

Fast, Efficient and Sustainable Support

With reliable service and intensive, demand-oriented support, Masa accompanies its customers throughout the entire machine life cycle. Qualified employees are available to quickly and flexibly support customers in all realms of their production plant. Particularly in situations such as unplanned downtime or a machine malfunction, highly qualified service technicians provide effective support by telephone 7 days a week, 24 hours a day.

The Masa team consists of its own experienced programmers and fitters. The team is provided with modern equipment and their workstations are located near the hardware and software designers, as well as the mechanical-technical departments. They have coordinated access to all documents relating to a customer's system, which creates excellent conditions for fast, efficient, and sustainable support. All inquiries are processed in a structured and traceable manner in the service ticket system. Each production plant is clearly identified by an ID, or the so-called technical location. The respective number can be found throughout our business correspondence and can also be requested from Masa. A ticket is created for every incoming service request, which is only closed once the problem has been resolved. The ticket number will be provided to the customer and a complete history of all the work that was

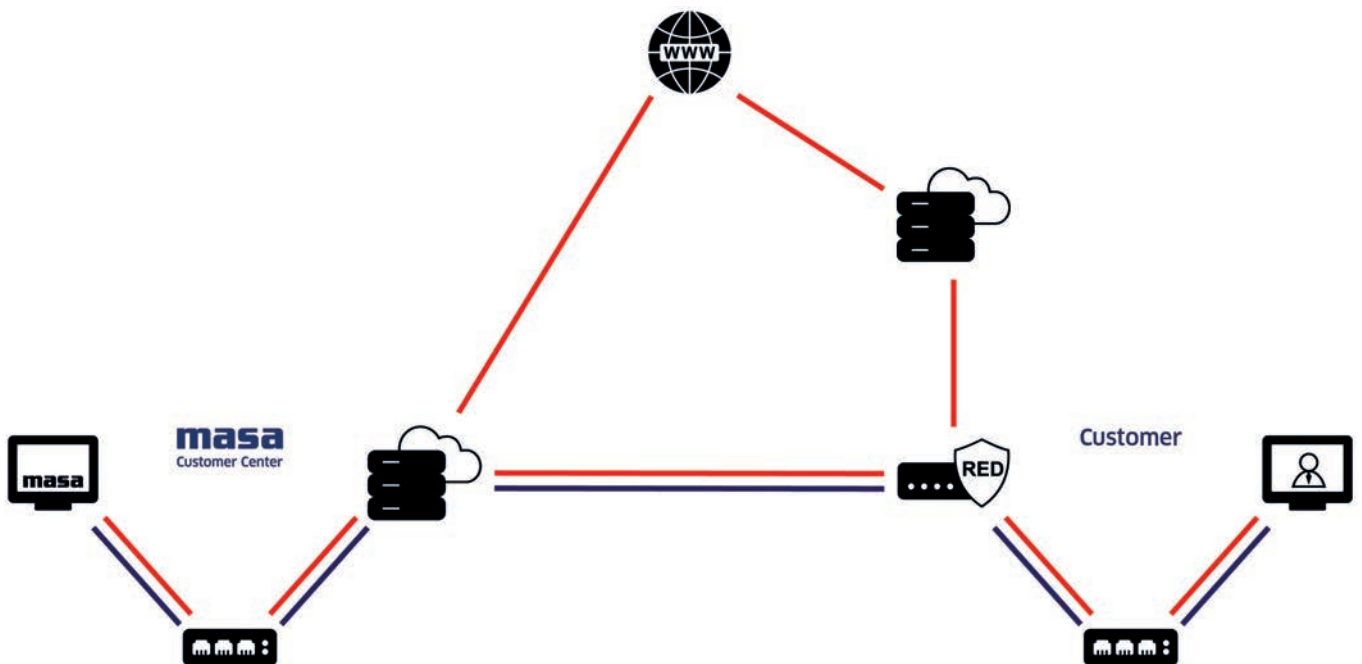
done and a log of who completed it can be found under this ticket number. In addition, the history of all closed tickets of a production plant can be called upon, to get a better understanding of what causes downtime and how often it occurs.

Masa Online Support: Technical Basics

Safe data transfer via VPN-Connection

The Internet connection to the customer is established via a RED device (Remote Ethernet Device) from Sophos. A secure data transfer is realized via AES-256-bit encryption (Advanced Encryption Standard), which is currently considered one of the most secure and widely used encryption methods in the world. In the USA for example, AES-256 has been approved for the encryption of government documents with the highest level of confidentiality, among other things.

The connection process is as follows: First, the RED device is connected to the customer's Internet access and is assigned an IP address. The RED device then registers with the Masa firewall via port TCP 3400 and UDP 3410 and establishes a secure tunnel to Masa service. The Masa Service computer is then integrated into the plant network via the tunnel.



Safe data transfer via VPN-Connection.

masa

Milestone to your success.

Our solutions for your success



www.masa-group.com

Masa covers the complete range of machinery and ancillary equipment for the building materials industry: Batching and Mixing, Concrete Blocks/Pavers, Kerbstones, Concrete Slabs, Sand Lime Bricks and Autoclaved Aerated Concrete (AAC) Products.

All technical solutions are individually planned, designed, adapted and realised for each customer, resulting in one supplier and one individual contact person.

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Masa - made in Germany.



The customer computer can now be reached via its correct IP address and remote maintenance begins. The connection to the customer computers is now established via the commercially available remote maintenance software.

Connection to the Masa Customer Center

All production facilities are connected to the Masa Customer Center with every customer having their own virtual network. The networks are self-contained and are in different IP areas so that customers cannot connect to other customer locations. This offers significant advantages: The licenses for the required software tools (e.g. Step 7, TIA Portal) are on the Masa server and are also managed from there by specialists on these topics. In addition, self-contained networks do not require virus scanners, as external access is impossible, and the system remains safe. In any case, individual customer systems with a different number of computers and PLC controls can be integrated into the network.

Backup solutions with NAS (Network Attached Storage) are in preparation and can be implemented shortly. Monitoring solutions are also conceivable. The Masa Customer Center in Andernach can monitor your PCs temperature, hard drive space, performance, etc.

Masa Online Support: Fault diagnosis

In the event of a malfunction, assistance can be provided quickly and efficiently via remote maintenance. The Masa Customer Center has tools available for this purpose in the Masa control software system FAST (Factory Automation System Tools). If more detailed diagnosis is required, the project

planning tools of the control, sensor, and drive manufacturers (e.g. Simatic Manager or SEW Motion Studio) can be used.

Visualization and diagnosis of the process signals

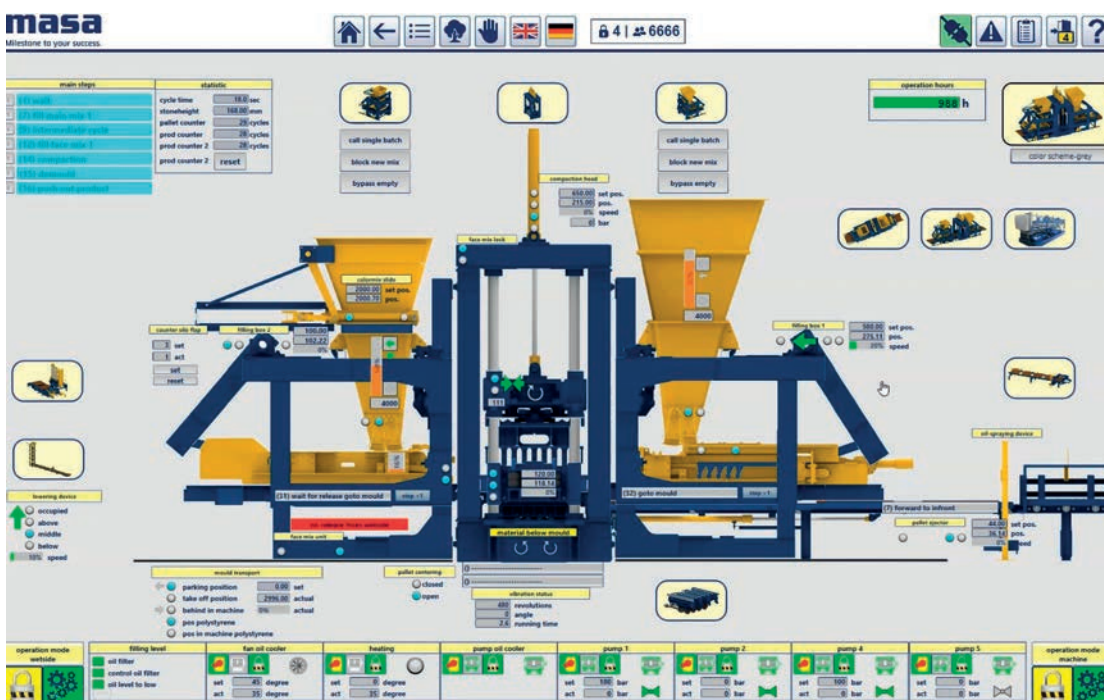
- Status overview of drives via icons
- Plain text display of drive status or malfunctions
- Visualization of the desired- and actual- values of positions and speeds
- Visualization of position reports and releases of neighboring plant parts
- Visualization and checking of sequencers
- General overview of the current system status
- Status overview of plant components via icons
- Plain text display of the plant status or malfunctions

Fault Reporting Tool

- List of upcoming faults
- Direct link from the fault reporting tool to the circuit diagram and display of the faulty component
- Display of detailed information and the cause of the malfunction
- Explanation of measures for eliminating the fault

Control of safety devices

The safety and health of employees is always the highest priority. Masa production plants are equipped with many protective devices (protective fences, light barriers, doors etc.). If malfunctions occur in the self-monitoring protective devices, they can be detected via the Masa Online Support. The respective status e.g. for doors (open, closed, closed but



Visualization of the process signals.

not released) is displayed in a system-specific and realistic visualization of the protective device. Fault messages from the sensors are integrated in the fault message tool. Further diagnoses of the light barriers, door switches or initiators are possible via the Simatic Manager or the TIA Portal (e.g. channel diagnosis after a short circuit, discrepancy error).

Simatic Manager

- Tracking of actuator- and sensor signals until the lowest control level
- Analysis and assessment of the timing of the signals in the program sequence
- Reading of the CPU status
- Online diagnosis Profibus and Profinet Networks
- Graphic diagnosis in Profinet Networks with SNMP Protocol (Simple Network Management Protocol)

TIA Portal

Extended diagnostic options, compared to the Simatic Manager, the use of the TIA Portal including the latest Siemens CPU generation S7 1500, which is used today in plant automation.

SEW Analysis tool

Masa often uses SEW drives in its production facilities (Movitrac B, Movimot, Movidrive B, Moviaxis). The SEW tool "Motionstudio" and the even more informative SEW diagnostic tool "Scope" support you in troubleshooting:

- Complete diagnosis of the drives
- Communication with the drives via Profinet or serial interface
- Options to parameterize, optimize, and replace the drive
- Representation and evaluation of speed, torque current, torque, contouring errors

Lenze Analysis tool

The Lenze drives used in the servo vibration table of the block making machine are also integrated into the Masa remote maintenance and can be diagnosed online. Both the 9300 series and the new 9400 series can be reached online via Can Bus - USB adapter or Profinet.

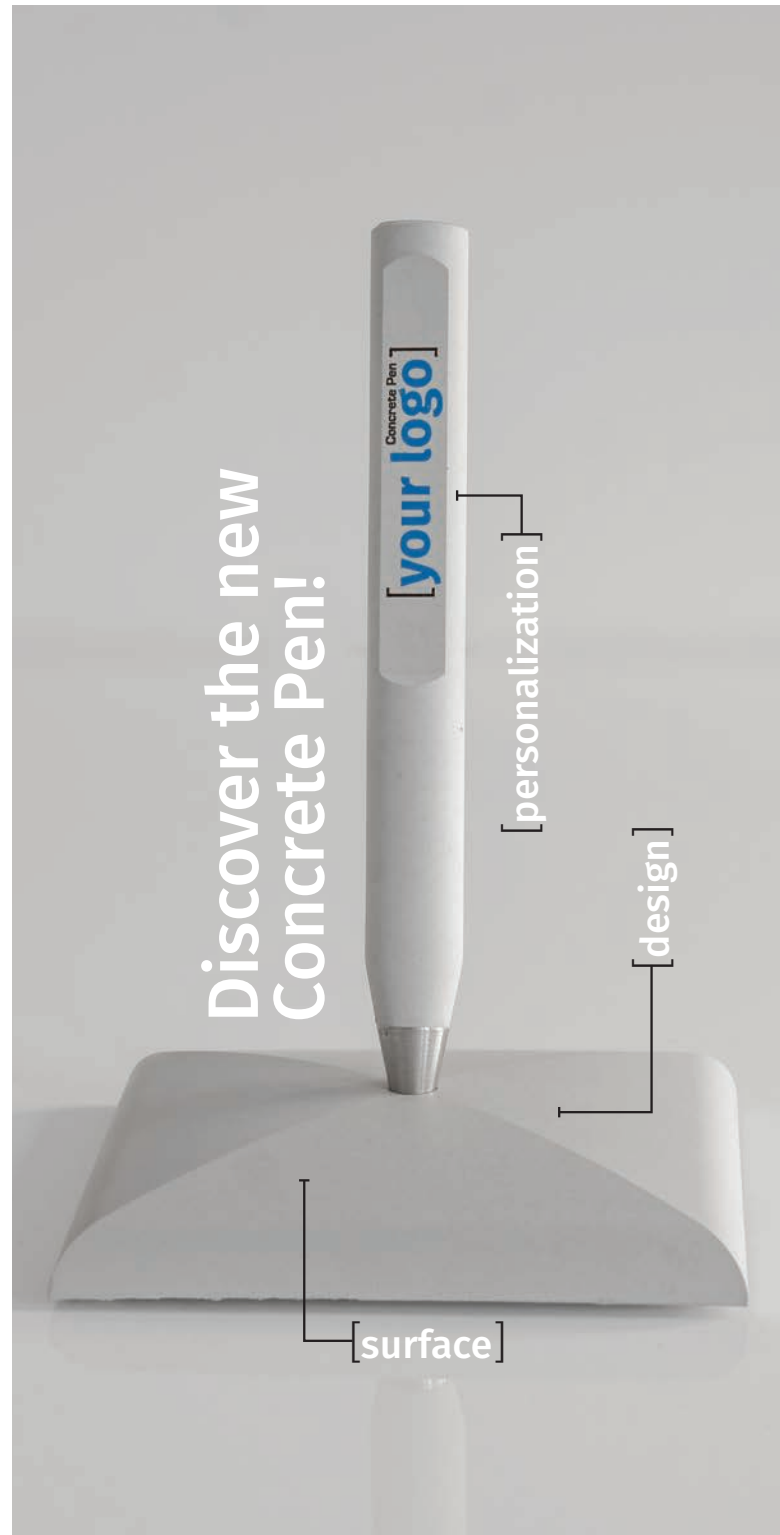
First aid via Masa Smart Service

Masa customers can benefit from the Masa Smart Service, which helps to rapidly detect errors and find solutions in the event of technical problems within the block production plant. A live connection is established between the customer's technician and the Masa Online Support employee using a voice-controlled heads-up display with camera (data glasses).

Certified with IP66 protection class (dust and waterproof), the data goggles are shockproof up to a 2 m drop and are attached to a conventional hard hat. The hands-free function

Concrete Pen

Utility model registered by  worldwide



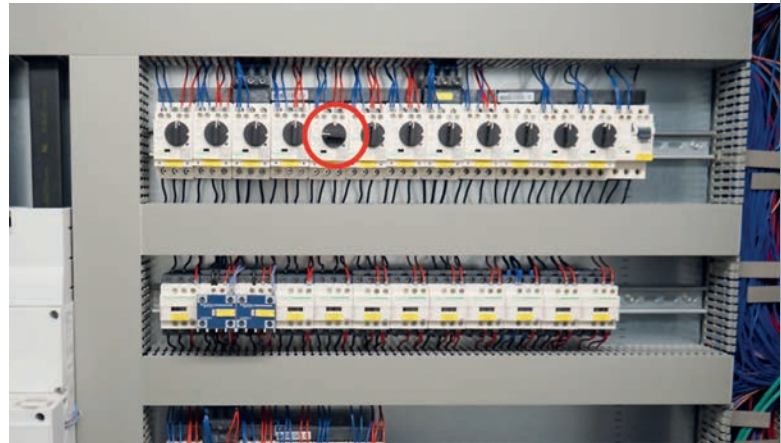
» New design

» Enhanced surface quality

» Personalization now possible
in precise color printing



Masa Smart Glasses: Head-up Display with camera.



Assistance with the troubleshooting by Masa Online Support.

and voice control of the data goggles can be used even in extraneous noise of up to 95 dB. A live stream with Masa Online Support is established via a Masa service app. The Masa Online Support employee can now visually accompany and guide the person on site and thus actively support maintenance work or troubleshooting. Here, functions such as sending hints/markers to the display, sending documents to the display (screensharing) or taking photos in HD quality are helpful features of the data glasses.

A session ID is assigned for verification during login and for documentation and tracking. Each session can be recorded if desired.

Advantages

Communication and first aid via Masa Smart Service offers considerable advantages: Firstly, visual control of machine functions is possible, as well as simplified support in the event of process-related problems. In the event of mechanical, hydraulic or electrical malfunctions, guided troubleshooting support can be provided. Important information from circuit or hydraulic diagrams can be projected onto the head-up display. In turn, the employee on site can create screenshots, which can then be edited by the Masa online support staff and then sent back to the head-up display with appropriate markings or notes.

Customer requirements

In addition to a fast and stable Internet connection via landline or UTMS, wi-fi coverage must be available at the locations where the glasses are to be used. The Masa Smart Service is only available in connection with the Masa Online Support (remote maintenance package). ■



The expert

Mr. Dipl.-Ing. (FH) Markus Feix is head of the Customer Training and Service Hotline department and the expert for any questions about Masa Online Support. After his apprenticeship at Masa GmbH, Mr. Feix started a degree in electrical engineering, which he successfully completed

in 1995. He was then able to apply and deepen his specialized knowledge as a commissioning engineer. Since 2000, Mr. Feix has been employed at Masa GmbH as a development engineer for PLC programs and intelligent hydraulic/electric drives. In 2019 he became head of the "Customer Training and Service Hotline" department.

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FURTHER INFORMATION

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Milestone to your success.

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