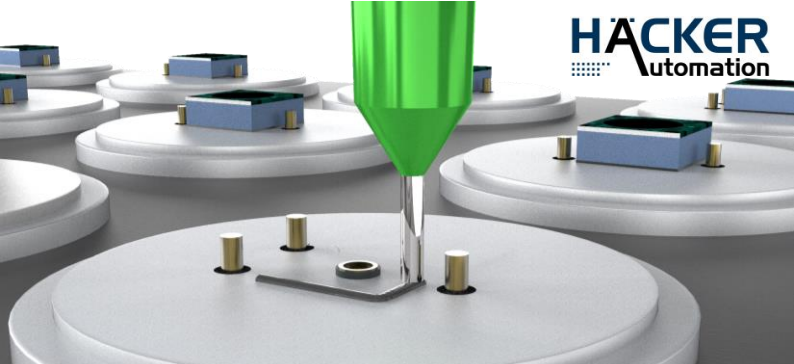


Technologieportfolio

Automated Sensor Production





Complexity meets maximum innovation.

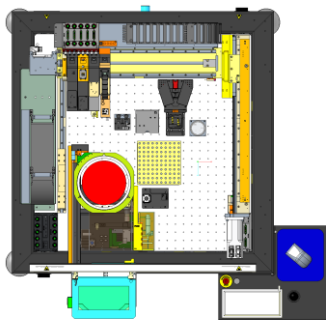
Concepts for automated sensor production.

Meet the challenges of sensor assembly with the perfect all-round solution for series production. With an OurPlant XTec, you benefit from maximum process diversity and flexibility. A wide variety of micro assembly, dispensing and laser soldering applications can be mapped in combination.

Example configuration of a production system



Machine: OurPlant XTec














Layout: Pressure Sensor Assembly

Budget Price: Machine setup pressure sensor assembly



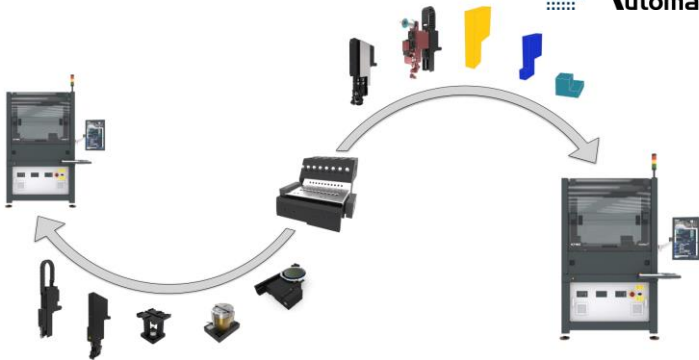
OurPlant XTec, incl. UV protective glass

140.000,00 €

	CAMERA 3D	18.000,00 €		MEASURING EQUIPMENT TACTILE MEASUREMENT HEAD	13.700,00 €
	PLACER	23.400,00 €		PLACING EQUIPMENT TOOL ADAPTER TA-SL4	2.650,00 €
	PLACING EQUIPMENT TOOL CHANGING UNIT (4 TOOLS)	6.600,00 €			
	DISPENSER D-PT CARTRIDGE EFD VALVE	19.800,00 €		DISPENSING EQUIPMENT NEEDLE INSPECTION UNIT	18.000,00 €
	DISPENSING EQUIPMENT DRIP TRAY 300	600,00 €			
	FEEDING EQUIPMENT DIE EJECT UNIT	36.000,00 €		FEEDING EQUIPMENT UNIVERSAL SUPPORT	600,00 €
	FEEDING EQUIPMENT WAFFLE PACK SUPPORT	850,00 €			

Subtotal	280.200,00 €
19% VAT	53.238,00 €
Total	<u>333.438,00 €*</u>

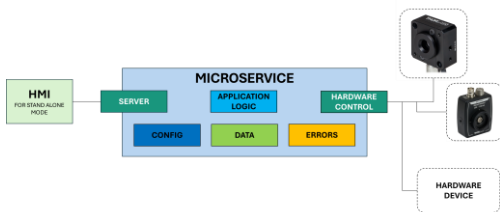
* Equipment price excl. engineering costs



Maximum flexibility for your process design.

The open and modular machine platform is the perfect tool when it comes to implementing your extensive processes. Consoles with standardized interfaces allow you true plug & play capability of all modules on all systems.

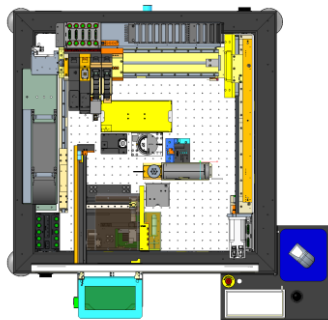
The decision to configure a machine is not a final one. You remain flexible with the connection of new modules or the integration of specially developed modules.



Integration of your own process modules and systems.

With the connection of MicroServices, highly individual customer systems can be docked onto the machine system. Reasons for this can be the validation of measuring systems or production technologies that have already been carried out, which are further developed and operated by the machine operator. This allows further systems to be connected.

System concept: Automation of complex components



Machine: OurPlant XTec

Layout: Assembly of complex components

Budget price : Automation of complex components



OurPlant XTec, incl. UV protective glass

140.000,00 €



CAMERA 3D

18.000,00 €



CAMERA 3D

10.500,00 €



PLACER

23.400,00 €



DISPENSING EQUIPMENT
UV CURING HEAD 365NM

11.500,00 €



PLACER GR

22.500,00 €



TOOL ADAPTER TA-R3

1.100,00 €



DISPENSING EQUIPMENT
DIRECT DISPENSING UNIT

16.200,00 €



FEEDING EQUIPMENT
DIE EJECT UNIT

36.000,00 €



FEEDING EQUIPMENT
3D ALIGNMENT SUPPORT

23.400,00 €



FEEDING EQUIPMENT
WAFFLE PACK SUPPORT

850,00 €



FEEDING EQUIPMENT
FLIP-CHIP-UNIT

15.000,00 €



FEEDING EQUIPMENT
JEDECTRAY SUPPORT

850,00 €

Subtotal
19% VAT
Total

319.300,00 €
60.667,00 €
379.967,00 €*

* Equipment price excl. engineering costs

Configure your own system at:

www.mikromontage.shop

www.mikromontage.shop

Ein Shop der Hacker Automation GmbH. Mehr Infos zur Mikromontage auf unserer Website

[mikromontage.shop](http://www.mikromontage.shop)

MICROASSEMBLY MODULES CONTACT    

**MACHINES, MODULES AND
ACCESSORIES
FOR MICROASSEMBLY.**

Price information and product information anytime and anywhere.

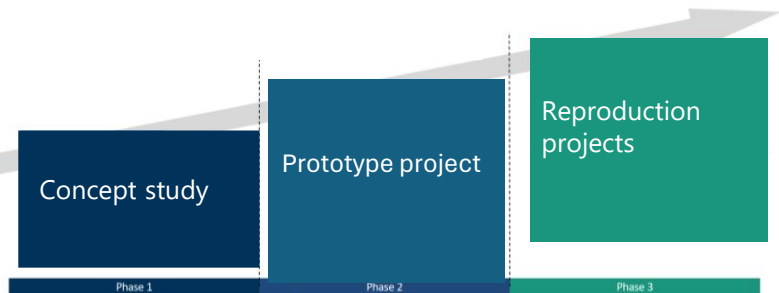
DISCOVER NOW

Project structuring: How we work together.

What is absolutely essential for us?

Aspects of project design:

- Structuring of development services and automation implementation
- Initial economic feasibility studies
- Rough price and time orientation
- Definition: Starting the project



Phase 1 - To the point:

- Detailed concept
- Extended feasibility studies
- Economic feasibility studies

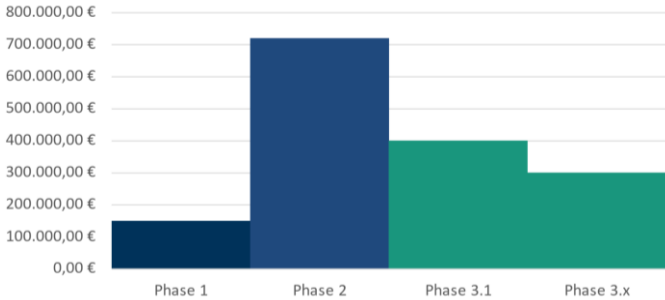
Phase 2 - Getting to the point:

- Development of new skills for the implementation of your production task
- Detailed process development
- Production of fully-fledged production equipment as the first prototype implementation

Phase 3 - Getting to the point:

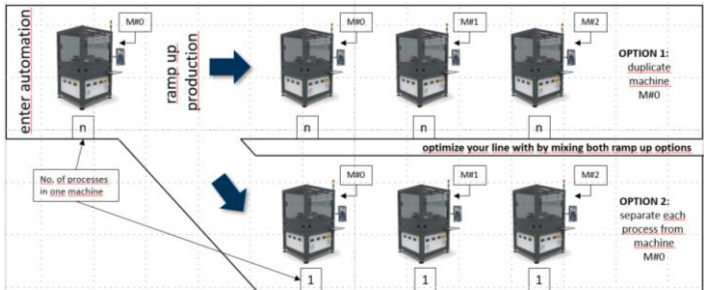
- Extended optimization of the new capabilities
- Reproduction of the optimized production equipment

Profitability analysis and investment costs.



In the course of full automation, the costs per machine project fall considerably after an initial prototype project. In the reproduction phase (phase 3), the net prices for the provision of production equipment depend on optimization requirements.

Optimize your production.



Machine and module specifications for pressure sensor assembly and complex component assembly

Machine



OurPlant XTec

- Dimensions in mm (WxDxH)/ Weight: 1,735 x 1,455 x 2,400 mm/ approx. 1,200 kg
- Max, functional range in mm (X,Y) 500 x500
- 2-axis gantry system (X, Y)
 - Repeat accuracy positioning X-axis: deviation $\leq \pm 5 \mu\text{m}$ @ $C_p \geq 1.67$
 - Repeat accuracy positioning Y-axis: deviation $\leq \pm 5 \mu\text{m}$ @ $C_p \geq 1.67$
- Processing heads with integrated Z-axis
- UV protective screens, optionally with laser protective screens
- Software and control with integrated industrial PC Interface with 10 electrical connections (5x CAN, 5x Ethernet) for the integration of processing modules up to a total width of 150 mm (can be extended to 300 mm using an adapter plate)

Inspection



CAMERA 3D

- Inspection head with optical 3D detection and automatic position correction
- Calculation of the exact 3D position
- Correction of deviations from the target position using error compensation algorithms
- Dimensions in mm (WxDxH)/ Weight: 49 x 261 x 341 mm/ 4.8 kg
- Travel range in Z in mm: 150
- Lens type: Macro lens
- Field of view in mm (W x H): 7.2x5.4
- Camera resolution in μm : 7.6

Placement



PLACER GR

- The Placer GR is a processing head that uses a mechanical gripper system to align and place components. aligns and places components.
- Dimensions in mm (WxDxH)/ Weight: 49 x 309 x 514 mm/ 5.5 kg
- Travel range in Z in mm: 150
- Z-axis accuracy in mm 0.02
- Z-axis resolution in μm 4 Max.
- Z-axis speed in mm/s 1000
- Movement range rotation axis in degrees 0 ... 360
- Resolution Rotation axis in arcsec 1.58E-06

Machine and module specifications for pressure sensor assembly and complex component assembly

Dispensing



DISPENSER D-PT CARTRIDGE EFD VALVE

- Pressure-time-controlled dispensing unit with EFD valve
- Cartridge permanently pressurized with defined pressure
- By opening the valve for a defined time and at a defined pressure, a corresponding quantity of material is dispensed.
- Continuous process control via observation camera on the dosing head
- Dimensions in mm (WxDxH)/ Weight: 49 x 310 x 518 / approx. 6.0 kg
- Travel range in Z in mm 500 x500
- Functional temperature range in degrees Celsius 20 ... 35

Pressure-Time-Dispensing:

Pro:

- Simple handling of the cartridges
- Simple dispensing program creation with easy-to-use input variables
- No overflow thanks to adjustable retention vacuum- Virtually no cleaning required

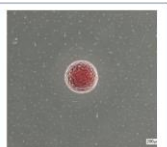
Contra:

- Viscosity fluctuations in the material lead to changes in the dispensing result
- Cartridge fill level has an influence on the dispensing result
- Hardly any possibility of checking the fill level
- "Pumping" the compressed air stresses the dosing material
- Retention vacuum depends on the fill level

Pressure-Time-Dispenser



Pressure-Time-Dispenser with EFD Valve



Heraeus
PD 205 A-Jet
SMD-Glue
on glass substrate
Dot Size = 3nl

Selection matrix for dispensing applications

Application	Pressure-Time-Dispensing
Die Attach	+
Conductive bonding	+
SMD bonding (1 K hot curing)	++
Potting	+
Dam (high viscosity)	+
Fill (low viscosity)	+
Glob Top	+
Conformal Coating	+
Underfill	0
Wire Bond Encapsulation	+

Auswahlmatrix Dosiermaterialien

Material	Pressure-Time-Dispensing
Water	+
Alcohol, solvent, flux, ...	+
Coatings	0
Hot-curing epoxy resin1K	+
Epoxy resin RT-curing1K	-
Epoxy resin 2K premixed (fast)	--
Epoxy resin 2K premixed (slow)	-
Epoxy resin UV curing	++
Epoxy resin UV/VI-curing	++
Silicone (RTV-1), SMP	0
Silicone (RTV-2)	-
Silicone HTV	+
Conductive adhesive (2K, 1K frozen)	0
Solder paste	-
Cyanoacrylate	(+)
Anaerobic adhesives	(+)

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www.haecker-automation.de