

A soldier's robotic response to Kandahar's deadly threat

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GLORIA GALLOWAY
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KANDAHAR, AFGHANISTAN — Simon Engler is a restless scientist whose desire for military action may ultimately save the lives of Canadians in Afghanistan.

Sapper Engler studied astrophysics and mathematics at St. Mary's University in Nova Scotia and computational physics in the University of Amsterdam prior to joining the military.

But "[I was] sitting behind a computer when there was a war going on. So I said, 'Hey, I will just join up for a few years and get to play soldier and maybe see war and come back,' " he said last week during an interview in the technology-filled crate on the Kandahar Air Field that serves as his part-time office.

Sapper Engler, a 31-year-old Calgary man, found himself driving with his fellow soldiers in armoured vehicles over the dusty roads of Kandahar, where every bump could trigger an explosive device. He also found that, while military life offered its share of excitement, he was bored when he was away from his computers for too long.



[Enlarge Image](#)

Sapper Simon Engler with the remote-controlled robot he built and named the Prairie Dog. (*Gloria Galloway/The Globe and Mail*)



Blessed with both smarts and a healthy sense of self preservation, Sapper Engler decided even before coming to the war zone, that he needed to make the trips less dangerous. He set out to create a robot that, when perfected, will be able to roll over the Afghan terrain and look for objects planted by the enemy.

"Every day that we go out, I have to get out of the vehicle and walk to an object and make sure it's not dangerous and then come back in," he explained.

"I thought, if we have something simple to go up and look for us, we don't have to get out of the vehicle and we can still assess the situation. So I came up with this design and built it over the past six months."

He calls his robot the Prairie Dog. It looks like a beat-up remote-control car on tractor wheels and is outfitted with two cameras that give it depth perception. It is small enough to fold into a backpack or to be easily stowed in a vehicle.

The United States has similar machines that are equipped with weapons and a whole range of cutting-edge tools. "But I am a [Canadian] trooper on the ground. I don't have one. We don't have this technology," Sapper Engler said.

When he told his military bosses about his ideas, they pointed out that there were similar projects still in the prototype phase. Some are basically remote-controlled cameras on wheels. Others, like the Prairie Dog, can think for themselves.

"So I said, 'Why don't I take everybody's robot into theatre and test them,' " Sapper Engler said. Now that's how he spends much of his down time.

"I foresee [the Prairie Dog] as a cheap multipurpose robot that is not just going to be able to go out and look. ... You are going to be able to put it on sentry duty and make it do multiple tasks for you," Sapper Engler said.

"Because it has a GPS, it can drive around the perimeter of the camp and check things out and if it sees something it doesn't like, it can e-mail someone and send a picture of it."

The testing of the Prairie Dog and the other remote-controlled bomb detectors has so far been confined to the airfield but Sapper Engler said he hopes to try them out on real Afghan terrain.

Once the military decides which model best suits its needs, it will be professionally manufactured and put into service.

"I felt that this has to be put forward," Sapper Engler said of the Prairie Dog. "It's really not that complicated, and I knew I was going over [to Kandahar] so I said I am going to do this. ... And the response so far has been very positive."

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