**Automated COVID testing with collaborative robotics**

**item Line X used for frame structure of  
SR-NOCS swab robot**

**For even safer and more reliable PCR tests, Munich-based** [**Franka Emika GmbH**](https://www.franka.de/) **has developed the world’s first robotic coronavirus test station, which takes nasal and throat swabs autonomously as part of rapid COVID testing. Line X from the item MB Building Kit System is used in the frame structure and forms an integral part of the test station.**

At the heart of the test station is the SR-NOCS (Swab Robot for Naso- and Oropharyngeal COVID-19 Screening) swab robot. It was developed by Franka Emika GmbH, one of the technological leaders in the field of intelligent robotic assistants, and autonomously takes nasal and throat swabs for rapid testing. Not only do the tests performed by the robot reduce the risk of infection – its precision, ability to work continuously and intuitive operation also take a great deal of strain off medical personnel.

Franka is using Line X from the item MB Building Kit System for the robotic coronavirus test station’s frame structure. The material Profiles X are made from and their unbroken surface mean they are ideal for applications that demand high hygiene standards and are perfect for clean-room solutions.

**Safe and effective in practice**

The SR-NOCS is in a completely sealed enclosure, with two panes of plexiglass separating it from the patient. The front pane has an inlet port that can be changed after every test and through which the robot secures a plastic attachment. A human member of staff on the other side of the enclosure provides the swab for the test, which the SR-NOCS then pushes through the plastic attachment. The patient initiates the nasal and throat swab using a foot pedal. The robot has a sense of touch that is not only astonishingly similar to that of a human, but actually superior. Signals can be interpreted and activities learned thanks to a type of artificial brain. The collaborative robot is therefore able to operate extremely delicately.

After conducting the coronavirus test, the robot replaces the attachment and dips the fingers of its gripping arm into an ultrasonic bath for disinfection. This contactless form of coronavirus testing, where the robot acts as an intermediary between the patient and the staff member, virtually eliminates the risk of infection. At the same time, the standardised procedure ensures consistent quality without any potential deviations in the test. The patient can also interrupt the process or repeat it at any time.

**Length:** 2,426

**Date:** 28 July 2021

**Photos:** 3 (source: Franka Emika GmbH)

**Caption 1:** The SR-NOCS pushes the swab for the test through the plastic attachment. The robot has a sense of touch and operates extremely delicately.

**Caption 2:** The SR-NOCS is in a completely sealed enclosure, with two panes of plexiglass separating it from the patient. On the other side of the enclosure is a human member of staff.

**Caption 3:** The material Profiles X are made from and their unbroken surface mean they are ideal for applications that demand high hygiene standards and are perfect for clean-room solutions.

**About item**

item Industrietechnik GmbH is the pioneer in building kit systems for industrial applications and a partner of the manufacturing industry across the entire globe. Today, the item product portfolio comprises more than 4,000 high-quality components designed for use in machine bases, work benches, automation solutions and lean production applications. The company has received a string of awards for products with ground-breaking industrial design and end-to-end ergonomics.

item is spearheading digital engineering by driving forward the digitalisation of processes with software tools developed in-house. The item Academy offers training at various levels with on-demand training and online courses available in multiple languages.

Headquartered in Solingen, Germany, item has subsidiaries in various countries. Some 900 employees worldwide harness their know-how and passion to develop innovative solutions and services. Eleven sites make sure the company is always close to customers in Germany, with a global logistics chain ensuring swift delivery times for all components.

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