

# Hospitals need more masks for coronavirus; this high school is making thousands

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Image 1. CTEC Director Jon Delano models a 3D printed face shield while standing in front of 3D printers at Career Technical Education Charter High School in Fresno, California, on April 8, 2020. Due to the coronavirus and the drain of much-needed personal protective equipment, CTEC staff have decided to put their army of 3-D printers to work and provide face shields as needed. Photo: Craig Kohlruss/Fresno Bee/TNS

Fresno, California-area high school students are helping fight the coronavirus. The students are making much-needed medical supplies for doctors and nurses.

Career Technical Education Charter High School, or CTEC, in Fresno, has nine 3D printers. The school is using the printers to make face shields for health care workers on the front lines, said Jonathan Delano. He runs CTEC.

In most cases, the new coronavirus causes mild symptoms. People might get a cough or fever. For some, such as the elderly or those with existing health conditions, the disease can be more serious.

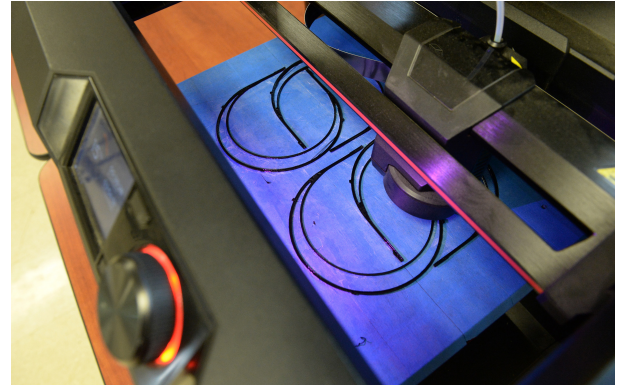
**Hard To Find**

Face masks have been particularly challenging to find in the United States since the outbreak began. Gavin Newsom is the governor of California. He recently announced that the state is set to spend \$1 billion to purchase 200 million masks each month to boost its supply.

The design of the masks has been shared with other communities in the state's hardest-hit cities, including Los Angeles. Some of the key designers who helped slash production time are teenagers.

### **Teachers And Teens Tweak Design**

Valerie Castro is a CTEC sophomore. She is part of a team of teachers and students who came up with the design tweaks. The changes shaved almost 30 minutes off the time it takes to build a face shield.



"That's what really makes this school kind of different," she said. "It's not just teachers doing everything."

Teachers have played a critical role, leading the charge. Several students have also added important contributions.

"Even though all these bad things are happening, we're able to make an impact in a positive way," Castro said. "It's like leaving your little mark on the world."

Makerbot is a New York-based company that makes 3D printers. It has also helped CTEC with the building process.

The school has been churning out nearly 100 shields each day. Twenty more 3D printers will come online at the school soon. Then, CTEC will be able to make three times as many shields.

"Some schools have one or two (3D printers)," Delano said. "We are unique for how many we have running in our space. That's what we focus on."

### **Supplying Area Health Care Workers**

CTEC staff and students are providing masks to health care workers in Fresno County and surrounding areas. Recipients include Valley Children's Hospital and Community Medical Regional Center.

"I was shocked," Stacy S. Vohra told school staff in a video. Vohra runs an emergency medical department. "We were so thrilled to have the donation from CTEC. This is something that we've been needing."

The entire staff has been rotating going to the school. They work to produce the face shields every day, Delano said.

When the new 3D printers arrive, some of them will go to students' houses. Then kids can help with the hands-on process, Delano said.

"That's how we get through these things," Delano said. "Our high school focuses on giving back to the community. Students should know the skills they have can impact a community."