

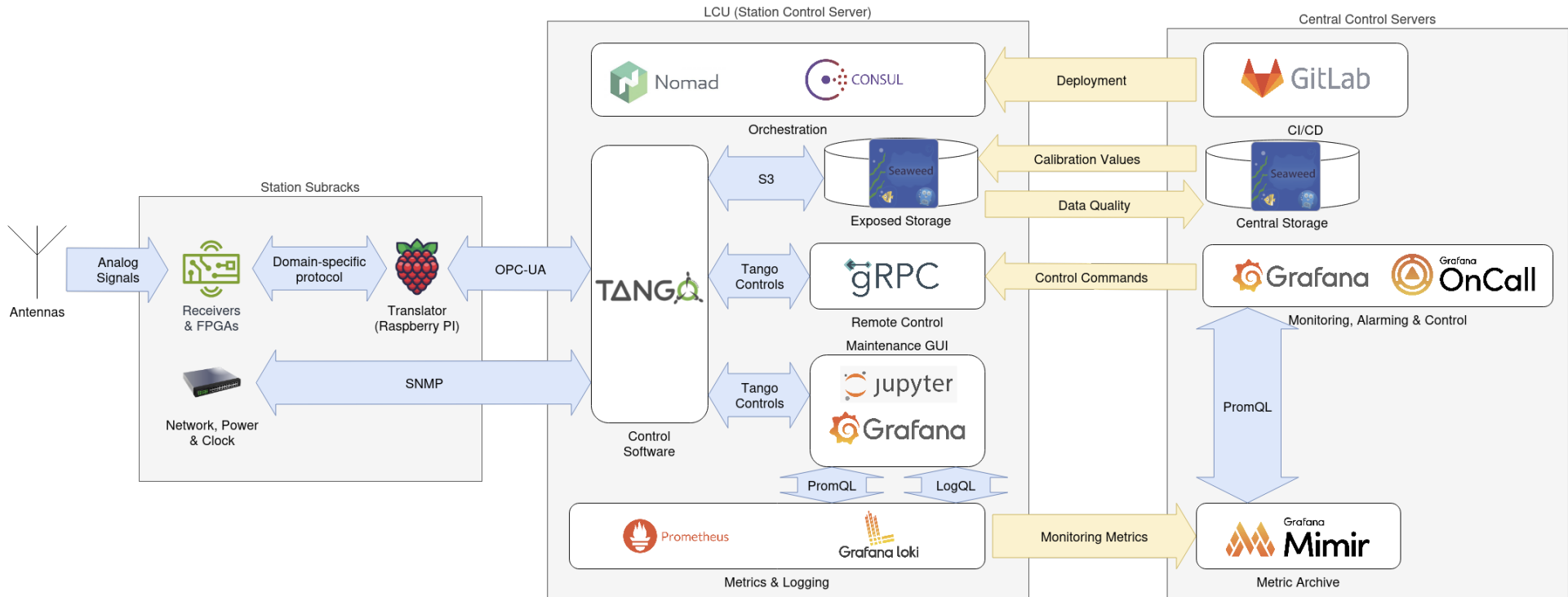
LOFAR 2.0 STATION CONTROL HANNES FELDT

LOFAR 2.0

- 44 Dutch stations
- 16 intl stations in 9 countries
- over 50,000 monitoring points



ARCHITECTURE



WHERE WE USE TANGO CONTROLS

- Control within the station
- Observation management on the station

TANGO CONTROLS ON THE STATION

- 30 device classes
- Control different parts of the system
- Ensures correct startup of hardware components

OBSERVATION MANAGEMENT ON THE STATION

- Pluggable observation controls
- Allows observation types, utilizing different hardware components
- Supports observations created and maintained by third parties

WHERE WE DON'T USE TANGO CONTROLS

- Communication with hardware
- Control from outside of the station
- Monitoring

COMMUNICATION WITH HARDWARE

- OPC-UA interface
- Industry standard
- Maintenance independent from Station Control

CONTROL FROM OUTSIDE OF THE STATION

- gRPC based interface
- Interface can be exchanged with partners
- Authentication and authorization built-in

MONITORING

- Scalable off-the-shelf solution
- Mimir (Prometheus)
- Grafana

WHAT COMES NEXT?

Upgrade of Westerbork Synthesis Radio Telescope (WSRT): potential use of Tango Controls.



QUESTIONS?