We are in the midst of a ground-breaking technological transformation – a transition to the smart factory of the fourth industrial revolution (Industry 4.0). The rise of smart factories is not only revolutionizing manufacturing and logistics, but also downstream business processes such as customer support. Service 4.0 is support in the age of Industry 4.0. It means rapid responses to faults, predictive maintenance and better operator training. Against this background, Eisenmann has created a Smart Service Solutions portfolio of data-driven services. These simplify the commissioning, operation and maintenance of production plant and equipment. In addition, they improve operational processes, enable online documentation, and accelerate the placement of spare parts orders.

Cloud and app form the basis for Smart Service Solutions
The Eisenmann Service Cloud is a central administration and service platform. It forms the foundation for all Smart Service Solutions, and can be harnessed for the management of equipment, functions, data and documents. Moreover, state-of-the-art security standards guarantee highly robust data protection. The user interface for this cloud is the Eisenmann Service App for mobile endpoints. The app features rich functionality, and provides customers with access to all services and documents in the Eisenmann Service Cloud. In addition, the app allows customers to easily communicate with the Eisenmann Service team, and enjoy around-the-clock visibility into their plant and equipment.
Communications 4.0
The Eisenmann Service Cloud, in conjunction with the app, supports the automated exchange of information between systems, system components, and Eisenmann and/or the customer. If a part is damaged or defective, the corresponding equipment automatically sends an alert to the service cloud, which, in turn, passes the message on to all authorized end points. These can include mobile devices equipped with the Eisenmann Service App and desktop PCs. As a result, the customer requires fewer staff for monitoring tasks, and can quickly respond to and resolve issues.

Streamlining production processes
To take advantage of a further Smart Service Solutions offering, customers require a production control system, such as the Eisenmann Manufacturing Execution System (E-MES). E-MES connects factory operations – both horizontally, across the entire manufacturing process, and vertically, from ERP to shop floor IT. Integrated data capture, analysis and visualization ensure complete visibility into production and logistics. Data for a variety of parameters delivers insights into the current condition and working order of plant and equipment, including individual components. This facilitates, for example, the timely order of spare parts, so these are available precisely where and when they are needed. This predictive maintenance feature is called condition monitoring within the Eisenmann Service App. It helps the customer avoid downtime, and ensures seamless manufacturing operations. Condition monitoring also adds value in the longer term: captured data can be used to define customer-specific maintenance intervals, or to improve manufacturing processes.

Holger Ernst, Senior Vice President, Service
With our Smart Service Solutions we can provide tailor-made support quickly and effectively to customers across the world.
Remote service
In the times of Industry 4.0, expensive on-site deployment of service engineers – who at times had to be flown halfway across the world – is increasingly a thing of the past. As part of its Smart Service Solutions portfolio, Eisenmann offers various options for remote support, including: remote maintenance by means of VPN, via the service app, or using smart glasses. In the future, each customer will have their own dedicated portal that stores all technical information pertinent to his or her plant and equipment. Not only does the customer receive assistance rapidly, but they also have access to up-to-the-minute information about the entire plant or individual components. If a spare part is no longer available because it has, for instance, been discontinued by the manufacturer, then the customer automatically receives information on the model that succeeded it.

VPN-based remote maintenance is performed via a VPN tunnel, creating a direct connection between Eisenmann and the customer plant. An Eisenmann service engineer identifies the fault on screen, guides the on-site operators through maintenance, and then resumes operation.

Remote support via the service app allows the customer to conduct maintenance independently. They receive key information, such as plant documentation, and are able to identify and order spare parts digitally. In the case of a defective part, the corresponding system or module will issue an alert to the customer’s Eisenmann Service App directly, via the cloud. On-site staff can then make their way to the component in question, and use the app to scan its QR code. They receive all necessary information on the part that needs to be replaced, such as the order code and where it is currently in stock. Once the spare part has been acquired, an Eisenmann service engineer provides support for installation – by giving instructions remotely, via the app. And precisely this scenario is where the third remote support option – smart glasses – comes into play.
By leveraging smart glasses for remote support, the customer’s employee acts as the extended arm of the Eisenmann service engineer. Via the app and the cloud, a direct connection between the Eisenmann team and the customer’s smart glasses is established. The employee on the customer side receives information required for the maintenance task directly displayed on the glasses. This could include virtual instructions for installing or removing spare parts, or for resolving an issue identified by an alert. Data is transmitted to the glasses in real time, ensuring information required for the task at hand is available as needed. A voice connection can also be established via the smart glasses.

Eisenmann’s Smart Service Solutions is a state-of-the-art offering that adds tangible value in the age of intelligent, connected manufacturing processes and products. It enables rapid response times, since maintenance can be conducted remotely, and in real time. In addition, up-to-date information is available around the clock, and to all relevant stakeholders. In all, condition monitoring simplifies predictive maintenance, minimizes downtime, and forms the basis for made-to-measure support solutions.