

OBACHT – Optical Bench for Automated Cavity Inspection with High Resolution on Short Time Scales

... and OBACHT = “Attention!” (in german)

Felix Schlander
for FLA-ILC @ DESY
TTC Meeting, Dec 6, 2011

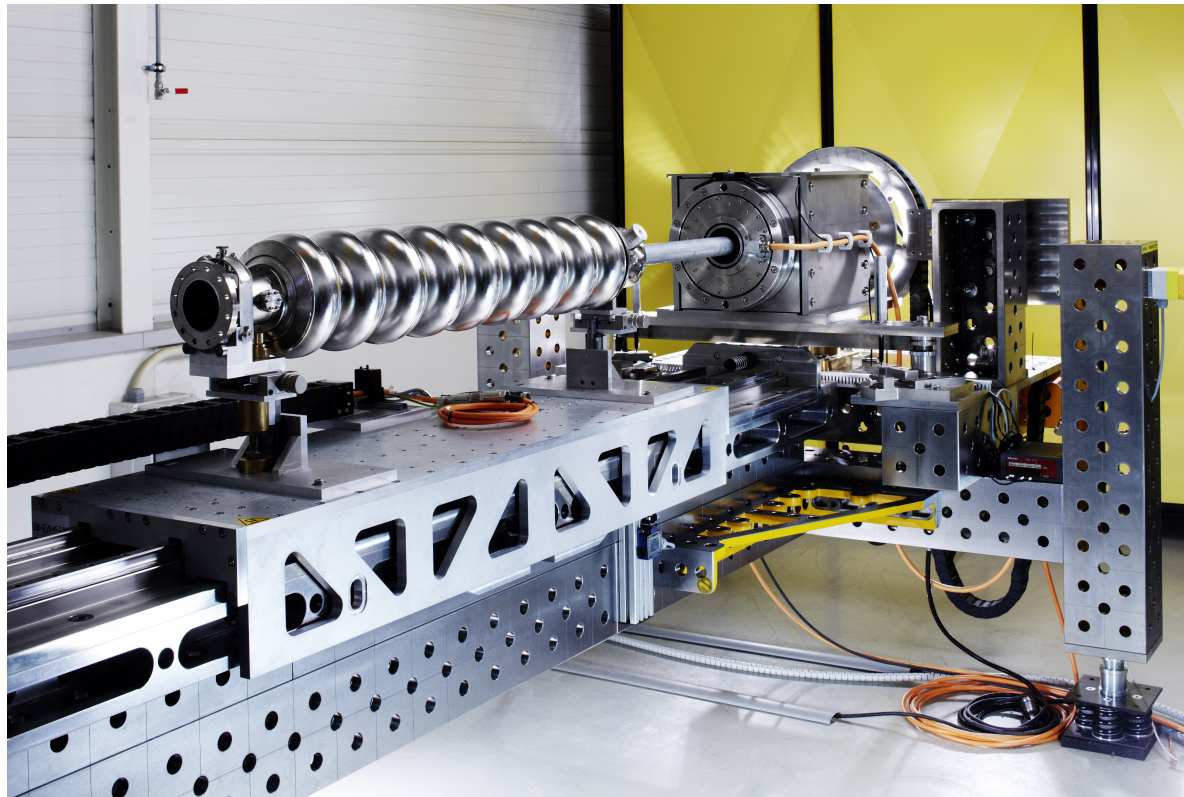
Motivation

- Need to inspect a large amount of cavities: ILC-HiGrade, (European XFEL)
- Full cavity inspection with Kyoto Camera System yields ~1200 pictures
- Manual full inspection took about 2 days before OBACHT at DESY
- Reinspection after performance test or retreatment takes additional time

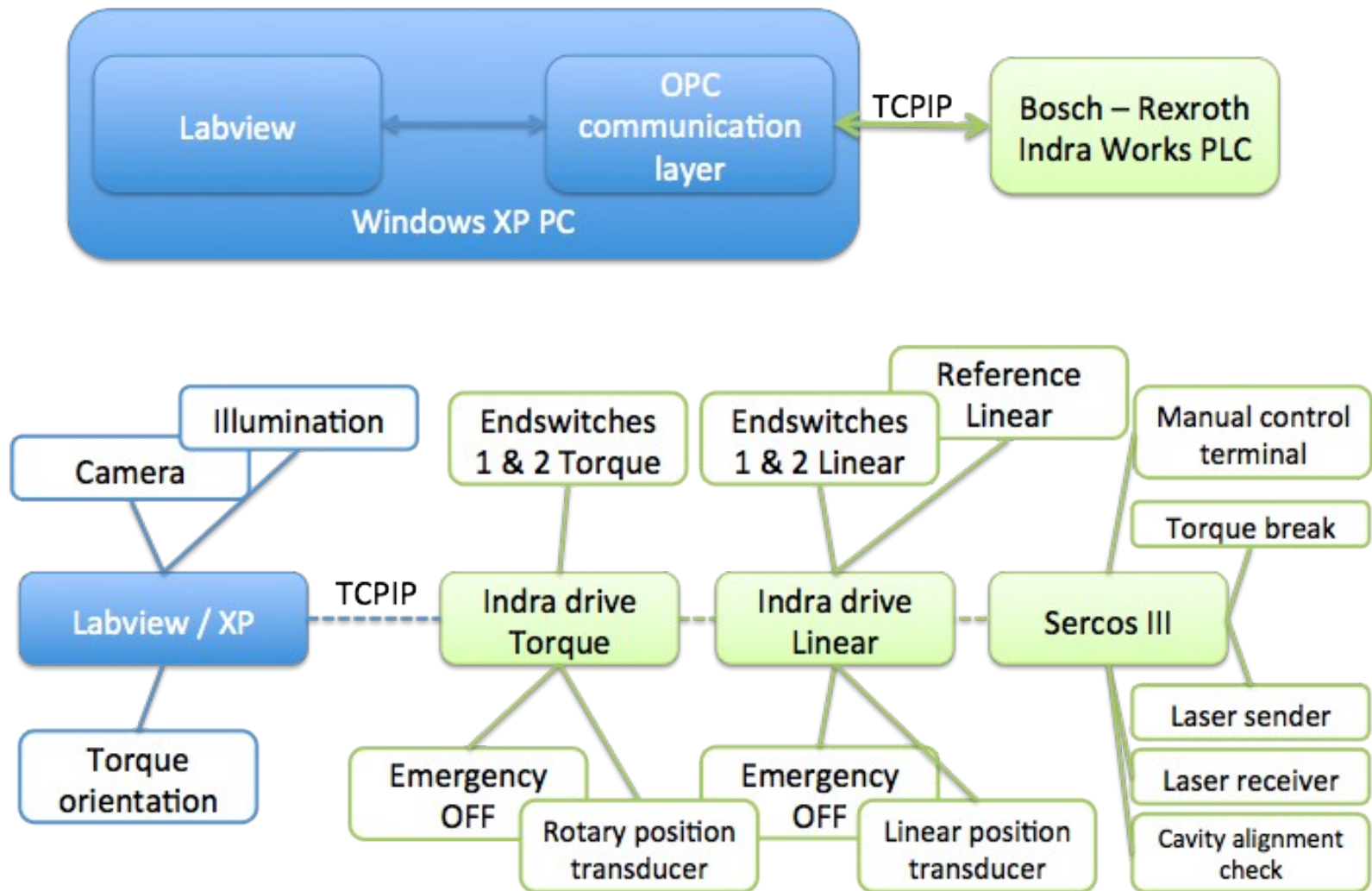


Features

- No movement of the cavity itself (sled and Kyoto camera movable)
- Collision free movements assured by optical test
- Movement of camera and recording of image fully automatic



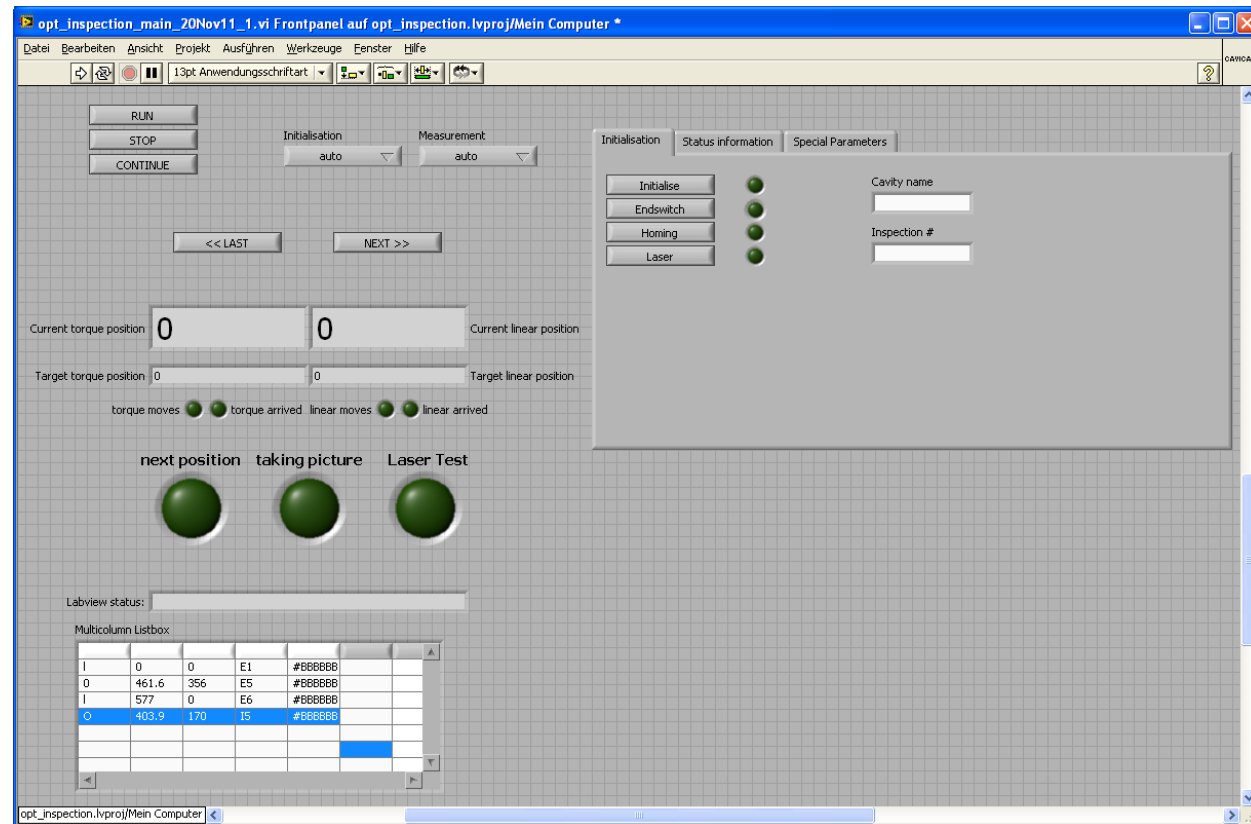
Communication structure



Courtesy of: Sven Karstensen

Graphical User Interface (Expert Panel)

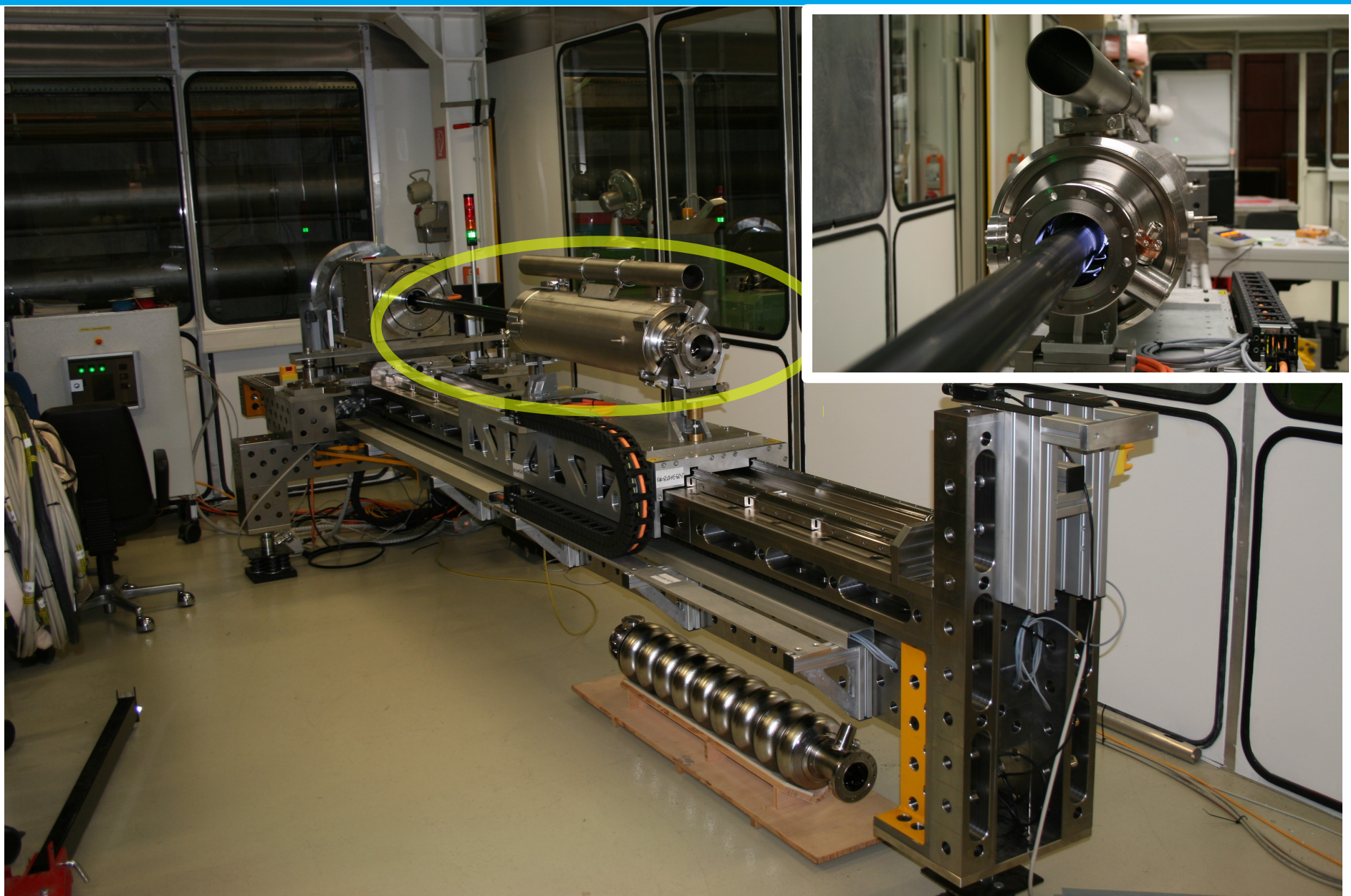
- Two modes of operation: fully automated, step by step
- Table with locations, illumination and safety requirements is provided in a flat file (ASCII) steers the automat
- System parameters available in frontend



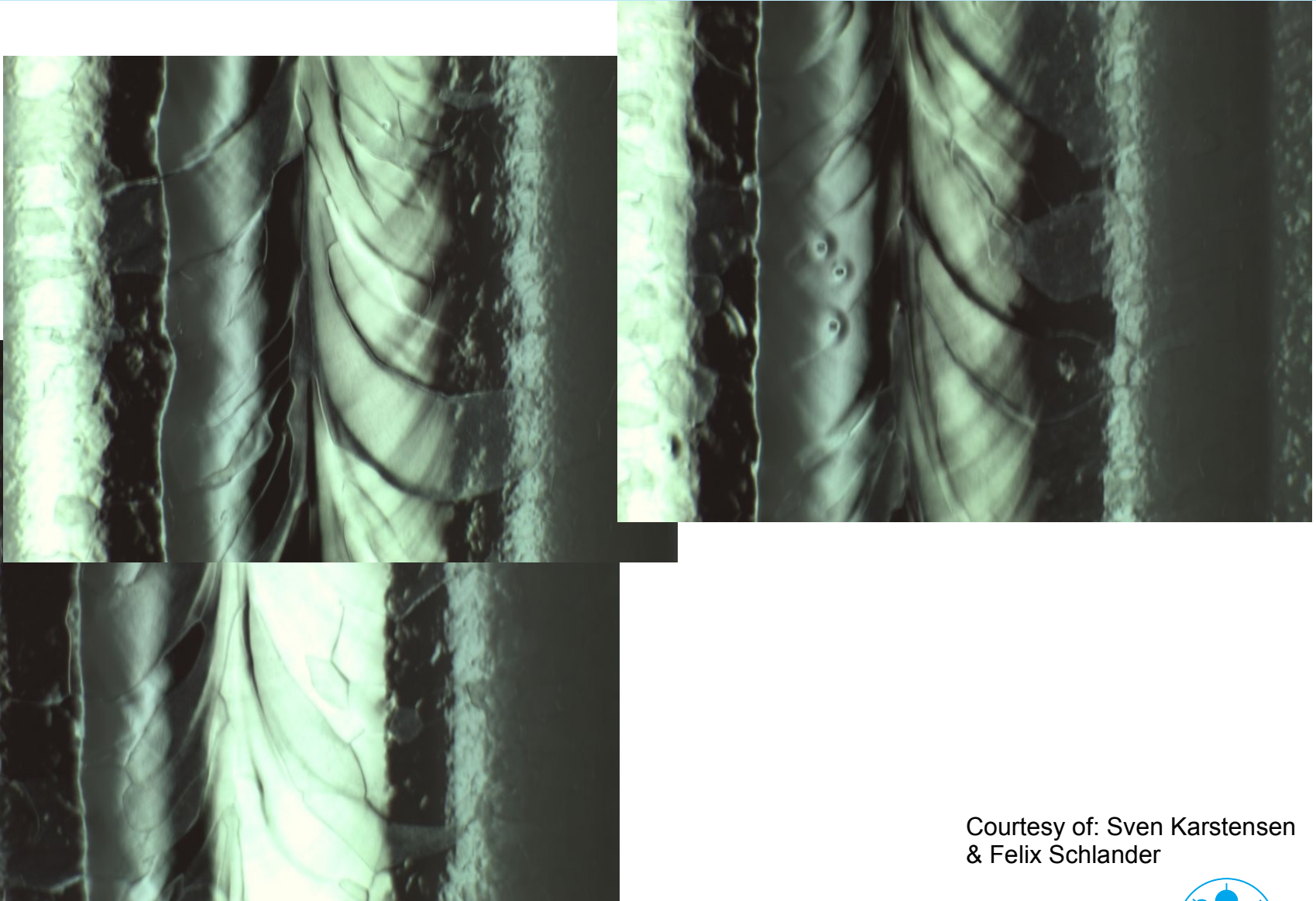
Courtesy of: Felix Schlander



Inspection of dressed cavities possible...



... and it works!



Courtesy of: Sven Karstensen
& Felix Schlander

- OBACHT soon to be released for automatic inspection of cavity surfaces
 - Allows for automatic and manual mode
 - GUI to be optimized after field test with operators
 - Time per cavity: about 2 hrs in half-automatic mode

- Commissioning and first successful test of automated image processing and object characterisation

Acknowledgements

Thank you for your attention

The team:

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assembly of OBACHT

