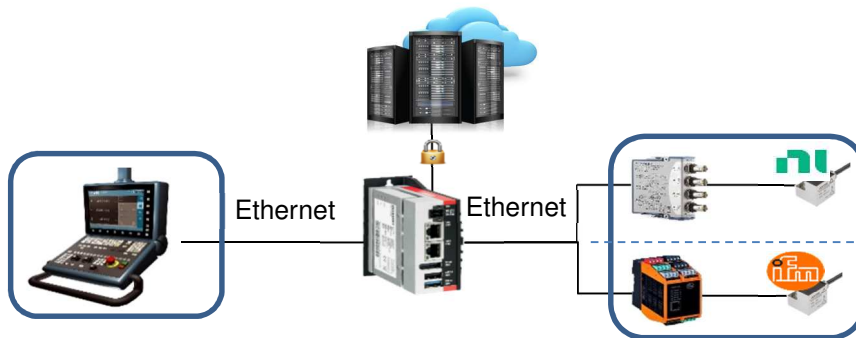


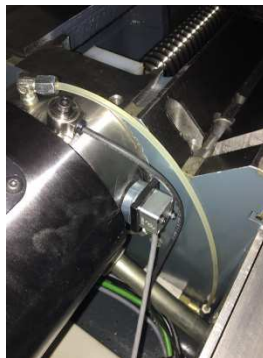
INDUSTRY 4.0 – Machine status monitoring system

11. OPC-UA communication standard supported by Siemens 6FC5800-0AP67-0YB0 module gives access to real time CNC data and other sensor systems present in the machine.
12. Monitoring hardware such as accelerometers and T^a sensors that will provide data for a future analysis / evaluation of machine status, diagnosis & predictive maintenance (*).



Hardware material – basic setting:

- 3 x Accelerometers for Z, X and Z1 axis bearings
- 1 x Accelerometer for wheel-head (B axis) bearings
- 1 x IFM module for Ethernet connection
- Temperature sensors at X and Z axis ballscrews.



(*) The application software for data collecting subsequent evaluation are to be discussed on a separate agreement.

13. Provision for ballscrew X / Z preload measuring and monitoring by means of double nut + spacer mounted load sensor, including data collection and software for external device data monitoring