KUKA

KUKA Industrial IoT offering
_your way forward to IIoT

KUKA Consulting
Keeping an eye on the big picture

With our Industrial IoT solution, we raise your factory to the next level of productivity and operational excellence.

We offer you a tailored end-to-end IIoT solution featuring a modular framework comprised of proven standard components. These can then be customized and applied to meet your specific requirements. Powered by online analysis of shop-floor data, we quickly deliver significant operational impact.

Overall equipment effectiveness

Boost the performance of your operations to achieve operational excellence as well as to increase equipment lifetime and minimize unscheduled downtime.

Sales & growth

Generate new revenue streams by increasing the flexibility and scalability of your operations. Avoid high investments through new service-based business models.

The KUKA proven toolbox

The KUKA software range optimizes your complete supply chain. Intelligent combination of software tools and machines creates tailored services for your Industrial IoT solution. Our platform offers software tools such as KUKA Connect, KUKA Xpert, KUKA SmartProduction_monitoring, SynQ.

Data-driven improvements for your processes

Learn and analyze your production performance in order to gain precise process insights and thus facilitate data-driven decisions and better allocate your human resources.

Achieve excellence through performance benchmarking

Gain transparency and awareness across your internal operational processes. Compare and improve production sites all over the world.
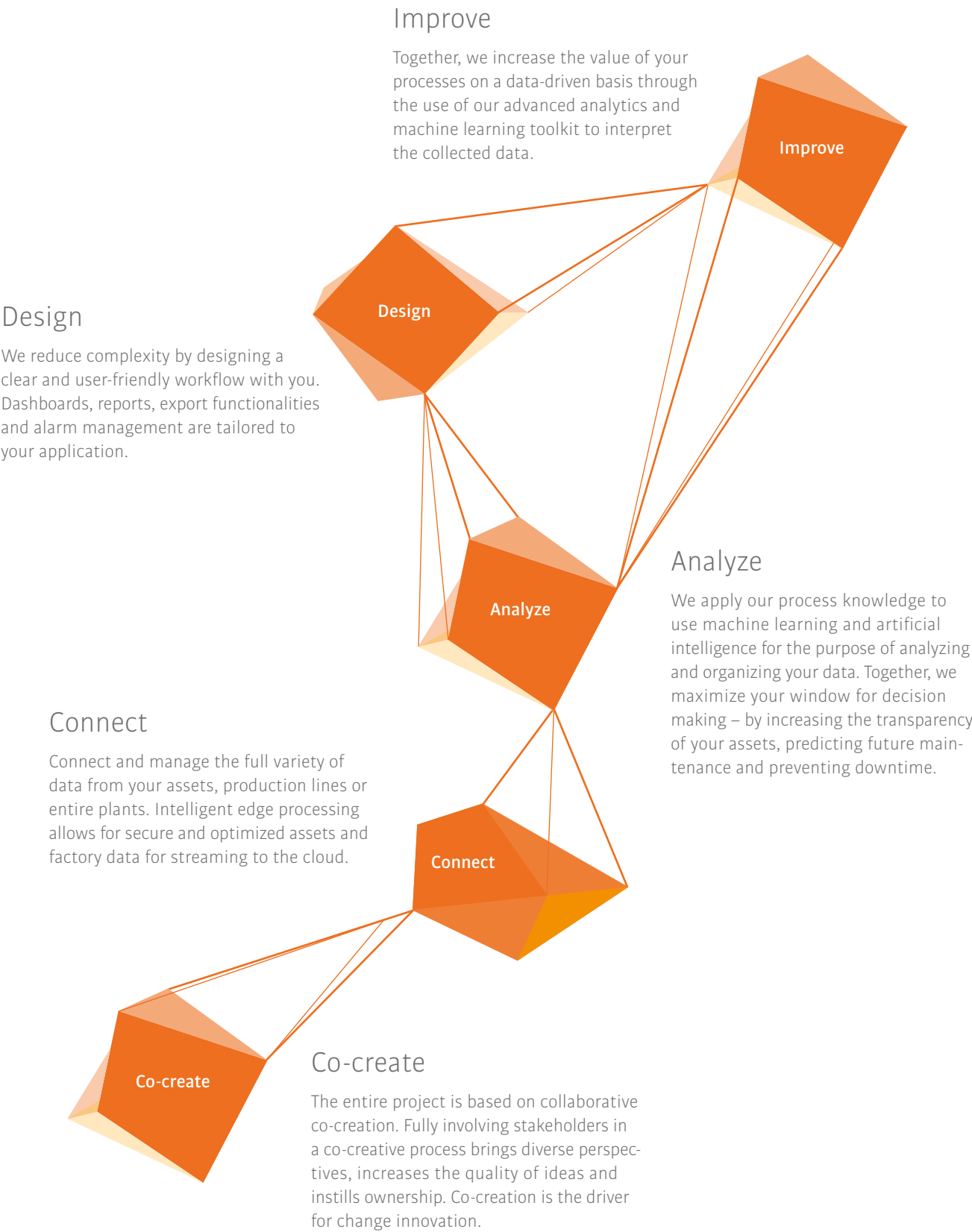
Maximize returns on your IIoT investment

With our IIoT pilot, you can evaluate the usability of the application and the connectivity performance, assess data quality and understand the basis for setting up a business case.
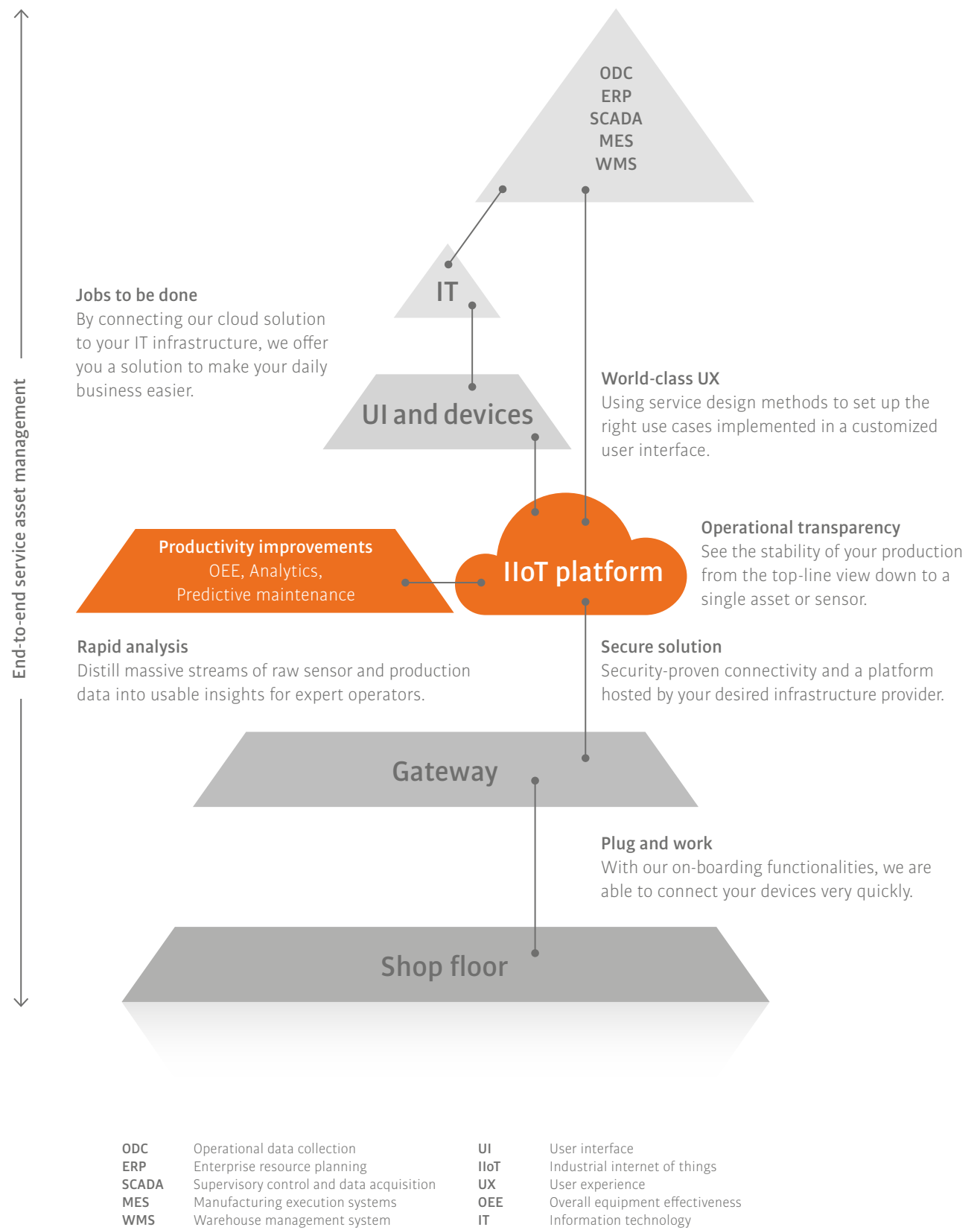
Five steps to measurable results
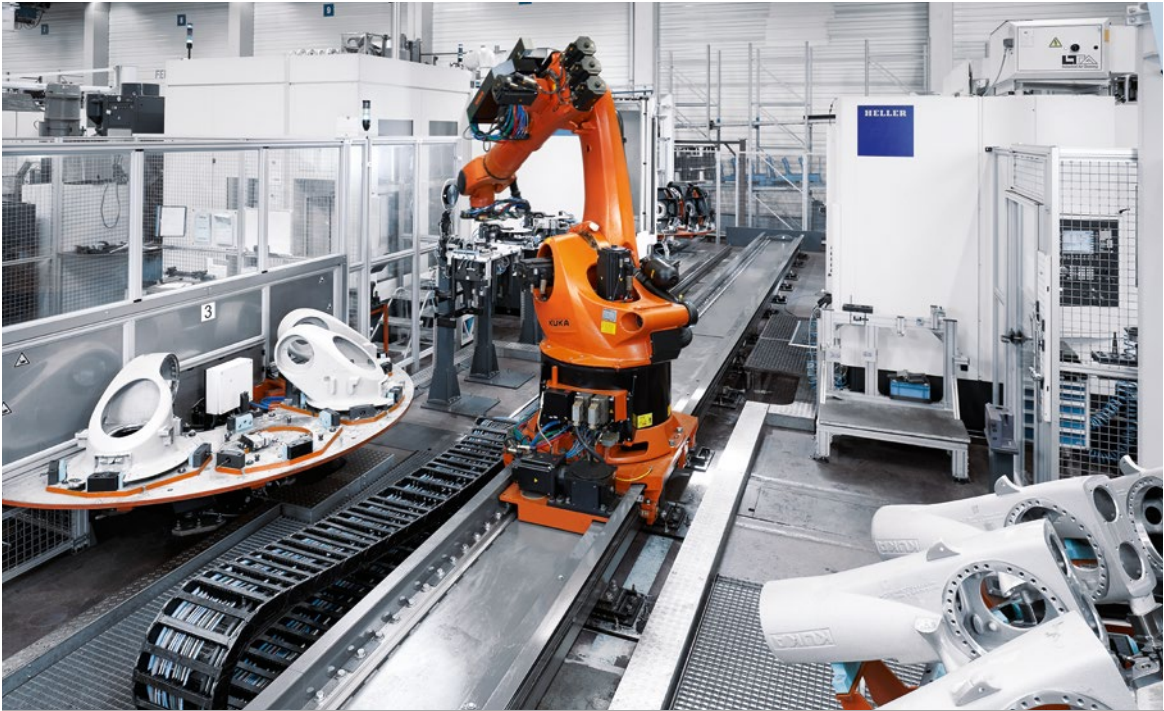## High five on Industrie 4.0

Improve
Together, we increase the value of your processes on a data-driven basis through the use of our advanced analytics and machine learning toolkit to interpret the collected data.

Improve

Design
We reduce complexity by designing a clear and user-friendly workflow with you. Dashboards, reports, export functionalities and alarm management are tailored to your application.

Design

Analyze
We apply our process knowledge to use machine learning and artificial intelligence for the purpose of analyzing and organizing your data. Together, we maximize your window for decision making – by increasing the transparency of your assets, predicting future maintenance and preventing downtime.

Analyze

Connect
Connect and manage the full variety of data from your assets, production lines or entire plants. Intelligent edge processing allows for secure and optimized assets and factory data for streaming to the cloud.

Connect

Co-create
The entire project is based on collaborative co-creation. Fully involving stakeholders in a co-creative process brings diverse perspectives, increases the quality of ideas and instills ownership. Co-creation is the driver for change innovation.

Co-create

Continuously from the shop floor to the cloud
Get the ultimate overview – quickly and comprehensively

End-to-end service asset management

ODC
ERP
SCADA
MES
WMS

IT

UI and devices

IIoT platform

Productivity improvements
OEE, Analytics,
Predictive maintenance

Gateway

Shop floor

Jobs to be done
By connecting our cloud solution to your IT infrastructure, we offer you a solution to make your daily business easier.

World-class UX
Using service design methods to set up the right use cases implemented in a customized user interface.

Operational transparency
See the stability of your production from the top-line view down to a single asset or sensor.

Rapid analysis
Distill massive streams of raw sensor and production data into usable insights for expert operators.

Secure solution
Security-proven connectivity and a platform hosted by your desired infrastructure provider.

Plug and work
With our on-boarding functionalities, we are able to connect your devices very quickly.

ODC	Operational data collection	**UI**	User interface
ERP	Enterprise resource planning	**IIoT**	Industrial internet of things
SCADA	Supervisory control and data acquisition	**UX**	User experience
MES	Manufacturing execution systems	**OEE**	Overall equipment effectiveness
WMS	Warehouse management system	**IT**	Information technology

Fast entry into Industrie 4.0
Pick your individual solution

KUKA IIoT Cell Insights

KUKA IIoT Line Insights

Stage **1**

Getting started
Workshops set

2 DAYS
Proof of impact

5 DAYS
Proof of impact

Following the workshops, it will be clear whether continued investment in I4.0 is appropriate or further preparation and/or resources are required.

You will also understand the use case to initially focus on in order to create an impact for your customers and stakeholders, and to obtain a list of features and an application description.

Stage **2**

Getting insights
Pilots set

3 MONTHS
Cell insights

6 MONTHS
Line insights

After the set of use cases and connectivity, you will be able to begin the pilot phase.

During this phase, you can evaluate the usability of the application and the performance of the connectivity. At the same time, you can assess the data quality, understand the basis for setting up a business case and learn about storage volume and IIoT architecture.

Stage **3**

Getting improvements
Data analysis set

PLUS
Productivity improvements

PREMIUM
Process improvements

Based on the experiences and the data transparency during execution of the pilot phase, the improvement of the cell or line is the logical next step.

The opportunities which are obvious and easy to implement are leveraged in the light version while the full version includes data analytics.
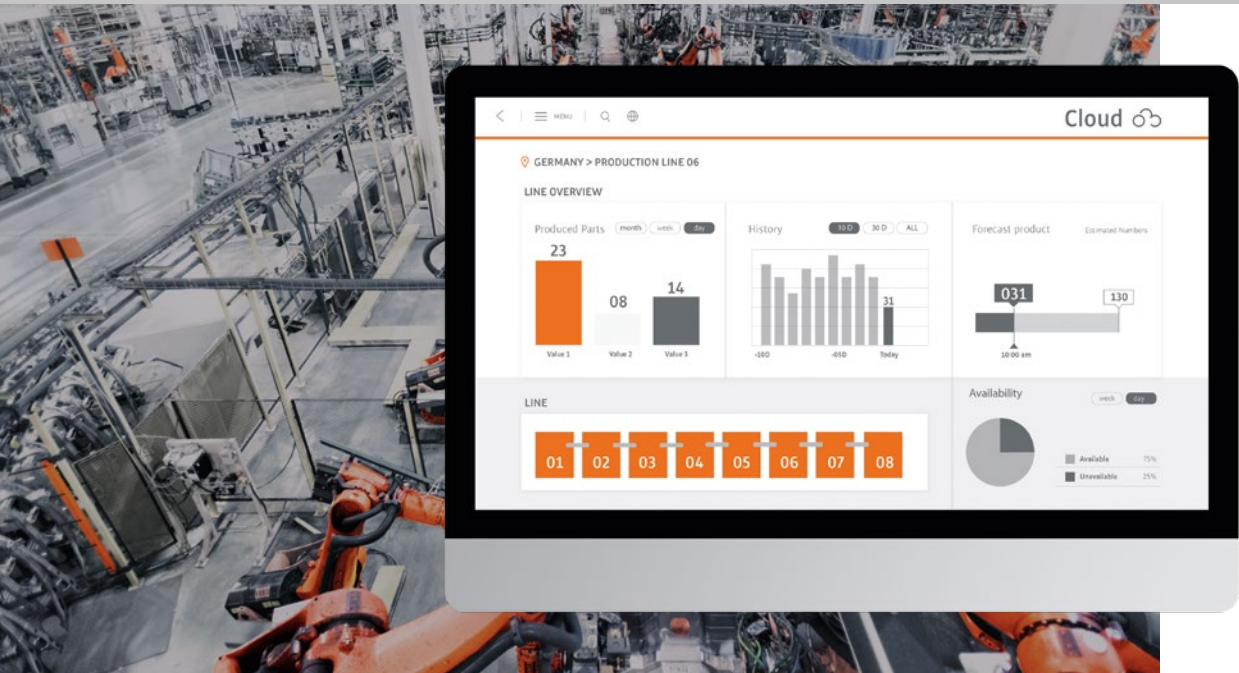
Every detail on the screen
The KUKA offering in details

KUKA IIoT Cell Insights

_1	_2	_3	_4	_5	_6	_7

2 DAYS Proof of impact	1	3 MONTHS Cell insights	2	PLUS Productivity improvements	3
Service design workshop		Connectivity PLC		IT connectivity concept (edge clients, remote services, etc.)	
I4.0 use cases		Monitoring of asset status			
UX / UI sketches		UX concept: wireframes, interface		Scope analytics phase [1]	
Requirements definition		Requirements engineering		• Service design workshop (problems and knowledge scoping)	
Research feedback on distance		Report functionality		• Programming / reprogramming PLC(s)	
Software toolset validation		Detection of potential failure		Predictive maintenance	
				Minimization of machine downtime	

KUKA IIoT Cell Insights

KUKA IIoT Line Insights

KUKA IIoT Line Insights

_1	_2	_3	_4	_5	_6	_7

5 DAYS Proof of impact	1	6 MONTHS Line insights	2	PREMIUM Process improvements	3
Service design workshop		Connectivity PLC		IT connectivity concept (edge clients, remote services, etc.)	
I4.0 use cases		Monitoring of asset status			
UX / UI sketches		UX concept: wireframes, interface		Scope analytics phase [1]	
Requirements definition		Requirements engineering		• Service design workshop (problems and knowledge scoping)	
Research on client side		Report functionality		• Programming / reprogramming PLC(s)	
Software toolset validation		Detection of potential failure		Predictive maintenance	
Personas profile analysis		Anomaly identification		Minimization of machine downtime	
Stakeholder map analysis		Business case prototype		Optimization of spare parts handling	
		Data analytics training		Increase of equipment lifetime	
				Analysis export functionality	
				Business case calculation	

[1] Integrator presence and cooperation is required (approx. 2–3 weeks)

Implement IIoT on a new line
Or upgrade your existing facility

Machine availability
With the anomaly detection of our IIoT solutions, this would never have happened.

Improve your availability.
Enhance process performance.
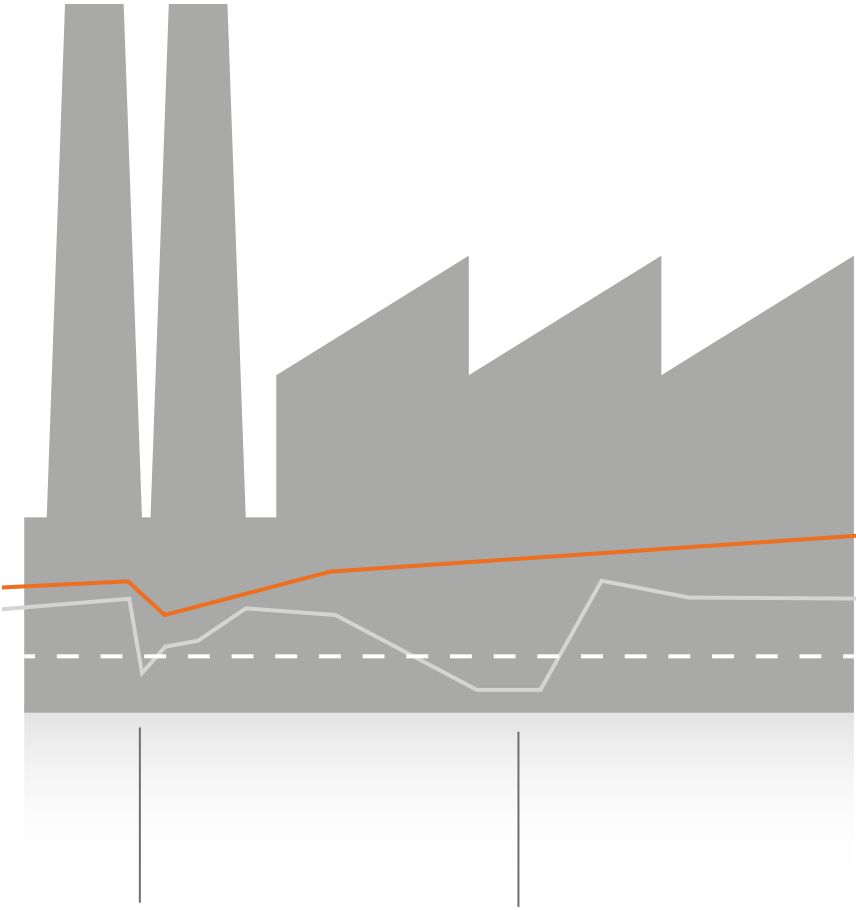
What occurred here
An undetected leak in a pneumatic line causes minor irregularities in clamping of workpieces.

Affected here
The leaking pneumatic line bursts, causing the machine break down completely.

Comprehensive application set
Our digital application allows you to access data points and data frequency as well as to manage data analytics. Thanks to the live evaluation of data and historical storage you can lower the machine downtime in the individual manufacturing process.

"Quality without results is pointless.
Results without quality is boring."

Johan Cruyff
(Dutch football coach and manager)