



TÜNKERS®
Erfindergeist serienmäßig.



Potential Smart conveyor development with ifm

Synopsis



- Why has this been developed ?
- What does it look like ?
- Can we link this to Industry 4.0?
- What kind of Tunkers conveyors can it be fitted to ?
- Can it be retro fitted to any Tunkers conveyor ?
- Can it be fitted to new conveyors?
- What does it cost ?
- How long would it take to fit to an existing Tunkers conveyor ?

Details of the installation 1

Motor & gear box condition – Monitor vibration and temperature condition.



Systems for vibration monitoring and diagnostics



- Reliable permanent vibration monitoring according to DIN ISO 10816
- Protection against permanent machine overload and unexpected standstill
- Decentralised monitoring of plant and equipment integrated into the machine
- Compact field units and modular control cabinet systems
- Analogue output and switching output for alarm function



Pt100/Pt1000 - Temperature cable sensor with bolt-on sensor

TS-PT100 CONTACT SENSOR

TS2229

- Precise temperature measurement on machine surfaces
- For the connection to an evaluation unit
- Compact housing for installation where space is restricted
- High precision across the entire temperature measurement range
- Gold-plated contacts for reliable electrical connections



- Tensioner – Monitor chain tensioner position.



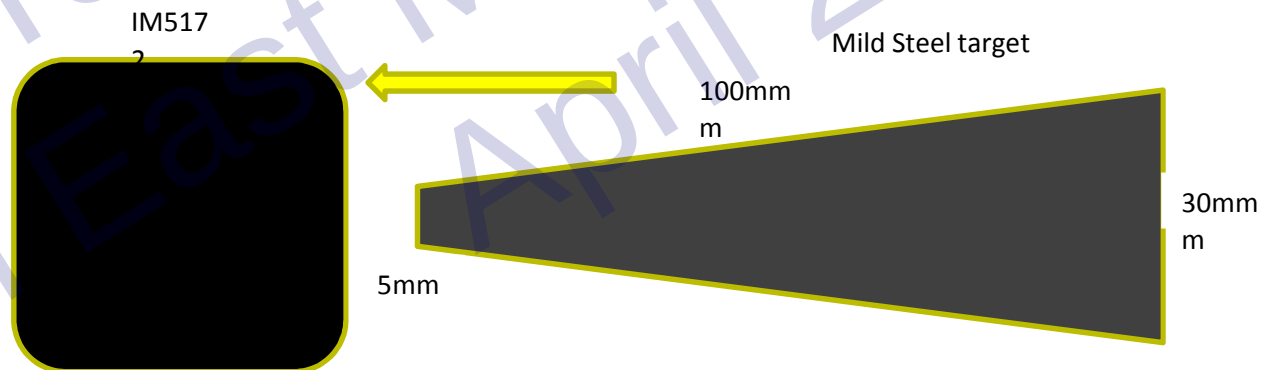
Inductive sensor with IO-Link
 IMC3020BFRKG/IO/US-100

IM5172

- Long sensing range for use in conveying
- Reliable transmission of the distance as linearised process value via IO-Link
- Five positions of the sensing face selectable
- LED display to check switching status and operation
- Normally closed / normally open and PNP/NPN adjustable via IO-Link



Mild Steel target



Motor & gear box torque – Monitor flag position



Link Inductive sensor to be mounted from top looking down on flag position. Based on varying target position we can monitor sensor PDV value to determine flag position movement and therefore relate this to torque movement.

- Perma Classic & STAR Vario lubricator Module – Monitor of lube flow.



0 bar = No lubrication critical
alarm to maintenance

pressure value – Lubrication
status

4 – Field mounted I/O module



- Port 1 – Chain Tension value -
- Value and / or 2 x digital switch points
- Motor Torque - 2 x digital switch points
- pressure value – Lubrication status
- Carrier direction - 2 x digital switch points
- Motor temperature – 0 to 100 degC -
Confirm alarm levels required.
- Gearbox temperature – 0 to 100 degC -
Confirm alarm levels required.

5 Remote access and data collection



- Condition monitoring of machines and installations
- Analysis of the energy consumption
- Organisation of maintenance
- Quality assurance of the produced products

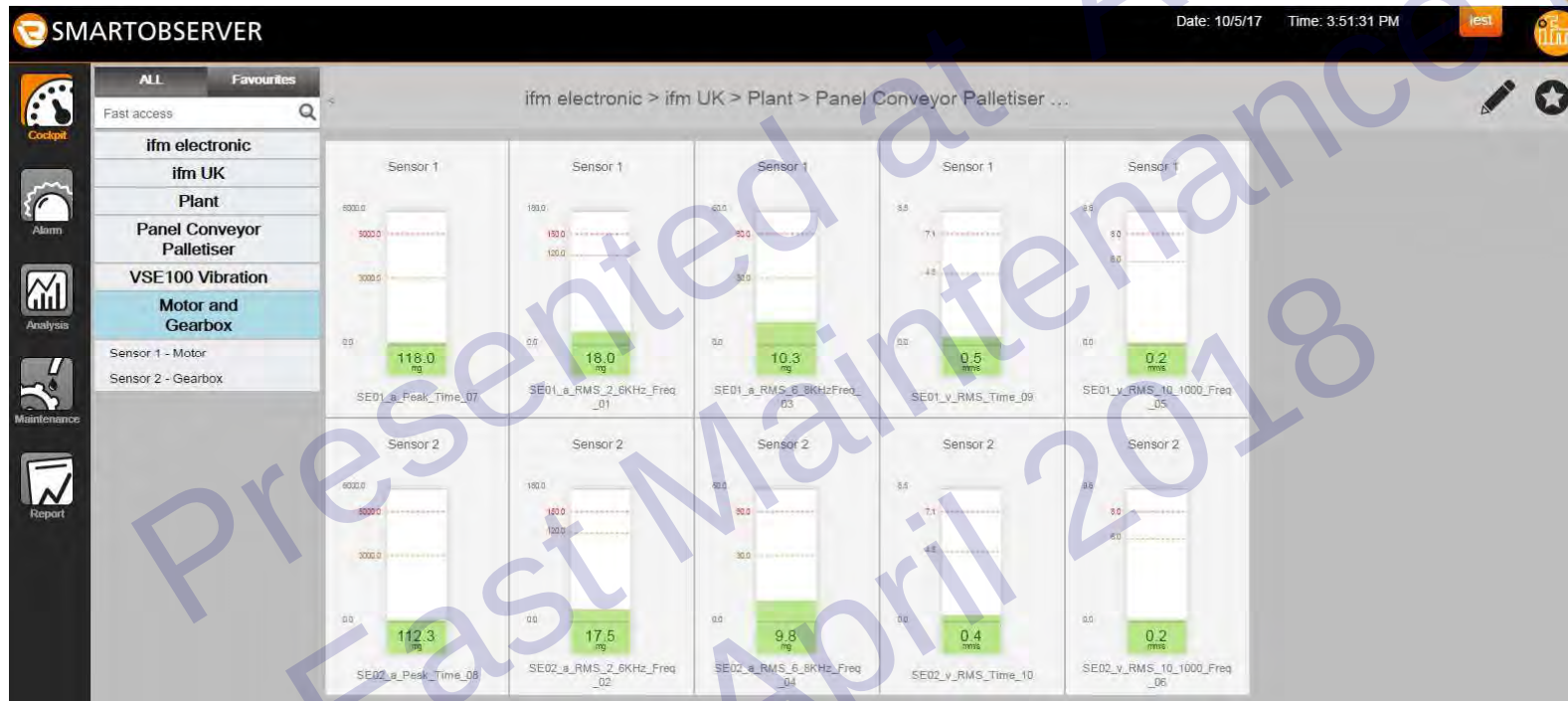
Scope of services

- Customer-specific live status display
- Limit value management - tabular and graphic representation incl. trend display
- Alarm management for:
 - maintenance
 - warning and control limits
 - alarm escalation
- Process value analysis (correlation)
- Implementation in a web server or installation on a machine

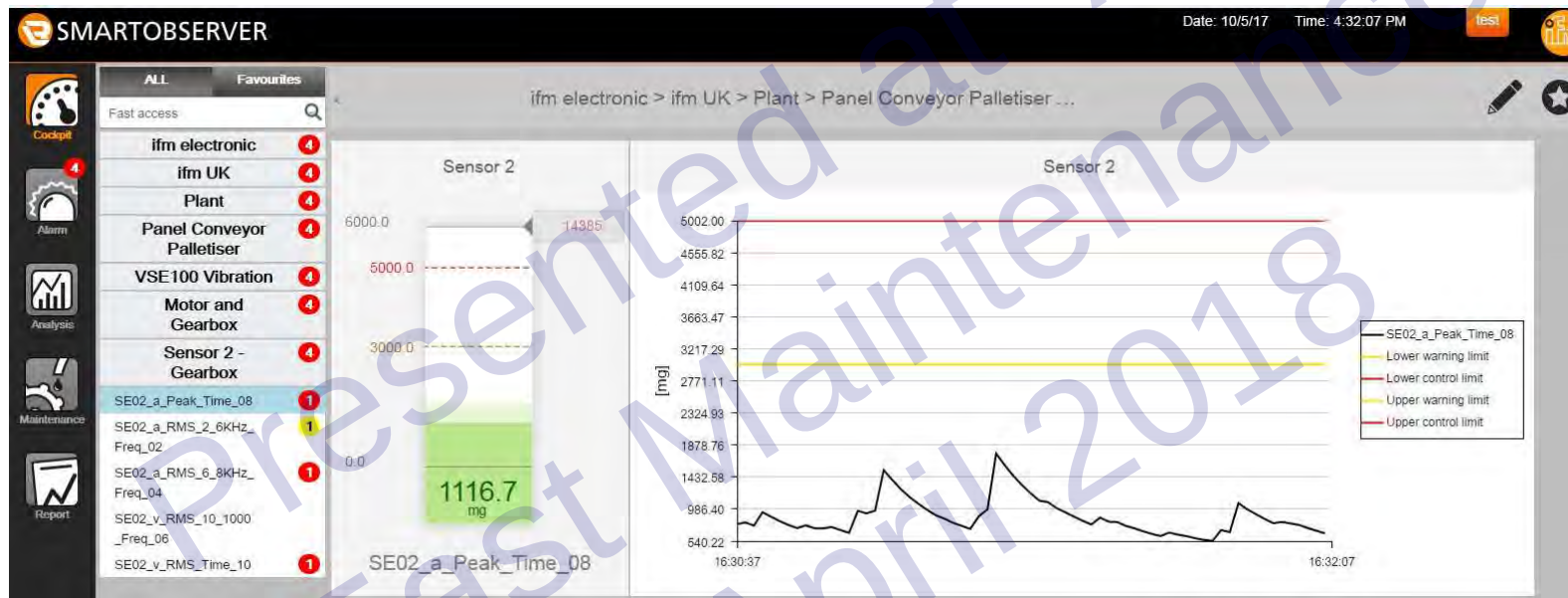
Customer benefits

- Process reliability of the installations
- Optimisation and reduction of the energy consumption
- Organisation for preventive service and maintenance
- Favourites management

6 Smart observer dashboard

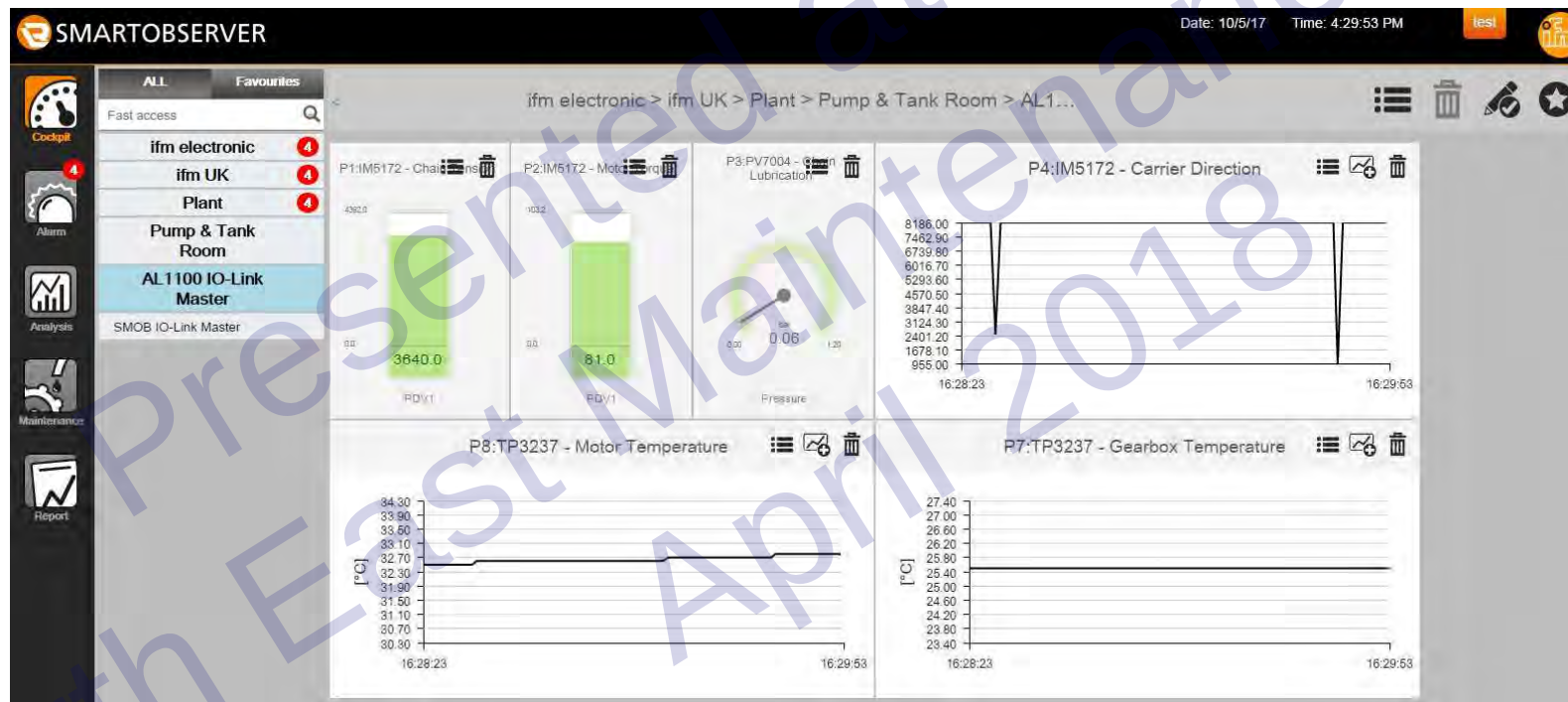


7 Motor & Gearbox individual object cockpit

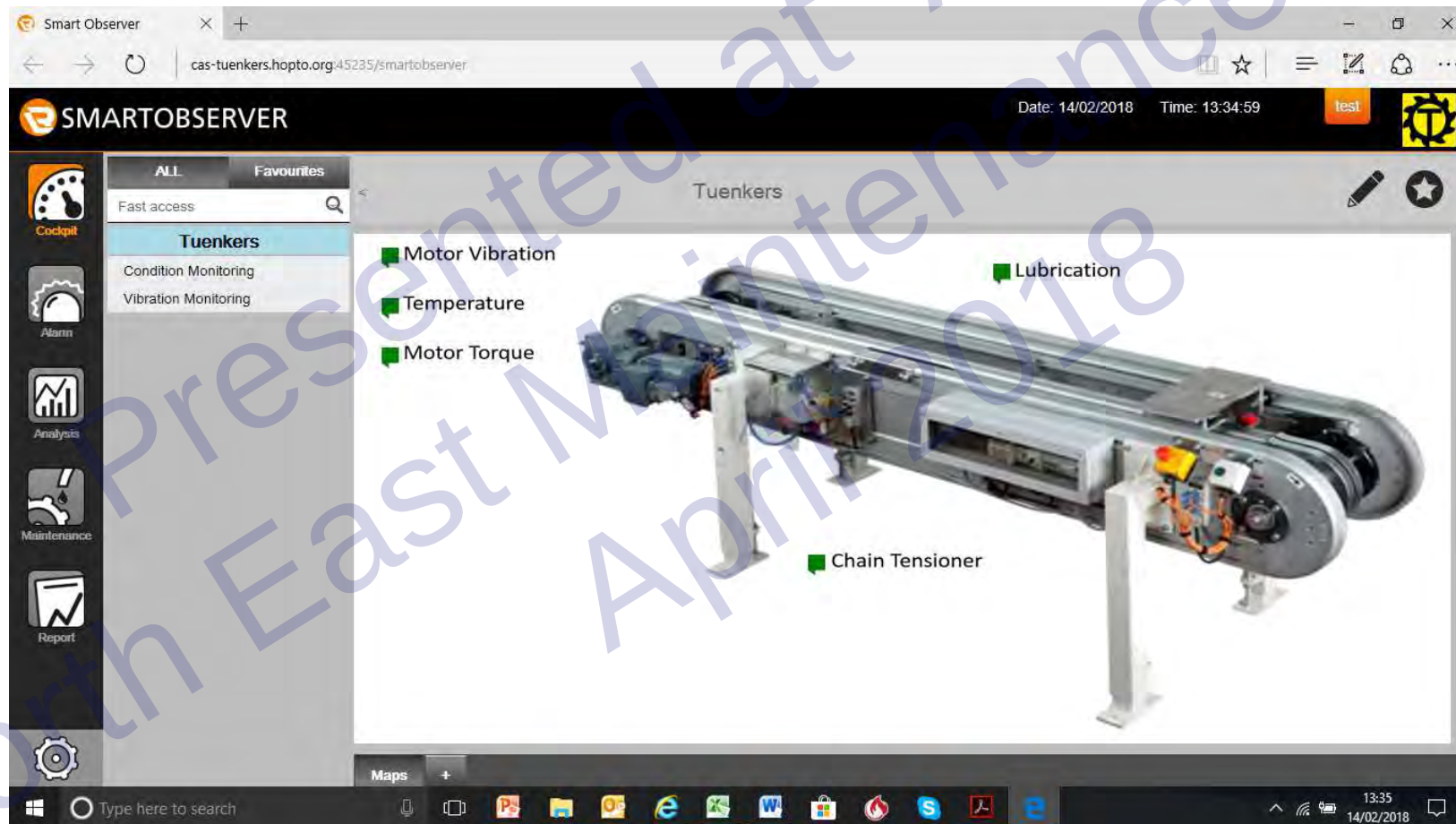


8 Main cockpit

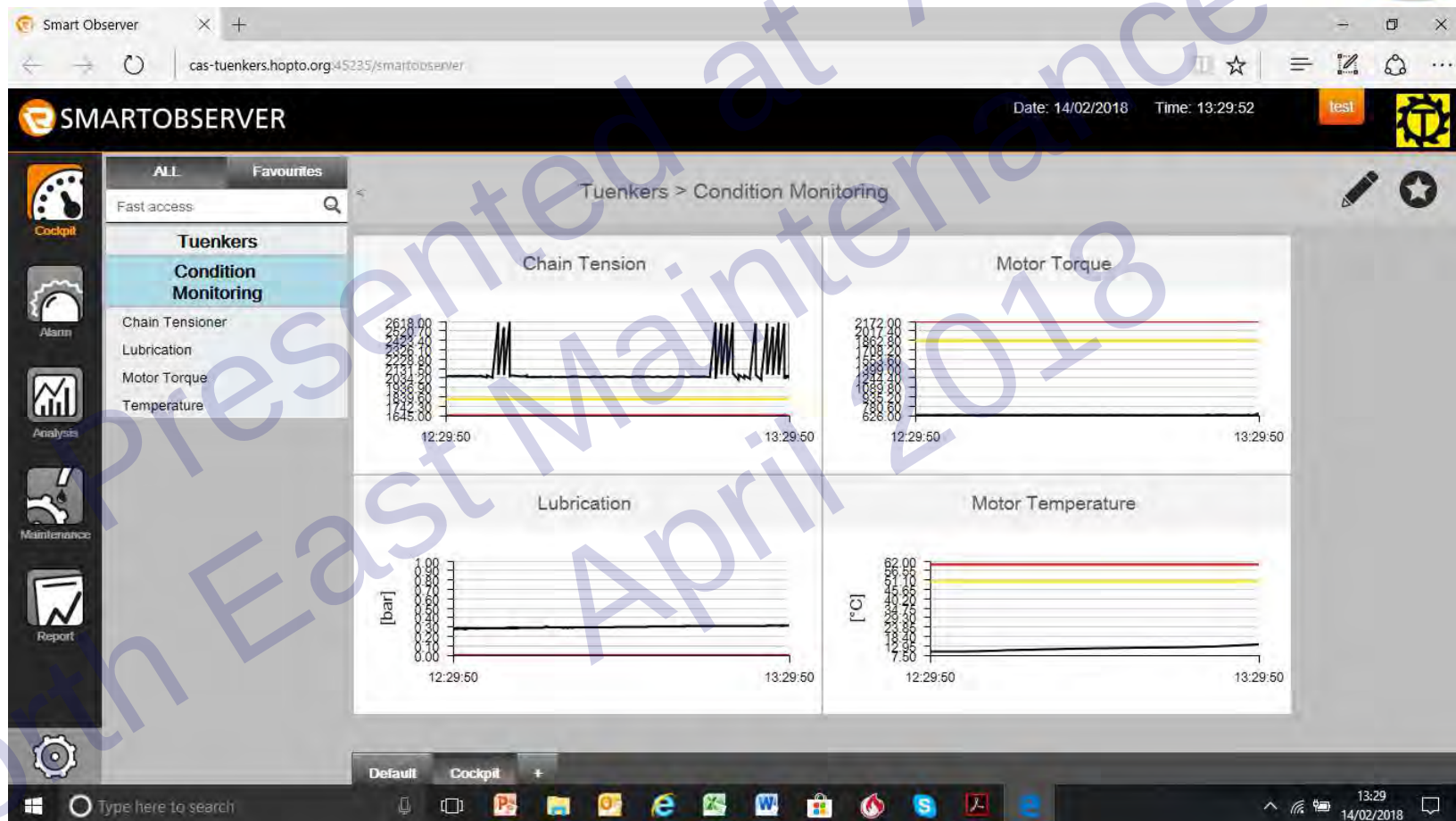
<http://cas-tuenkers.hopto.org:45235/smartobserver/>



9 Overview



10 dashboard cont



12 What kind of Tunkers conveyors can it be fitted to ?



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13 Can it be retro fitted to any Tunkers conveyor ?



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