

# THE FOOD INDUSTRY IN DIGITAL TRANSFORMATION

Our product portfolio for  
your version of Industry 4.0

**When does the future begin?** Not in ten years – but rather tomorrow. The possibilities ascribed to the “future of production” are no longer merely dreams of the future, but a tangible reality.

You have the opportunity to participate in these developments right **now** and to actively shape **the future of your production operations**. We can guide and support you in every step towards your individual version of the smart factory with our diverse product portfolio: modular, scalable and at the state of the art.

**Today, tomorrow and even 20 years from now.**



## EdgeOne:

# Everything in perfect flow, from sales planning to the production line

Sales planning, long-term planning, distribution planning, ERP, production planning, MES and LIMS are classic applications that provide support for all aspects of production and on-time delivery to various functional silos. Integrating these processes with each other generates individually digitalised complex IT landscapes that are costly to operate.

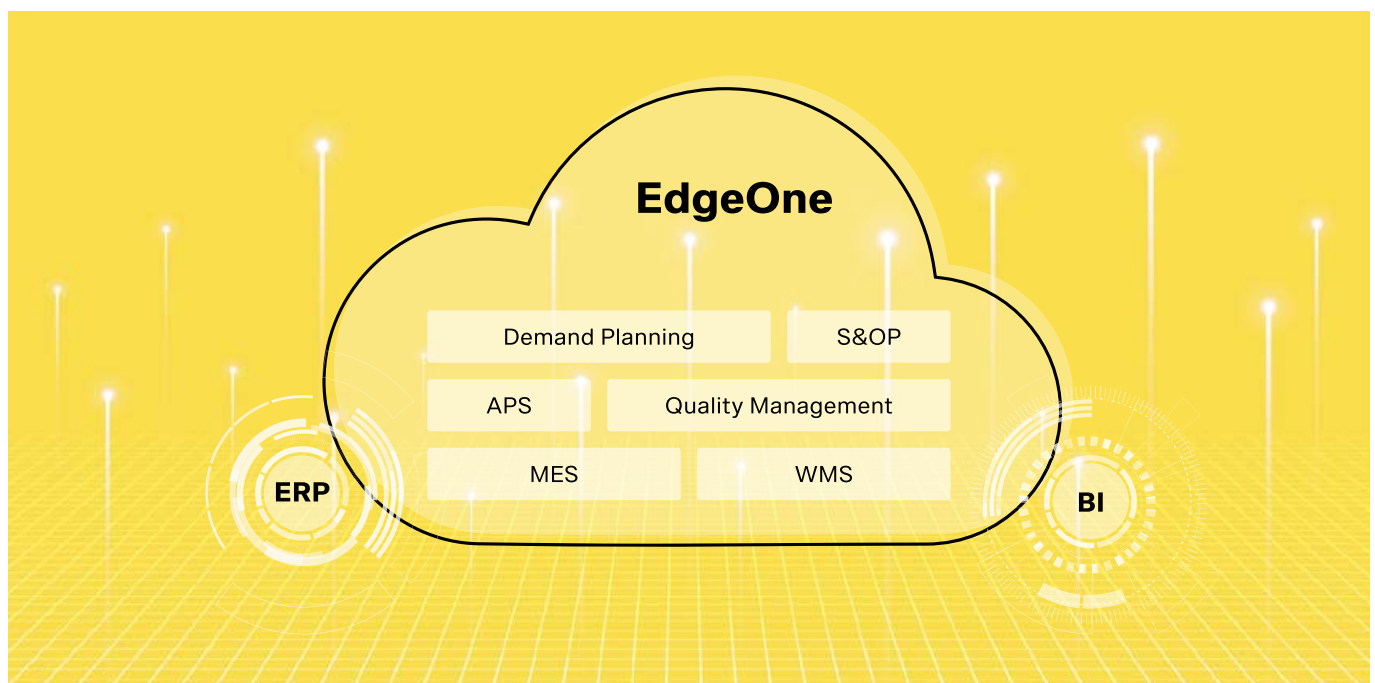
EdgeOne is an integrated platform based on a micro-service architecture. It offers the possibility to integrate Germanedge solutions as well as third party applications. The domain model is based on ISA95, and is ready for Industry 4.0.

EdgeOne is delivered in a scalable, customizable structure and is cloud agnostic – based on Docker Swarm and, in the future, Kubernetes. We support all operating concepts: Whether SaaS, renting from the cloud or operating it yourself, on premises or a hybrid concept – you can start using EdgeOne as soon as a cloud connection is available. Thanks to its microservice-based architecture and continuous deployment, EdgeOne enables fail-safe operation while ensuring that applications are always up-to-date.

Thanks to our developed design system and additionally developed elements, EdgeOne is also visually the ideal platform for shop floor applications. By integrating the unified production workplace (UPW) into EdgeOne, a central user interface in the form of a web portal is created as an entry point to the various Germanedge and third-party solutions.

### The advantages of EdgeOne at a glance

- Cloud agnostic
- Available as SaaS, on premises or as hybrid concept
- Microservice-based
- Continuous deployment
- Event based communication
- Single sign on
- Event sourcing
- Special “Inspire” design system



# MES and WMS:

## The best of both worlds for maximum efficiency in production

Ensuring food safety, small margins, inventory changes and non-standardised orders all pose significant challenges for food manufacturers. Automated production processes help production managers keep track of their production processes, ingredients, machines and employees throughout the factory.

The software solutions from our product provider Objective for WMS and MES enable the complete tracking of your flow of goods and their use: From the arrival of raw materials, through the production and storage stages, to the delivery of the final product. Your logistics and production processes line up seamlessly and deliver quick and accurate results. The two software solutions form the Objective Suite, an all-encompassing tool for the operational management of production and logistics in the food industry: the ultimate step in the pursuit of operational excellence.

**The solutions can, however, also be used separately.**

### Objective MES

Objective MES is designed to optimise production processes and the flow of goods for the food and beverage industry, from the receipt of raw materials and components to the delivery of the end products. The software solution is made up of functional modules that can be deployed in a scalable fashion. **The basic modules for production management offer all the functions needed to control your production processes:**

- Product Definition
- Scheduling and implementation
- Resource Management
- Data collection and analysis

Objective MES allows you to use your machines and production facilities more efficiently and thereby generate measurable benefits. The recipe management feature ensures that your end products are consistent and of high quality. Enjoy a real-time overview of your production progress at all times and manage your schedule with the visual planning board. The software also enables you to quickly determine the cause of problems or complaints using the “Objective Lot Genealogy” function. Automatic management of your machine settings enables you to continuously optimise them.

### Objective WMS

Objective WMS simplifies your logistics processes and the flow of goods in your warehouse: From incoming goods or raw materials to picking, VAL, kitting and repacking, right through to dispatch. Objective WMS is made up of functional modules that can be deployed in a scalable fashion.

**The basic “Warehouse Management” module offers you optimal control over your daily processes:**

- Warehouse modelling
- Order management and disposition
- Task management
- Inventory management

By combining the flexibility of our WMS solution with our expertise, we can ensure smooth implementation with a clear timeline and budget. In practical terms, implementing Objective WMS will mean an ROI of no more than 1.5 years. Our WMS software allows you to track all transactions and movements from incoming goods to outgoing finished products. You always have an overview of your stock levels, and your goods will be delivered to the production lines at the right time. The optimised workflow processes enable higher volumes to be processed without needing more labour and resources, while simultaneously ensuring high production accuracy and on-time deliveries. Objective WMS helps you to reduce your expenses, increase your turnover and significantly improve your operating margin.

# End-to-end supply optimisation:

## Plan and manage your supply chain in an integrated way

Complex structures, a multitude of different parameters, and rapidly changing production logistics conditions make supply planning particularly challenging for food manufacturers. The Germanedge product provider ORSOFT offers software solutions to meet all of your challenges, from demand forecasting and procurement planning to detailed planning.

### “ORSOFT Enterprise Workbench”

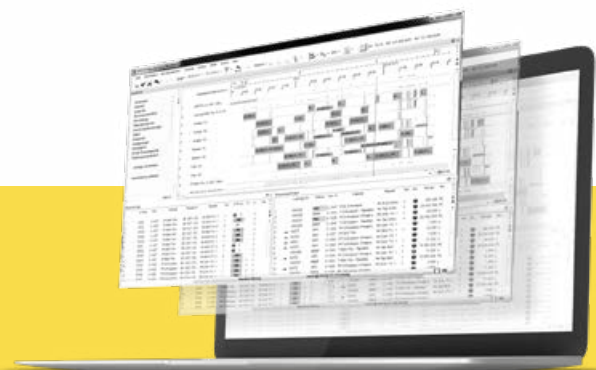
With our “ORSOFT Enterprise Workbench” software, you can plan and control your global value chains end-to-end and in real time. As defined by Gartner, this system constitutes a “supply planning system of record” and supports our customers in achieving a higher level of efficiency. With the help of artificial intelligence and machine learning, the demand planning module creates reliable demand plans based on current and historical data. EdgeOne’s standard interfaces, such as those to SAP BW, simplify access to this information. This results in a significant increase in forecasting accuracy and lays the basis for financial planning.

The solution is therefore based on the production logistics model of SAP ERP or SAP S/4HANA and creates a digital supply chain twin based on this, which is also continuously updated with this data. The capacity check is not based on coarse volume-time requirements, but on scheduling, taking into account relationships, shifts and other restrictions. Interactive, simulation-based planning processes replace the previous batch-oriented processes and the rough planning is seamlessly offset against the detailed planning.

### “ORSOFT Manufacturing Workbench”

Our “ORSOFT Manufacturing Workbench” software enables simultaneous material, capacity and personnel planning. Industry-specific features are of course also taken into account in detailed scheduling, be it the scheduling of multi-product storage tanks or the determination of batch sizes according to dynamic product ranges, best before dates and remaining lead times. No more will last-minute orders from customers, time pressure for promotional goods, delayed or limited deliveries of raw materials throw your production out of balance. Our blending optimisation calculates variable parts lists in order to ensure consistent product quality with natural raw materials.

The ORSOFT Manufacturing Workbench is at its core an advanced planning and scheduling tool that offers interactive multi-resource planning with the ability to create and compare planning scenarios. The optimal scenario is then selected based on key figures. Based on SAP ERP or SAP S/4HANA data, the software provides an immediate overview of capacity utilization, material flows, delay situations and material key figures – even across different locations.



### **“ORSOFT LabScheduling”**

As part of an integrated planning process, the “ORSOFT LabScheduling” software includes the laboratories when examining the logistics chain, making late deliveries of goods due to quality controls that were carried out late a thing of the past. All necessary inspection lots are generated in advance based on current production planning and the expected quality situation, and are automatically planned taking into account deadline and workstation restrictions so that possible bottlenecks can be identified and eliminated at an early stage. In short-term planning, it is possible to react flexibly to operational disruptions and changes based on real-time data processing.

ORSOFT LabScheduling enables integrated laboratory planning on the basis of production planning in ERP up to the evaluations from the LIMS. At the process level, capacity analysis, capacity planning and detailed planning are supported. The planning horizon in laboratory planning is similar to that of production planning. In detailed planning, real-time data processing allows flexible reactions to changing business events and agile detailed planning of the laboratories.

### **“ORSOFT Master Data Workflow”**

Efficient master data management with “ORSOFT Master Data Workflow” accelerates the preparatory processes of your production line. The many last-minute product launches can lead to considerable additional work in production planning if the necessary master data is not available. As many specialist departments are involved in the creation and verification of master data, the workflows provide an overview of tasks and deadlines, delays in processing are quickly recognised and countermeasures can be implemented.

Our solution “ORSOFT Master Data Workflow” is an extension for SAP ERP for workflow-based, quality-assured master data maintenance. The software enables the storage of provisional, simulated or incompletely maintained master data outside of SAP ERP objects, whereby the data is stored in structures identical to SAP ERP. Thanks to the possibility to define your own test rules, the solution is also suitable for cross-national applications with differing legal requirements.





## Quality management: Food safety throughout the entire production cycle

**Consumer health comes first. Food safety is therefore a central issue for companies in the food industry – and compliance with official requirements such as traceability, origin assurance and hygiene regulations is just one aspect of this. Beyond that, there are a multitude of requirements imposed by customers, the company itself and the industry that also have to be met.**

Our solution for your quality management from our product provider QDA SOLUTIONS supports you in meeting the high quality standards required of the food industry. Despite the differences in industry standards that must be complied with (ISO 22000, FSMA, HARPC, HACCP, GFSI), we offer you a transparent, secure and profitable quality management solution.

Our software solution for quality management can be built up in a modular fashion: you only have one infrastructure, regardless of the number of modules used. The integrated software architecture offers interfaces to PLM, CMM, ERP and MES systems. Thanks to Unicode, our solution supports multiple languages and is therefore ideal for worldwide use. The software is also based on databases, compatible with MSSQL, Oracle and PostgreSQL, and “Citrix ready”.

**Through the use of a variety of modules, we provide you with a scalable digital quality management system that is tailored to your needs:**

### Incoming goods

All quality-relevant data is recorded in the software right from the beginning. If there are deviations in delivery, a supplier complaint can be created directly, a supplier evaluation can be carried out and measures can be initiated with the additional action management tool. To ensure full traceability through to your suppliers, PoC documents from your suppliers can be added to the QDA. Automatic sampling planning allows you to configure the system to align with the AQL sampling system.



## Data acquisition (SPC)

Ongoing quality control during production is important for product stability – even across factory and country borders. Real-time monitoring enables you to control parameters such as temperatures, humidity or flow rates. Net content control is also particularly relevant here: underfilling can lead to fines and overfilling can lead, for example, to financial losses to the bottom line or problems with packaging capacity.

## LIMS

Our LIMS system enables you to plan, perform and manage all your laboratory tests. The resource management and sample management integrated in the solution enable you to plan not only the quality to be measured, but also the resources within your laboratory.

It also supports the automatic creation of CoA documents and includes integrated task management for scheduling work in the lab. The integrated evaluation tool allows you to automatically release lots. Through integration with your ERP or PLM system, information can be transferred back to your ERP or warehouse management system.

The above combination of modules and tools will help you achieve time savings of 50-80% when creating your PoC documents.

## Supplier management

Integrated supplier management involves data collection and dynamic sample planning. When combined with complaint management, this enables an automated process that ensures you can keep an eye on the quality of your suppliers, and that traceability is also guaranteed with regard to suppliers.

## Document management

Our quality software's document management function allows you to manage and approve all of your quality documentation. Supplier documentation, specifications and certification documents can also be archived here. The built-in release and validation process means that QDA meets the required quality standards. The solution also includes a comprehensive logbook and digital signatures, as well as a multi-stage approval process.

## Gage and tool management

Inadequate calibration can lead to considerable measurement inaccuracies, cause manufacturing errors, result in expensive adjustments of the manufacturing processes, and severely affect your overall product quality. Our quality management software assists in the creation and implementation of maintenance and cleaning intervals for the machines. Additional image and text information can be added during the test to document correct performance.

## Complaint management

The complaint handling workflow enables notifications and escalations to be created automatically to ensure not only that immediate action is taken, but also that the CIP is monitored. QDA complaint management can be broken down into internal, external and supplier-related complaints. Corrective actions can be scheduled directly for internal complaints that are recorded, for example, during process inspections.

When used in combination with the data collection or supplier management module, you can save 80-90% of the time needed to produce a deviation report. For case processing, the time savings amount to more than 30%.

## Outgoing goods

Before the goods can leave the production facility, they must first pass through a final outgoing goods inspection. Our software supports you in this with a dynamic sampling plan. The combination of modules within production allows the system to automatically validate the lot before release and ensure that the required documents are approved and shipped with the product. The integrated visual checklists ensure that only approved and valid products leave the factory.

## Traceability

Incidents can occur even in spite of very good quality management. The QDA traceability module links quality data with traceability information for complete transparency. Quality data related to products and processes can be traced back to specific lots and combined, allowing basic analyses and meaningful findings along with measures to be documented. This facilitates the identification, inspection or determination of units of foodstuffs that are limited in time and/or quantity.



Do you have specific questions about how to optimise your production processes and make your version of the Smart Factory a reality at the same time?

**Get in touch** →

Germanedge is a leading provider of Manufacturing Operation Management (MOM) software that brings Industry 4.0 into the perfect flow. Together with its five product providers (GEFASOFT, New Solutions, Objective International, ORSOFT and QDA SOLUTIONS) the brand offers a complete solution portfolio for the manufacturing industry: international, cross-plant, maximum efficiency.