

## Press release

CYBATHLON 2020

# Moving people and technology

Zurich, 2 May 2019

On 2 and 3 May 2020 – exactly one year from now – the SWISS Arena will open its doors for the next edition of the Cybathlon. The competition is designed to put the latest robotic assistive technologies for people with physical disabilities through their paces. Teams from all over the world are starting their intensive preparations now, so that they will be able to compete in new, even more difficult challenges next year.

Bernhard Winter first conceived of a stair-climbing wheelchair five years ago as an ETH Bachelor's student, never dreaming that he would one day build a company around his student project. Today, a team of 10 employees at ETH spin-off Scewo is working on the first market-ready model and aims to start shipping at the end of 2019. The first Cybathlon – which ETH Zurich hosted in the city of Kloten in 2016 – did more than simply inspire young student inventors to work intensively on overcoming the day-to-day challenges facing people with disabilities. Established firms such as the Icelandic prosthesis company Össur also seized the opportunity to test their robotic aids in everyday situations and see how they measured up against other competitors, and will do so again this time around.

### **Preparations in full swing**

A peek behind the scenes reveals that the preparations for the second edition of Cybathlon have been in full swing for some time now. Two thirds of the 96 starting places have been filled even though the competition is still a year away, and the 66 teams hailing from 26 different nations are working hard to prepare themselves for the races. Around 70 percent of the teams are university based, with the other 30 percent consisting of private-sector companies and NGOs. One thing that all the teams have in common is that they comprise one person with a physical disability – the pilot – and a group of developers. All three main regions of Switzerland will be represented next year. Four teams affiliated with ETH Zurich are set to take part: the ETH spin-off [Scewo](#) in the motorised wheelchair race, the student project [Varileg enhanced](#) in cooperation with the Rapperswil university of applied sciences HSR in the

exoskeleton discipline, and two research projects in the leg prosthesis and mind-controlled virtual racing disciplines (the latter in collaboration with researchers at Nanyang Technological University in Singapore).

ETH President Joël Mesot is especially pleased that the event is already bringing together researchers and people with physical disabilities from all over the world: “One of ETH Zurich’s key objectives is to convert new findings and technologies into solutions that society can really use. The Cybathlon proves that breaking new ground pays off.” To ramp up the level of global exchange, ETH – together with other international academic institutions – is organising the [Cybathlon Series](#) to be held between the two Cybathlons. These races each revolve around a separate discipline, giving the teams the opportunity to test out the courses under competitive conditions. The Cybathlon Series will take place in Kawasaki (Japan), Karlsruhe (Germany) and Graz (Austria) from the beginning of May.

### Refined tasks

The high level of interest generated by the inaugural event means that the next competition will take place over two days on the weekend of 2/3 May 2020. The first day will consist of the qualification races, while the finals will take place on the second day. It is not just the organisational aspects of the event that have changed; the programme itself has been overhauled, too. “Our aim is to support technologies that are suitable for daily use and that people will actually want to use. That’s why it is essential that people with disabilities and developers are in constant dialogue,” states Roland Sigrist, competition director of Cybathlon.

For the arm prosthesis course, for example, the organisers have now included a challenge where the pilots have to slip a jacket on – even the most sophisticated prosthesis in the world wouldn’t be suitable for daily use if it was too large for the user to easily put on or take off a jacket. The arm prosthesis discipline will also include a new task where the pilots have to feel various objects. The aim is to promote the development of prostheses that provide sensory feedback. A new challenge for pilots in the leg prosthesis discipline is to balance additional objects on a tray while walking up a set of stairs. The idea here is to prevent participants from resting their weight on their natural leg – as was observed in a few cases during Cybathlon 2016. This will hopefully motivate designers to create leg prostheses that allow the wearer to adopt as symmetrical a gait as possible.

[www.cybathlon.com](http://www.cybathlon.com) →

### Further information

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### **CYBATHLON presenting partners**

Cyathlon is a non-profit project organised by ETH Zurich with generous support from various partners. Among the presenting partners for 2020 are maxon motor, EZ and Balgrist University Hospital, who have supported the event since its inception in 2016. ETH Zurich is pleased to welcome the Schulthess Clinic on board as a presenting partner for Cyathlon 2020.

An overview of all our partners and sponsors is available here: [our partners](#)