

System Engineering
for the automotive industry

flexcell

the modular system
for manufacturing solutions



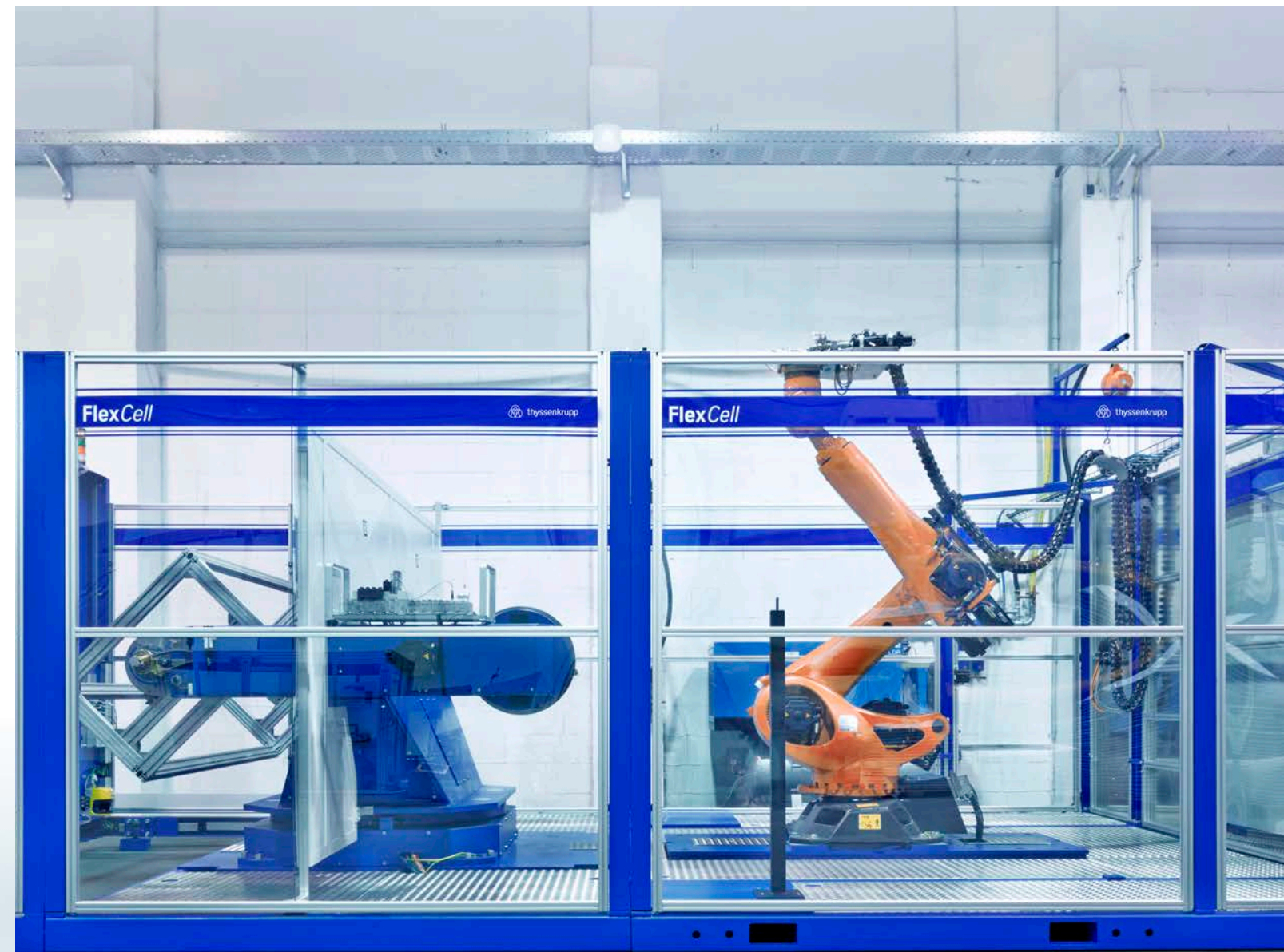
thyssenkrupp



Everything is possible with the applications of the flexcell

thyssenkrupp System Engineering deals with the development of efficient and forward-looking machinery and equipment in the context of automation solutions.

Based on the optimized use of all involved resources “human-material-energy” products are formed with focus on economics and sustainability. The thyssenkrupp System Engineering flexcell, as result of these synergies is designed to meet your requirements.



The thyssenkrupp System Engineering flexcell is a modular manufacturing cell. Thanks to short commissioning times, maximum process reliability and flexibility it is the optimal solution for many production, application and handling tasks. You receive a cost saving solution without compromises in quality and flexibility.

Tasks and application areas:

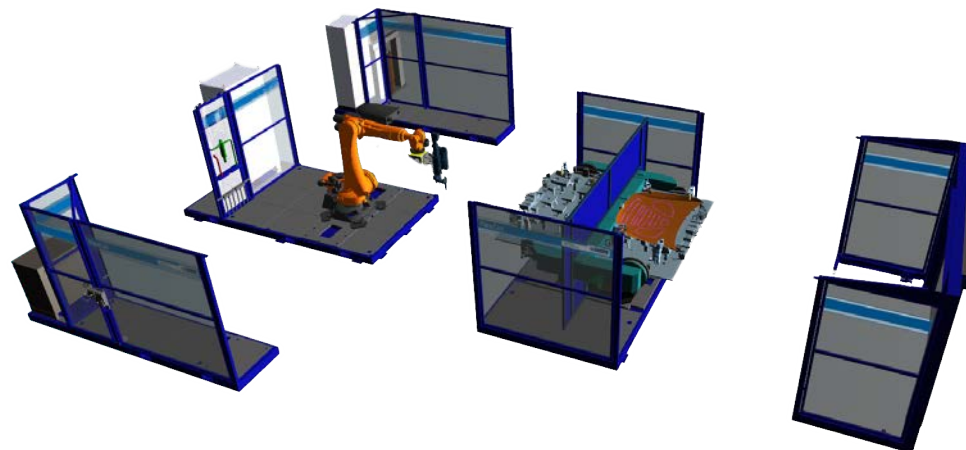
- Gas-shielded arc welding
- (Resistance) spot welding
- Glueing
- Clinching
- Roller hemming
- Screwing
- Stud welding
- Riveting
- Flowing hole screwing

As flexible as your tasks

The flexcell is modular in its basic design. This allows a fast and flexible adaptation to your needs. Through basic and expansion modules, you can multifunctionally configure manufacturing cells for individual subassemblies up to connected cells for producing a complete assembly, e.g. a hood.

Through the use of standardized modules and the opportunity to combine them you can generate a diversified modular kit of cells. This system provides solutions from simple cells with one robot and one tool changing table up to complex system configurations with 4 robots, several positioners, automatic component placement and the possibility of discharging the produced parts.

The configuration of the cell takes place according to the customer's requests and the manufacturing tasks.



Faster than you think

The base of the flexcell concept consists of both minimum project lead times at thyssenkrupp System Engineering as well as the realization of fast relocations. The expenditure of time is minimized thanks to intelligent technology, which increases the adaptability of the flexcell for example for flexible productions at different locations or material flow optimizations.

Advantages

- Installation and commissioning at thyssenkrupp System Engineering
- All modules are loadable with forklift
- Truck suitable dimensions of the modules
- No complicated installation work by pre-centering and shouldering of the modules
- Quick and easy adaptation to the local ground conditions by using integrated adjustment- screws in the stands
- Control technology and media feed are integrated in the modules e.g. for air, water and electricity

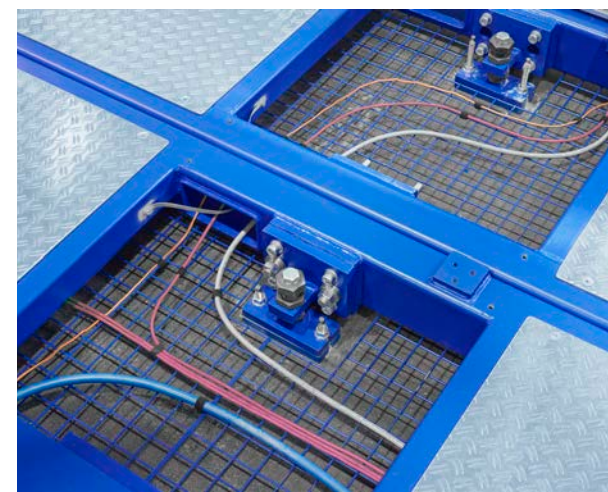
Standardized base system for easy adjustment to ground conditions



Preparation for holding eyelets already integrated in the modules



Intelligent media ducts within the modules prevent tripping hazards and protect against wear





Safety first



The safety devices are designed according to customers' requirements and current Machinery Directive. The entrance area is secured by roller shutter or light curtains during the manufacturing process.

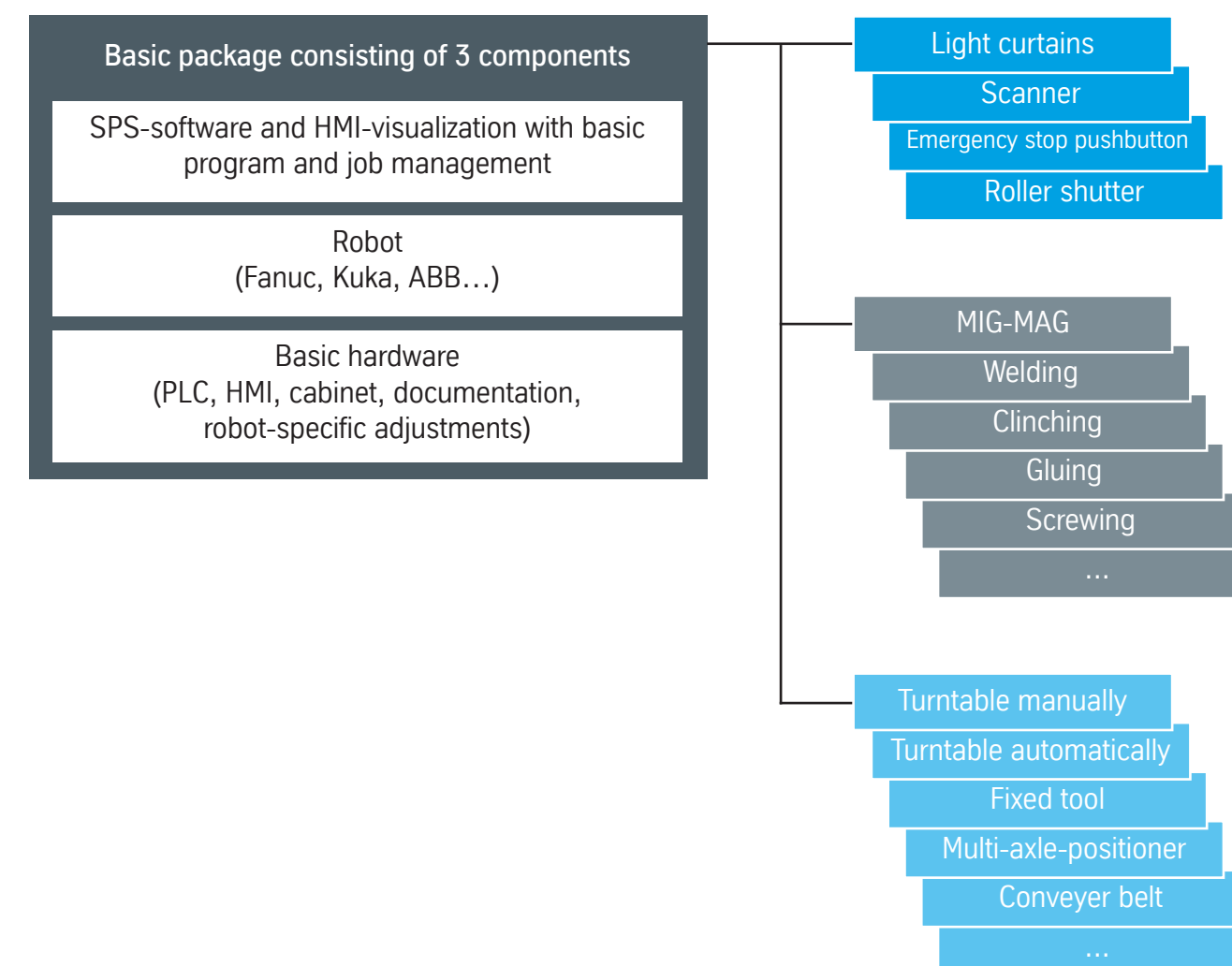
All diagnostic and operation options are controlled centrally by a mobile panel. Therefore it is always guaranteed to keep an eye on the function performed. The intelligent control system enables the integration of up to 60 different tools and their management in one cell.



Modularity in all sectors

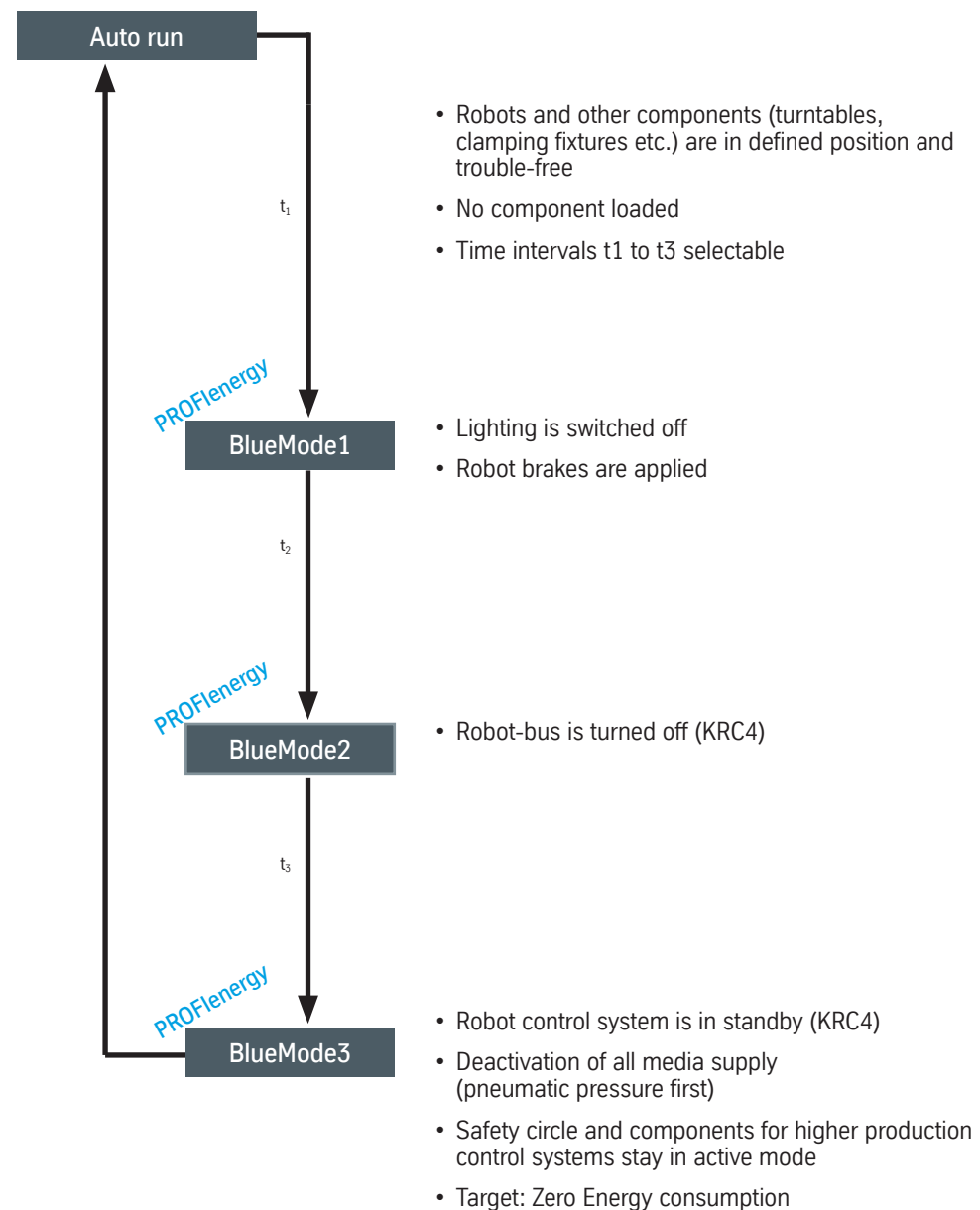
The structure for hardware and software is performed modular, similar to a construction kit. Thus, a fast, cost-saving, efficient and on the customer's requirements oriented implementation is achieved.

All electrical components are also presented in modules. This results in a rapid adaptation to the customer requirements without major engineering efforts. This reduces the costs and enables a quick and flexible response to customer requests.



Power efficiency up to date

Energy and resource saving facilities and components are growing subjects that are becoming more and more important in the future. Our solution to this is already integrated into the thyssenkrupp System Engineering flexcell - an intelligent controller that turns off unused modules gradually to a complete standby.



Service creates satisfaction

As full service supplier, thyssenkrupp System Engineering supports you to use the cell in best mode and assists to ensure economic success.

We offer:

- 24 months warranty with optional on-site service and up to 24/7 service hotline
- Optional extension of the warranty period to 3 or 5 years
- Quick (rapid) purchase of spare and wear parts at our worldwide sales and service offices
- Training your staff to ensure quick self-help



flexcell in application

Automotive industry

The thyssenkrupp System Engineering flexcell can be used in various sectors of industry. It works perfect as a test and trial cell as well as in the prototyping and batch production. A concrete example, as shown below, is the application for roller hemming on hood inner part and outer skin.

Roller hemming cell with 2 handling (infeed) areas for prototyping:

- Complete engineering of the flexcell including roller hemming technology
- Pre-setup and commissioning of the cell at thyssenkrupp System Engineering within 4 weeks
- Relocation of the cell including recommissioning at the customer within 72 hours
- Subsequent integration of several product variants

Customer's benefits:

- Flexible adaptation to specific needs in planning, also after delivery
- Fast commissioning at the customer site
- Low disassembly and reassembly efforts in a relocation
- System is easy to expand with additional modules



Individuality despite of standard

Based on our standard the flexcell is generated according to your wishes and requirements.

There are various options integrated in our product portfolio, from which you can see a small excerpt below:

- Tool changing system
- Tool carriage
- Marking system
- Tool encoding via RFID
- Small load carrier shelf (rack) system
- Tool station

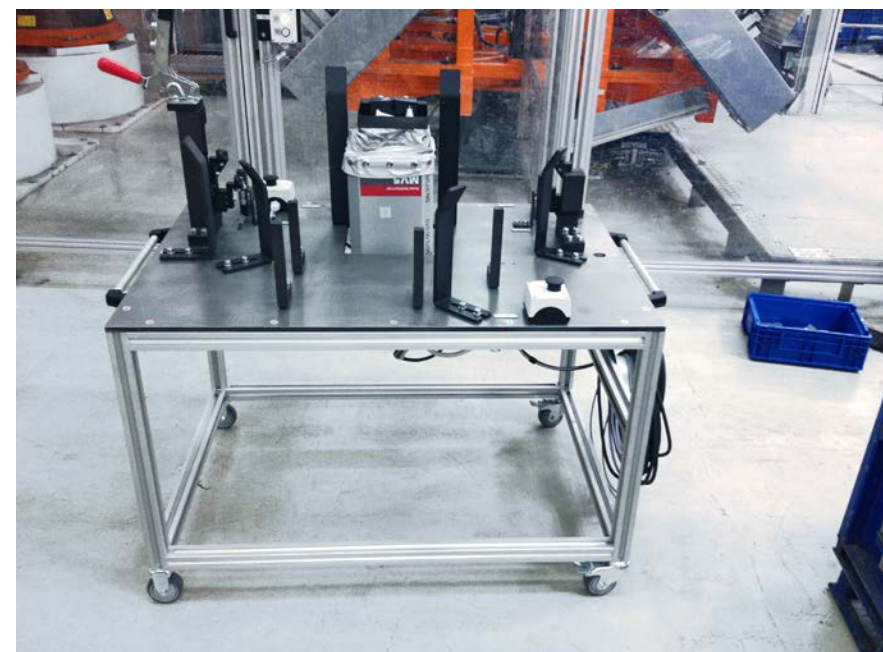
Fast integration of new tools thanks to RFID



Tool station



Marking system



Small load carrier shelf (rack) system



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