USE CASE
TELEMAINTENANCE – REMOTE DELIVERY OF ‘FIRST AID’
TELEMAINTENANCE
REMOTE DELIVERY OF ‘FIRST AID’

- 46% of total cost of ownership (TCO) for plant and equipment due to maintenance and unplanned repairs
- Remote support for maintenance, repairs and preventive action
- Real-time access to centrally managed information enables rapid and highly professional ‘first aid’
- 10–50 % reduction in plant and equipment downtime

TELEMAINTENANCE DELIVERS INFORMATION TO SPECIALISTS, AND DELIVERS THEIR EXPERTISE TO CUSTOMERS WORLD-WIDE: ZERO DISTANCE!
TELEMAINTENANCE - THE KEY MESSAGES

**MARKET TRENDS & NEW COMPETITION**
- The Internet of Things
- Geolocalization
- Powerful sensor technology
- Increasing complexity and global deployment of plant and equipment
- Improved equipment connectivity through M2M technology

**BUSINESS PAIN POINTS**
- Shortage of specialist skills
- Equipment deployed worldwide – long distances to travel
- Time and cost pressures for MRO (37% of cost due to maintenance, plus 9% for unplanned repairs¹)
- Need for high availability of systems and services
- Diverse proprietary OEM solutions create problems for equipment operators

**IT PAIN POINTS**
- Integration of diverse sensors for end-to-end visibility
- Rapid, reliable diagnosis of root cause in the event of an emergency
- Targeted on-site deployment of engineers based on accurate information
- Provision of right information to engineers in the field
- Secure data transmission

**ICT SOLUTIONS**
- Real-time monitoring of plant and equipment, capture of reference values via sensors and M2M
- Mobile data capture and transmission via Mobile Workforce Management System
- Real-time access to distributed expertise and database information
- Application of augmented reality to plant and equipment

**PORTFOLIO**
- Metering Services
- Cloud Services
- Defense Solutions
- Rail and Transport Management
- Telematic Health Services
- Security Services
- Systems Integration
- Mobile Workplace Services

¹: Percentage figures based on industry standards and studies.
LONG DISTANCES AND THE NEED FOR LEAN MAINTENANCE REQUIRE THE EFFICIENT DEPLOYMENT OF LIMITED SPECIALISTS

THE CURRENT SITUATION FOR PLANT AND EQUIPMENT OPERATION

- The need for continuous production minimizes time windows for conventional inspection and maintenance
- In the event of a problem, the local staff needs immediate access to relevant information, expertise, decision support and documents
- Geographically dispersed equipment, such as combined heat and power (CHP) plants and wind turbines, is often operated locally by non-experts
- Remote specialists lack the information and tools to deliver support to on-site staff
- Increasing complexity of plant and equipment is creating obstacles to efficient operation, maintenance and repair
- Lack of visibility into entire MRO process
TELEMAINTENANCE DELIVERS EXPERTISE ON THE SPOT
PROFESSIONAL ASSISTANCE AVAILABLE ACROSS ANY DISTANCE

WEST EUROPEAN AUTO-MAKER

Reference files and augmented reality

Alert

Senior engineer
Oliver Tüchtig

HQ

Video and images

Instructions

PRODUCTION

Unusual fault identified and resolved

Oleg Sibir

10–50 % less machine downtime
as a result of telemaintenance

Rapid, reliable diagnosis
of root cause in the event of an emergency

End-to-end documentation
of maintenance and repair activities

ZERO DISTANCE
Information – Customers – Employees

Rapid, reliable diagnosis

Predictive maintenance
nips problems in the bud

Increased productivity
thanks to 24/7 plant operation

Lower TCO
for complex systems

Maintenance skills
can be consolidated at one or just a few sites;
and be available to units anywhere in the world
THE TECHNOLOGY
AUGMENTED REALITY

1. Mobile systems capture video and images of equipment using camera and 3D viewer.

2. Image and video data is streamed together with GPS data.

3. Rendering and tracking algorithms are executed in the cloud. Data is georeferenced and transmitted back to mobile systems.

4. Output on mobile systems. Relevant technical information is added to images being shown.

T-SYSTEMS PORTFOLIO

- Metering Services
- Grid Management Services
- Defense Solutions
- Rail and Transport Management
- Telematic Health Services
- Telco Operations Support Systems
- Mobile Workplace Services
- Security Services
- Systems Integration
- IP/VPN
- Sensor technology
- Cloud Solutions