

## Press release

### Hyperloop: an innovative approach wins second place

Successful competition result for the Swissloop team – with help from Kistler

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**At first glance, the idea seems quite extraordinary: Elon Musk's Hyperloop, designed to transport people and goods at speeds of over 1,000 kilometers per hour. In the Hyperloop pod competition staged each year at Los Angeles, the Swissloop team came second out of 21 entrants – and Switzerland's representatives also won the Innovation Award. On board their pod: an S-Motion sensor from Kistler to measure speed and determine the vehicle's position.**

As well as building electric cars and taking off into space, Elon Musk is keen to develop an ultramodern transport concept. His Hyperloop project is designed to shoot people through an evacuated tube, along the same lines as a pneumatic dispatch system – but the Hyperloop aims for incredible speeds that were only possible in the air until now. Young engineers from all over the world take part in the annual Hyperloop pod competition, held for the third time in 2019. Among the competitors was Swissloop, the team from Switzerland – and, with support from Kistler, they finished in second place.

#### **New propulsion concept crowned with success**

The Swiss capsule (or "pod") is named "Claude Nicollier" after the nation's first astronaut. It is 3.27 m long, weighs about 200 kg and consists of over 1,400 individual parts, about ten percent of which are custom-made. On 21 July, the pod reached a speed of 252 kph on the 1.25-km track in Los Angeles, making it the second-fastest competitor (beaten only by the design from the Technical University of Munich, which achieved an awesome 463 km/h). "We're very happy with second place; we have a very good team, and we've learned a lot more this year. We intend to take up the challenge again next year," says Stefan Kaspar, Chief Operating Officer of the Swissloop team that includes students from the Swiss Federal Institute of Technology Zurich (ETH), the University of St. Gallen and the FHNW University of Applied Sciences and Arts Northwestern Switzerland.

Alongside their brilliant performance on the test track, the Swiss team proved their mastery of the technology: the concept for the linear induction motor that they designed themselves was already described by Elon Musk himself in a White Paper back in 2013 – but until now, the concept had never been realized in practice. It supplies propulsion force of 5.4 kN – enough to secure the

coveted SpaceX Innovation Award for Swissloop in this year's competition. To control the new linear motor, Swissloop uses an S-Motion sensor from Kistler that delivers high-precision speed measurements. This lightweight, compact sensor is extremely fast, with a delay of only 6 ms.

### Long-term cooperation is the goal

As well as loaning the sensor to Swissloop, Kistler supported the team with application advice and service. Dr. Denis Marschel, Divisional Marketing Manager at Kistler, explains: "We're very proud to be part of this great success, and we also want to support Swissloop in the future – primarily with technology and specialist advice in the stricter sense."

The Swissloop team has already come up with plenty of ideas for improvements in 2020. Preparations for the new competition will get under way by fall at the latest, with a new female team captain and – of course – abundant supplies of enthusiasm and expertise. Kistler will also be helping to write a new chapter of the success story. As Marschel points out: "We're looking forward to continuing our collaboration with the team, and we already want to wish them every success!"

### Image material (please name the Kistler Group as picture source)



The Swissloop team from Switzerland won second place at the Hyperloop pod competition in Los Angeles – with support from Kistler.



The lightweight, compact S-Motion sensor from Kistler measures speed with high precision and minimal delay.



"Claude Nicollier", the Swissloop pod powered by a linear motor, ultimately achieved a speed of 262 kph.

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#### About the Kistler Group

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