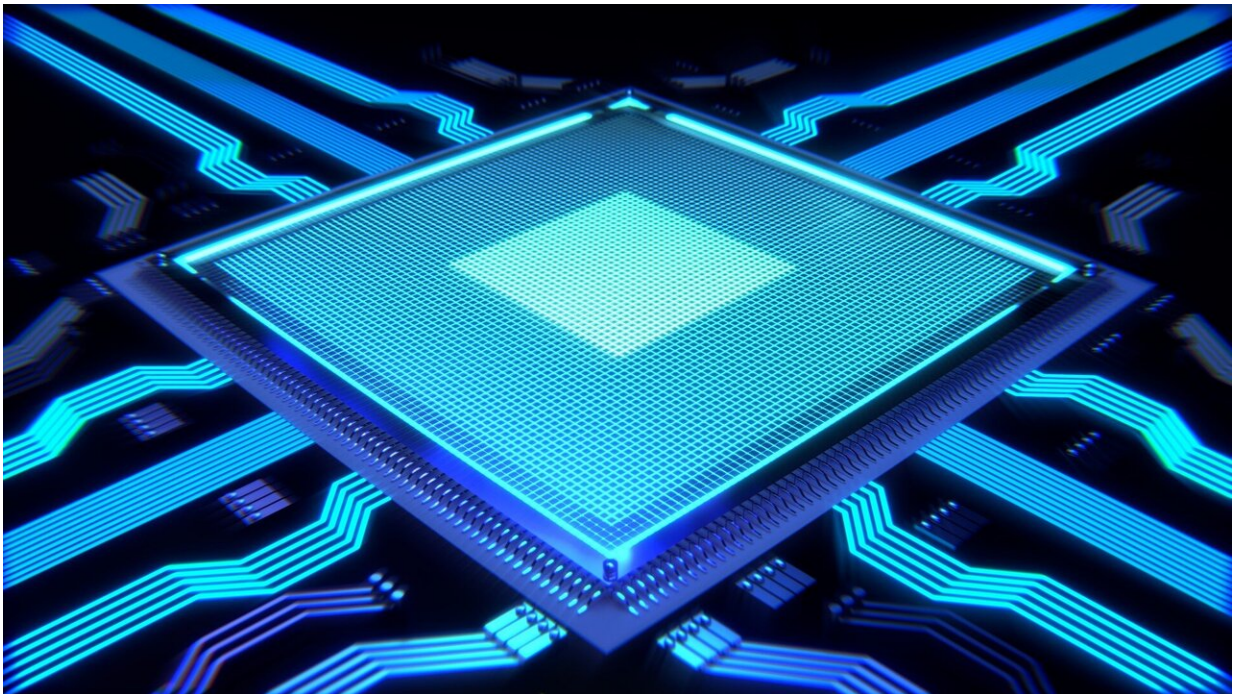


Minnesota's biggest semiconductor chip plant is getting even bigger

October 22 2019, by Evan Ramstad



Credit: CC0 Public Domain

SkyWater Technology Inc., the biggest maker of semiconductors in Minnesota, is adding a third clean room that will allow it to build smaller chips and ones designed for outer space.

Construction just started at the factory in Bloomington, just a few blocks from the Mall of America, on the addition. "It's exciting to be putting

shovels in the ground," Tom Sonderman, SkyWater's chief executive, said Monday.

The room will stretch along what is now the front of SkyWater's factory. It's about four stories, though about half is a complex underground system for air flow that keeps the manufacturing level free of even microscopic dust.

The Department of Defense has agreed to grant \$170 million with SkyWater to help pay for much the expansion, chiefly because the military wants to boost the production of radiation-hardened chips, known as rad-hard. They are used in harsh operating environments such as [outer space](#) where radiation makes ordinary chips ineffective.

When the new room is built and operating, SkyWater expects to add 30 to 50 permanent jobs at the plant, which now employs about 500.

The addition is the first physical expansion at the [company](#) since 1995, when a second clean room was built that doubled the size of the plant that was originally built in the early 1980s. New tools and equipment have been installed several times since then to upgrade the factory.

SkyWater, formed in 2017 by the Minneapolis investment firm Oxbow Industries LLC, bought the plant from Cypress Semiconductor and has since undertaken several initiatives to diversify its output and advance its technological capabilities. The company last year formed a research project on 3-D chips with the Defense Department's research agency, called DARPA, and the Massachusetts Institute of Technology.

With the new clean room, SkyWater will for the first time be able to build chips that use copper interconnects, a material that is more useful for chips that are smaller and pack more circuits. That capability should also appeal to the [chip](#) designers and manufacturer that use SkyWater as

a contract builder.

"There are other commercial companies that are also working with us to expand this footprint," Sonderman said.

SkyWater has been constrained at making chips with circuits that are 90 nanometers apart, a relatively sizable gap compared to the industry's cutting-edge manufacturing at 10 nanometers or so, in its current clean rooms. With the new clean room and copper interconnects, SkyWater will initially be able to make chips at the 65 nanometer level.

The company is also planning its first production of rad-hard chips, which have been produced in the past by a relatively small number of manufacturers and mainly for satellites and space vehicles. The creation of the Space Force, Sonderman said, is one reason the military is looking to boost the supply of rad-hard chips. "There's a lot of interest in putting more electronics into [space](#)," he said.

©2019 Star Tribune (Minneapolis)

Distributed by Tribune Content Agency, LLC.

Citation: Minnesota's biggest semiconductor chip plant is getting even bigger (2019, October 22) retrieved 27 April 2024 from

<https://techxplore.com/news/2019-10-minnesota-biggest-semiconductor-chip-bigger.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--