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Part-time space racers shoot for Lunar X Prize

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A group of ambitious Berlin-based, non-space professionals are shooting for the moon. Meet the youngest team competing to win Google's \$30-million Lunar X Prize for landing a robot on the moon with only their brains and private funding.

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Robert Böhme doesn't work as a scientist. He works as a programmer for the Federal Ministry of Education and Research. But between his full-time schedule and a 90-minute roundtrip work commute, he is trying very hard to get to the moon.

He's not alone in his quest. Forty-four others from as far afield as Austria, Portugal, Canada and the US have joined Böhme to form a Berlin-based group called the Part-Time Scientists. None of them work in the space industry, but in their spare free time, they hope to win the Google Lunar X-Prize — the reward for a privately funded space race that excludes participation from anyone affiliated with a government organization like NASA.

The challenge isn't a small one: Get a rover to the moon and drive it for 500 metres while streaming the images back to Earth in a high definition "Mooncast" by December 31, 2012. Winners take home \$30 million (€22.5 million).

But ringleader Böhme isn't star-gazing with dollar signs in his eyes.

"Ninety-nine percent of the motivation to do it is just to do. It's not the money. If you're putting this much time and effort into something like this for the money, you might as well be playing the lottery," he told The Local.

Youth and experience on their side

The Part-Time Scientists are not only the first Germany-based team to join the competition, but also the youngest among 20 other competing groups. While recent additions have brought the number up a bit, the average age for the group is still 29.

Böhme, a 24-year-old self-professed "earth-bound fraidy cat," doesn't see the group's youth as a disadvantage, though.

"You get to do things that you've never done before, learn completely new things and discover your own abilities," he said.

Most of the team are tinkering away on the project between studying for university exams, but their game took a mature turn in August 2009 when they managed to recruit two impressively experienced consultants to help them out. The two physicists once worked on the Apollo Space programme for NASA when the US space agency was racing to get Buzz Aldrin and Neil Armstrong to the moon in the 1960s.

One of the two senior members, 75-year-old Jack Crenshaw, consults with the team remotely from his Florida home. At the beginning of his career, Crenshaw worked on the trajectory team mapping flight paths for the Apollo rockets. He switched career paths in 1967, two years before the first manned lunar landing.

"I've been waiting forty years to get back to the moon," Crenshaw told The Local.

But despite four decades the only catching up he has to do involves computing power, he said. Otherwise, he's able to do more or less what he did for Apollo for the Part-Time Scientists.

"The moon is still the moon — it's where it always was. The rockets are still rockets and putting the two together is still the same," he said. "The technology has changed but the technique hasn't."

Crenshaw and another former Apollo teammate, Robert Tolson, are doing the same maths for the young German team as they did for the NASA team in the 60s. On their evenings and weekends, like their European counterparts, they're figuring out the best route to launch the rover, dubbed Asimov Jr., to the moon.

Crenshaw said he's not discouraged by the Part Time Scientists' lack of experience.

"They don't have a lot of experience in general, let alone in getting to the moon, but they are incredibly dedicated to this mission," Crenshaw said. "They don't know what they can't do, and it's working for them."

The private future of space technology

As the deadline draws closer the group is working on the software and hardware that will control their rover from earth. The rover itself is already in its second prototype phase.

"We could buy a rover, but that wouldn't be any fun," Böhme said of the challenge.

Lunar X Prize teams must be 90 percent privately funded, and the team has already collected 10 major sponsors. Aside from leading electronics company Texas Instruments, these are mainly small outfits that the team will allow to use their innovations in exchange for support, materials and production.

Böhme said he realises some groups might charge for this, but again, it's not about the money.

"We just want to show people what's possible. So many people feel like they don't have enough free time to accomplish anything and we want to show them otherwise," he said. "This is a chance you only get once."

Crenshaw said he believes that the project's push for privatization is the future for the moon.

"It's beginning to look like NASA is irrelevant and people are going to start looking to entrepreneurs like Richard Branson for lunar exploration," he said referring to the chairman of Virgin Galactic, which hopes to commercialize sub-orbital flights.

Meanwhile X Prize organisers hope that inspiring young teams like the Part-Time Scientists and their competitors will reignite the public's fascination with outer space.

"It's great to see this generation getting involved with space exploration," X Prize foundation team liaison Nicole Jordan said. "It really helps the industry think outside the box."

For Böhme, the moon – and the prize – are within the group's reach, and if they win, it will be just the beginning of the Part-Time Scientists, he said, explaining that they plan to spend part of the winnings on future projects together.

But the Part-Time Scientists aren't the only ones in the race. Böhme said their toughest competitors will be the Odyssey Moon team based on the Isle of Man, and ARCA, the Romanian team that also competed in the 2002 Ansari X Prize to put a reusable manned craft into suborbital flight twice within two weeks.

For Crenshaw, the team's only option is victory.

"I always knew I was meant to go back and finish the mission," he said.

External links:

- [Part Time Scientists homepage »](#)
- [Google Lunar X Prize »](#)

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Your comments about this article:

12:39 April 22, 2010 by [DepotCat](#)

Well if they can't get their craft into space I know a nice little quarry that could double for the moon :)
Seriously though, good luck to all of the teams involved.

