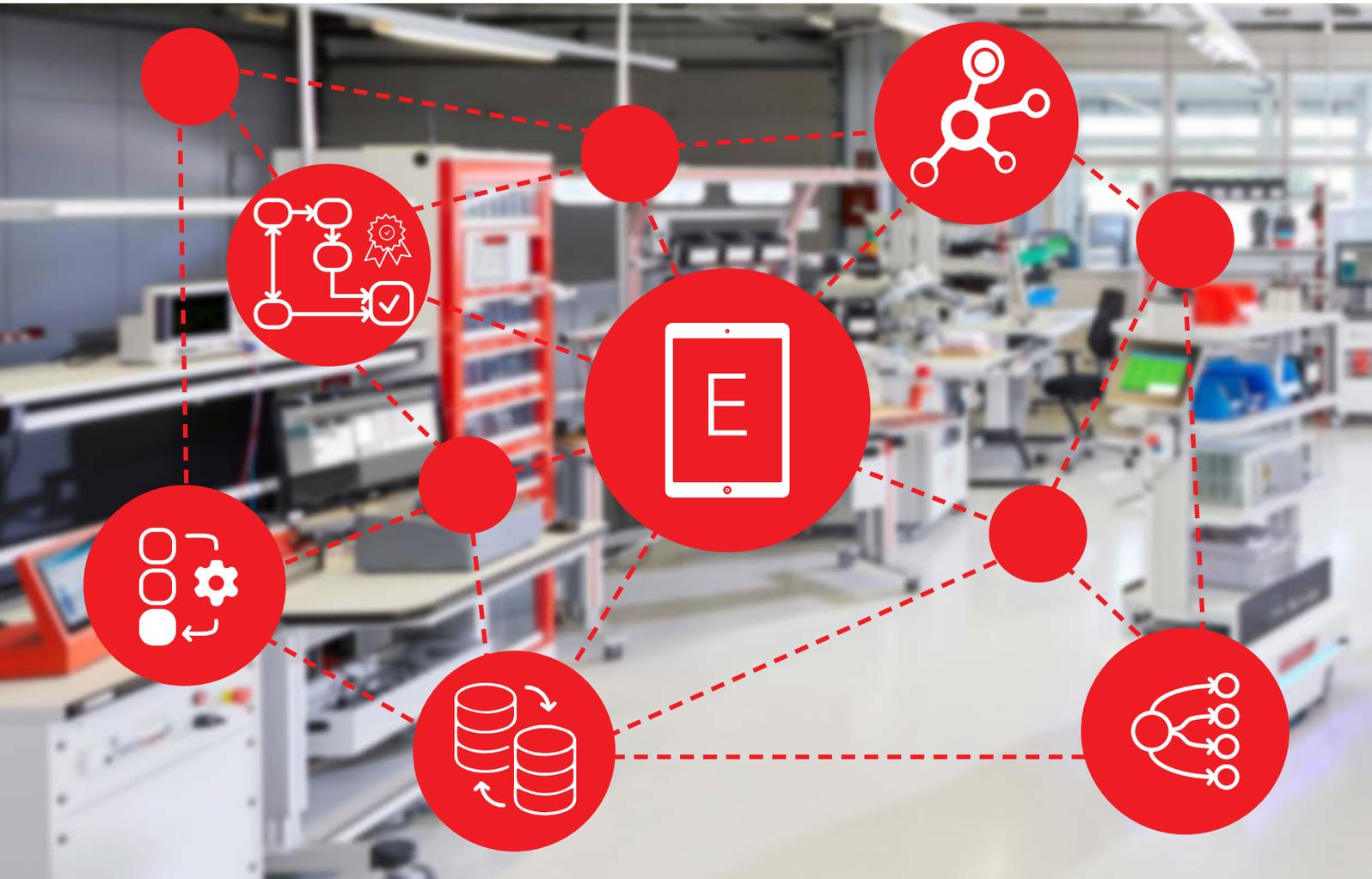




# Elution<sup>®</sup>

The factory software for  
optimising your processes



Increase efficiency

Reduce costs

Ensure quality

Save time

Qualify staff



Data management

Pages 4-5



Mastering complexity

Pages 6-7



Process control

Pages 8-9



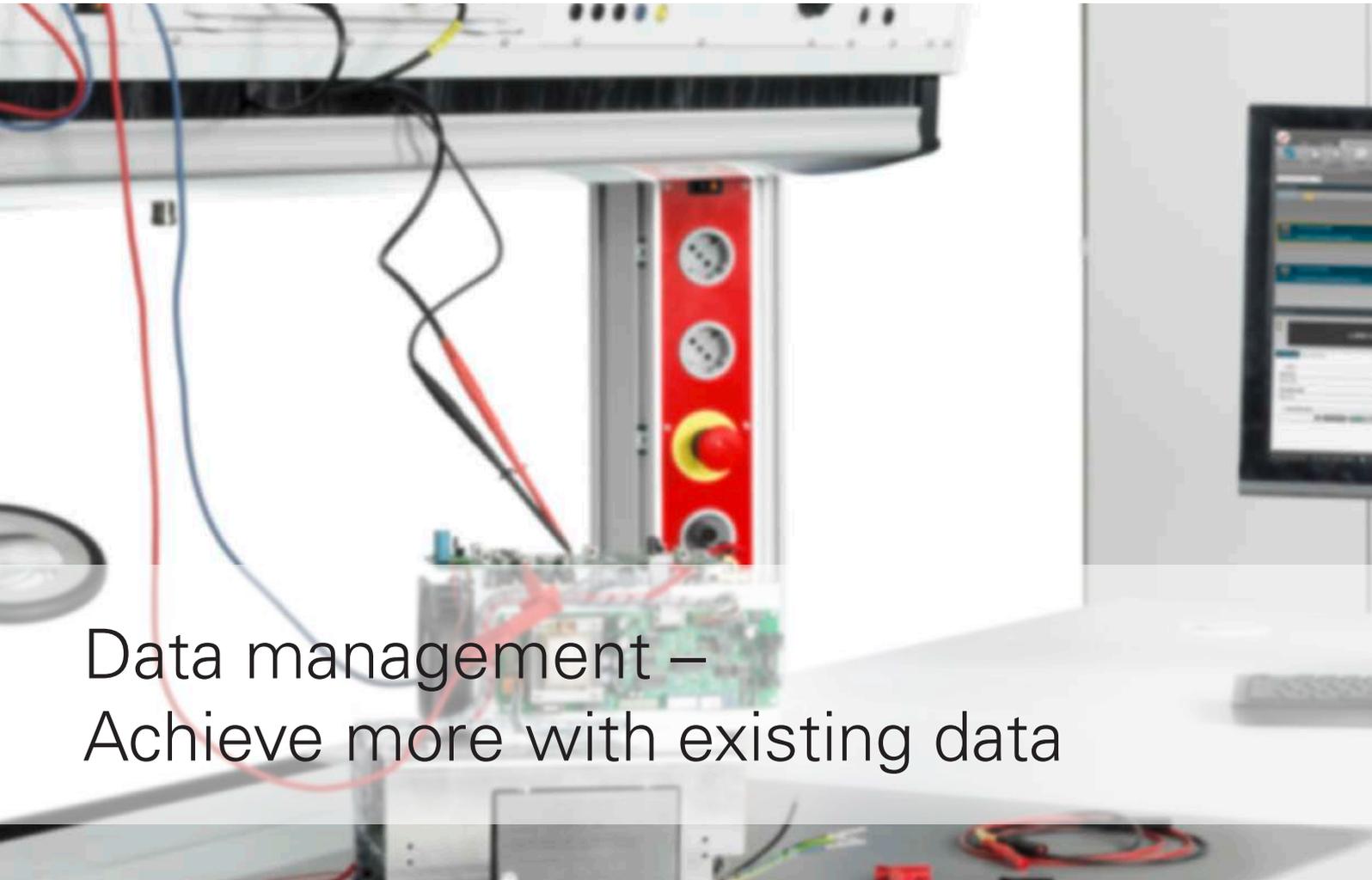
In-process  
quality management

Pages 10-11



Connectivity

Pages 12-13



# Data management – Achieve more with existing data



## Data management

If the general consensus of the journals is to be believed, then 'data is the gold of the 21st Century'. Yet many small and medium-size enterprises (SMEs) are still not exploring the utility and wealth of its existing potential.

Solutions which help with the collection, aggregation and evaluation of data and compress this into information in a simple manner thus represent an essential component of future added value.



## Big data

In highly varied production, a wide range of different data is accrued – from product data, to measurement data, right through to production-related data from manual assembly.

Huge quantities of data requiring efficient management thus also arise quickly in SMEs. Elution® helps with the saving, management and backing up of data and constitutes an interface between the production area-bound employee and the company's IT area.



## Reporting and statistics

What is the purpose of all the data collected? CIP approaches can be identified using statistical evaluations of the production processes and individual work steps. Do staff have to be retrained? Were the assembly processes optimally taken into consideration in product engineering? The evaluation of accrued data helps you.

If the product was produced to 100% quality conformity, then process documentation for proving work in compliance with standards is necessary. Elution® enables automatic documentation for you by means of reports. Staff concentrate on production.



## Process controlling

The traceability of all data accrued in the process is of great importance. In the event of claims for compensation concerning products, complaints about long obsolete product versions can lead to specific product liability risks even after several years.

Elution® enables you to trace all data and helps with evaluating this data. If you use innovative technologies such as machine learning or AI algorithms, the data can of course also be provided outside of Elution® to the full extent. You remain the proprietor.



## Mastering complexity

Customisation to customer requirements traditionally plays a very big role for medium-size enterprises. The product customisation requested by the market for one-off products needs to be achieved at the price of series-production.

Indispensable for this is keeping increasing complexity under control – especially in a production environment combining complex manual processes with semi-automated processes in order to deliver the required quality at competitive costs.



## Worker guidance

Added diversification and a skills shortage lead to increased complexity for individual members of staff.

An individual digital Assistance (idA) bridges the gap between man and machine. It provides the requisite transparency at each point in the process, without overloading the employee with information. It intelligently integrates sub-processes into workflows and controls them itself. It supports the employee in places where it is necessary and forms the basis for stable and fault-free production.

# Mastering complexity – A constant overview, even with one-off products



## Variant management

Using variant management, Elution® represents the right tool to manage this complexity. For example, work plans can be generically created and managed in a product-specific and employee-specific manner. Amongst other things, this incorporates:

- The level of detail of explanations relating to the level of competence of the employee and
- Reproduction in various languages, as well as
- the equipment of the workplace.

Master plans can also be created in Elution® for product types which represent the generic production process. In conjunction with product-specific parts lists and product attributes, the customised workflows are automatically generated for the customer orders. A master plan can thus replace numerous individual work plans.

In this way, even small series right down to one-off products can be represented efficiently and simply in the software.



# Process control – Product and processes in hand



## Process control

Complex products require an optimal combination of manual and (partly) automated work processes.

Many work processes also require electronic support and automated monitoring to ensure a zero-defect policy.

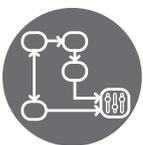
For this reason, Elution® can communicate directly with tools, devices, infrastructure or products and control them if required.



## Communication with product electronics

Do you manufacture digital products? As early as in the production and testing process, Elution® allows you to

- perform signal communication and control the product,
- execute interactive functions,
- identify the product,
- read fault memories,
- monitor device functions, and
- program, assign parameters for, calibrate and flash the product software.



## Controlling processing steps

The tools in production are becoming increasingly intelligent. For example, bolting systems can monitor torques and rotation angles in automated fashion, cameras can identify defects in components or in the assembly sequence and immediately detect the installation of incorrect elements.

Also enjoy the benefits of the automated – and therefore quick and correct – parameter assignment of tools. With Elution®, not only measurement and testing tasks can be automated, but also mechanical processes such as milling, glu-

ing, labelling, component marking (e.g. by means of lasers, pin marking), bolting with position and rotation angle detection and torque detection can be included in your manual processes. The integration of logistical tools, such as pick-by-light systems, or the prompt ordering of conveying equipment (such as automated guided vehicle systems [AGVS]) are also conceivable.

Consequently, staff concentrate on the core process of their work, and the results are documented and saved with the Elution® software for reliable auditing.



## In-process quality management

100% quality is the aim of each and every production, as well as the requirement to deliver a high level of customer satisfaction. Defects are also a cost-driver when calculating prices, because defects are more expensive the later they are detected (rule of ten). If they are first detected by the customer, this can lead to reputation damage and high product liability claims. Accordingly, identifying defects immediately and preventing defective products from even entering the value-creation chain offers enormous cost-reduction potential.



## Monitoring Process parameters

With Elution®, numerous sensors and actuators can be integrated, thus in-parallel quality checks of all physical or electrical process parameters can be implemented.

The complete process documentation by the system in the digital product file from the level of the work step to the measuring value enables the seamless traceability of production parameters and environment conditions at the time of production.



# In-process quality management – Preventing defects where they occur



## Electrical safety

### tests

in accordance with standards

Do you supply your customers with electronic products?

Then you will know about the strict requirements for the electrical safety of your products demanded by the Low-Voltage Directive 2014/35/EU, etc. A fault-free, monitored conducting and documentation of the tests is therefore essential.

Standard-compliant tests of high-voltages, insulation, leakage current or protective conductors are some of the core competences of the Elution® factory software.

Devised as testing and checking software in the 80s, diverse testing and checking processes can be seamlessly integrated into your production/assembly process. Along with its many years of experience, ELABO GmbH offers profound expertise for the standard-compliant implementation of complex testing processes.

ELABO can offer you the right hardware produced in-house for your testing task, thus helping to ensure your products are safe.



## Connectivity

With digitalisation, the interconnection of production reaches new dimensions. In the future, every component should communicate with every machine. Production should not be considered in isolation here. The digital landscape includes hardware to be controlled (e.g. machines, tools, robots) but also the connection to the existing software landscape of the company (e.g. ERP/MES system) to obtain the necessary information for production or to feed back information accrued in production.



## Standardised exchange of data

By default, Elution® can act perfectly independently, and an interconnection with other systems is not necessary. Thanks to standardised reports and import/export functions, all requirements are met for data to be exchanged and supplied freely and autonomously.

This way isolated individual workstations can be introduced in the service department, repairs or other departments where IT guidelines hinder or forbid interconnection.



## Connectivity – Communication in the right place



### Real-time communication with ERP/MES

You obtain the full potential benefit from Elution<sup>®</sup> by connecting it with your ERP system. Optimum order scheduling and approval and the related material supply at the right time at the right place ensure that your staff are able to work at their workstation. Once this work is complete, the production and testing data is transmitted to your ERP/MES in automated fashion so that your stock and the subsequent cost calculation always stay up to date. In addition, you always have an overview of the current status of your orders.

We have already introduced a large number of interfaces with diverse ERP systems for our customers: from SMEs to large corporations. Based on our experience, we are therefore able to develop customer-specific interfaces quickly and efficiently. This benefit gives you the necessary freedom to adjust the exchange of data regarding your processes and your products the best possible way, thus delivering seamless integration.



# Elution<sup>®</sup> – The software suite for your shop floor



## Elution<sup>®</sup>

Increasing variant diversity, smaller series or skills shortages. The demand for cost-efficient and profitable production continues to increase. With the factory software Elution<sup>®</sup>, you ensure that your staff maintain an overview even in stressful situations and can concentrate on their core tasks. Secondary tasks such as quality testing are automated and processes documented.

The right package exists for each application.



## Essential

In the basic version, you can already digitalise a large number of different processes on your shop floor.

The intelligent digital assistant (IDA) guides your staff through the process step by step. With images and videos, you can supply information to the individual workstations as required. Variant management allows you to maintain an overview and to produce without defects even with high product variance. With standard reports, fault-free working can be documented in automated fashion.



## Advanced

With the enhanced package, you digitalise your shop floor through the interconnecting of value-added processes, both horizontally and vertically. Connected to your ERP, orders are transmitted to the shop floor and production-related results data is fed back directly. This way you keep your calculations up to date and know the status of your manual production. Through the additional integration of, for example, measurement technology, bolting systems or even vision systems, processes can be secured in automated fashion.



## Premium

Do you produce electronic products? Do you need to flash software? Check control systems? Or activate controllers? With the premium package, you can communicate with your product, control processes in automated fashion and thus implement extensive final inspections. The functions for process controlling also enable a detailed data analysis of all moving product data and are the key to continuous traceability.



## Customer Care – Added value from extra services

### ELABO offers more

Our demanding customers expect more than just clever system solutions. ELABO therefore offers comprehensive extra services for the entire product range. We support our customers from the start – long and intensively; as long and as intensive as you as the customer desire. We call this ELABO Customer Care.

### Tailor-made from the manufacturer

Standstill and breakdown – two words no manufacturing company will accept. The operating personnel may not always detect the cause of failure at first glance, in particular in the case of complex systems.

Our qualified specialists are therefore at your side through our support hotline in the case of incidents. With tailor-made manufacturer support and without losing time, the causes of the breakdown are analysed and solutions offered.



## With increased availability if required

With our own service department, we are at your side in no time. If you opt for our service agreement (Customer Care agreement), you will be able to contact us even outside of regular business hours, depending on your chosen service level. Our on-call service reduces your own resource requirements. And if worse comes to worst, we will be at your premises as quickly as possible. If required, also via our new Digital Field Service (DFS) via online live session.

## Immediately work-ready with the right training

In order to be able to commence with the Elution® factory software optimally, we offer you different training packages.

In the single-day compact training session, you receive all essential information to get cracking with work plans, product types and reporting.

In the two-day intensive training session, the trainer will also create an example from your work environment together with you, which you can use as a blueprint for individual plans.

# Your notes





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