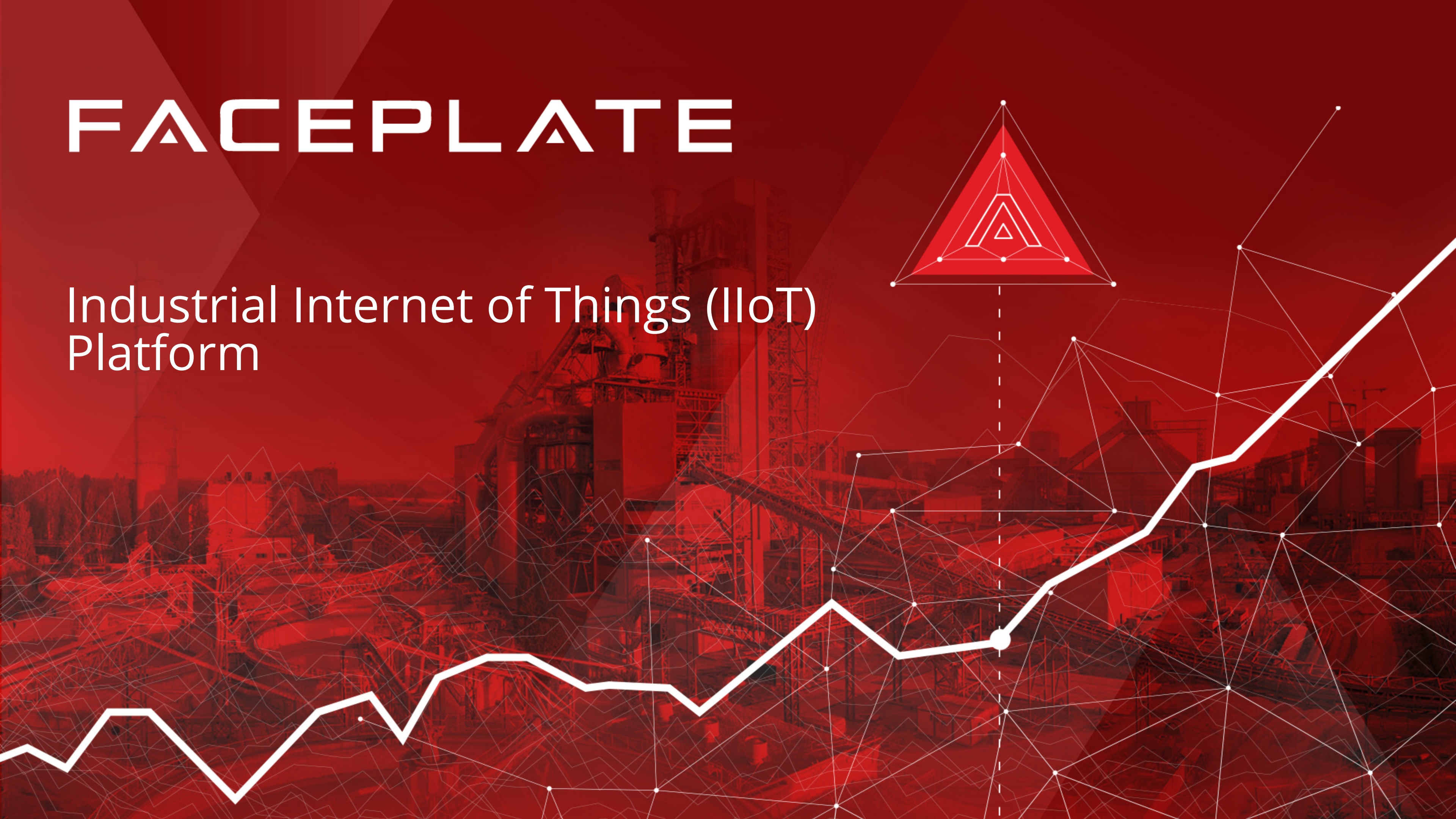


# FACEPLATE

Industrial Internet of Things (IIoT)  
Platform



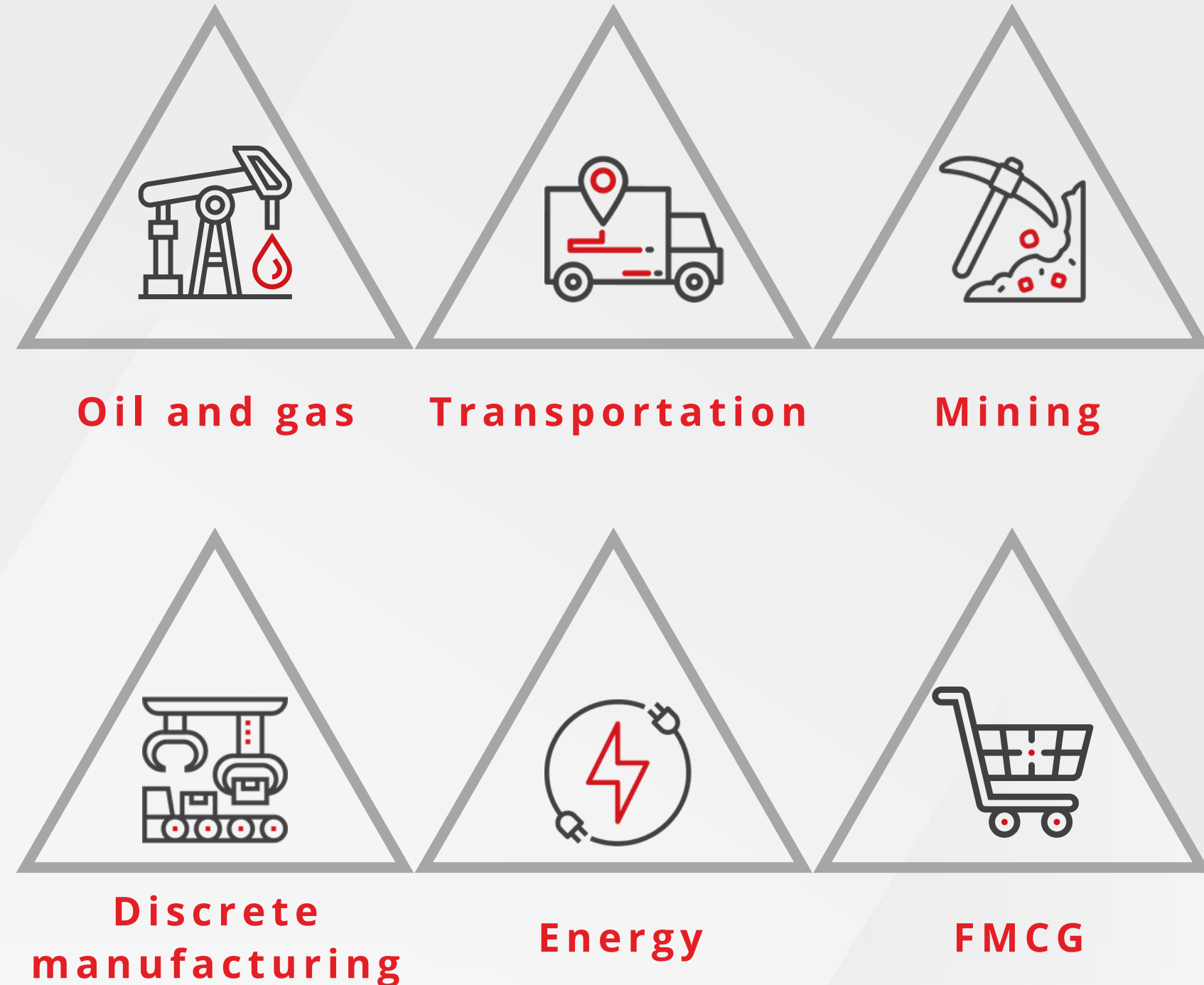
# THE PLATFORM FACEPLATE

The main purpose is to build cloud solutions for discrete and process/continuous manufacturing.

Discrete manufacturing is an industry term for the manufacturing of finished products that are distinct items capable of being easily counted, touched or seen. Discrete industries - include food and beverages, equipment manufacturing, processing industry.

In process manufacturing, the product is created by using a formula or recipe to refine raw ingredients and the final product cannot be broken down to its basic components. Examples: mining and metallurgical companies, cement production, oil and gas production and transport industry.

## FOR WHOM?



# THE CHALLENGES THAT CLIENTS SOLVE WITH THE USE OF PLATFORM

- ▲ High energy consumption at all stages of production
- ▲ Operating costs increase as process equipment becomes more complex
- ▲ Lack of analysis to determine equipment operation deviations
- ▲ Inefficient process control
- ▲ Manufacturing defect
- ▲ Errors in the entire supply chain, equipment defects and faults result in unscheduled downtime
- ▲ Traditional service models that rely on operators when faults are discovered are not fast enough and cannot be applied effectively



# DIGITALIZATION IS SOLUTION TO IMPROVE MANUFACTURING EFFICIENCY

## Digitalization as a driver of long-term competitiveness:

- ▲ Optimizing used energy resources;
- ▲ Helping the staff to make more informed decisions based on the collected data;
- ▲ Improving product quality by identifying the critical factors in the manufacturing;
- ▲ Providing production transparency and the ability to monitor the full picture of how production works.



# BENEFITS WITHIN ORGANISATION

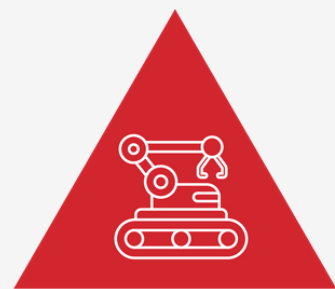
- ▲ IMPROVE YOUR OVERALL EQUIPMENT EFFECTIVENESS (OEE)
- ▲ REDUCE THE RISK AND FAILURE RATE OF PRODUCTS OR PROCESSES
- ▲ REDUCE THE COST PER UNIT



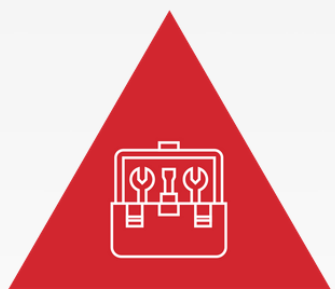
**CEO and business owner** - Control business metrics - from electricity costs to profits or losses. They can predict and define production plans based on real-time data.



**CIO** - Implement digital technologies into the production activities of the company. Manage production and technological processes based on collected data. Build seamless integration between departments.

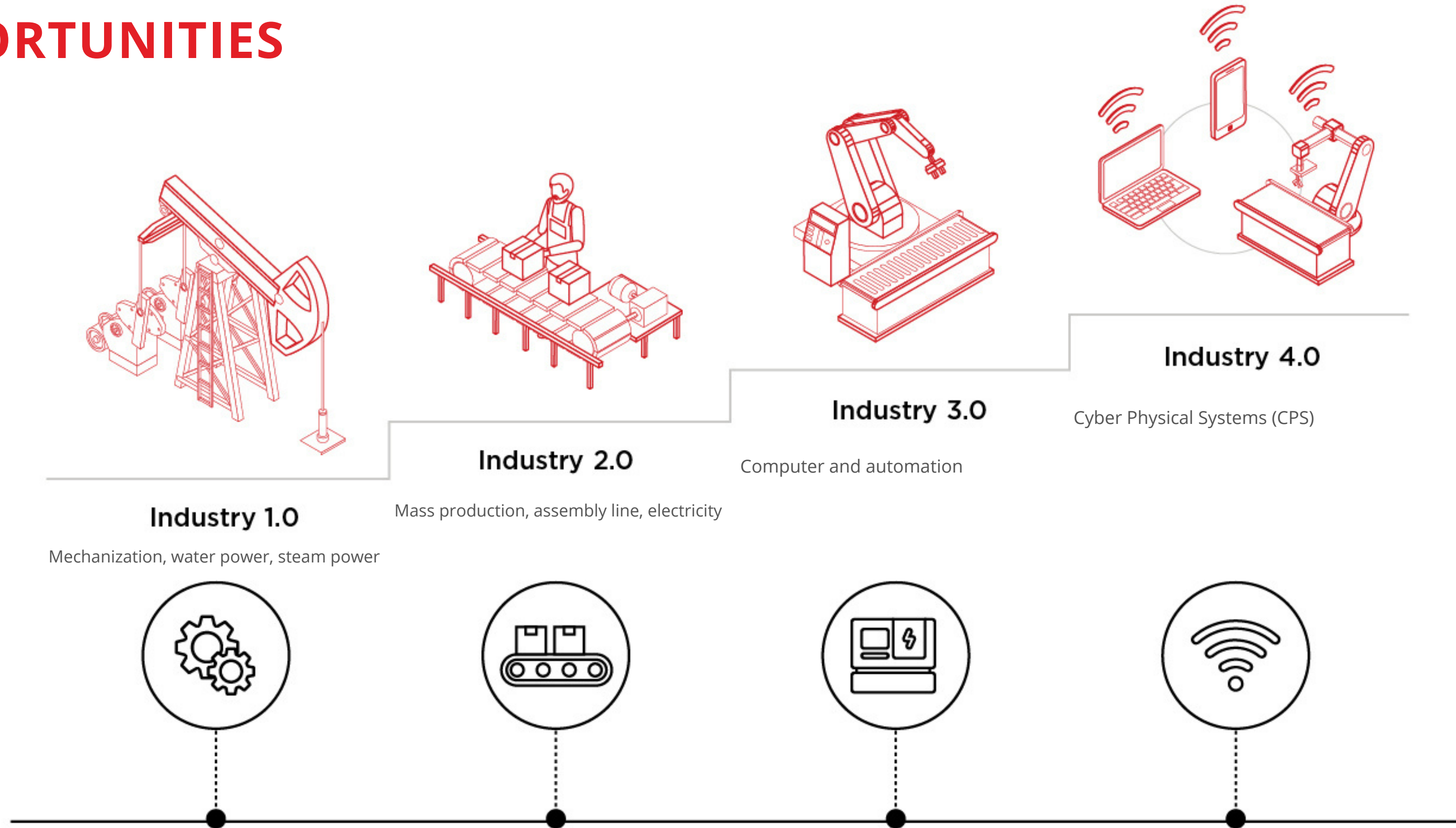


**Chief technologist** - Control deviations from technological parameters and monitor product quality.



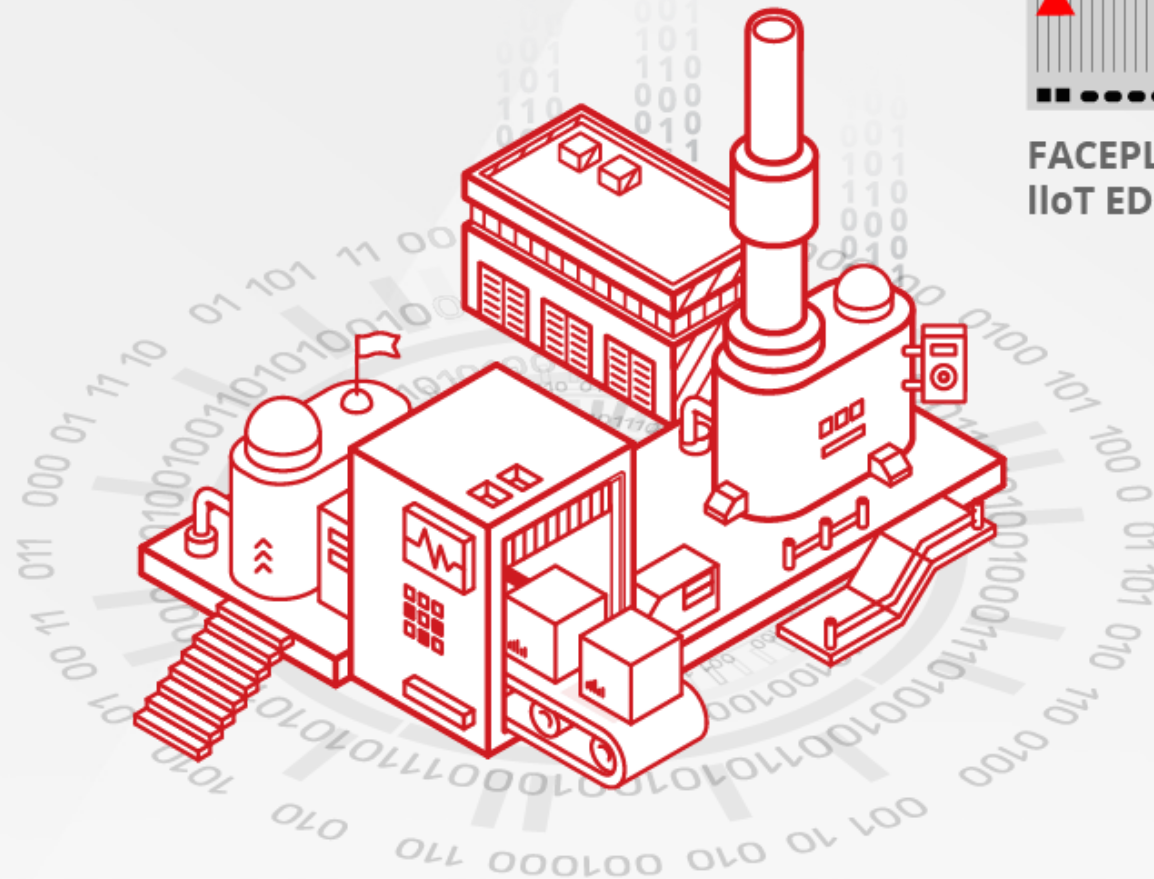
**Chief mechanical engineer** - Analyze anomalies in the operation of equipment and takes the necessary prompt actions to eliminate faults in real time. Identify opportunities for improvement and we be able to respond and fix issues that arise right away.

# DIGITALIZATION OPPORTUNITIES

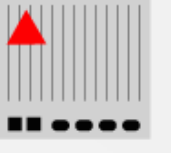


# THE PLATFORM FACEPLATE

- ▲ The platform containing a set of libraries and design patterns for building scalable distributed solutions for industrial enterprises
- ▲ Real-time time data enabling constant monitoring and analysis of process and assets
- ▲ Customizable monitoring dashboards to track equipment operation, KPIs, and performance indicators (OEE), analyze anomalies, and perform the necessary operational troubleshooting actions
- ▲ Machine learning to create mathematical models for predicting potential failures to optimize production facilities and operating efficiency



  
**FACEPLATE  
PLC EDGE**

  
**FACEPLATE  
IIoT EDGE**

## FACEPLATE capabilities

Collecting and processing information

Alarms and Events logging

Process control

Visualization and reports

Applications

Analytics

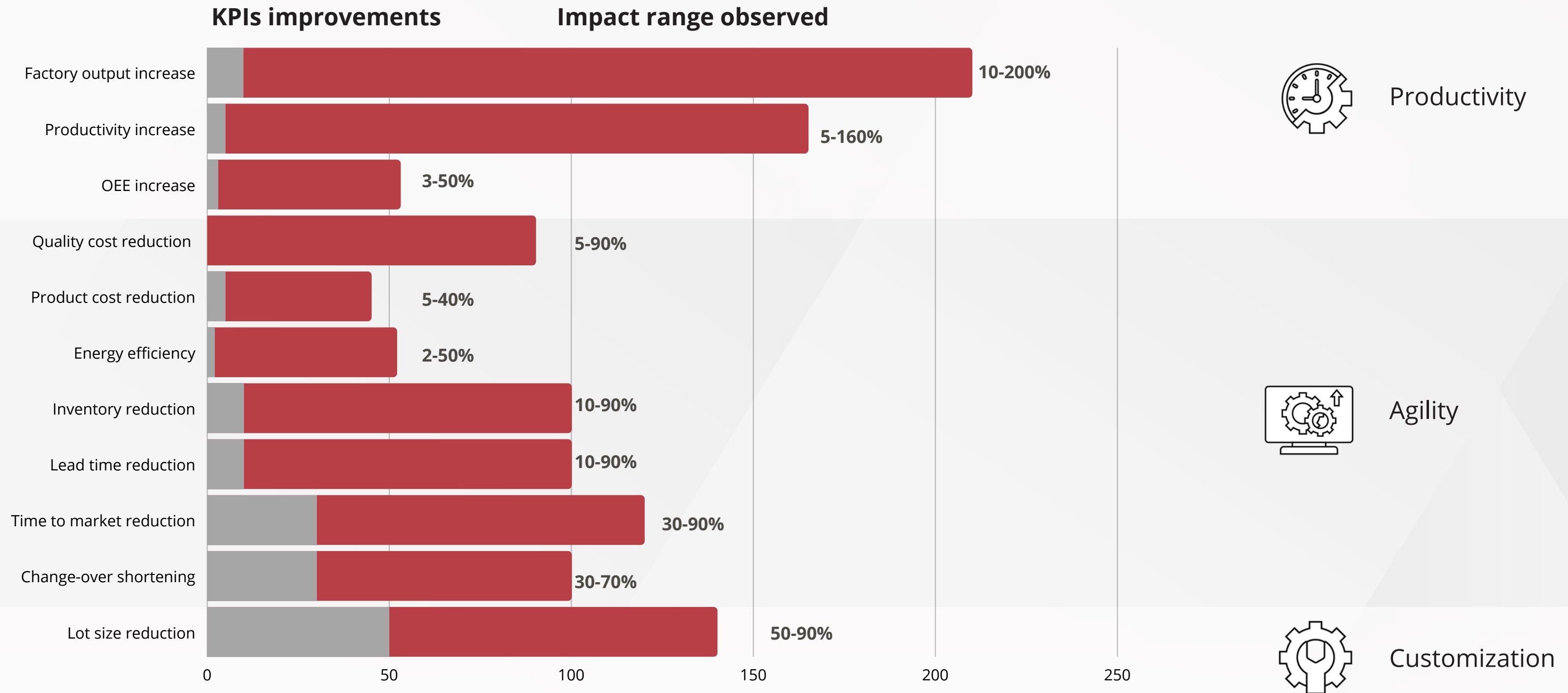
Machine learning

Data storage



Security & Access management

# RESULTS OF IMPROVING EFFICIENCY\*

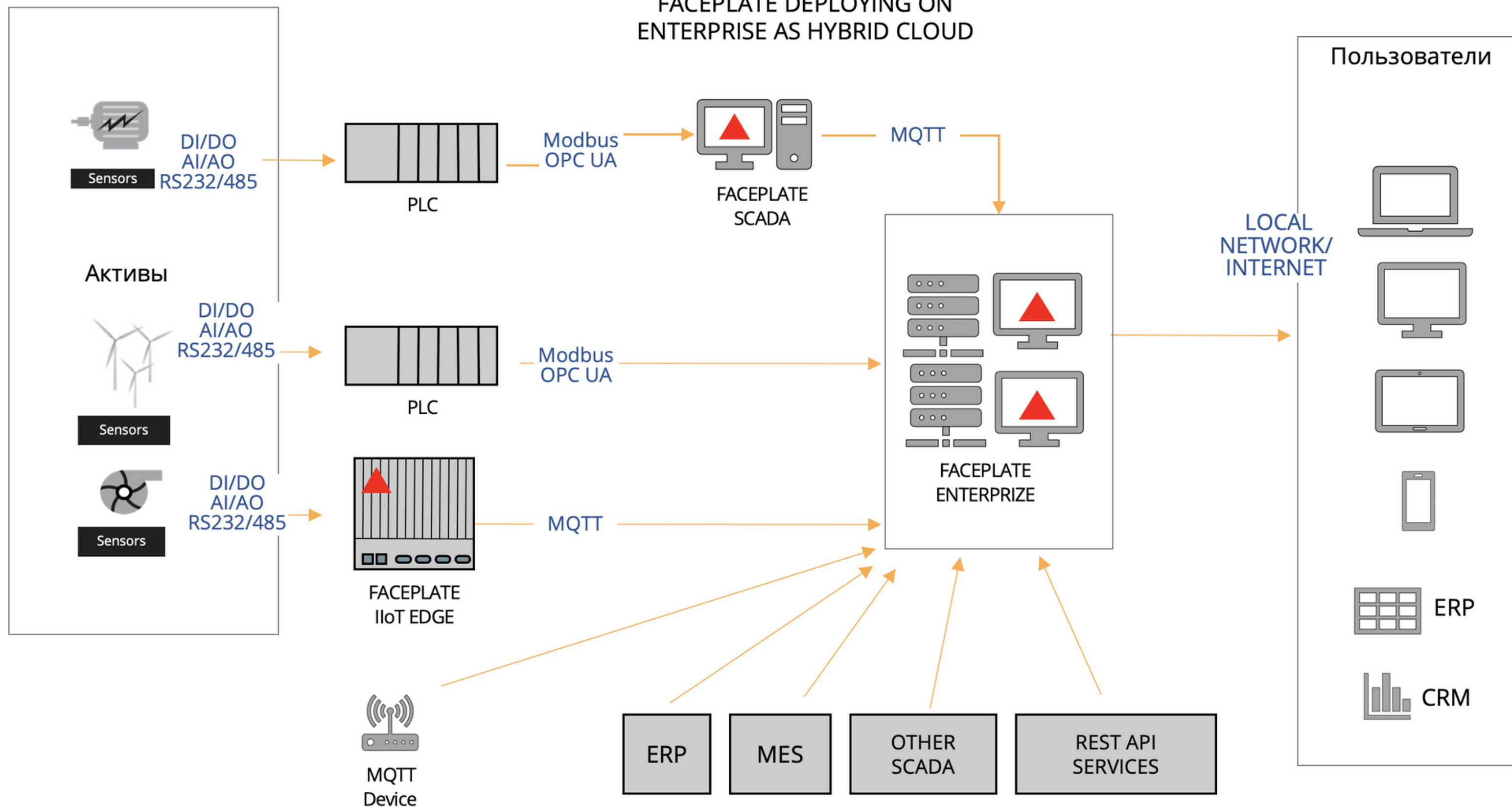


\*Source: World Economic Forum and McKinsey & Company and FACEPLATE client's reference



# FACEPLATE SOLUTION

## FACEPLATE DEPLOYING ON ENTERPRISE AS HYBRID CLOUD



# FACEPLATE FUNCTIONALITY — MATERIAL FLOW AND BALANCE

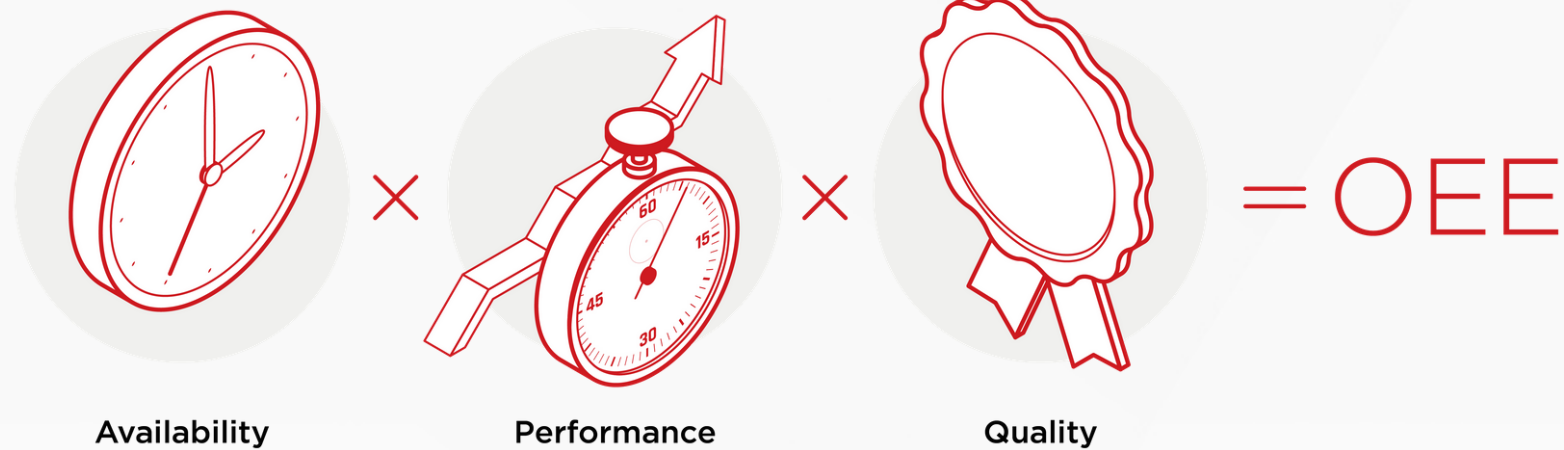
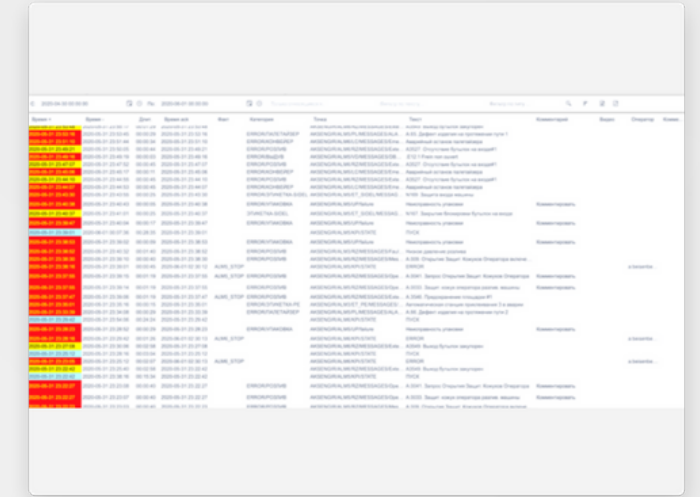
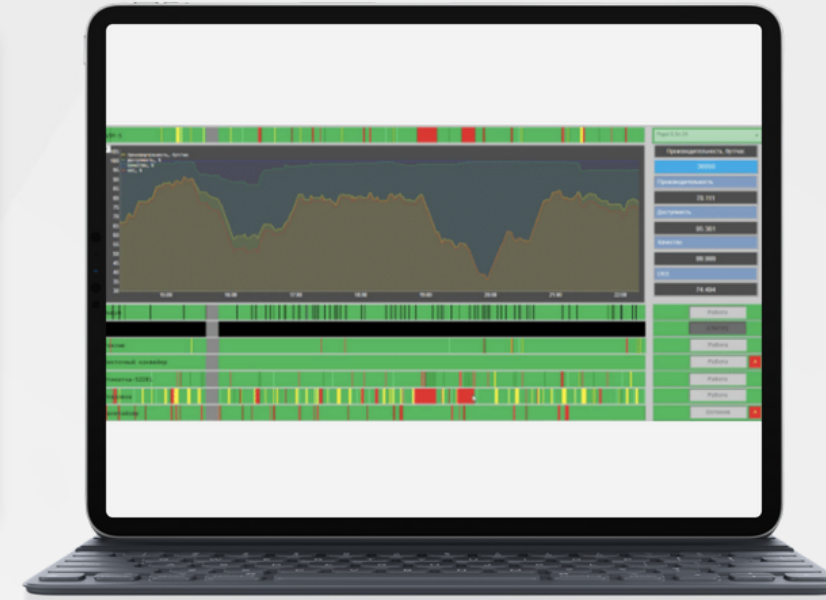
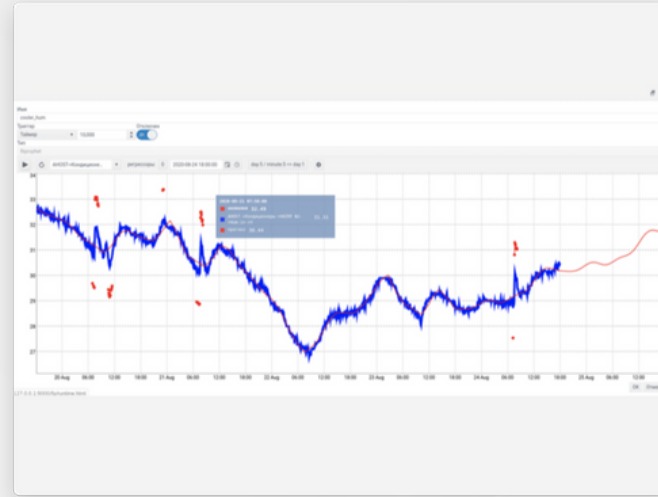
- ▲ **Energy and material balance** in production.
- ▲ **Machine learning for predicting potential failures** in the technological process and equipment work - identifying unusual resource consumption, increased electricity consumption for equipment, cooling and ventilation systems. Jumps in measured parameters.
- ▲ **Integration with third party systems**, transfer or receive information to other systems of the enterprise, for example storage of laboratory measurements (LIMS), warehousing (WMS), enterprise management (ERP), etc.



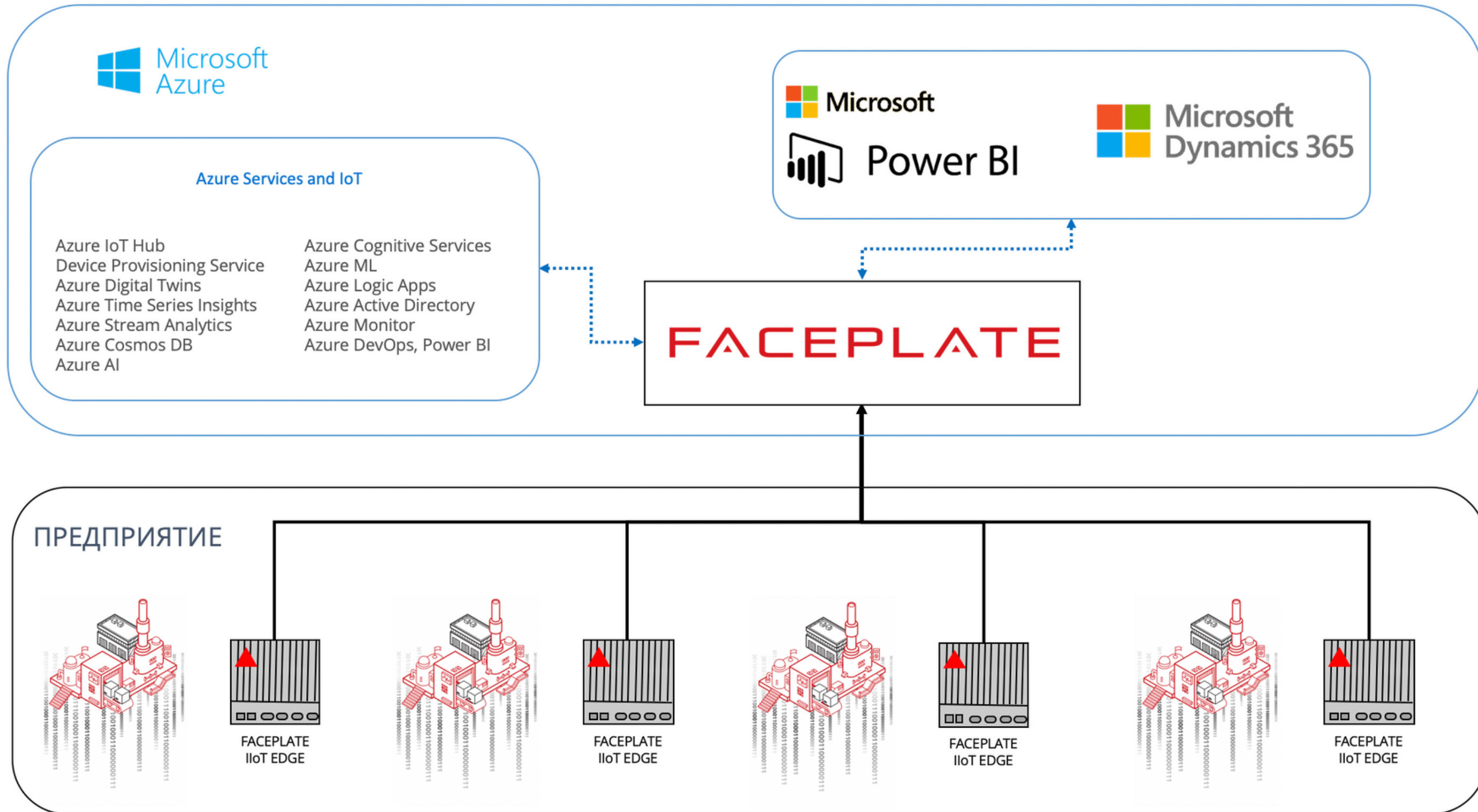
# MAINTENANCE MANAGEMENT

Key functions of downtime management:

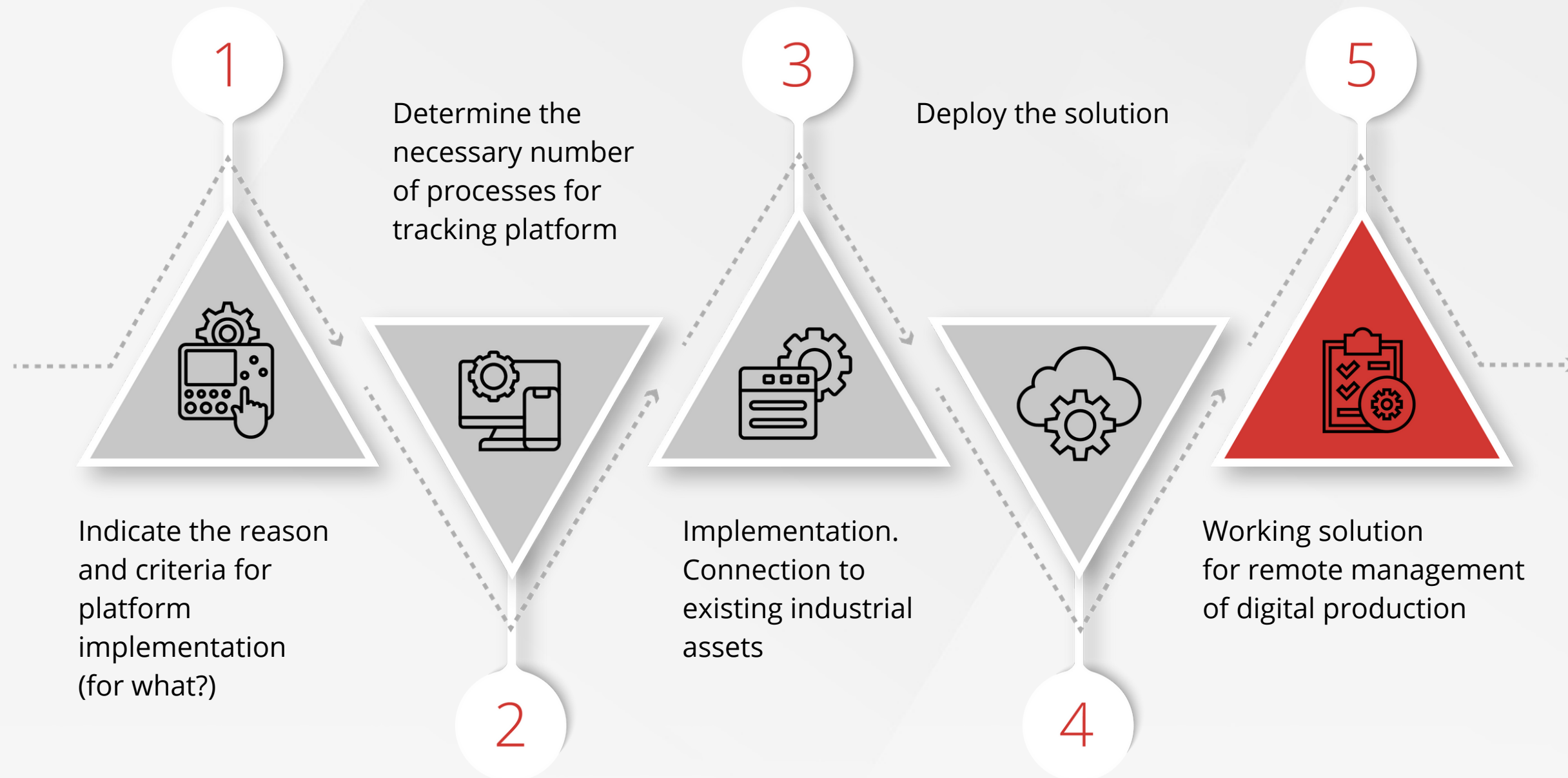
- Tracking of production stops
- Monitoring of low production rate periods
- Forecasting machine maintenance
- Alarm and event recording and statistics
- Reporting, charts, trends and dashboards
- Pareto downtime analysis
- Root cause analysis tools



# INTEGRATION



# PROJECT IMPLEMENTATION PLAN



- ▲ Site survey
- ▲ Analysis of information, issuing a recommended solution
- ▲ Working out the equipment, connection method, production assets
- ▲ Supply of the necessary equipment, engineering (drawings)
- ▲ Connecting industrial assets
- ▲ SAT, comissioning works
- ▲ Customer training

# FACEPLATE

Track your production performance anywhere around the world in real time, from any device and whenever you need it

[expert@faceplate.io](mailto:expert@faceplate.io)

