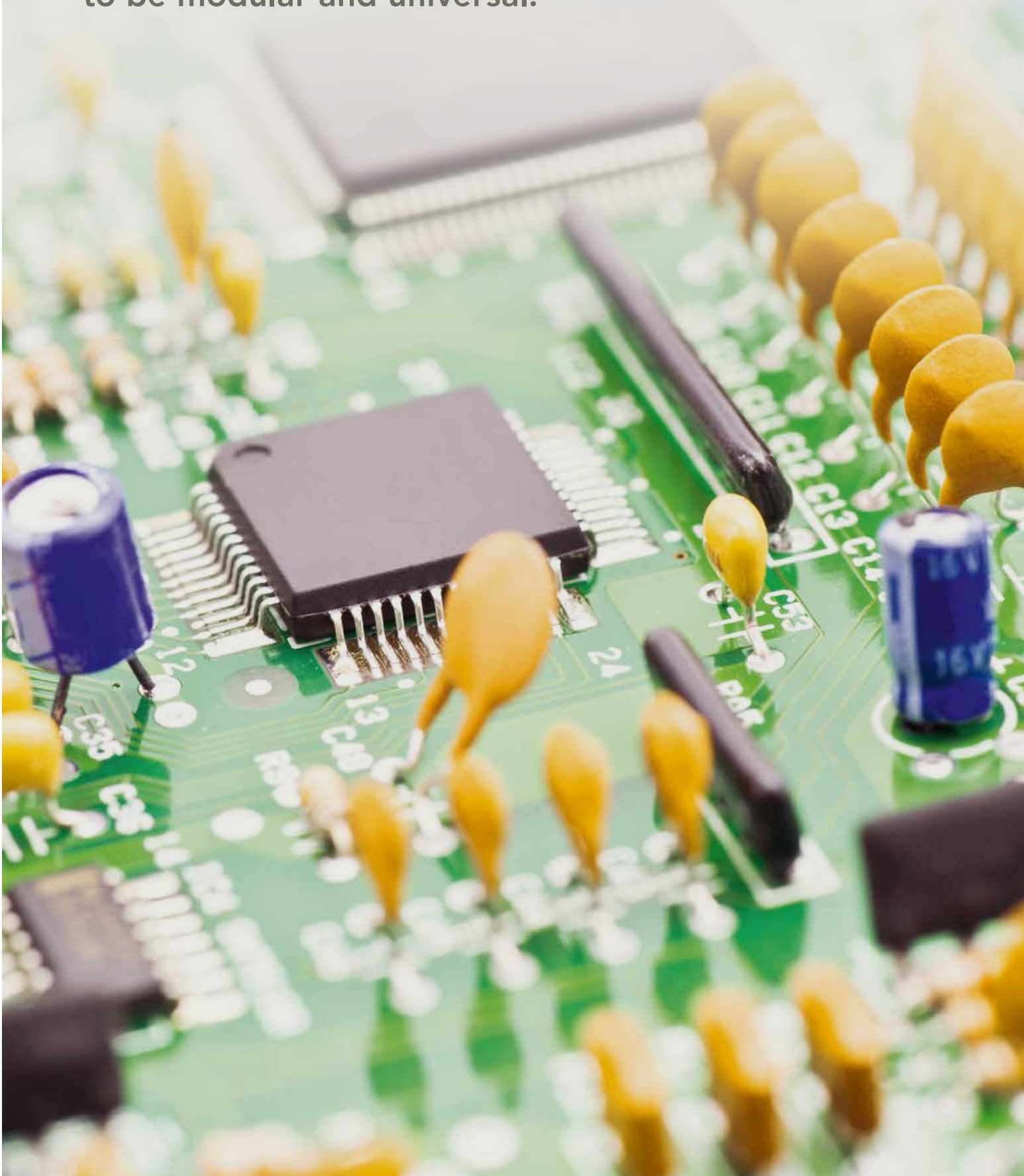


# Custom development

Custom electronics and software from parts to full Microscope Development Toolkit (MDK)

Point electronic GmbH products are regularly used for novel and unexpected techniques. This is made possible because all parts are designed to be modular and universal.



# Custom systems

## Examples of custom systems

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### ■ Laser scanning system

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### ■ Ion-beam scanning system

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### ■ Light-beam induced acquisition system

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#### **Each part is independent, with universal firmware and driver**

- Scanning system is independent from optics and vacuum
- Sample stage controller is designed for any 6-axis motion system

#### **Every input and output has a physical meaning and units**

- Complex system design is much simplified and feasibility study is straightforward
- Service does not require special conversion tools

#### **Every device is a smart device**

- Software design is streamlined and system operation is robust and resilient
- Automation procedures are fast and autonomous

## Multipole electron- and ion-optics

- Quadropole and octupole electrostatic lenses present exciting improvements in electron- and ion-optics
- A complete redesign of deflection electronics has been delivered for such optics, including real time control of lenses during beam scanning

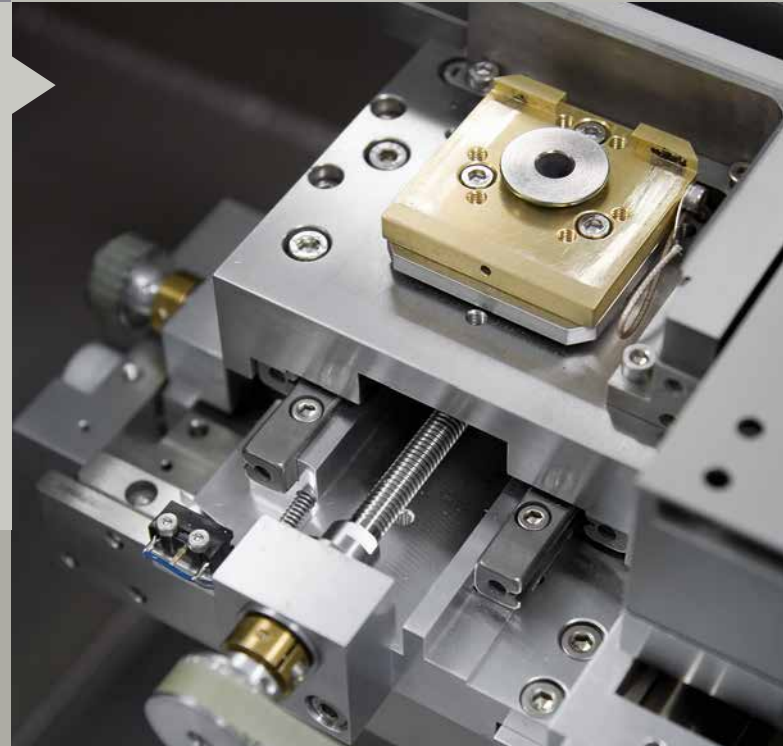


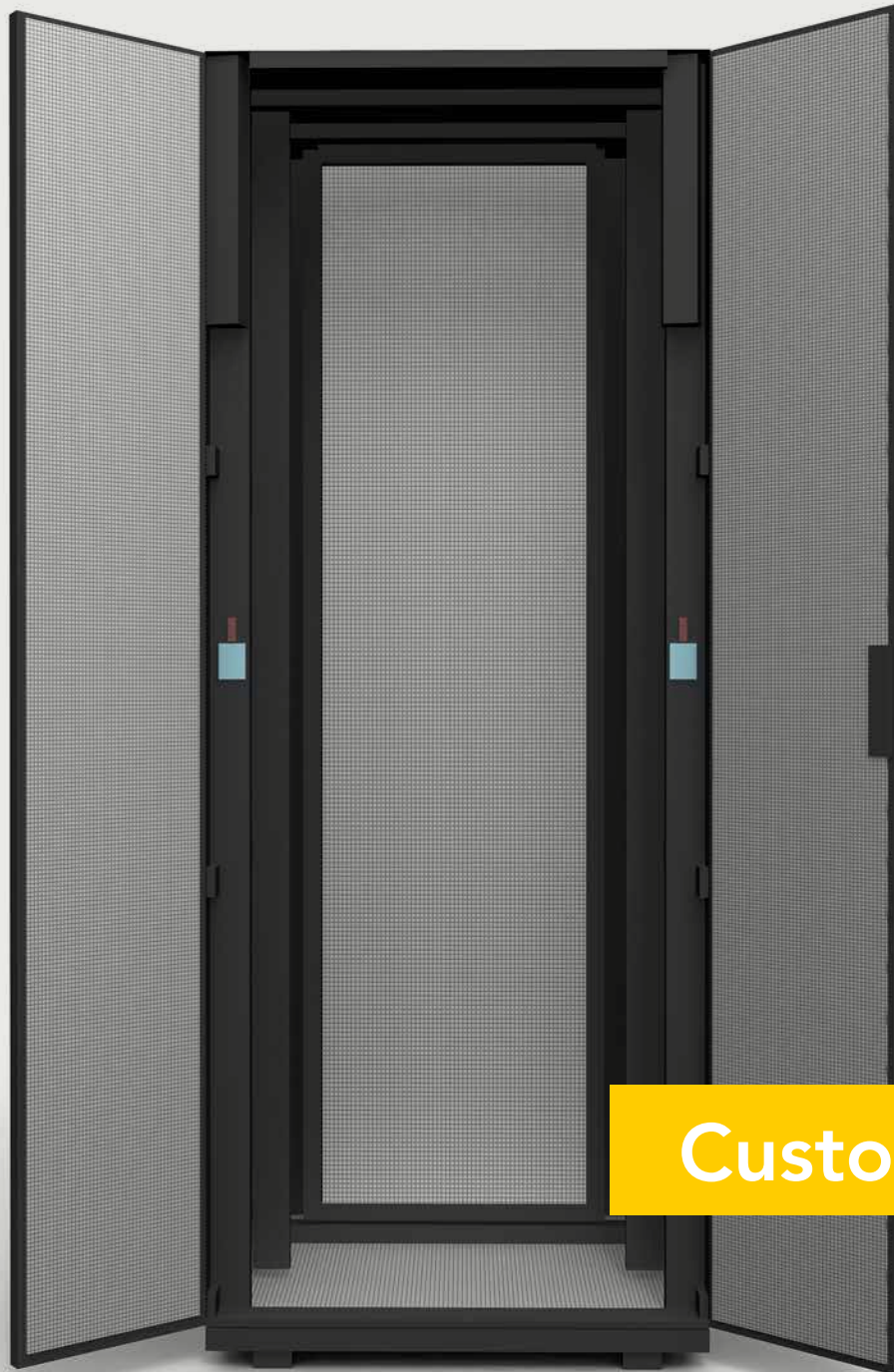
## Combined research microscopes

- Complete SEM columns, electronics and software are delivered to research projects that require installation of SEM on custom surface science instruments
- An example is a unique combined SPM and SEM instrument for surface science.

## In-line inspection automation

- Custom electronics and software are regularly delivered for in-line inspection, adding precise workflow automation and high-yield measurements to standard techniques
- A outstanding example is a multi-column SEM for fast inspection of large area panels





## Custom SEMs

Point electronic GmbH regularly undertakes custom SEM projects from a wide range of customers, from industry and academia.

# Microscope Development Toolkit



Point electronic GmbH provides a Microscope Development Toolkit (MDK) for customers that wish to develop a custom system.



The MDK may be used for new electron-optic columns, or for a range of standard OEM columns.

#### SEM control

- SEM controller
- Vacuum controller
- Electron-source controller
- Stage controller
- Hardware panels
- IR chamberscope

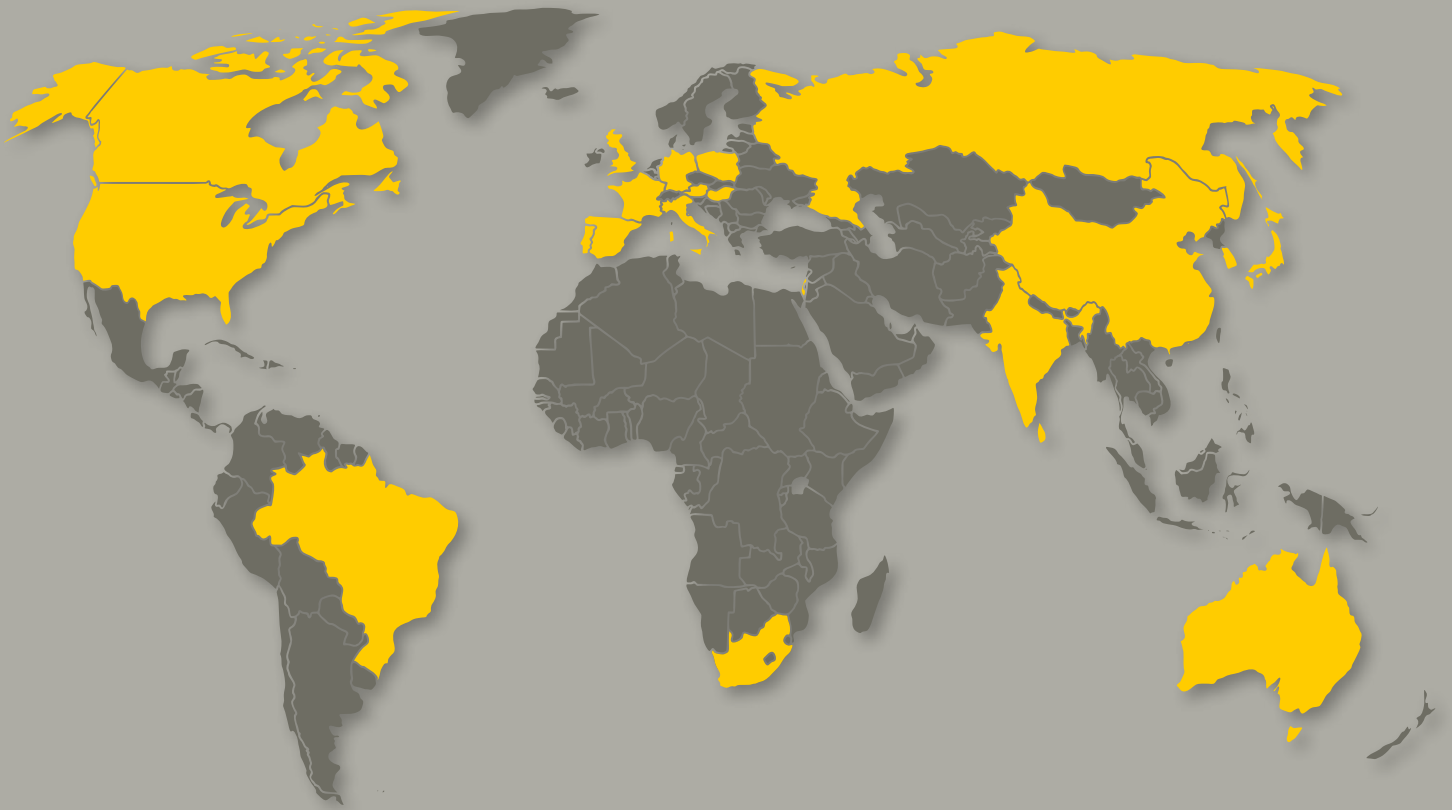
#### SEM detectors

- SE detectors
- Segmented BSE detectors
- Specimen current amplifier
- EDS detector with processing unit



#### SEM power and acquisition

- Thermal and FEG PSUs
- PSUs for lenses, correctors, scanning coils, etc.
- Signal amplification and mixing (MICS)
- Scan generator and image acquisition (DISS5)
- Off-line SEM image viewer and data extraction (DIPS5)



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