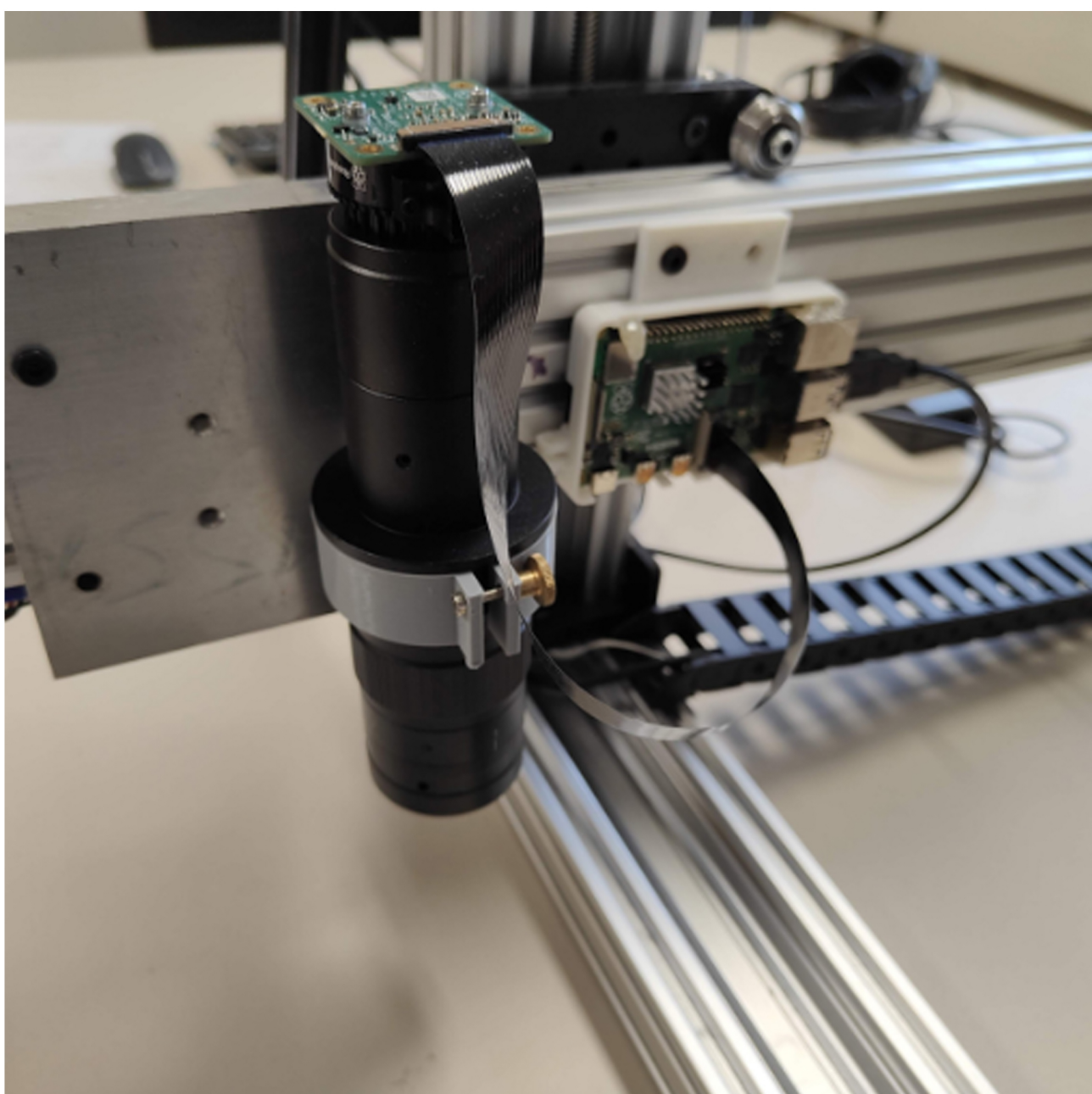# IdeaSquare
The innovation space at CERN

Affordable and customizable remote-controlled microscope

Digital microscopes are often a useful tool to have in a laboratory.

However, commercially available microscopes are usually either cheap and low quality, or extremely expensive.
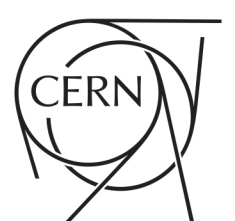
The present prototype was designed to provide a middle ground, offering a remotely controlled microscope of decent quality, at a price well below 500 CHF.

A custom board, hosts the drivers and the microcontroller that controls the movement (up to 4 axis). A Raspberry Pi high quality camera, readout using a Raspberry Pi 4 hosts the web interface and takes care of the image processing.

The camera is compatible with c-mount lenses, so proper optics can be selected depending on the application.

Using the software API, it is also possible to program the microscope to take a sequence of pictures that can then be assembled into a high resolution picture.

Nicola Minafra

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