



# MULTIVAC Smart Services



Multiply Your **Value.**

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# Digital products and services

## Future-proof solutions for machine monitoring, control and optimisation

Transparent processes and process data in real time make an important contribution to the efficiency and cost-effectiveness of systems and lines, as well as their production processes and flow sequences

With MULTIVAC's digital products and services, we offer our customers innovative solutions for monitoring, controlling and optimising production - even networked across all locations to facilitate comparison. Simple, convenient and "live". For new equipment as well as retrofitting to existing machines.

The use of MULTIVAC Smart Services does not require a large start-up investment, since the modular range of digital wizards allows them to be tailored flexibly to the particular MULTIVAC machine or appropriate line components.

This means our customers benefit equally in all operational and strategic areas, from machine operator to factory manager.



## Sign up now and exploit all the benefits

myMULTIVAC provides a customer portal, which can be fully personalised and covers a wide range of applications as a digital self-service, extending from the ordering of spare parts and consumable materials right up to digital products and training courses. By incorporating Smart Services into your production, you have direct access to the key performance indicators of your connected machines, and you are also able to digitalise your work processes by direct interaction with the machine's HMI.

Using an intuitive web browser, which has also been optimised for use on mobile devices, you can conveniently call up all the required order, machine, material and service documents. It is also possible to easily view and control a machine's servicing, maintenance and repair details.



Buy spare parts & consumables, book services



24/7 availability



Order history, documents, dispatch tracking



All machine data & documents, 3D catalogue



Mirror your HMI with Remote Screen Sharing



Analyse the performance of your machines with MULTIVAC Smart Services



Create service history, service reports and service tickets



We always keep you up to date with mobile notifications via SMS & WhatsApp

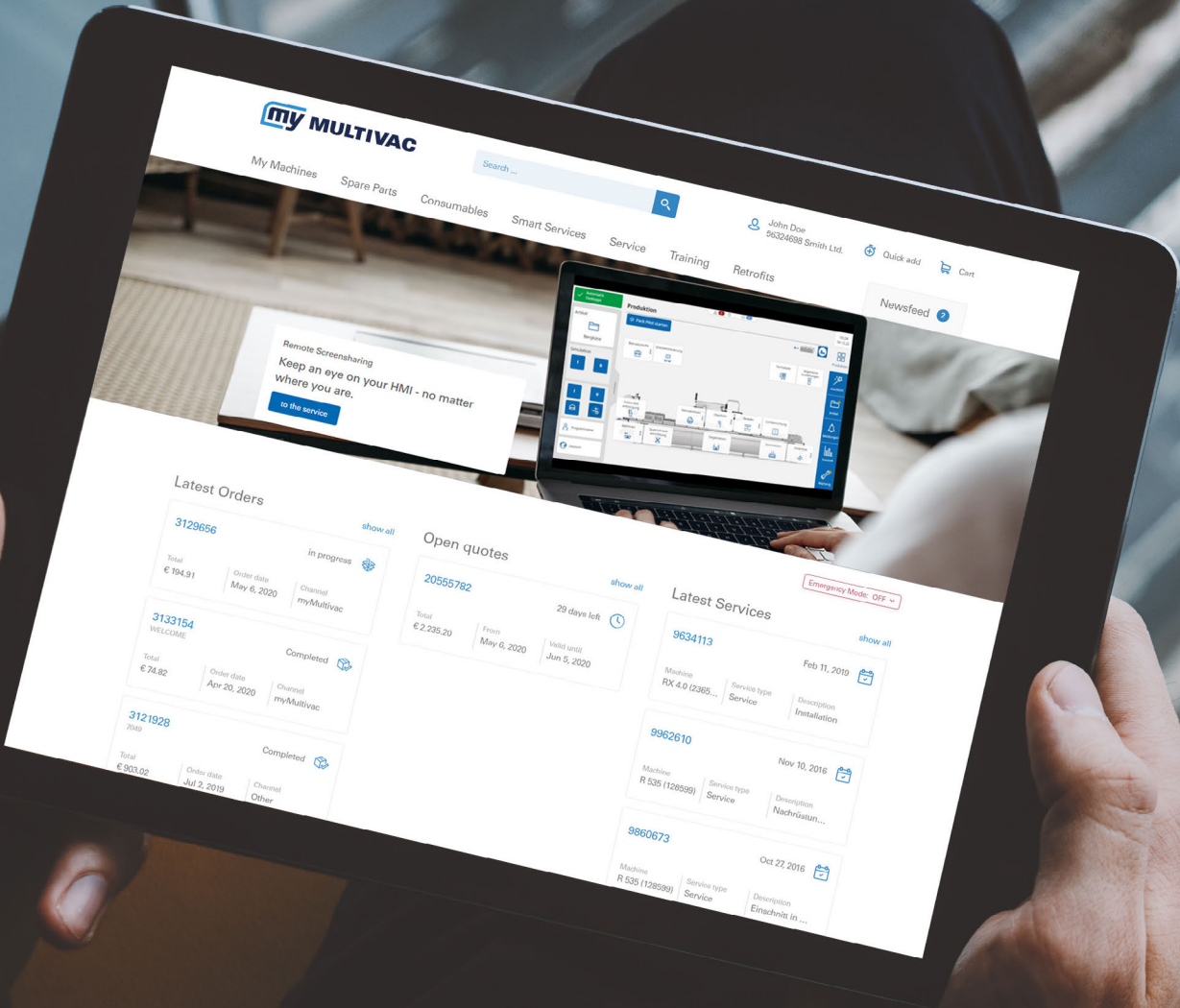


One single, personalised access to all MULTIVAC applications



Digitalised work processes thanks to direct interaction with operators via the HMI





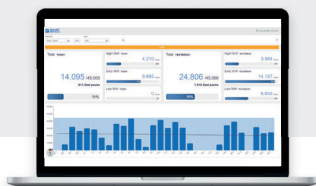
# Greater efficiency for existing machines:

## Simply retrofit Smart Services

So that you too can benefit from our digital products and services on existing packaging machines, we can offer a secure and cost-effective retrofit solution for many models.

With you on site

### MULTIVAC Smart Service



HTTPS / AMQP

Read-only connection

**SMART LINK**

Machine data

Industrial PC connection gateway

Physical Firewall

HTTPS / AMQP

**SMART HUB**

IoT platform beneath the Azure technology

Secure Linux & Patch Management

Microsoft Azure Environment





Simple and secure

MULTIVAC Smart Link is a two-piece hardware set, which is installed on site in your MULTIVAC machine. Smart Link consists firstly of an industrial computer (edge device), which is connected to the machine control via a “read only” connection. It can read, pre-process, encrypt and send machine data in real time - but it can not have any “write” access to either the machine control or the rest of the machine. The second component of Smart Link is an Internet router with firewall. This ensures a secure Internet connection for data transmission between your machine and MULTIVAC’s “data world” of the Smart Hub, and it enables our Remote Assistance service to be accessed via VPN tunnel.

#### **For single machines and complete lines**

If required, MULTIVAC Smart Link can also capture the data from production lines equipped with MULTIVAC Line Control (MLC).

#### **Plug & play**

Automatic set-up and simple connection

#### **IT-friendly**

Easy and rapid integration into your IT environment

#### **Secure**

A penetration test was carried out by Deutsche Telekom in January 2022

#### **Future-proof**

Automatic updates of applications and programs, as well as remote firmware updates and security settings

#### **MULTIVAC Remote Assistance**

Thanks to this remote assistance system, our experts can gain access to your MULTIVAC equipment at your request, so they are able to support you in eliminating faults and optimising the machine processes. MULTIVAC Smart Link creates the secure technical basis for this.

MULTIVAC Smart Hub is a secure Microsoft Azure environment, in which data is available 24/7 for monitoring, optimising and supporting your production by means of the various Smart Services. Benefit from greater efficiency and transparent processes.



The home of  
Smart Services

# MULTIVAC Smart Services

Digital solutions at a glance



## Smart Production Dashboard

The Smart Production Dashboard provides your production figures at a glance, any time from anywhere, and you are always at the front line.



## Smart OEE Analyzer

Using the Smart OEE Analyzer, you can view effectiveness based on data. You can identify whether your production is operating as planned or whether optimization needs to be carried out for one or more places.



## Smart Log Analyzer

Using the Smart Log analyzer, you can identify the leading causes of downtimes, the most common faults, and their average downtime at a glance.



## Smart Article Manager

Smart Article Manager shows you simply and clearly, how the important parameters for an article are currently set, and whether they differ from the standard settings. This means that quick and targeted intervention is possible in the event of incorrect settings.



## Smart Maintenance Manager

Plan your maintenance work practically. Smart Maintenance Manager makes it particularly easy to organise, perform and record the maintenance work on your machines.



## Smart Widget Dashboard

Everything important at a glance. The Smart Widget Dashboard makes it possible to display any key figures of a packaging line individually. Completely according to your needs.





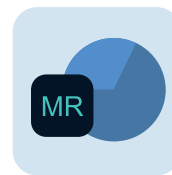
### Smart Production Insights

Everything important at a glance. With Smart Production Insights, FRITSCH bakery lines can be comprehensively monitored and possible irregularities detected at an early stage.



### MULTIVAC Watchdog

Always informed on time. MULTIVAC Watchdog monitors the status „live“ of the machine components and the production process.



### Smart Machine Reports

By using our various machine reports, you receive all the important information at regular intervals ready for use. The reports can also be tailored to your requirements if necessary.

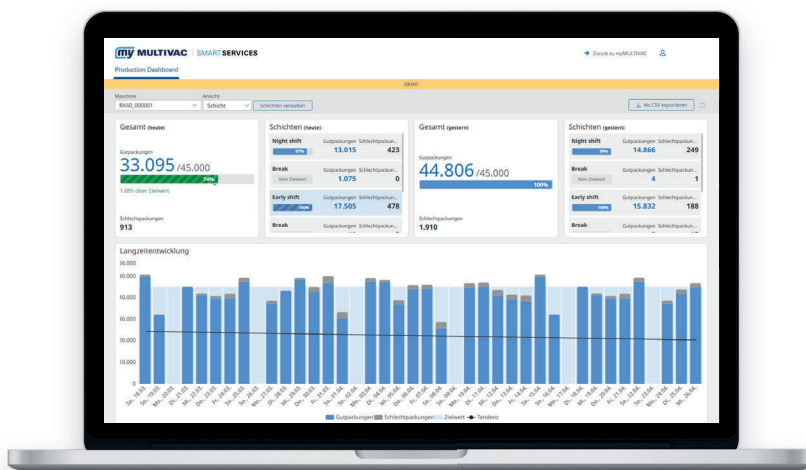
# Smart Production Dashboard

## Control centre for digital machines

From the user's point of view, the control centre of a digitalised machine is the dashboard, which can be run not only on a large flatscreen beside the machine, but also viewed remotely if required on a PC in an office. This means not only does the operator at the machine have "live" access to all the relevant information about the current performance, but company management has the same access. The benefit of such a tool lies in the significant reduction of communication channels and reaction times.

### Benefits of the Smart Production Dashboard:

- » Access to the packaging process in real time.
- » Important key performance indicators are shown on a clearly arranged dashboard, and they are itemised according to production days and shifts.
- » Any differences between shifts, as well as longer-term trends, can be easily identified and analysed.







**my MULTIVAC | SMART SERVICES**  
Production Dashboard

Maschine: RX40\_000001 Ansicht: Schicht Schichten verwalten

**Gesamt (heute)**

Gutpackungen  
**33.095** / 45.000  
74%  
1.095 über Zielwert

Schlechtpackungen  
**913**

**Schichten (heute)**

Schicht	Gutpackungen	Schlechtpackungen	
Night shift	13.015	423	
Break	Kein Zielwert	1.075	0
Early shift	17.505	478	
Break			

**Gesamt (gestern)**

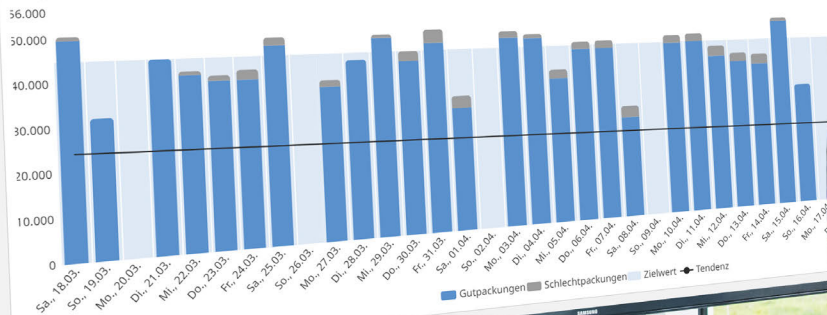
Gutpackungen  
**44.806** / 45.000  
100%

Schlechtpackungen  
**1.910**

**Schichten (gestern)**

Schicht	Gutpackungen	Schlechtpackungen
Night shift	99%	
Break	Kein Zielwert	
Early shift		
Break		

**Langzeitentwicklung**



**MULTIVAC RX 4.0**









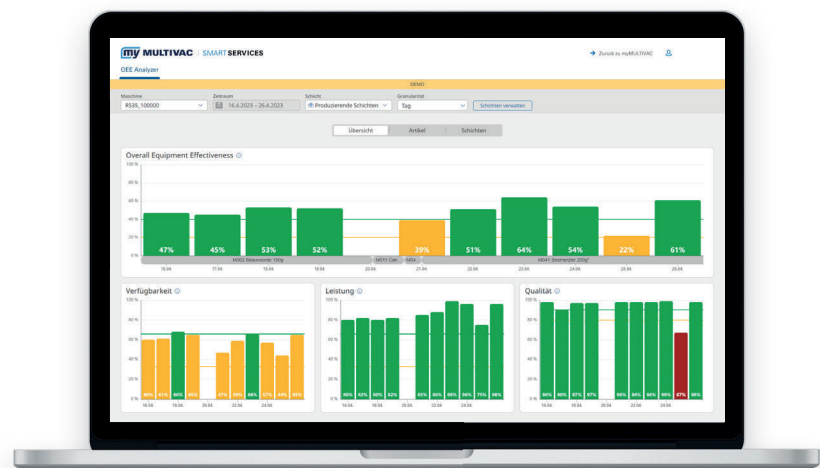
# Smart OEE Analyzer

## A strategic instrument for increasing efficiency

The Smart OEE Analyzer offers in various degrees a detailed analysis of a packaging machine's operating data within a time period of up to four weeks. The software captures the percentage availability, pack quality and output of the machine, then multiplies these values and calculates the overall equipment effectiveness (OEE) of the packaging machine.

### Benefits of the Smart OEE Analyzer

- » Simple overview of the effectiveness of the packaging process on the machine or line.
- » The data is shown as a time series on an interactive dashboard. The characteristic features can be tailored by selecting various time periods or shift models.
- » Since output, availability and quality are displayed separately, the causes of inadequate OEE can be identified simply and precisely.



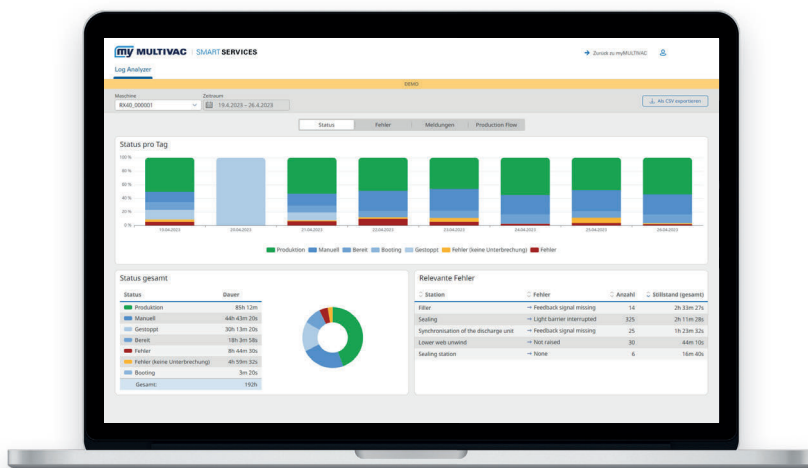
# Smart Log Analyzer

## A flexible tool for optimisation

The Smart Log Analyzer reads the report and fault memory of the machine, then loads the relevant data to the Smart Hub, where it is subsequently analysed. The data capture ranges from higher-level information, such as the machine's productive time, right up to individual events that cause downtime. The Smart Log Analyzer is aimed not only at users of the machine, but also service technicians. In the event of a fault, the important data is available immediately to the service technician for troubleshooting, allowing machine downtime to be reduced to a minimum.

### Benefits of the Smart Log Analyzer

- » Precise evaluation of the protocol data from a MULTIVAC machine or line allows for quick identification of the main cause for unplanned downtime.
- » All faults, which occur in the time period under consideration, are listed and visualised according to the total downtime caused, the average downtime, or the frequency of the downtime.
- » The Smart Log Analyzer enables customers to detect the main causes of discrepancies in output during the packaging process, and then to eliminate the specific problems.
- » An AI-supported help system aids you in quickly identifying and eliminating causes of faults.
- » And as an option, Smart Log Analyzer can be upgraded with videos of the machine, so that fault analysis is made simpler with moving images.











AM

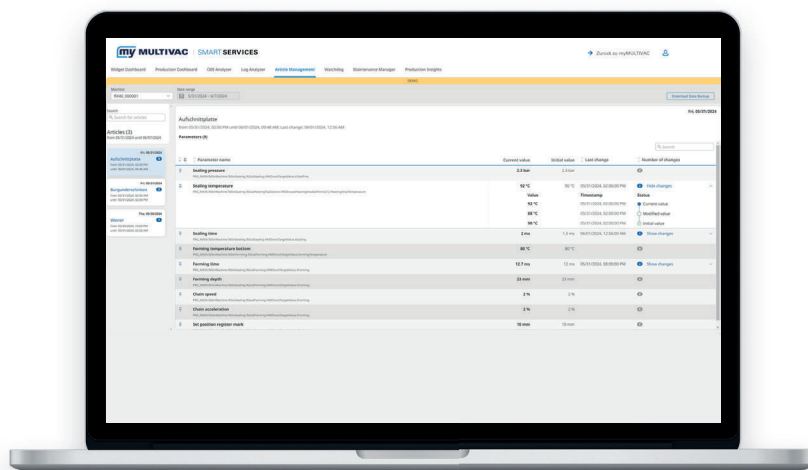
# Smart Article Manager

## The innovative tool for monitoring machine parameters

Smart Article Manager provides perfect transparency in article management. It shows you simply and clearly, how the important parameters for an article are currently set, and also whether there is any difference from the preset parameters. This Smart Service also records automatically and seamlessly in the background all the changes, which have been made to a particular article. That helps our customers to quickly identify and rectify any incorrect settings made by the user. Recipes can easily be restored, without adversely affecting the production process. In addition to this, it is also possible to download automatically created backups for articles, so that they can be imported again to the machine.

### Benefits of Smart Article Manager

- » Incorrect parameters can be identified quickly and easily.
- » Thanks to faster reaction times, there are fewer production stoppages
- » Articles, which change frequently, and for which the parameters have been set incorrectly, can be easily identified.
- » Several machines can be monitored more easily by just one specialist.
- » The need for training of operators and set-up personnel becomes more visible thanks to Smart Article Manager.
- » Automatically saved article backups are always available.



# Smart Maintenance Manager

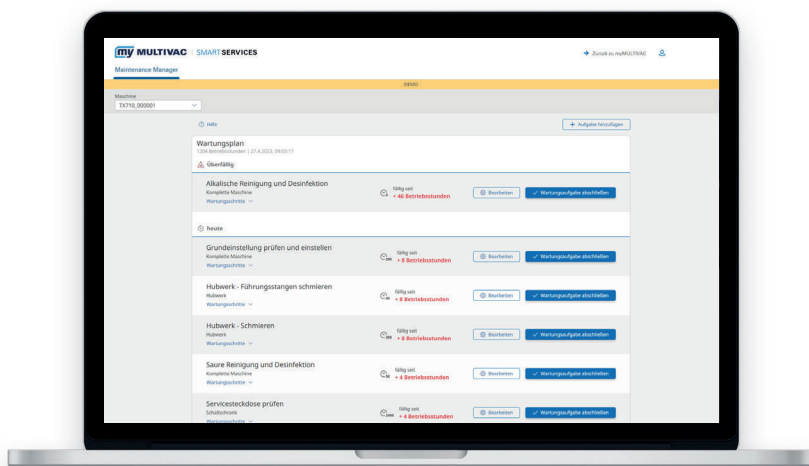
Planning maintenance work practically, as well as performing and recording it directly at the machine's HMI

Smart Maintenance Manager makes it particularly easy to organise, perform and record the maintenance work on your machines. By evaluating the hours of operation, an automatic notification system indicates maintenance work that is due, summarises it in an overview, and sorts it according to the recommended interval. One particular highlight is that the maintenance tasks including the technical assistance, which are planned in the office, are available at the machine's HMI to the maintenance personnel without any time delay. Maintenance tasks can be closed off and reported back directly from the HMI without any additional devices. Maximum transparency in the office and on the shopfloor.

By using Smart Maintenance Manager systematically, you benefit from greater productivity thanks to shorter planned downtime, fewer unplanned stoppages, and a longer lifespan for your machines.

## Benefits of Smart Maintenance Manager

- » Smart Maintenance Manager is a practical tool for organising maintenance on any machines.
- » A notification system automatically indicates maintenance work that is due, and it simplifies the planning and management.
- » By using Smart Maintenance Manager systematically, you benefit from greater productivity, less downtime and a longer lifespan for your machines.
- » The necessary maintenance tasks can be sent directly to the machine's HMI, and they can then be reported back quickly and easily after completion.







Widget Dashboard

DEMO

Dashboard  
Line Overview



Production  
Inspection System

Current Article  
RX40\_123456  
150g bacon, A2357.06/2023



Waiting  
Handling Module

Target Cycle Speed  
RX40\_123456  
12 cycle/min



Ready  
Packaging Machine

Current Cycle Speed  
RX40\_123456  
12 cycles/min



Error  
Slicer

Produced Packs  
RX40\_123456

Current Average Value  
Checkweigher  
156 g

Current Average Value  
MULTIVAC Slicer

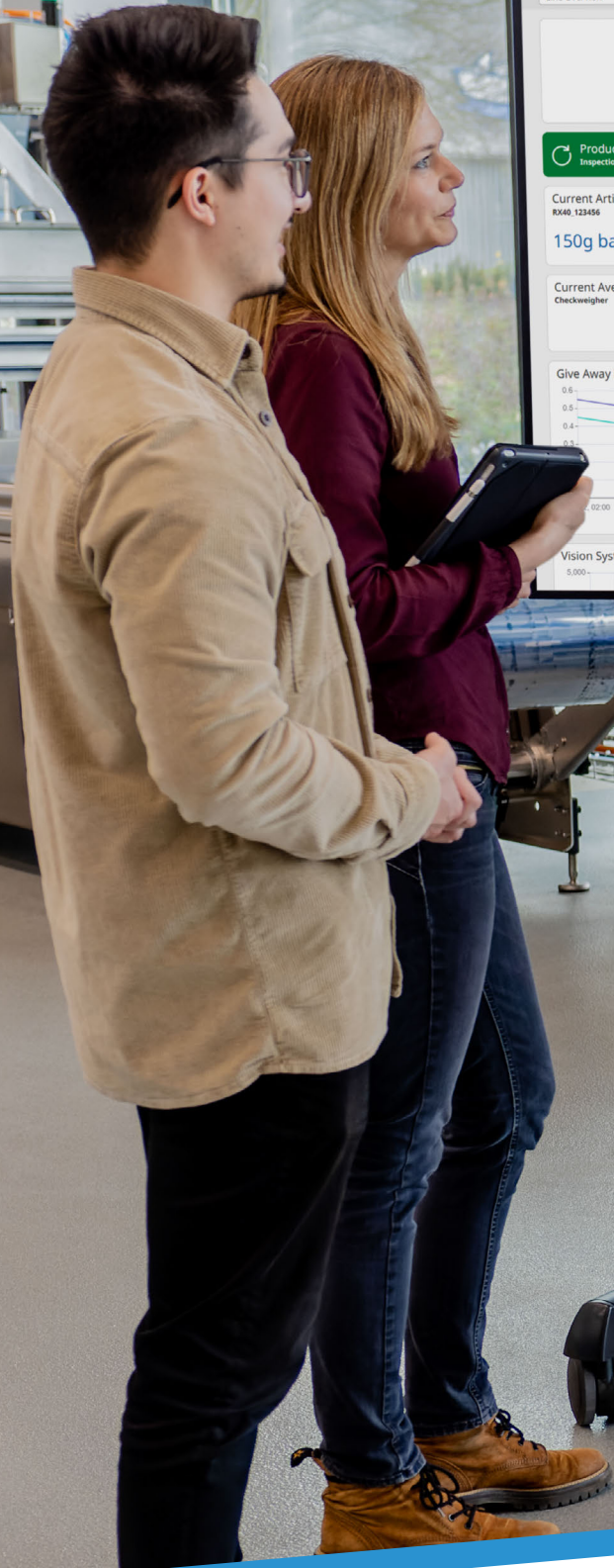


Vision System

Reject Packs Development

5,000 -

1,800 -





WD

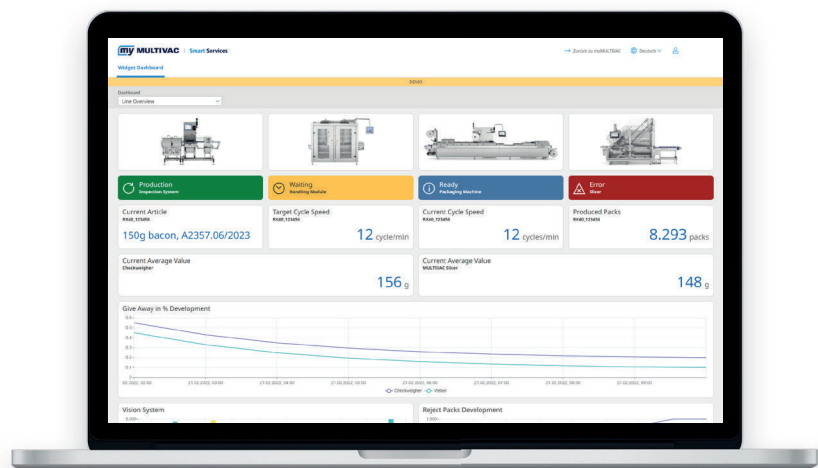
# Smart Widget Dashboard

Everything important at a glance

The Smart Widget Dashboard clearly and meaningfully visualises any key figures of a packaging line - even if line modules from other manufacturers are integrated. It supports the operator in visually monitoring and analysing his production line and identifying potential for optimisation. Whether current and past machine data, image files or information over time: With the Smart Widget Dashboard, we offer you a monitoring tool for your lines that is easy and intuitive to configure and operate via widgets.

## Advantages of the Smart Widget Dashboard

- » Visual display of individually defined key figures of a packaging line.
- » Can be easily and flexibly adapted to the respective monitoring and analysis requirements using widgets.
- » For all MULTIVAC lines, even if line modules from other manufacturers are integrated.



# Smart Production Insights

## Comprehensive monitoring of FRITSCH lines

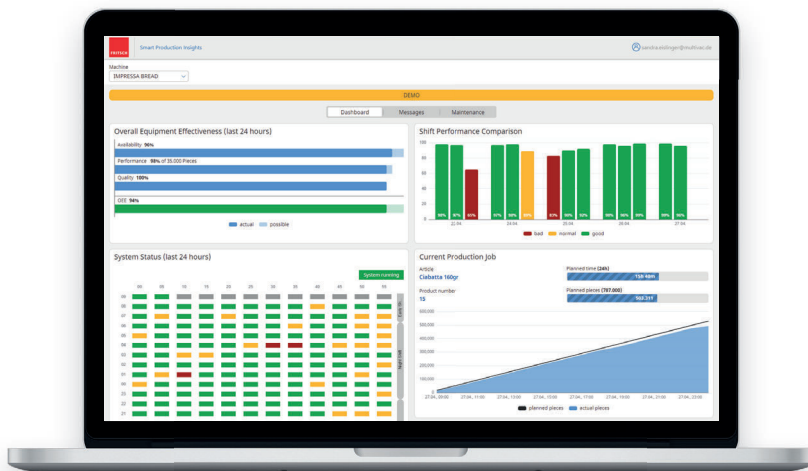
With Smart Production Insights, you clearly visualise the key figures of your production process on a dashboard. Irregularities can be identified at an early stage, and you can react more quickly. Smart Production Insights makes comprehensive monitoring particularly simple and is structured in a practical way into the areas of

- » OEE (Overall Equipment Effectiveness)
- » Shift Performance Comparison
- » System Status (last 24 hours)
- » Current Production Job
- » Production / Hour (last 48 hours)
- » Warnings und Maintenance

### Advantages of the Smart Production Insights

Smart Production Insights makes the comprehensive monitoring of FRITSCH lines particularly clear:

- » Dashboard: Central overview of your production process
- » Warning: Informs directly about warning messages, reasons for downtimes, etc.
- » Maintenance: Shows upcoming and completed maintenance work













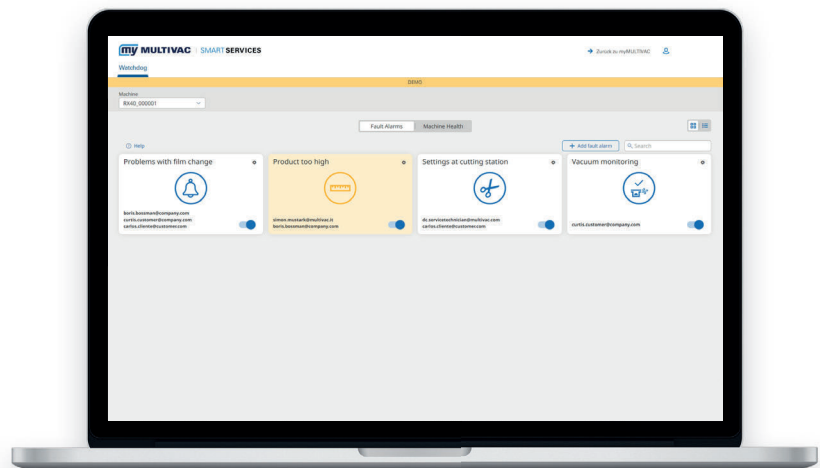
# MULTIVAC Watchdog

## Always informed in time

The MULTIVAC Watchdog monitors the status of machine components and the production process „live“. An automatic alarm system notifies the user, for example, in the event of irregularities, the frequent occurrence of faults or due maintenance work. By shortening your reaction times, the MULTIVAC Watchdog helps you to avoid or reduce downtime and optimise your process times.

### Advantages of the MULTIVAC Watchdog

- » Automatic „live“ monitoring of the condition of machine components and the production process.
- » Avoidance or reduction of downtimes through shortened reaction times as well as optimising process times.





# Maximum security

## Separate hardware and transparent data protection

MULTIVAC Smart Services are activated through their own stand-alone hardware, completely independent of the actual machine control. This means that MULTIVAC Smart Services will always contribute to greater efficiency and production reliability, without ever adversely affecting the operation of the machine. All machines, for which we offer Smart Services, are also equipped with an outgoing Internet connection that is encrypted. Since technically only “read” and not “write” authorisation is assigned to the digital services, there can be no external influence on the machine operation at any time.

Transparency in data usage is ultimately very close to our heart. All MULTIVAC Smart Services are therefore subject to a special Data Usage Agreement, in which we explain to our customers the purpose of collecting the data and how it is used. Customers are invited at any time to make a disk image themselves of the stored machine data as part of a data audit.





MULTIVAC is part of the R-Cycle cross-company initiative. The aim is to jointly drive forward the circular economy for plastic packaging on the basis of an open and globally applicable traceability standard.



MULTIVAC supports the Blue Competence initiative of the VDMA Verband Deutscher Maschinen- und Anlagenbau (German Engineering Federation).

