OEE Analytics
Optimization of overall equipment effectiveness

Data-based equipment analysis

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Maximize output with OEE Analytics

OEE Analytics

How can you maximize the value of your equipment?

One of the essential factors for increasing productivity is the optimization of overall equipment effectiveness (OEE). This is made possible by the cloud-based solution OEE Analytics, which allows you to record and analyze your equipment data and acquire company-specific knowledge. Thanks to OEE Monitor MindApp, you can view the current status of your OEE KPIs at any time.

How does it work?

1. Connectivity: Data acquisition and a connection to the cloud are designed. After that the data is transferred to MindSphere.

2. OEE Visualization: Data processing to match the data to your company's KPIs. The machine data is then assigned to the OEE Monitor MindApp so that you can view all relevant data on the OEE Dashboard.

3. Expert Analytics: OEE trend analysis and comparisons with similar equipment over time yield clear recommendations for increasing OEE value at the machine or line level.

Main value drivers

Acquire new knowledge about the quality, availability, and performance of your production lines and machines

Identify additional potential and improve overall equipment effectiveness

Plan your production scheduling and machine optimization based on specific KPIs

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OEE Analytics

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Operative challenges

- Need for transparency on production bottlenecks and criticality of equipment in production lines

- Lack of understanding of why scrap is generated and define measures to reduce it

- Lack of understanding of reasons for machine failures or performance issues that affect production output

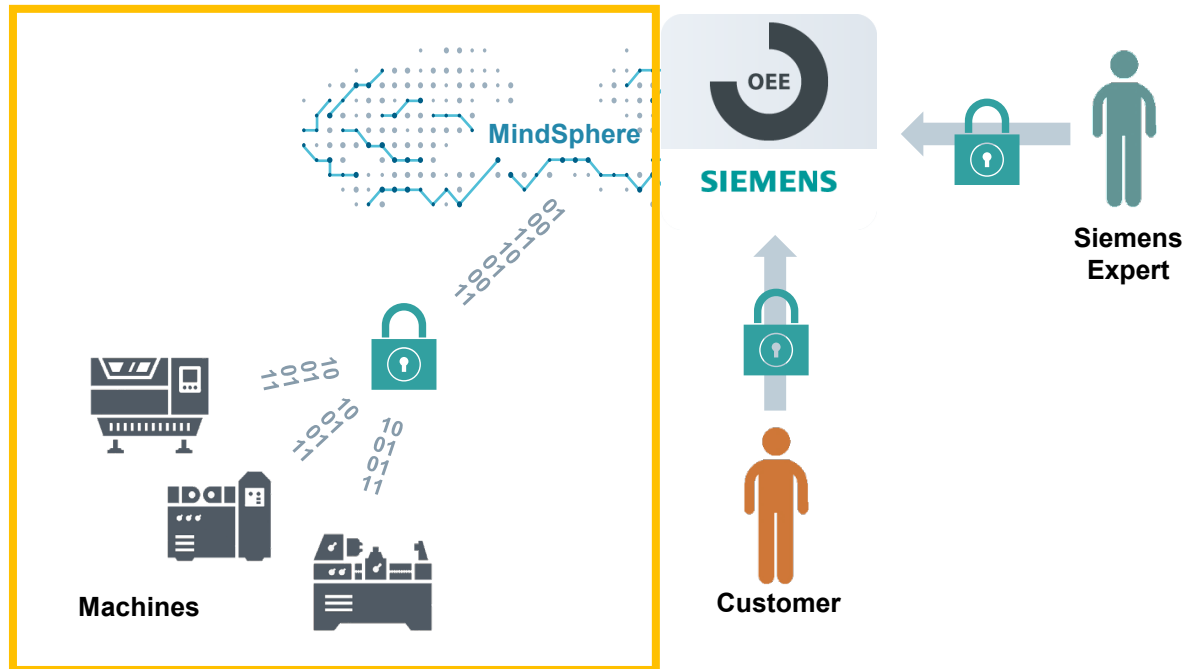### Required solution / Possible consequences

Intuitive and precise dashboards that show development of production and performance on line and machine level

Transparency on quality losses on machine, line level per production order contribute to identify potential for improvement

Recording and reporting of failures and statistic evaluation to help out on root cause analysis to tackle production bottlenecks

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OEE Analytics – three steps to higher output
Connectivity

MindSphere

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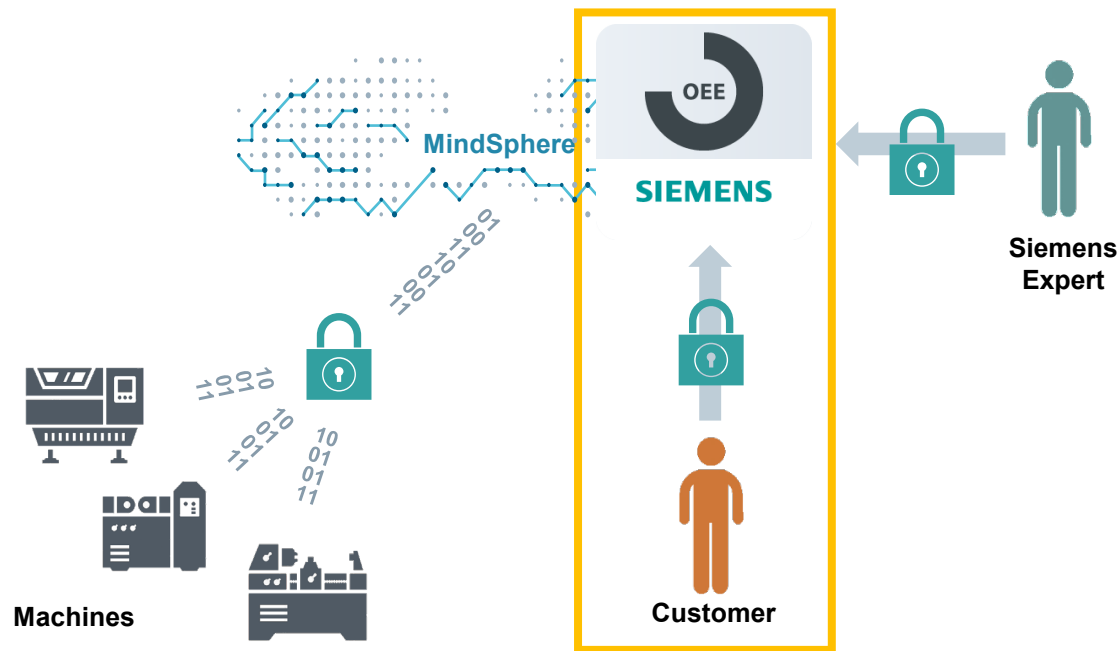OEE

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Customer

Machines

Assessment and MindSphere Connectivity

Data acquisition and a connection to the cloud are designed according to the specific structure of your equipment and plant. Once the necessary hardware and software have been installed in your system, the data is quickly and securely transferred to MindSphere, the cloud-based, open IoT operating system

OEE Analytics – three steps to higher output
Visualization

MindSphere

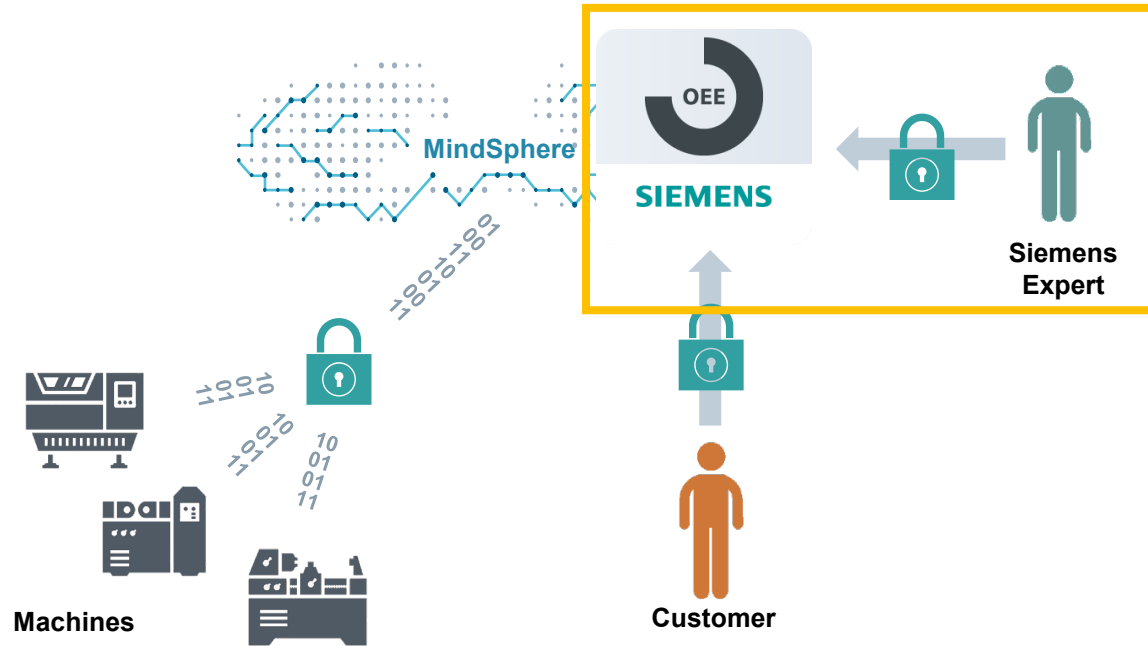Machines

Customer

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OEE Visualization from production line to machine level

The analysis begins with data processing to match the data to your company's KPIs. The machine data is then assigned to the OEE Monitor MindApp so that you can view all relevant data on the OEE Dashboard, including the performance, availability, and quality of a machine or line over a specified time period.

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OEE Analytics – three steps to higher output
Expert Analytics

MindSphere

Machines

Customer

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Expert Analytics for OEE diagnostics

OEE trend analysis and comparisons with similar equipment over time yield clear recommendations for increasing OEE value at the machine or line level. You perform the recommended actions by implementing modernization and retrofit measures, by ordering the necessary spare parts and, optionally, by outsourcing maintenance work – for example, to Siemens.

Why should you choose OEE Analytics?

Acquire new knowledge about the quality, availability, and performance of your production lines and machines

Identify additional potential and improve overall equipment effectiveness
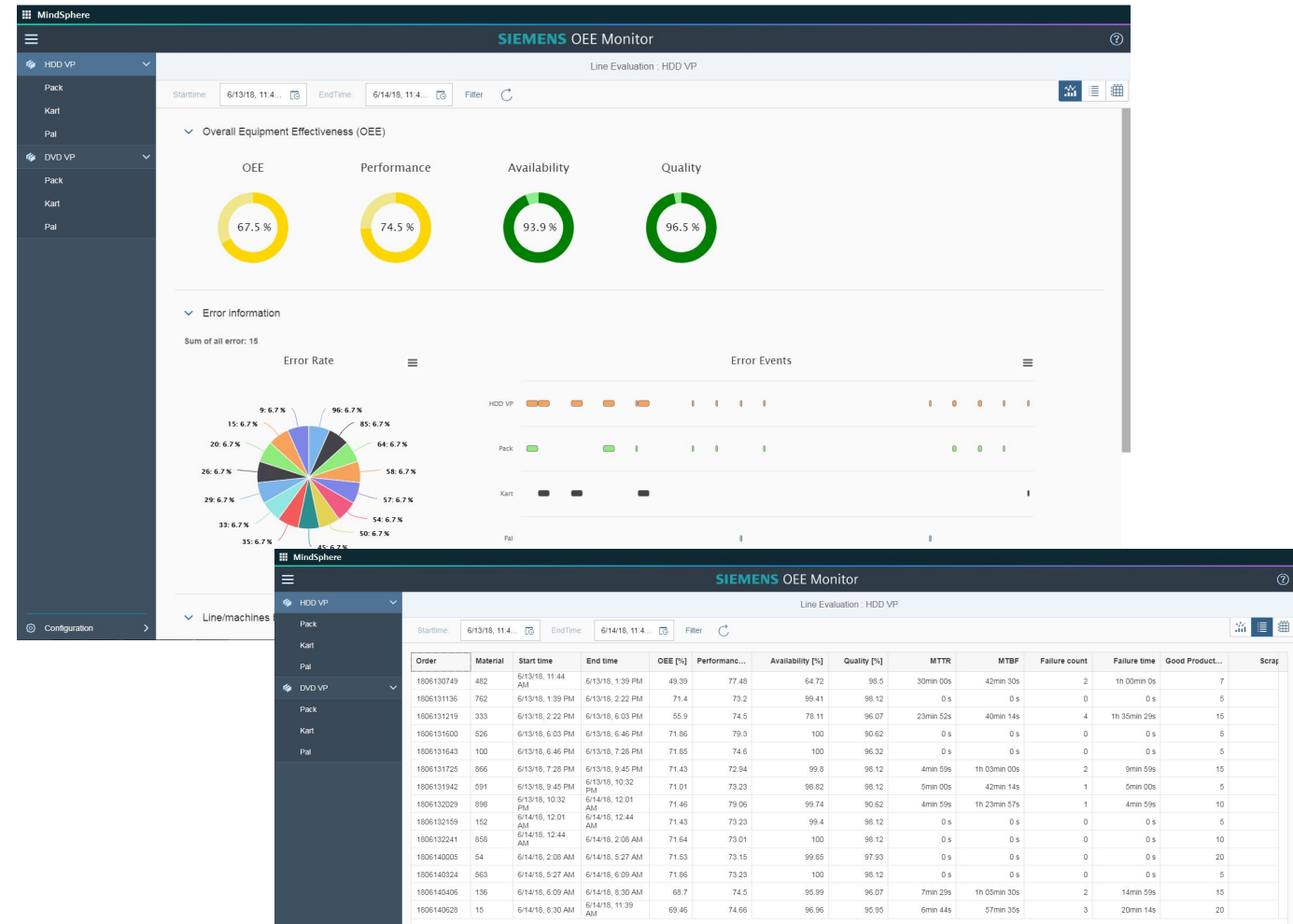
Plan your production scheduling and machine optimization based on specific KPIs

OEE Monitor
Features of the MindAPP

- Calculation of OEE Values for Lines and Machines (99 Lines each of with supporting max. 99 Machines)

- Calculation of OEE for orders and materials

- Filter Options for time frames, orders and material

- Visualization of OEE, Performance, Quality and Availability on line and machine level

- Visualization of orders / materials and KPI´s

- Visualization of Error data with Pie Chart and Timeline

- Visualization of losses on waterfall and trend diagrams

- Visualization of the following KPI's as bar chart:

  - OEE, Performance, Quality

  - Output (Theoretical/Actual)

  - Production time (Planned/actual)

  - Product Quality (Total/Rejects)
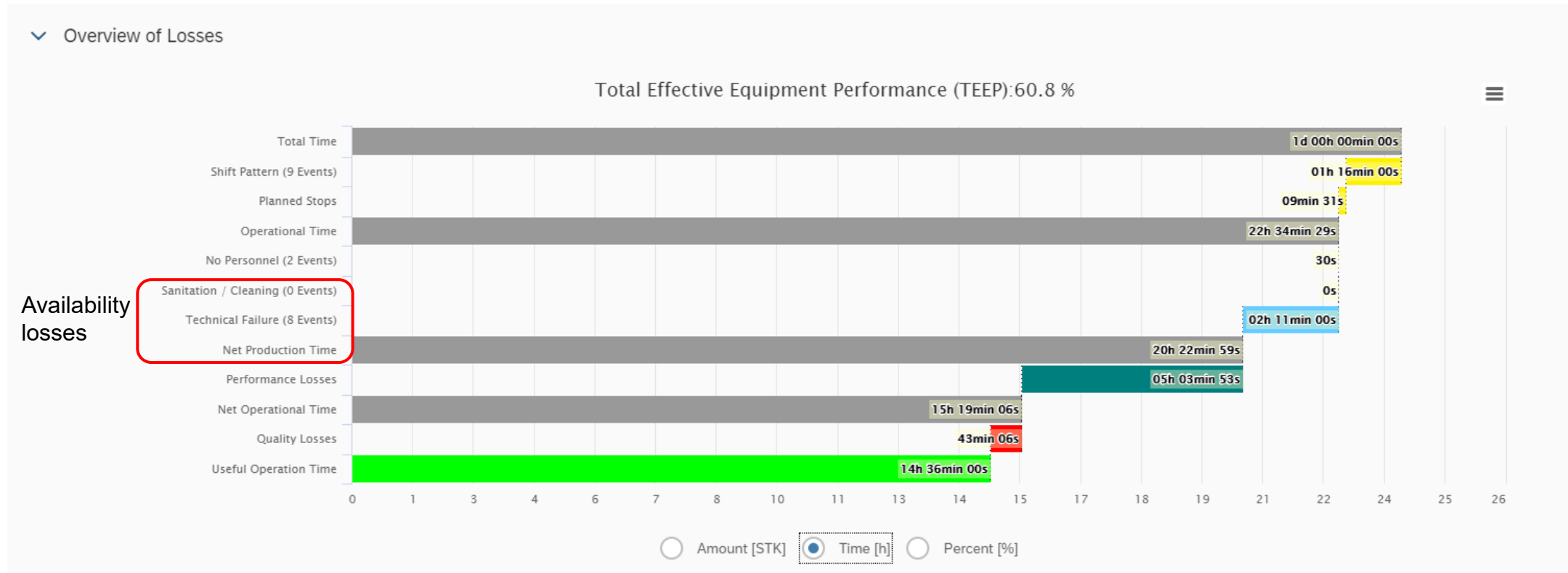
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OEE Monitor
Transparency of machine availability

- Transparency on losses

- Number of events displayed

- Analysis in terms of time, units and percentages

TEEP = Useful Operational Time / Total time

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OEE Analytics Services at important German Electrical Wholesaling company at Nuremberg

Customer profile	• Electrical Wholesaling company focused in the industrial, construction and infrastructure market
Customer objectives	▪ Reliability and quality of deliveries of cables to customers with the highest flexibility ▪ Optimized delivery planning ▪ Transparency on availability and performance of cable cutting machines that must bring on the exact length of cable the customer is asking for
Siemens solution	▪ OEE Analytics Services including connectivity of 6 (six) cable cutting machines from KABELMAT (www.kabelmat.com) and OEE Monitor App parametrization. ▪ OEE Monitor running on own IoT Value Plan
Customer value	▪ Transparency on degree of utilization of cable cutting machines and analysis of failures optimize preparation of orders and response time of shipments to customers.
Why Siemens?	▪ Reliable support from CS in Germany and understanding on connectivity to MindSphere with an optimized cost / benefit solution. ▪ Successful PoC and availability of all necessary data with direct support of the OEM (KABELMAT)

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Thank you for your attention!

For further information and support, please contact:

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