

Keihanna Laboratory

1. Keihanna Laboratory

We established the Keihanna Laboratory in Keihanna Open Innovation Center (KICK) in April 1, 2021. The laboratory, having the space of 30 m² in quiet environment, is conducting the development of the non-destructive inner surface inspector and others.



Laboratory



KICK

2. Development themes in Keihanna Laboratory

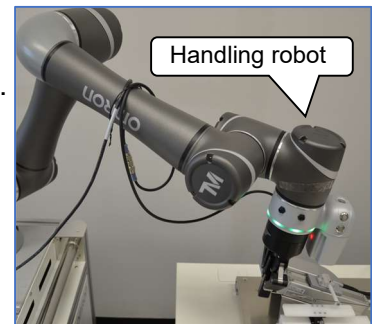
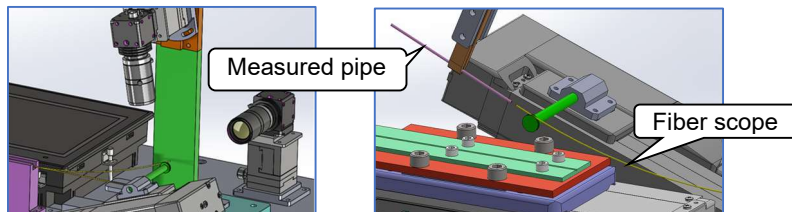
In Keihanna Laboratory, five development themes are carried for supporting the manufacturing of high quality small-diameter pipes in FUTA-Q as follows.

- A. Speeding up and automating technology for measuring of the inner-surface roughness of pipe
- B. Cleaning technology for the inner surface of a pip
- C. Automatic handling technology for pipe products
- D. Identification technology for pipe products
- E. Automatic recognition technology for foreign objects in a small pipe
- F. The integration system and IoT system for the whole technologies mentioned above

The followings introduce C and D.

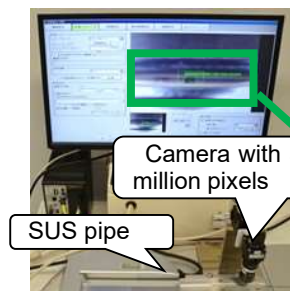
C. Automatic handling technology for pipe products

Fully automatic system, using cameras and a robot hand, for inserting a fiber scope into a small pipe is under development.



D. Identification technology for small pipe products

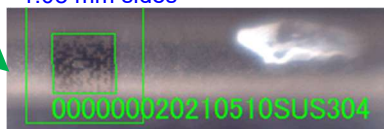
Identification of each small pipe is crucial for product traceability. We are evaluating the use of a rectangle Data Matrix for a SUS pipe with 1.61 mm in OD.



Camera with 5 million pixels

SUS pipe

15G size (1.81 mm in OD)
Recognition area: a square with 1.08 mm sides



16G size (1.61 mm in OD)
Recognition area: a rectangle square 1.56 by 0.72 mmf



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