

Development of the PLC software for the Personnel Access System for FAIR (PAS)

- Start of collaboration was Q2/2020
- Goal: delivery of a prototype safety program version for PAS prototype until Q4/2021
- SW developed by CERN, successfully integrated in the prototype HW system in CW44-45
- Test of safety programs incl. the interaction between the 3 PLCs (BOG, NE, AAD) in CW46 (last week)
- Goal has been reached : tests at GSI took place and were very successful.
- Open issues:
 - Minor points to be finalised
- Ongoing:
 - Documentation to be finalised

CERN / IND PAS collaboration

Next steps of the present PAS collaboration:

- Solution of some open issues
- Development of SW for BOG19 (special feature that includes comparison of magnet currents)
- Adaptation of the SW to the requirements of the series
- Merge with the non-safety program part (biometry and QR code scanners, DB check)
- ...

Current next steps for the PAS

- SW verification and validation with formalized methods (PLCverif, simulators (tbd))
- Proof of functionality through GSI radiation protection department
- Test of all real PAS NE area and BOG configurations via simulation and as far as possible at the GSI prototype facility
- Start development of non-safe SW and the visualization concept (local HMI and PAS SCADA visualization)
- Definition of the FSM (Functional Safety Management) and safety lifecycle management incl. documentation

Ideas for future PAS collaboration

Proposals for PAS collaboration with CERN are:

- SW verification and validation with PLCverif (support from Enrique BLANCO VINUELA BE-ICS-CE?)
- Concept for safety life cycle management (with consultancy from Enrique BLANCO VINUELA BE-ICS-CE?)

Additional proposal are expected to be defined during the next year

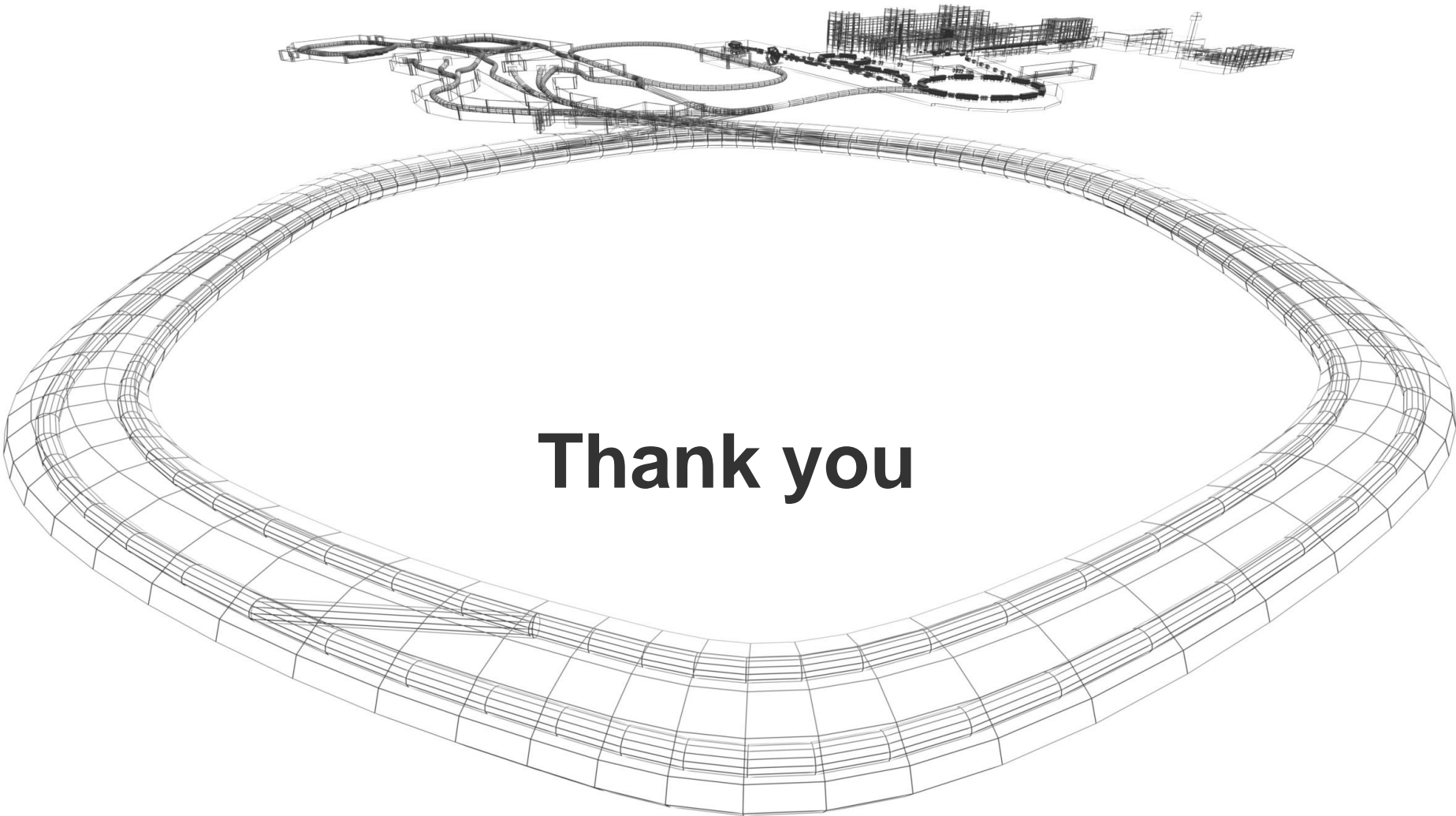
CERN / IND UNICOS collaboration

UNICOS and related Frameworks:

- IND had been trained to use UNICOS through BE-ICS
- IND has been using UNICOS productively for vacuum and cryogenic systems for several years.
- BE-ICS supports IND in case of bugs and further development of UNICOS
- The next important step for IND is to migrate the WinCC OA SCADA environment from Windows to LINUX and from Value Archiving to Next Generation Archiver

Open Issue:

- Collaboration contract (are the legal aspects related to UNICOS meanwhile clarified?)



Thank you