

# SHAPING SMART PRODUCTION

DIGITALIZATION ON THE SHOPFLOOR

NeXonic <sup>IoT</sup>

NeXision

# NEXONIC

## ANY DEVICE – ANY TIME



The complete NeXonic IOT suite has been designed from the ground up.

This makes it possible to see the same data on all devices. Whether on a mobile phone or large scoreboards.

What is the NeXonic IoT suite?



CONNECTIVITY  
(IOT EDGE DEVICE)



What is the NeXonic IoT suite?

SOFTWARE  
(CLOUD + FRONTEND)



# Direct Cross-Manufacturer Data



## IoT Connector

Collects "minimally invasive" data from controls from different manufacturers and aggregates them.



## Independent

Self-sufficient operation with battery and independent network possible (LTE, LoRa).



## Sensors

In Addition external sensors can be connected for upgrading existing machines.



## Quickly installed

Shortest commissioning times - state and process data flow in under one day



# The Modularity of NeXonic

Individual or collaborative modules



## QUALITY

Direct error recording on the product including live evaluation and information



## PERFORMANCE

Real-time information from production and active control from machines with our IoT connector and sensors



## LOGISTIC

Transparency of critical inventory, demand forecasting & capacity planning



## MAINTENANCE

Complete and standardized real-time detection of faults and causes on mobile devices

# NeXonic – Quality



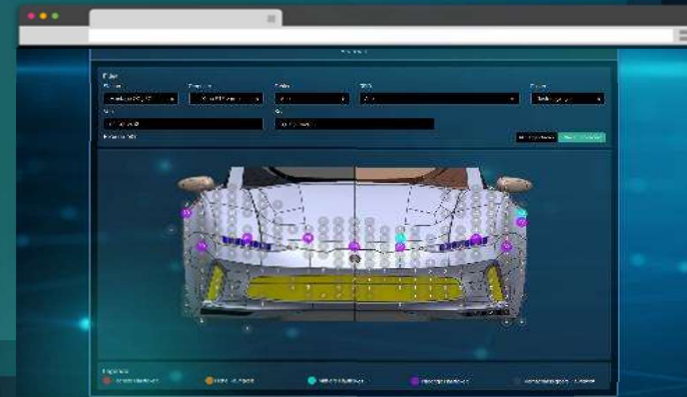
Direct error mapping in the 3D model incl. classification in error images and photo documentation



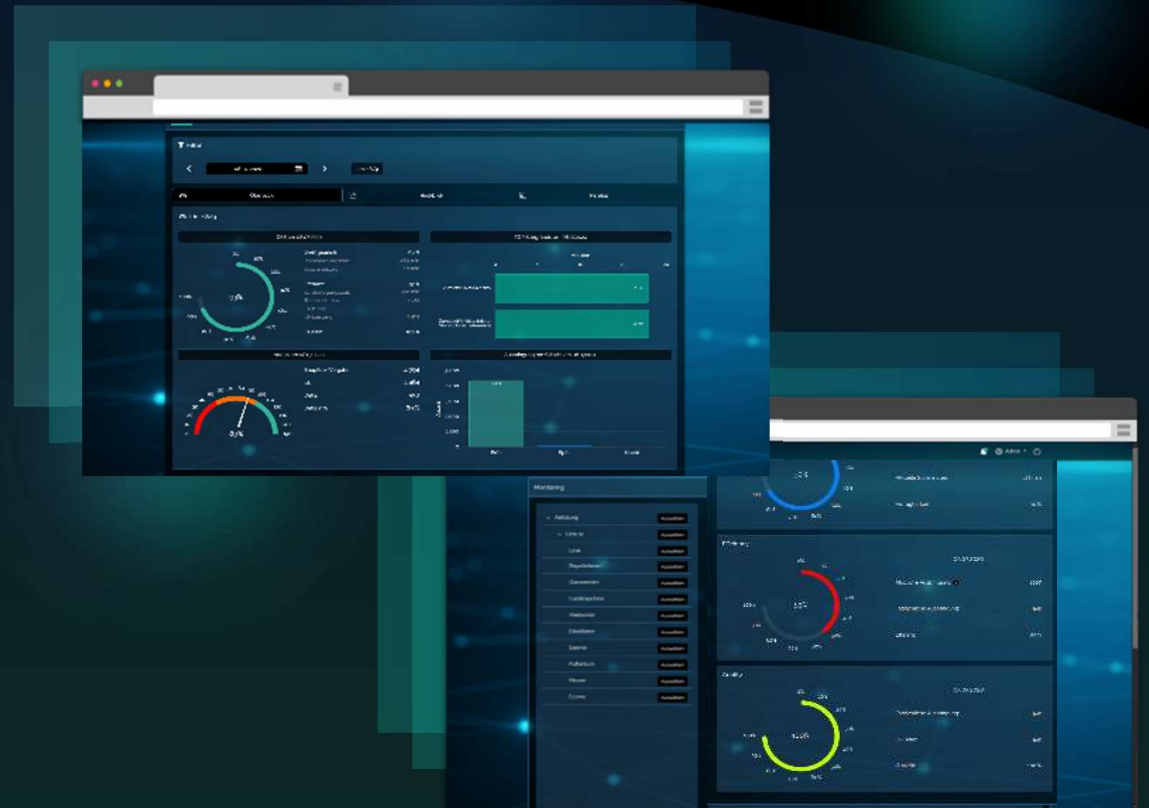
**Automatic escalation / workflow support when error thresholds are exceeded**



Web-based analysis and evaluation tools (e.g. Pareto analyses, heat maps) allow targeted analysis of the causes of errors



# NeXonic – Performance



**Real-time generation of relevant key figures for active control of production (e.g. OEE, output quantities, processing times, fault times)**



**Drill-down allows targeted cause analysis for target-actual deviations**



**Dashboards with individual content for different roles (master, production manager, plant manager)**



# NeXonic – Maintenance



**Complete and standardized detection of faults and causes on mobile devices**



**"Knowledge database" for maintenance - possibility to integrate instructions/videos etc.**



**Visual processing of fault times and causes in interactive and customizable dashboards**

# NeXonic – Logistik



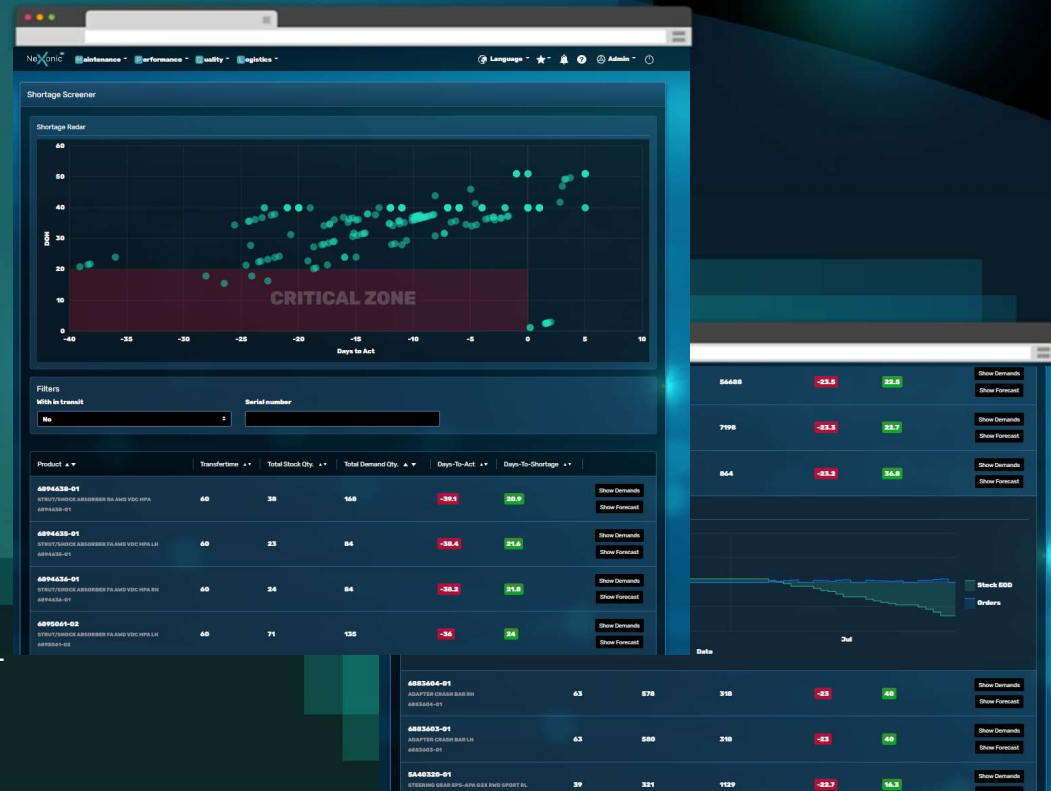
Continuous **transparency** about the stocks of **individual components and clusters**. Showing **minimum quantities and ranges**



Automatic **escalation / workflow** support when inventory quantities are exceeded



Web-based analysis and evaluation tools (e.g. Pareto analyses, SWET monitoring, etc.) allow **targeted analysis** of logistical problems.

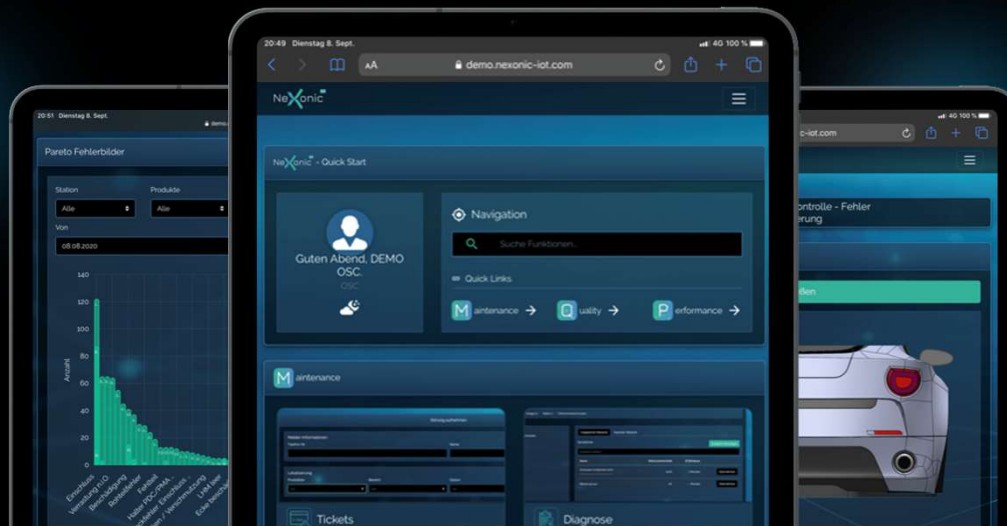


# All Data at your Fingertips

## NeXonic as Web Based Tool

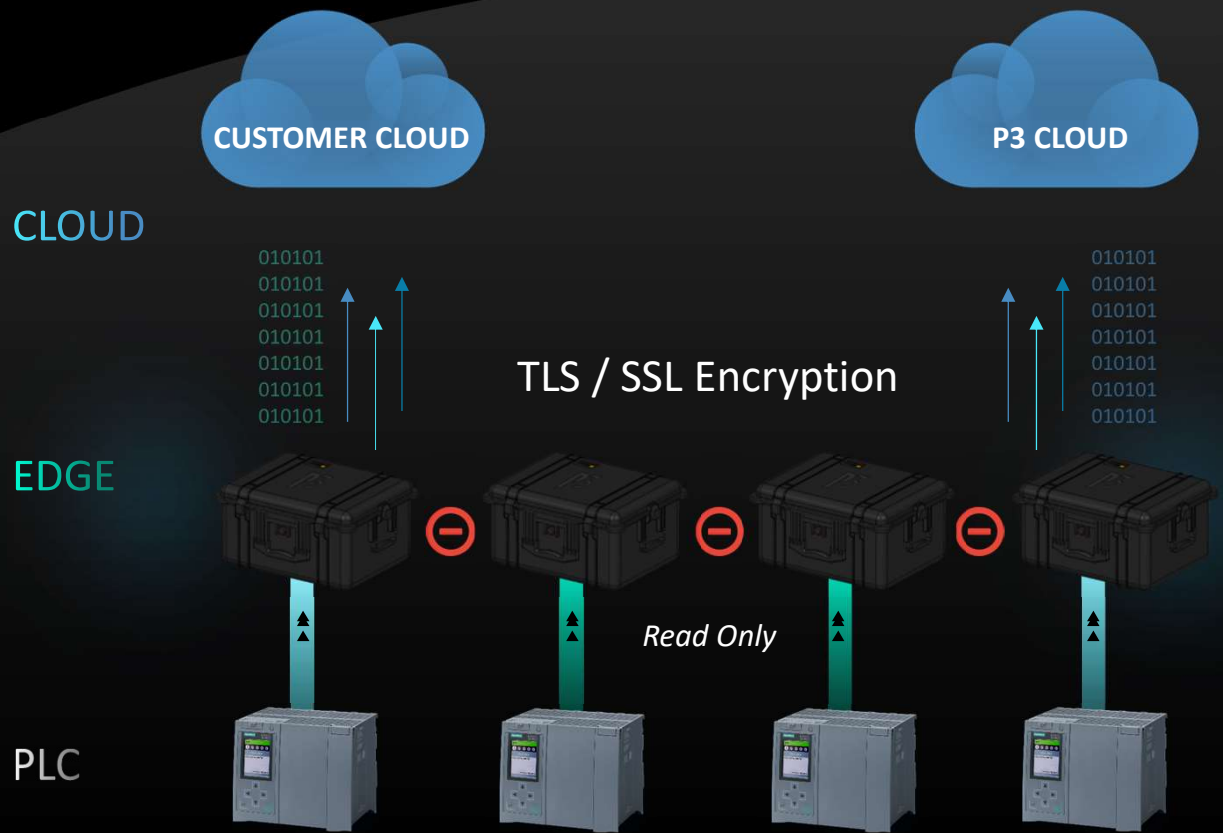
During meetings, on the shop floor or on the go. With active notifications, no information escapes!

By using tablets in production, it is possible to get a cost-effective alternative to conventional input devices. Every modern tablet is suitable and has no limits in terms of usability and comfort.



# NeXonic – Cybersecurity

According to the Best Safety Standards



## CYBERSECURITY

- Application can be hosted as follows
  - In House Servers/on-premise cloud or Customer-separated Azure Kubernetes Cluster operated by P3
- TLS-encrypted communication between hardware and cloud
- SSL encryption when accessing web applications (only via https with valid base64 certificates)
- Hardware already largely implemented according to the IEC 62443 (cybersecurity for I4.0 applications) standard. No write access to the PLC, read only, without access to the production network.

# Machine Interfaces (selection)

Different Interfaces and Providers



S7 RFC1006



Modbus TCP



OPC UA Client



REST-API



File-based JSON



Websockets



ADS



PCCC



MC



OPC DA



EtherNet/IP

TCP

UDP






























MQTT

# POSSIBLE DATA CONNECTIONS

## P3 NEXONIC®

Connect & collect data from different systems and platforms

								
Amazon Redshift	Amazon S3	Azure Blob Storage	Azure Data Lake Store	Azure DocumentDB	Azure SQL Database	Azure SQL Data Warehouse	Azure Table Storage	Cassandra
								
DB2	File System	FTP	HDFS	HTTP	MongoDB	MySQL	OData	ODBC
								
Oracle	PostgreSQL	Salesforce	SAP BW	SAP HANA	SFTP	SQL Server	Sybase	Teradata

# Everything in one solution

connected and high performing



## APPLICATIONS

>50 plants / locations  
 > 1000 active users in the sectors: Automotive, Mechanical Engineering, Pharmacy, Food & Retail



## FLEXIBILITY

Modular structure + license cost model enable full cost control



## INTERFACES

Connection to PPS/SAP and manufacturer interfaces possible  
 Device-independent user interface



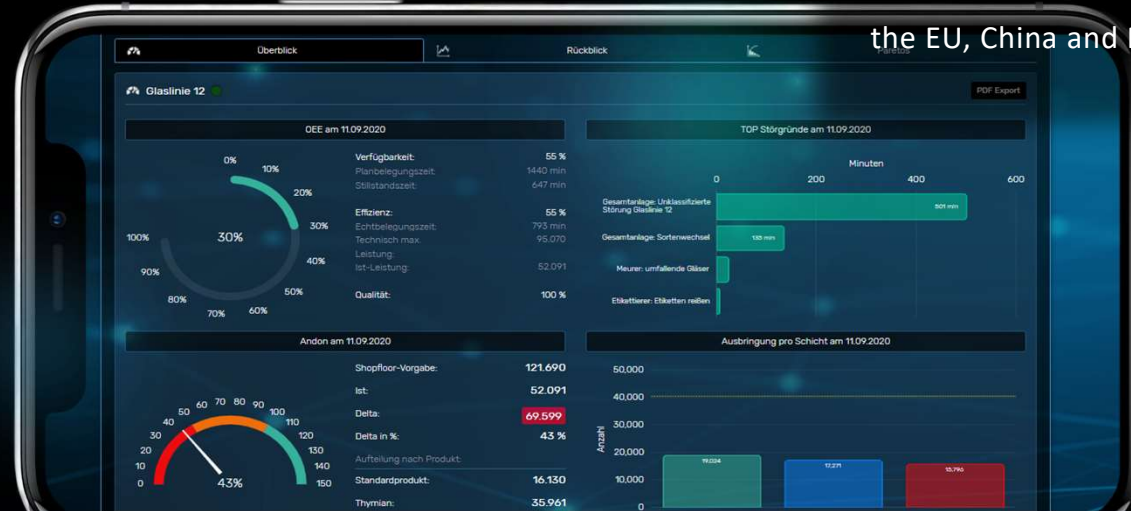
## CONNECTIVITY

Encrypted LTE communication  
 > 50,000 records per sec possible  
 Infrastructure established in the EU, China and NAFTA



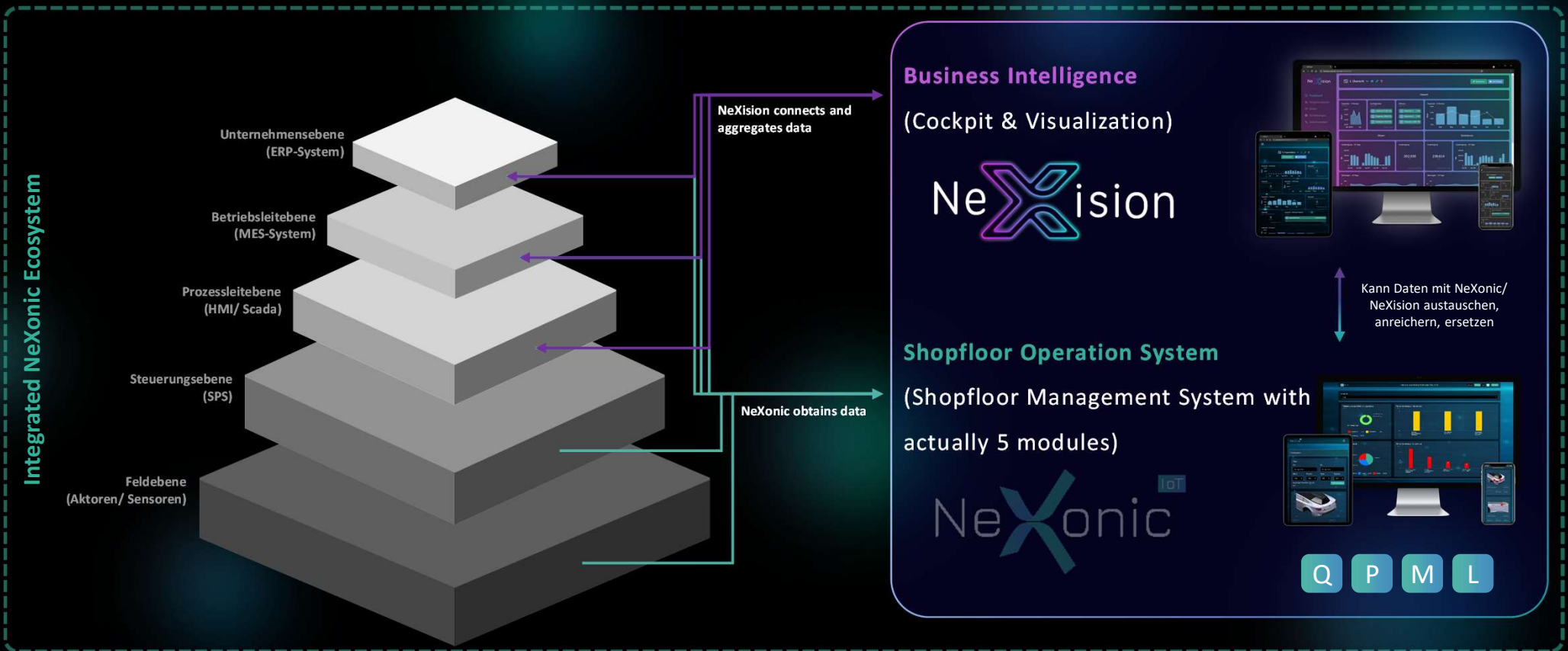
## AVAILABILITY

> 99.9% availability (since first use)  
 Setup within a few days  
 Scalable cloud infrastructure (MS Azure, AWS) at any time



# Overview NeXonic & NeXision

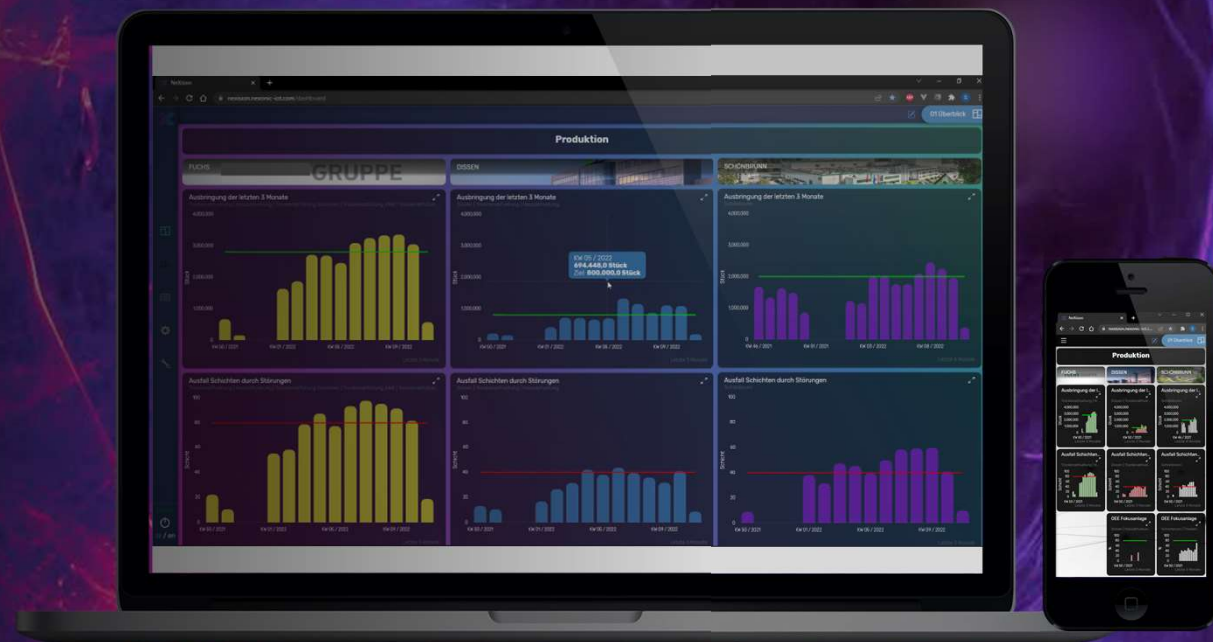
Connecting Shopfloor & Business Intelligence



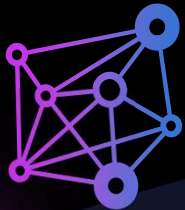


# NEXISION

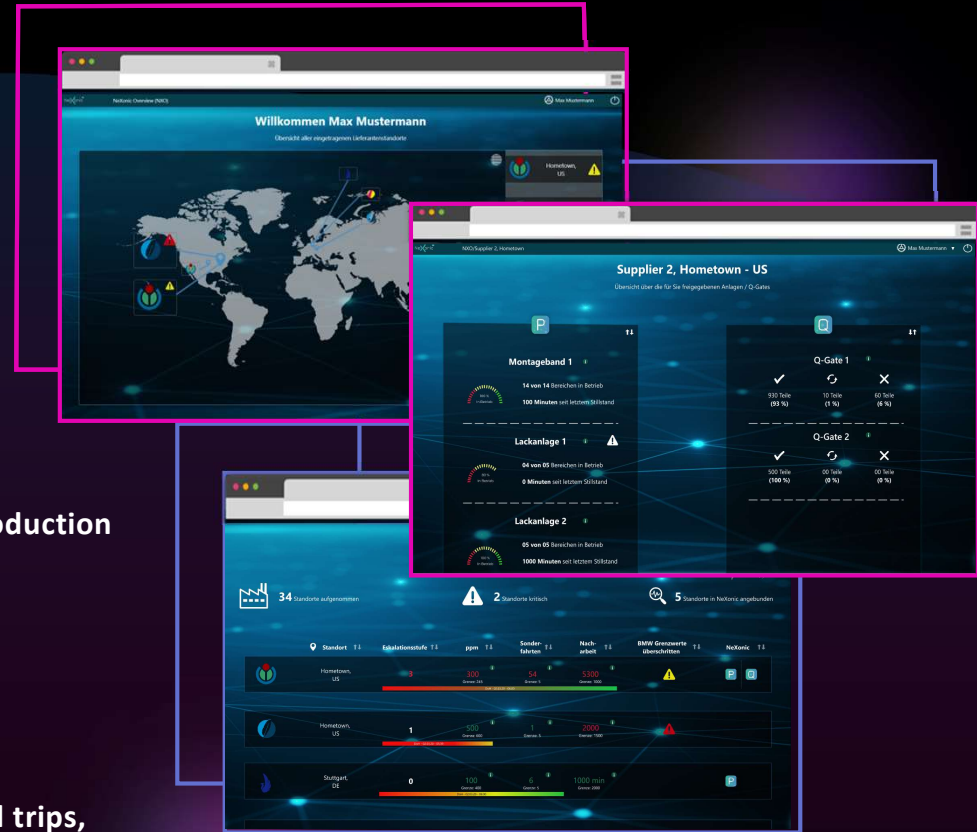
## SOFTWARE OVERVIEW



# P3 NEXISION – CONNECTING EVERYTHING



# NeXision



**NXO - Aggregation across the value chain. Display of the current production and quality status of one or more sites.**



**Data sharing and control is in the care of the respective site managers.**

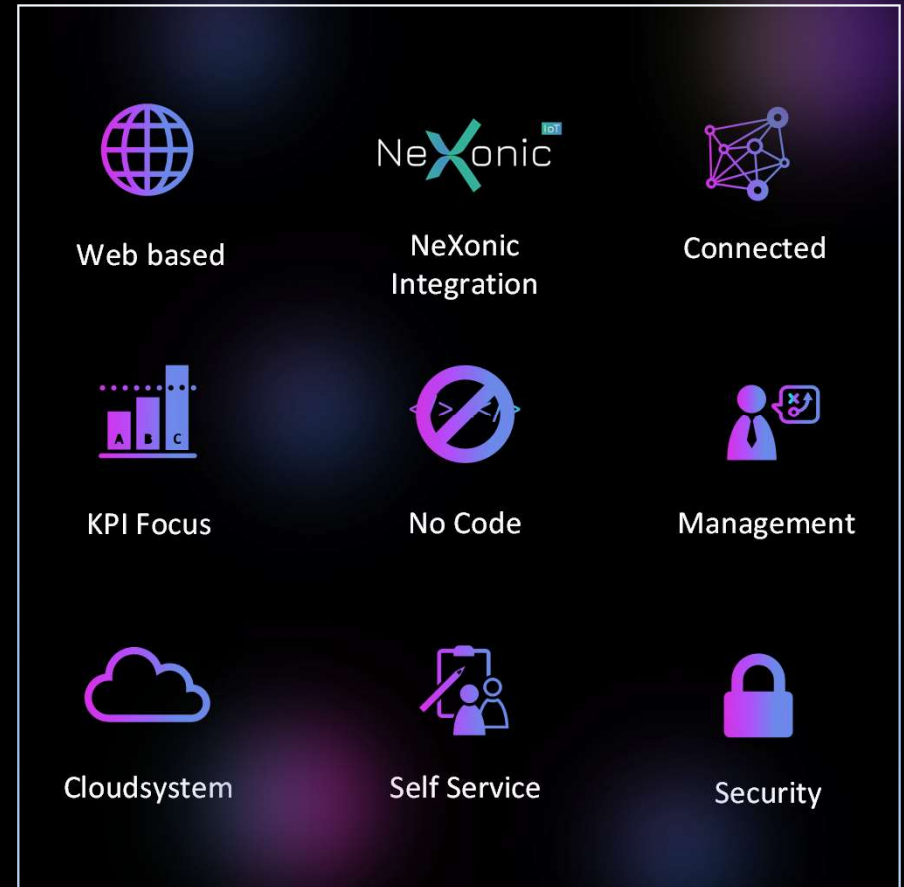


**Flexible integration of NeXonic independent key figures (e.g. special trips, disease rate) for the complete consideration of a location.**

# Strategy decision with **connected vision**



Self Service Platform for **standardized, comparable** & **flexibly** configurable **Design** and **Distribution** of strategically relevant company figures

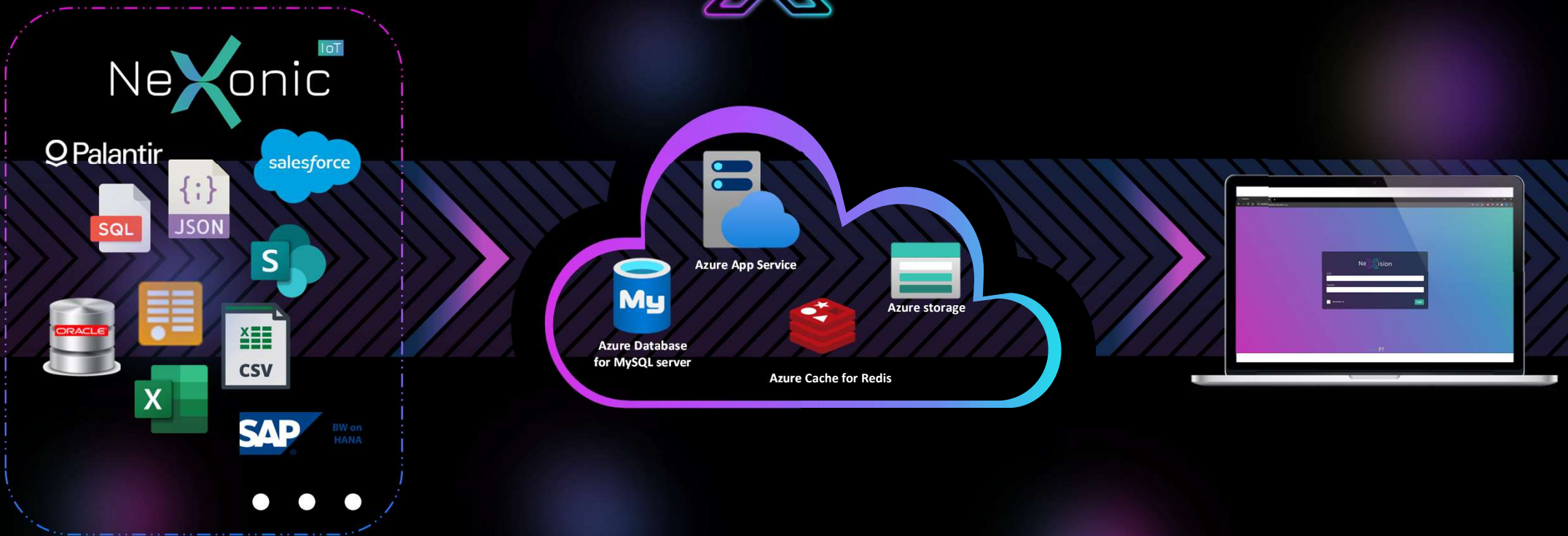


# Access different data sources

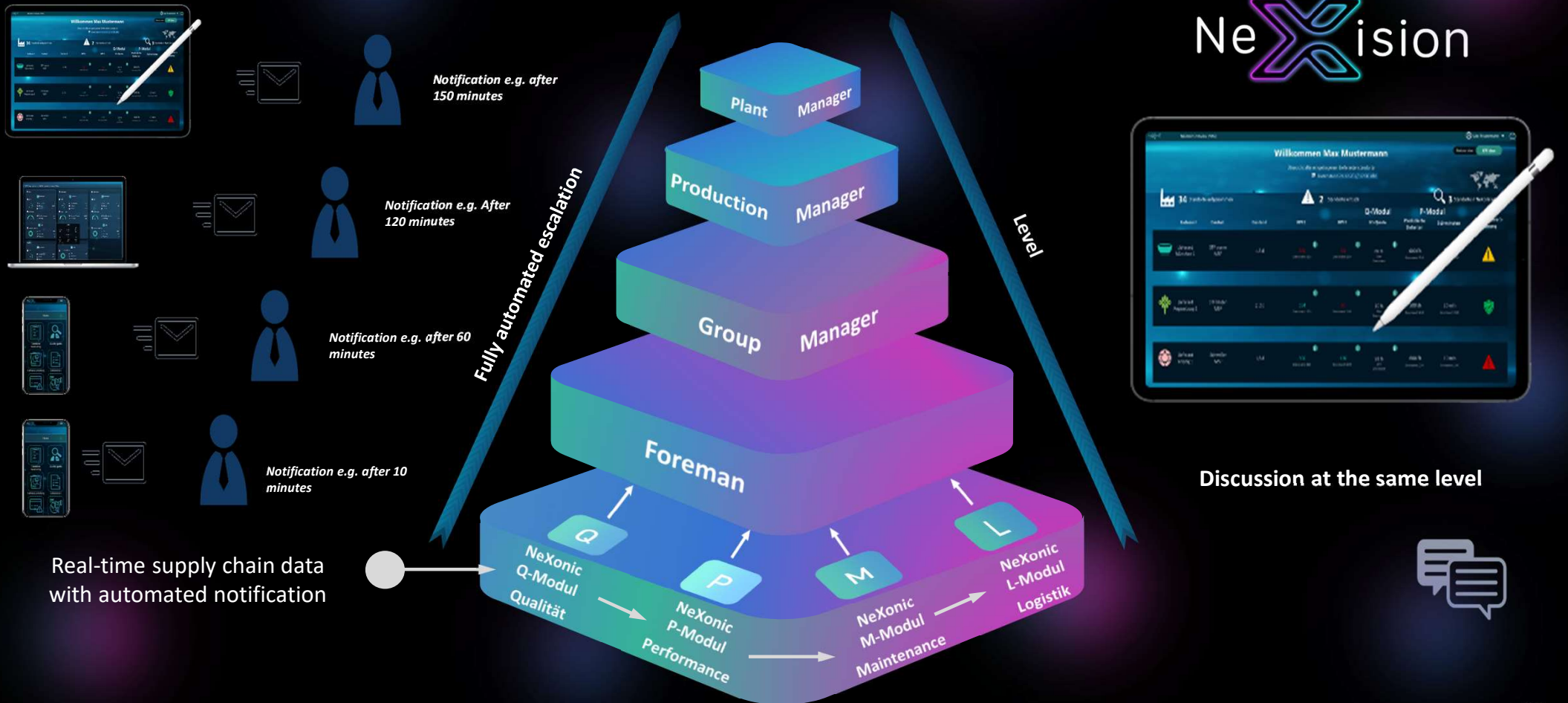
DATA WORLD

# NeXision

WEB



# Early warning system, overview & escalation from supplier to customer



# All data at your fingertips

# NeXision



# ANY DEVICE - ANY COLOUR - ANY TIME

# About 4zero solutions GmbH

## Four :: solution

### NeXonic - from shop floor to top floor

With our software solution NeXonic, individually adapted to your needs, we bring digitization into your production.

Fast and efficient!

## Four :: connect

### NeXision - Data Exchange made easy

Our self-service platform NeXision makes it possible to present strategically relevant company key figures in a standardized, comparable and flexible way and to share them with selected business partners.

## Four :: think

### Become ready for Industry 4.0

We find the digitization potential in your production area and implement it optimally.

## Four :: sense

### Custom and complex IoT solution


Development and design of individual and complex IoT solution that meets the modern requirements and principles of building a functioning end product.


# CONTACT US



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