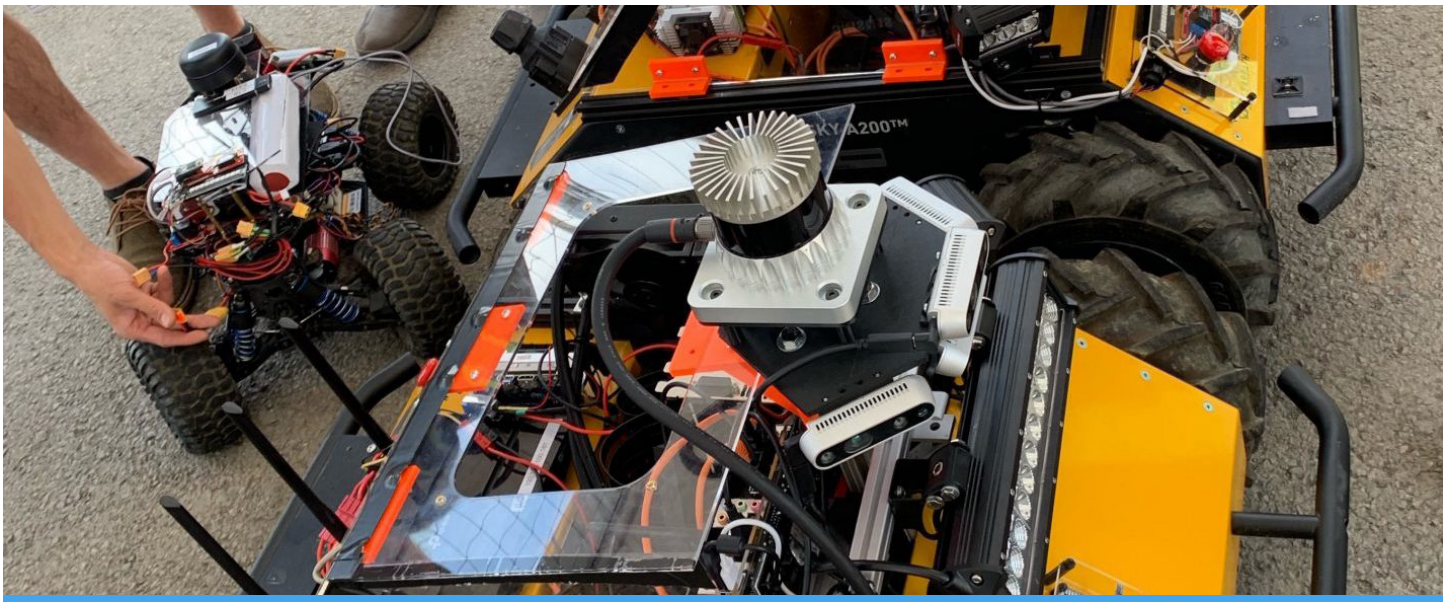
Robots Competing in the DARPA subT Challenge with CU Denver and Doodle Labs Technologies



CU Denver engineers design portable, high-bandwidth wireless network for robots with hardware assist from Doodle Labs

The dark, cavernous depths of an old Pittsburgh mine will test the performance of autonomous robot drones and the engineering prowess of their creators at the DARPA Subterranean Challenge Tunnel Circuit event, underway Aug. 15-22.

For the challenge, DARPA's stated objective is to "find novel approaches to rapidly map, navigate, and search underground environments during time-sensitive combat operations or disaster response scenarios."

Underground tunnels are very difficult environments RF communication due to limited line-of-sight, sharp turns, narrow passages and airborne debris that can cause signal loss, reverberation and interference all affect performance.

So the interdisciplinary engineering teams from CU Denver and CU Boulder, jointly called MARBLE, who had won a $4.5 million grant from DARPA to prove their system design innovations turned to Doodle Labs and the mesh-enabled Smart Radio. The team at CU Denver found that the Smart Radio met all of their requirements:

- As small as possible
- As powerful as possible
- Software compatible with the computer software and protocols used in robotics
- Multi-frequency capability

“In the testing we did, Doodle Labs outperformed the other radios we considered and achieved greater connectivity with fewer nodes,” said Chad Renick, a full-time graduate researcher on the CU Denver team.

Doodle Labs agreed to become a sponsor, which enabled the CU Denver engineers to build the cutting-edge, drone-portable, subterranean communication system they envisioned.

“We designed our radios to enable cutting edge IoT applications in challenging environments, like the system CU Denver designed for the DARPA SubT Challenge. This is the deepest and furthest underground network deployed exclusively with Doodle Labs hardware. We’ve been happy collaborating with CU Denver to see how the mesh network overcomes many of the communications challenge,” said Nimesh Parikh, CEO of Doodle Labs.

Related Article: “This portable, high-bandwidth wireless network works underground” (ZDNet)

Smart Radio

The Smart Radio is an advanced 2×2 MIMO mesh router designed for Industrial IoT applications.

The tiny module carries all the bi-directional, high-speed Broadband communications (Control, Telemetry and Payload) into a single RF channel.

Learn more at doodlelabs.com/smart-radio.

About Doodle Labs

Doodle Labs is a global leader in long-range broadband communication for Industrial Internet of Things applications. For almost 20 years, OEM manufacturers have relied on Doodle Labs for expertise in designing their wireless systems. Our products have been deployed by Fortune 100 companies in the most demanding environments on earth. Doodle Labs’ design philosophy is focused on achieving best-in-class performance while requiring minimal integration effort, thereby allowing customers to go to market faster with better performing products at a lower overall cost.