make · explore · discover

OEM/ODM electronics and software

From idea to hardware: Fast and cost effective design and manufacturing of electronics and software for electron and ion columns

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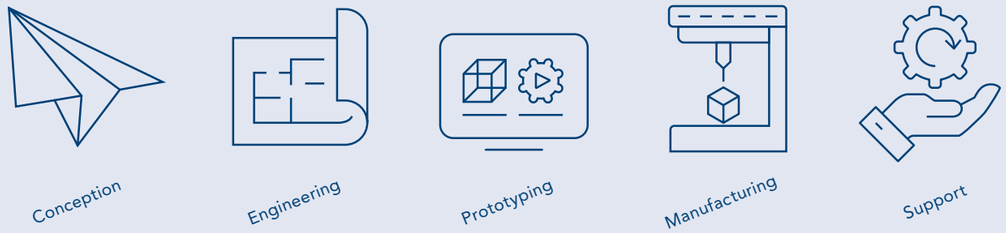
OEM and ODM electronics and software for manufacturers



We develop and manufacture custom electronics and software on OEM and ODM basis.

This means design, engineering and production from one source.

We have more than 30 years of technical design experience in electron microscopy.

And look back on more than 100 electronics designs for various customers worldwide, from industry and academia.

modular
universal
fast
dynamic
cost-effective
highest standards

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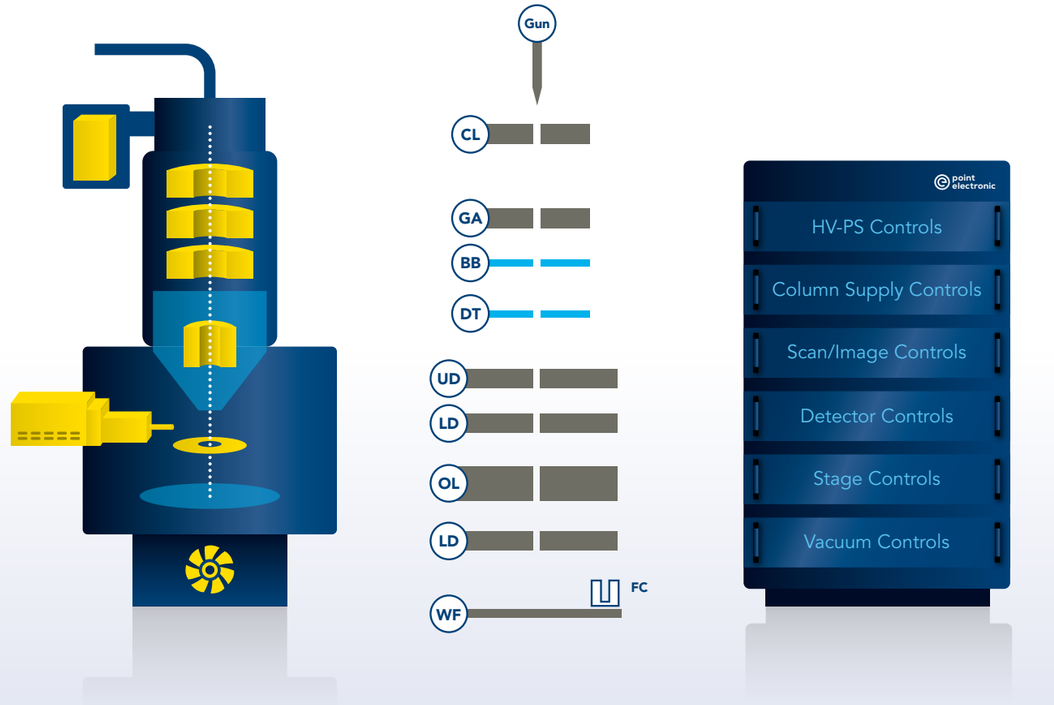
Your column - our design - your new electronics

From idea to hardware:
We translate your technical requirements into a system design within a fews days, and manufacture the controls and software for you.



YOUR COLUMN → OUR CONCEPT → YOUR ELECTRONICS

Why invest a lot of your own resources and capacities in development?
point electronic enables companies to achieve unique cost and time benefits.

ODM and OEM electronics by point electronic

Advantages

- **Flexible and configurable for all column types**
- **All electronics tailored to desired functionalities and specifications**
- **Risk minimisation for your investments thanks to our established engineering approach**
- **High cost efficiency and versatile concept for rapid and top-tier standards**
- **Fast-tracked market entry and scientific breakthroughs**
- **State-of-the-art technology for highest performance**

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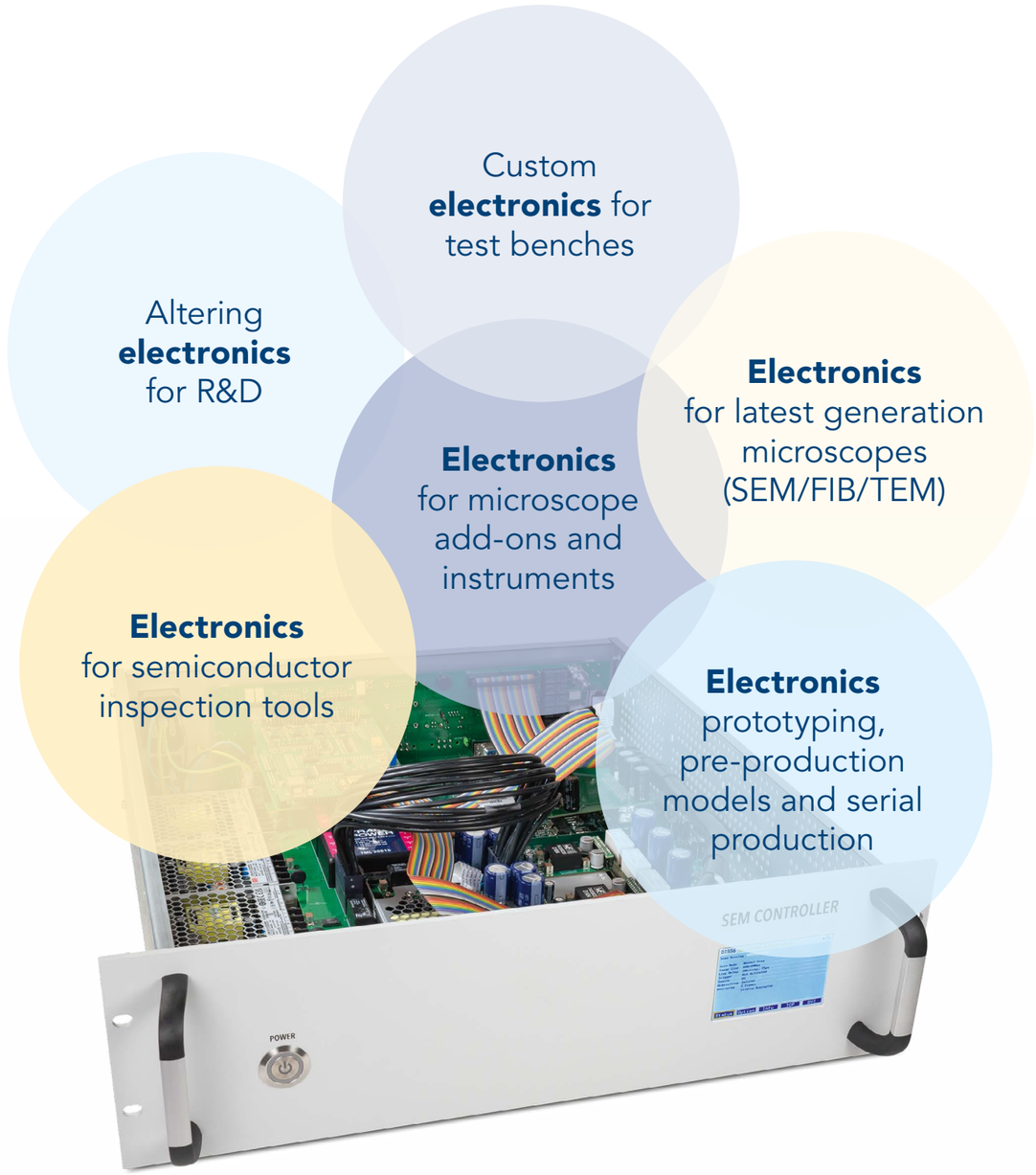
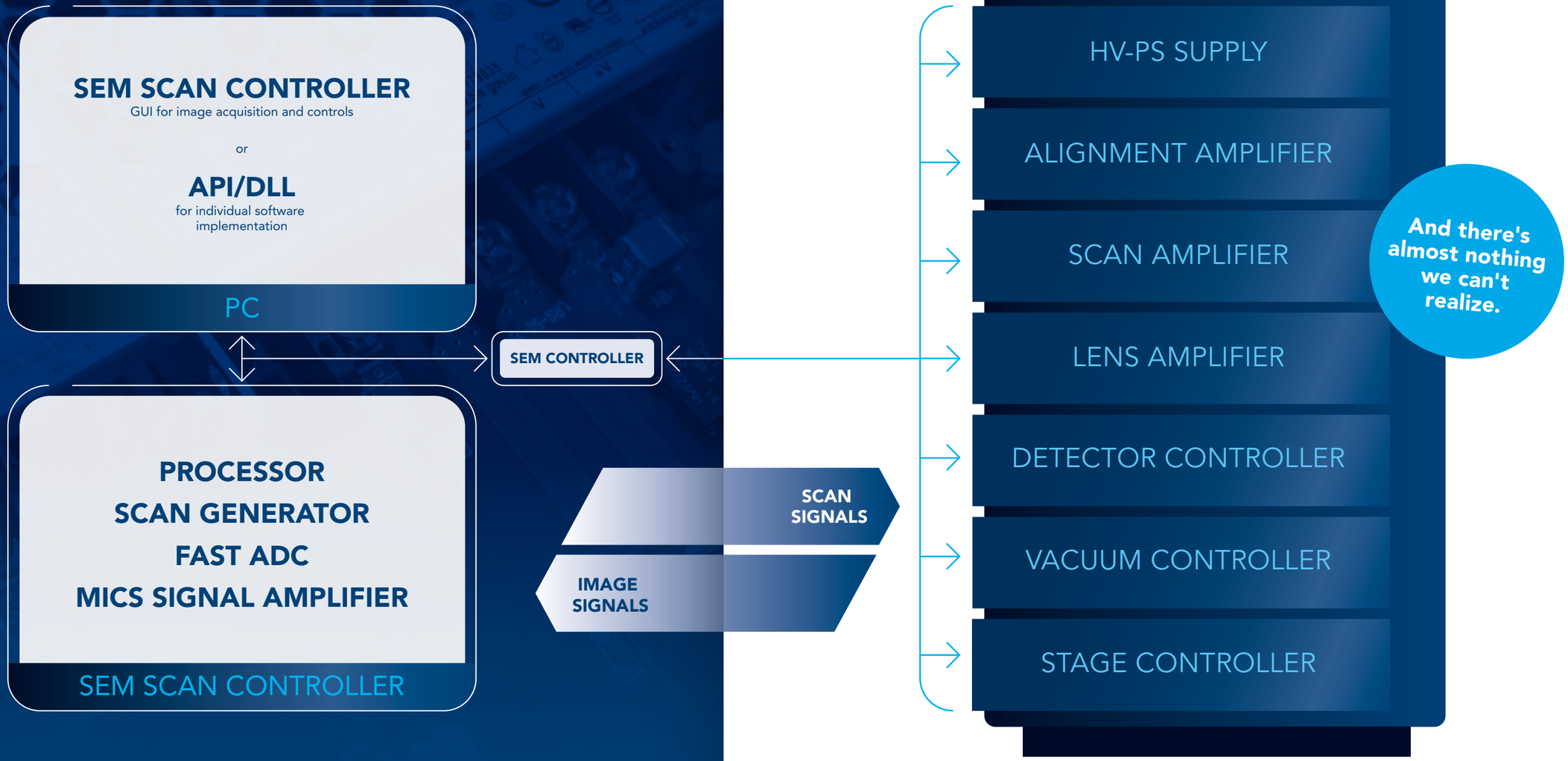
Custom solutions

Examples



Our modular design system

We have developed and continuously improved a design system that is based on established, state-of-the-art system components that can be flexibly adapted to customer requirements.



System components

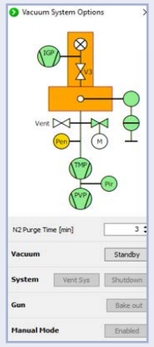
Customizable on request

Stage controllers

- 6-axis DC motor controller
- 6-axis stepper motor controller
- Reading of hardware limits
- Configurable software limits
- Integrated into the imaging system

Scan and imaging controllers

- DISS6 SEM Scan Controller (2 x 16 Bit, 100 Msps synchronized with AD) with 4 super-fast channels (4 inputs (20 ns/pixel), Gain -22…+26 dB, Input offset) and with MICS signal amplifier with 4-16 channels (4 inputs (200 ns/pixel), Gain 1…1800, Input/output offset
- Scan for magnetic deflectors
- Scan for electrostatic octupoles



Vacuum controllers

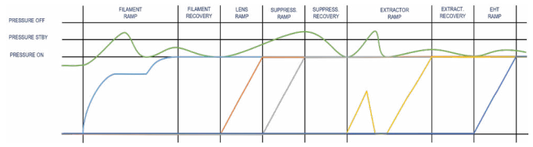
- Complex vacuum controls, sequence control in the microprocessor
- Control of valves and pumps
- Readout of gauges

Current and voltage sources and controllers

- Current sources for electromagnetic lenses (e.g. ±500 mA)
- Voltage sources for electrostatic lenses (e.g. Focus/Condensor 0…5 kV)
- Voltage sources for electrostatic quadrupoles and octupoles (e.g. 8x ±200 V)
- Integrated functions: e.g. wobble, scan gain, scan rotation, etc.

HV-PS controllers

- Tungsten and FEG HV-power supplies
- Integration of digital control of external HV-PS
- Vaccum guided ramping procedures



Detectors and detector controllers

- SE Detector electronics
- Custom BSE detectors
- Sample current amplifiers, pA-meters
- Sample chamber cameras
- Control of customer SED, BSE, cameras
- EBIC/EBAC detector

Packaging

- 19″ rack
- 19″ frame
- 19″ slot
- Individual packaging possible

Your short way to your final product

It all starts with your requirements

your requirements 1

You describe your column design, requirements and specifications to us. Define your software needs or use our API.

We develop an electronics design customized to your requirements. Within a few days - thanks to our flexible, modular system concept. 2 **our design**

your approval 3

You check our proposal and discuss it with us. If you wish any changes, we will implement them at short notice.

Full service from one source: Based on the design, we produce your prototype or go straight into series production. All steps from the idea to realization are done in-house. 4 **our production**

your product and our support 5

After we delivered your product, we remain at your service with installation, commissioning, application support and system development support.

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Get in touch with us:
info@pointelectronic.de

We don't need much from you to get started

For the electronics design we only need a few initial details from you.

? **COLUMN DESIGN**
Could you detail your column concept, including the lenses and deflectors involved?

? **DETECTORS**
Which detectors do you plan to use?

? **CONTROLLERS**
Would you need custom controllers for gun, vaccum, and stage?

? **SOFTWARE**
Would you write your own software using our Software Development Kit? Or would you use our control software (GUI)?

Our design principles

We look back on 30 years of experience in development and manufacture of high-performance instruments and technologies for microscopy.

We are driven by an ambition to expand abilities and to improve performance of electron microscopes.

Our aspiration is to make the best quality tools and to join our customers on their journeys of scientific exploration and discovery.

Performance
Microscopy must be a reliable and enjoyable experience
- Design for highest speed and resolution at the lowest noise
- Develop smart independent controllers for live optimization
- Support new users with intuitive and automated controls
- Assist advanced users with access to all parameters

Efficiency
Microscopes must provide an uninterrupted focus
- Use standard microscope controls and data formats
- Give instant feedback with live image mixing and processing
- Add bespoke software tools and algorithms for repetitive tasks
- Support developers with open access to libraries and documentation

Environment
Products and technologies must be sustainable
- Reduce power consumption through smart design
- Minimize material use, embrace reuse where possible
- Save weight and volume for shipping and maintenance
- Enable everyone to develop sustainable innovations

Quantification
Data and control must be in physical units
- Provide calibrated inputs and outputs for quantitative measurements
- Supply samples, procedures and software for calibration
- Distribute all control parameters in device independent values
- Empower the user to operate the microscope as a measuring device

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