

# KOLEKTOR

## Company Profile Kolektor Siegert GmbH Mobility Components & Systems



# Kolektor Siegert GmbH

## Profile

Kolektor Siegert GmbH (D)  
Electronics & Drives



Location:	90556 Cadolzburg, 15 km west of Nuremberg
Foundation:	1945 Siegert GmbH Since 1995 Siegert electronic GmbH Since 2018 Kolektor Siegert GmbH
Managing Director:	Uroš Likar Walter Distler
Turnover:	22 Mio € (2019)
Employees:	~ 160
QEM-System:	IATF 16949/ ISO 14001 ISO 50001
Area:	approx. 6000 m <sup>2</sup>

# Kolektor Siegert GmbH

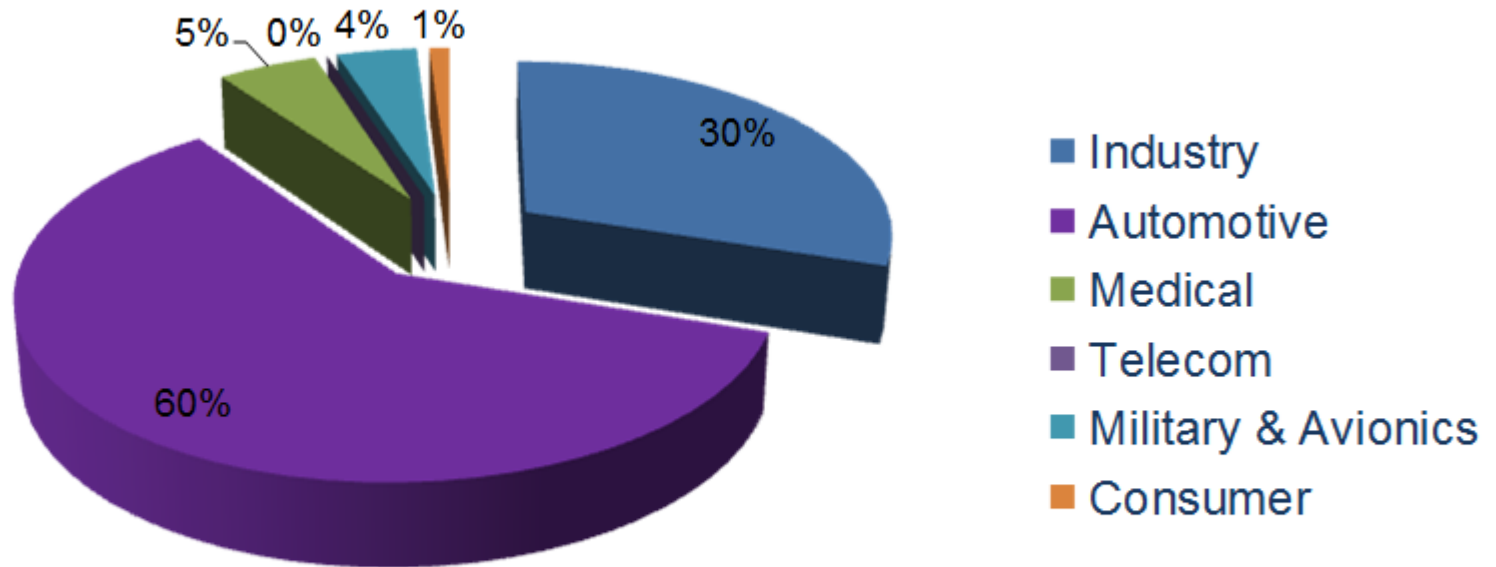
## Strategy

- Focus on Automotive
- Reference for hybrids in Europe
- Flexible PCB assembly service
- Automatic production of modules



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## Market segments

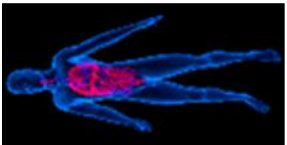


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## Customers



EADS, Diehl



SIEMENS Med, Endress & Hauser



Schurter



Excelitas, Maxon, SEW, Siemens Building,  
VAC, Novotechnik, Leuze, Bernstein, Dürr



Delphi, Valeo, Continental, Bosch, Magna,  
First Sensor Mobility, Igarashi, Kostal



EADS, Micro Chrystal

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## Automotive Experience

- Complete ignition module (ceramic based)
  - complex thickfilm substrates for ECU and water pump control
  - smart power module for gear control (Power Thick Film)
  - Complex thickfilm substrates for engine start/stop function
  - Ignition module, throttle position sensor and LED-modules in PCB
  - thickfilm substrates for fuel potentiometer, air flow meter and Lambda sensors
  - seat control units
  - thickfilm substrates for angle detection
  - quantities up to 15 Mio per year
  - spare part production
  - IATF 16949 / ISO 14001 / ISO 50001
- 
- Products for OEM: Daimler, Opel, BMW, Hyundai, Toyota, Nissan
  - Line tours from Daimler, BMW, Toyota



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## Modules & Systems on automatic production lines

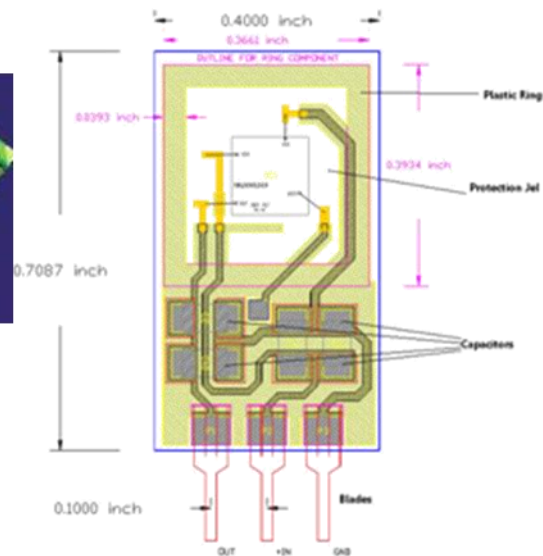
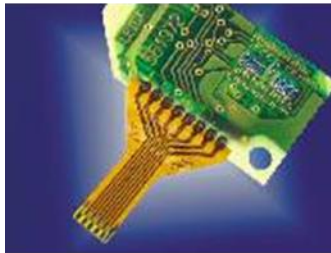
Active, passive and mechanical components are assembled to an integrated module, which has a complete system function.

- adhesive processes
- mechanical machining
- inline-temperature-processes
- bonding
- soldering
- Silicon potting and cover
- electrical intermediate- & final test
- AOI-checks
- automatic loading/unloading



## Layout & Design

3 CAD stations for hybrid- und PCB layouts (Graffy, Eagle)

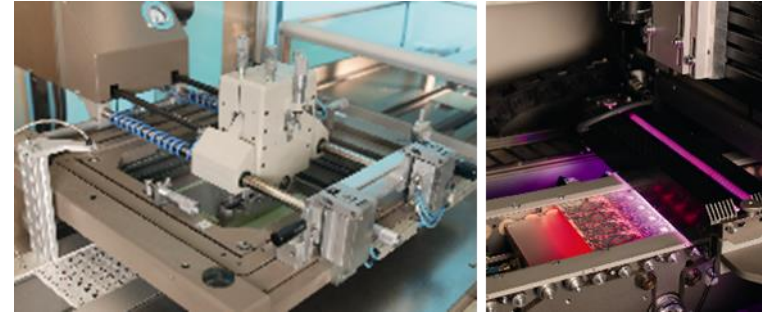




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## Screen Printing & Firing

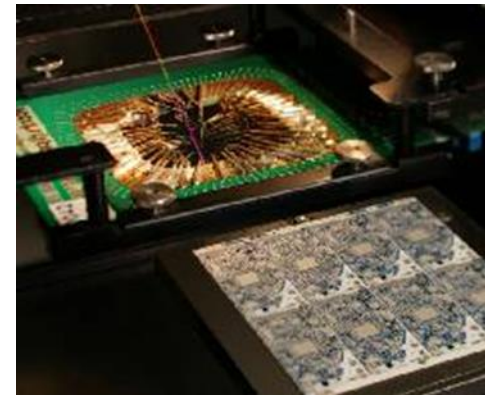
- automatic and semi automatic lines
- 4x4 to 5x6 inch substrates
- 150  $\mu\text{m}$  lines & spaces
- > 40 prints / module
- automatic optical inspection (AOI)
- test of shorts and opens
- clean room measurements below ISO class 7 (< 10.000)
  
- 3 firing furnaces (21 lines 4x4 inch)
- 7-11 temperature-zones
- atmosphere control



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## Laser trimming

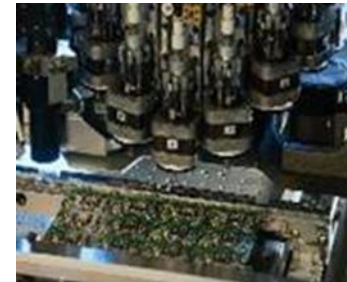
- Laser systems for passive trimm
- Laser systems for active & passive trimm
- 0,5 – 1% standard tolerance
- 0,2 % special tolerance (ageing)



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## Assembly

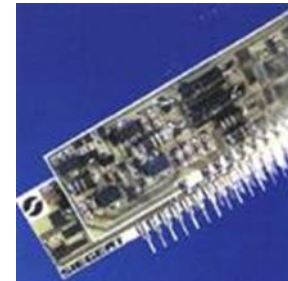
- Fully automatic SMT lines incl. N2 reflow furnaces
- Vacuum soldering
- In-line AOI systems
- semi automatic & automatic solder printer
- Automatic loading/unloading



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## Assembly

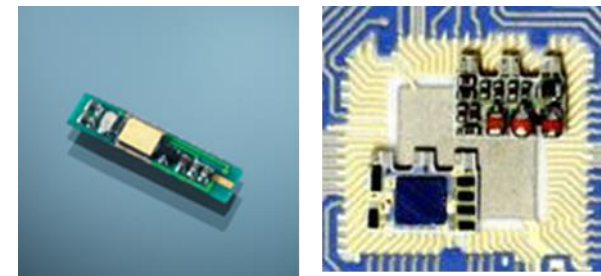
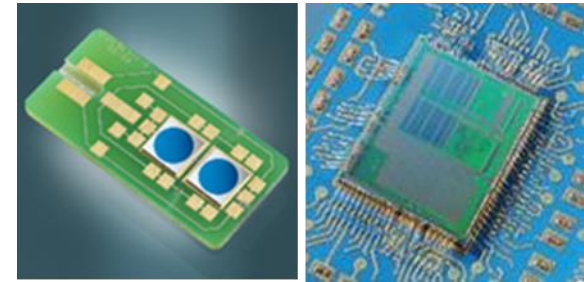
- pins: single inline, dual inline, specials
- solder dipping
- vapour phase cleaning
- fluid cleaning
- wave solder (400 mm)
- selective wave solder
- visual inspection and repair
- manual work stations



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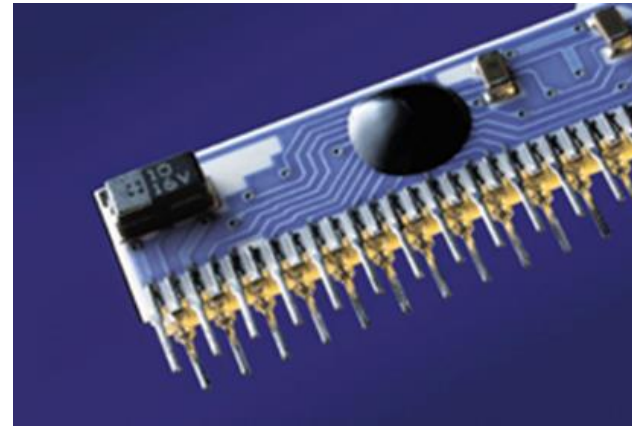
## Bonding

- automatic Die-Bonders incl. Flip Chip option
  - automatic Au- & Al-Bonders
  - minimum pitch 80  $\mu\text{m}$
  - die position tolerance +/- 10  $\mu\text{m}$
  - heavy wire bonding, thin wire bonding
  - deep access
- 
- semi automatic Flip Chip bonder
  - Flip Chip position tolerance +/-10  $\mu\text{m}$
  - Flip Chip minimum pitch 150  $\mu\text{m}$



## Passivation

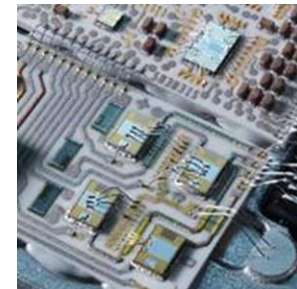
- glob top and dipping
- conformal coating
- integration in housings
- materials qualified for  $-55/+155\text{ }^{\circ}\text{C}$



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## Interconnection and electrical test

- test station for high pin count  
shorts, opens, high voltage, through holes
- break through voltage
- standard- & customer specified test equipment
- functional test, incircuit test



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## Quality

- registered according IATF 16949, ISO 14001 and ISO 50001
- reliability test, T shock, humidity, climatic test, failure analysis, cross sections,
- high resolution microscopes (optical)
- X-Ray





We connect Your  
ideas with our  
technologies



# KOLEKTOR

Driving the Future