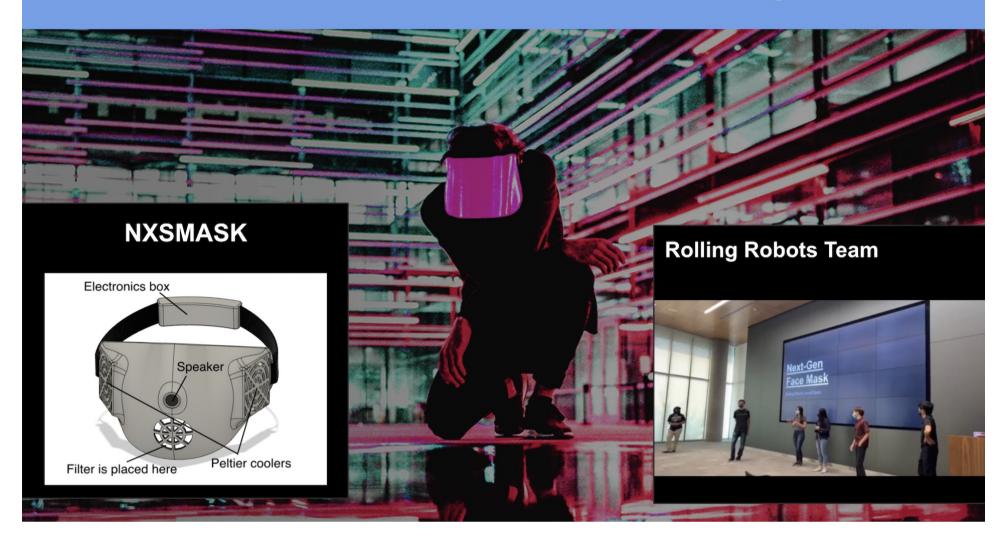# XPRIZE Next Gen Mask Challenge

XPrize Next Gen Mask Challenge Top 25

Student Achievements   Oct 01, 2020

Rolling Robots students frequently tackle engineering challenges that are interesting and cutting-edge. In late September, a team of young inventors added "important" to that list, when its design for an improved face mask was selected to compete for a $1 million prize—and a chance to bring their invention to life.

Team Rolling Robots was among the 25 teams selected to move into the second round of the XPRIZE Next-Gen Mask Challenge. This challenge asks young adults to "reimagine protective face masks used to stop the spread of COVID-19 by making them more comfortable, functional, accessible, and even stylish." XPRIZE—a nonprofit organization that runs competitions designed to improve the world through technology—required its teams to achieve the same filtration as a surgical mask, but overcome the top five barriers to mask-wearing, as determined by a consumer survey.

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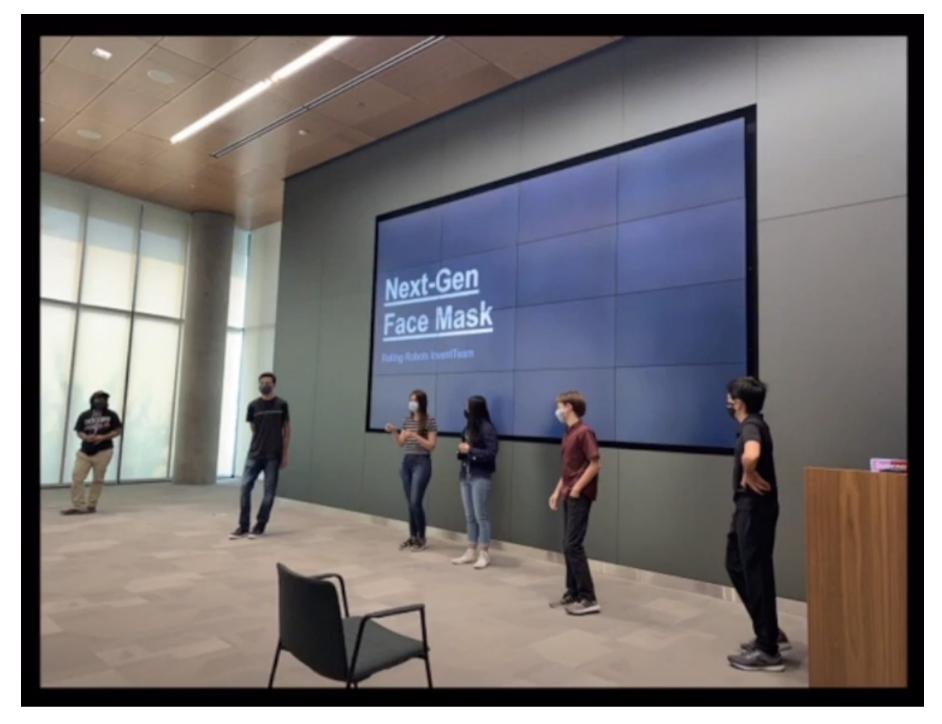
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to balance those features with the need to hold down the mask's weight.

In the end, the team came up with a design that addresses several problems: heat, glasses fog, comfort, ease of conversation, and even looks. Their mask design—brought to life by team member Eli using computer-assisted design software—includes a Peltier cooler on each cheek; a silicone lining for comfort and to prevent contamination from escaping or entering; a space for a disposable filter; a flexible plastic outer layer that can be drawn or painted on; and a microphone and speaker connected to Bluetooth, which communicates with the wearer's smartphone to transcribe the speech into text. In this way, their design also accommodates Deaf and hard of hearing people.

Presentation at UCLA

The team presented their ideas to the Infectious Disease Laboratory at the Lundquist Institute. This young team made a professional presentation and gained valuable feedback on their design. The team also had the chance to tour the facility and hear the history of infectious disease research at the institute.

Team member Victoria created an animated video showcasing all the design choices and features. Combining this with the materials form the UCLA presentation the team had their video submission for the challenge.

RollingRobots_Next-Gen Mask Video Submission

Team member Matthew is particularly proud of the coolers—which double as heaters, a consideration that may be important as winter approaches.

"They're incredibly lightweight, very cheap," says Matthew. "If you want them to heat, you just put electricity in. If you want them to cool, you just reverse the current."

Working Toward Round Two

Being selected to continue in the XPRIZE competition means the Rolling Robots team will need to dive in to the specifics: which parts they're using and how to solve certain problems that they didn't need to address during the first round. They'll also get to 3D print one or more prototypes.

Best of all, they will get access to help from an array of XPRIZE's corporate partners, who have promised materials and guidance to the 25 selected teams.

"I think one cool aspect would be that we're actually going to be able to use these Lydall filters, which are usually just reserved for frontline workers," says Annie. "So we'll get to see how compatible they are."

All of this is happening on a short timeline—there's a month between the announcement of the first-round picks on September 23 and the announcement of the semifinalists on October 23. But these are seasoned inventors and competitors—and with a $1 million prize, plus the chance to make and market their prototype, they've got plenty of incentive. Watch this space!

For more information and to support the team visit our GoFundme page

Example Embed

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