

Consulting | Systems | Products

Page **03**  
The Company



Page **18**  
References and Contact



Page **06**  
Products and Services



## WHO WE ARE

We are an owner-managed company which distinguishes itself through innovative products, constant contact with the customer and continual developments.

We carry out production projects on a national and international level for our customers. From the entry of the order up to its dispatch with visual work instructions – interactive, error-free and traceable.

We rely on long years of experience from many successful projects in various sectors.

## THE KEY TO SUCCESS

The key to our success is our method of working. Through agile, innovative actions we always manage to be a step ahead of the general market.

## THE ELAM SYSTEM

Our most important innovation is the ELAM system. With its novel bottom-up approach, it closes all the surveillance gaps on the shop floor level and connects this level perfectly with your company's ERP system.

In its functional scope and its tailor-made employee guidance, the ELAM E4-platform is unique, and is acknowledged on the MES market.

Its core fulfills the most difficult, but most important requirement for secure process execution – an assembly which can be controlled in a stepwise manner.

## LONG YEARS OF EXPERIENCE

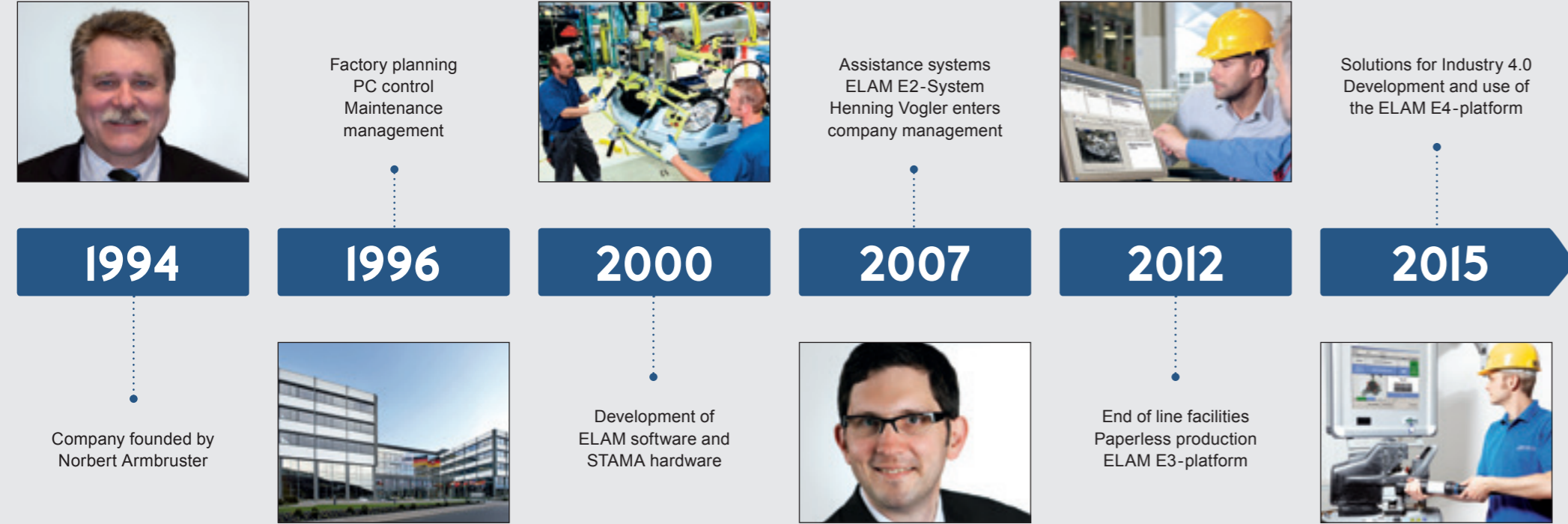
Before founding the company, Norbert Armbruster was active for many years in the research, development and production of systems for the automation of assembly. Through the need which many customers had for manually controlled assemblies, the idea came about to offer solutions for this particular area with his own company.

This led to the development of a modular system as an **Executive Level for Assembly Manufacturing processes** – what was later to become the **ELAM** system.

## CONSTANT INNOVATIONS IN PRODUCTION TECHNOLOGY

At the beginning of the ELAM development, the focus was on tools connection, process documentation and traceability. Today, in addition to this, comprehensive assistance functions and document displays for paperless production are available on the ELAM E4-platform.

In order to continue to develop the design of the ELAM system, we are constantly working on the innovation of all integrated components.



### SECTORS

- ▶ Automotive engineering
- ▶ Aeronautical engineering
- ▶ Utility vehicle engineering
- ▶ Energy and supply
- ▶ Plant construction
- ▶ Mechanical engineering
- ▶ Electrical engineering and electronics

### COMPANIES

- ▶ Medium-sized companies
- ▶ Innovative market leaders
- ▶ New production facilities
- ▶ Global groups
- ▶ Worldwide production sites

### PEOPLE

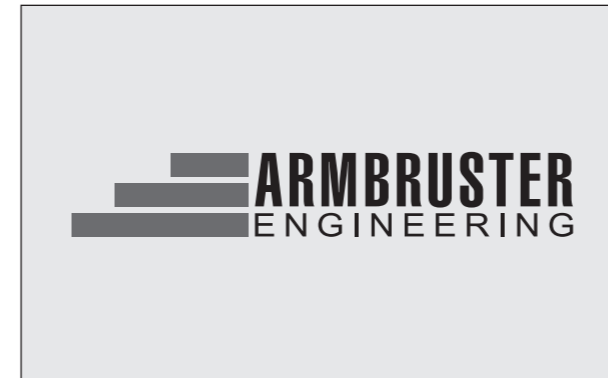
- ▶ Plant manager
- ▶ Production manager
- ▶ Assembly manager
- ▶ IT-manager
- ▶ Electrical designers
- ▶ Purchaser
- ▶ Quality manager
- ▶ Order preb manager
- ▶ Assembly planner
- ▶ Master assembler
- ▶ Group leader
- ▶ Assembly worker



# DO YOU WANT TO LEAD THE WAY?

## YOUR REQUIREMENTS

- ▶ Secure order control
- ▶ Maintaining quality
- ▶ Managing production halls securely



## INFORMATION

In many companies the information which is necessary for work is not available at hand. It is either spread across many sources, incomplete or entirely missing.

▶ Give your employees the right information at the right time and place – all through the factory and wherever it is required.



## ASSISTANCE SYSTEMS

- ▶ Employee guidance
- ▶ Step by step through the process
- ▶ Adhere to stipulated workflows
- ▶ In the respective countries' languages
- ▶ With web-based evaluations



## INFORMED FACTORY

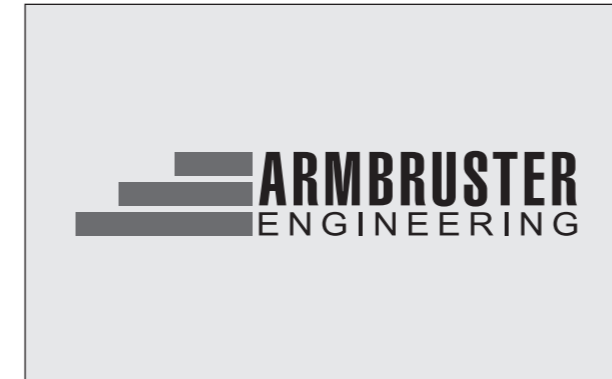
- ▶ Document display
- ▶ Guarantee of order throughput



# DO YOU WANT CONTROL OVER A DIVERSE RANGE OF VARIANTS?

## YOUR REQUIREMENTS

- ▶ Preparing materials securely
- ▶ Avoiding long search times
- ▶ Zero errors despite increasing variety



## PICKING

Errors in assembly often occur through the wrong part being supplied or through missing parts. This is often caused by faulty pick lists. Long search times for parts also increase costs.

- ▶ Make dialogue-guided selection possible for your employees. Avoid long search times by using Pick to Light displays.



## QUICK FINDING

- ▶ Operator-led retrieval of parts
- ▶ Parts lists directly from the ERP system
- ▶ Retrieval control through scanning or acknowledgment
- ▶ Route optimisation through site management



## SECURE PROVISION

- ▶ Support from Pick to Light systems
- ▶ Precise order processing despite product mix
- ▶ Flexible space management



Display with acknowledgement button



Display with motion sensor



Display with quantity measure

WOULD YOU LIKE TO WORK IN  
A PRECISE, ERROR-FREE MANNER?

### YOUR REQUIREMENTS

- ▶ Controlled Assembly
- ▶ Carrying out processes securely
- ▶ Transparent process evaluations



### ASSEMBLY

Many products which are assembled manually are complex and the number of variants continually increases. In this way process executions are made less secure. In order to nonetheless keep assembly safe, the tools and their process results need to be monitored.

- ▶ Help your employees to find their way even in difficult processes, and create an optimal working environment for error-free assembly.



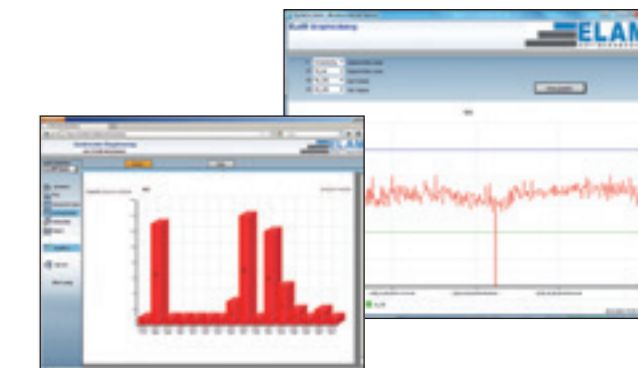
### TOOL INTEGRATION

- ▶ Guidance through the assembly process
- ▶ Integration of tools into the workflow
- ▶ Tool locks prevent faulty assembly
- ▶ Measurement recording and archiving



### PROCESS MONITORING

- ▶ Product lifecycle archive accompanying assembly
- ▶ Complete assembly protocol
- ▶ Graphical measurement display
- ▶ Direct run evaluations



# DO YOU WANT TO PROVIDE SECURITY?



## YOUR REQUIREMENTS

- ▶ Testing even during the assembly
- ▶ Flexible final examinations
- ▶ Traceability



## TESTING

Only testing products at the end of assembly is costly, as in order to remove errors they often have to be dismantled, with the accompanying effort.

The end of line stations used are often only for particular product types, which means that many end of line stations are required.

- ▶ Carry out technical examinations securely during assembly, and check the quality of your products easily with checklists.

Install end of line stations which can be adapted easily to changing testing tasks.



## FLEXIBLE END OF LINE STATIONS

- ▶ Testing flow can be changed freely
- ▶ ELAM system controls the entire process
- ▶ Security function guaranteed via CPU
- ▶ Combinable automatic and semiautomatic sequences

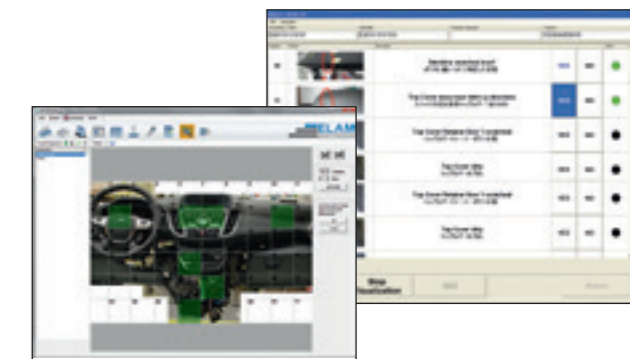


## TESTING



## EOL - CHECKLISTS

- ▶ Secure partial tests during assembly
- ▶ Easy execution with checklists
- ▶ Documentation of execution
- ▶ Printing of test protocols



# THEN DESIGN YOUR EQUIPMENT WITH US!



## OUR SOLUTIONS AND PRODUCTS

- ▶ From a single working station to assembly lines and factory equipment
- ▶ From planning to setting up your equipment
- ▶ With full-service supervision



### COMPACT EQUIPMENT

- Small equipment for applications with up to 3 stations
- Self-sufficient network (without ERP connection)
- Equipped with operator guidance, scanner and Pick to Light display
- Modular orderable with a power screwdriver and a label Printer
- Design, build and set up yourself
- Support from Armbruster Engineering



### INTEGRATED FACILITIES

- For large infrastructures, up to 20 stations per assembly line
- Design and network architecture in coordination with your specialist departments
- With connection to your ERP system
- Fitting of existing equipment or new equipment
- Construction and set-up by Armbruster Engineering



### INDUSTRIAL MANUFACTURING SYSTEMS

- Factory-wide equipping of your production areas
- Complete with working stations, tools and IT equipment
- Order start and order execution are paperless
- Support with concept and layout planning
- The system is compatible with "One Piece Flow"
- Integration of storage systems
- Picking, assembly, and testing – all from one source



### MODULAR UNIT SELLING

- The appropriate assembly modules for every application case
- Individual components from the Armbruster Engineering catalogue for ELAM software and STAMA hardware
- Just fill out the appropriate form under [www.armbruster.de/Modulverkauf](http://www.armbruster.de/Modulverkauf)
- You can order selected components directly in the web shop

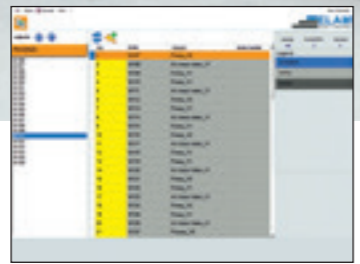
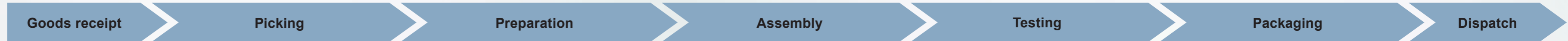
## THE ELAM E4 -PLATFORM IN PRACTICE

In the ELAM system you find the appropriate modules for each of your factory areas.

From the receipt of goods to the picking and preparation of the parts for assembly and testing, all the way up to packaging and dispatch.



### E4-PLATFORM



Dispatch and cancel orders



Avoid choosing the wrong part with Pick to Light



Pick parts without errors



Precisely assign work to the product



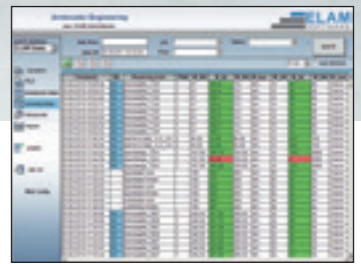
Stipulate processes and monitor assembly



Display and query testing processes



Inform and guide employees



Save product development to the archive



## VOICES FROM THE INDUSTRY

Armbruster Engineering has customers from various different sectors.

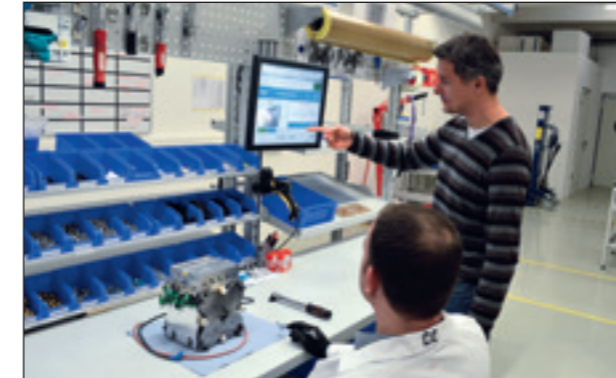
On these pages you can see a few customer statements. More comprehensive information on completed projects and further references can be found under [www.armbruster.de](http://www.armbruster.de).



### KACO new energy GmbH

„The new building represented the most modern inverter factory for high-performance devices worldwide. The **scalability** and **flexibility** of the works were top priority here. With the workstations of Armbruster and bott, we succeeded in inter-linking fully automatic production with equally efficient manual assembly according to the **One Piece Flow** principle. We have standardised all assembly workstations and designed them to be highly flexible.“

Erk Wehner, Factory Manager  
KACO new energy GmbH  
Neckarsulm



### Elcore GmbH

„We placed a particular emphasis on the **gap-free traceability** of orders and parts. Particularly in the introductory phase of our product, we can quickly discover and implement improvements in this way.“

Martin Burger, Production Manager  
Elcore GmbH  
Munich



### Voith Turbo Power Transmission Co., Ltd.

„Besides the central functions of **process securitisation and documentation**, in China the aspect of **operator guidance** has particular significance. The assemblers are often less qualified than in Germany and frequently change their job. For this reason precise instructions – both oral and written, and in the national language – are particularly important for us.“

Sören Schulze, COO  
Voith Turbo Power Transmission Co., Ltd.  
Shanghai



### AIRBUS Operations GmbH

„Within the framework of the project, we managed to reduce the number of erroneous picks. Moreover, thanks to the **Pick to Light installation** the learning times of new employees is considerably reduced. In the next phase, placement of the free stock using **Put to Light** is to be introduced.“

Björn Grundke, Project Manager  
AIRBUS Operations GmbH  
Hamburg

+++ Current references can be found on our homepage

[www.armbruster.de](http://www.armbruster.de) +++ Current references can be found on our homepage [www.armbruster.de](http://www.armbruster.de) +++ Current references can be found on our homepage [www.armbruster.de](http://www.armbruster.de)



## ARE YOU INTERESTED?

Benefit from the advantages of a personal log-in and register on our homepage.

You can then be informed of current events and comprehensive additional information via our newsletter.

We would be happy to send you the Armbruster Engineering catalogue. Please just contact us if you wish us to do so.

## CONTACT

### Armbruster Engineering GmbH & Co. KG

Neidenburger Straße 28  
28207 Bremen, Germany

Telephone: +49 (0)421 / 20 248-0

Fax: +49 (0)421 / 20 248-20

Email: [info@armbruster.de](mailto:info@armbruster.de)

Internet: [www.armbruster.de](http://www.armbruster.de)



## YOU CAN ALSO FIND US ON:



All rights reserved. Distribution or reproduction is not permitted without the written permission of Armbruster Engineering.

© Copyright 2016 Armbruster Engineering GmbH & Co. KG