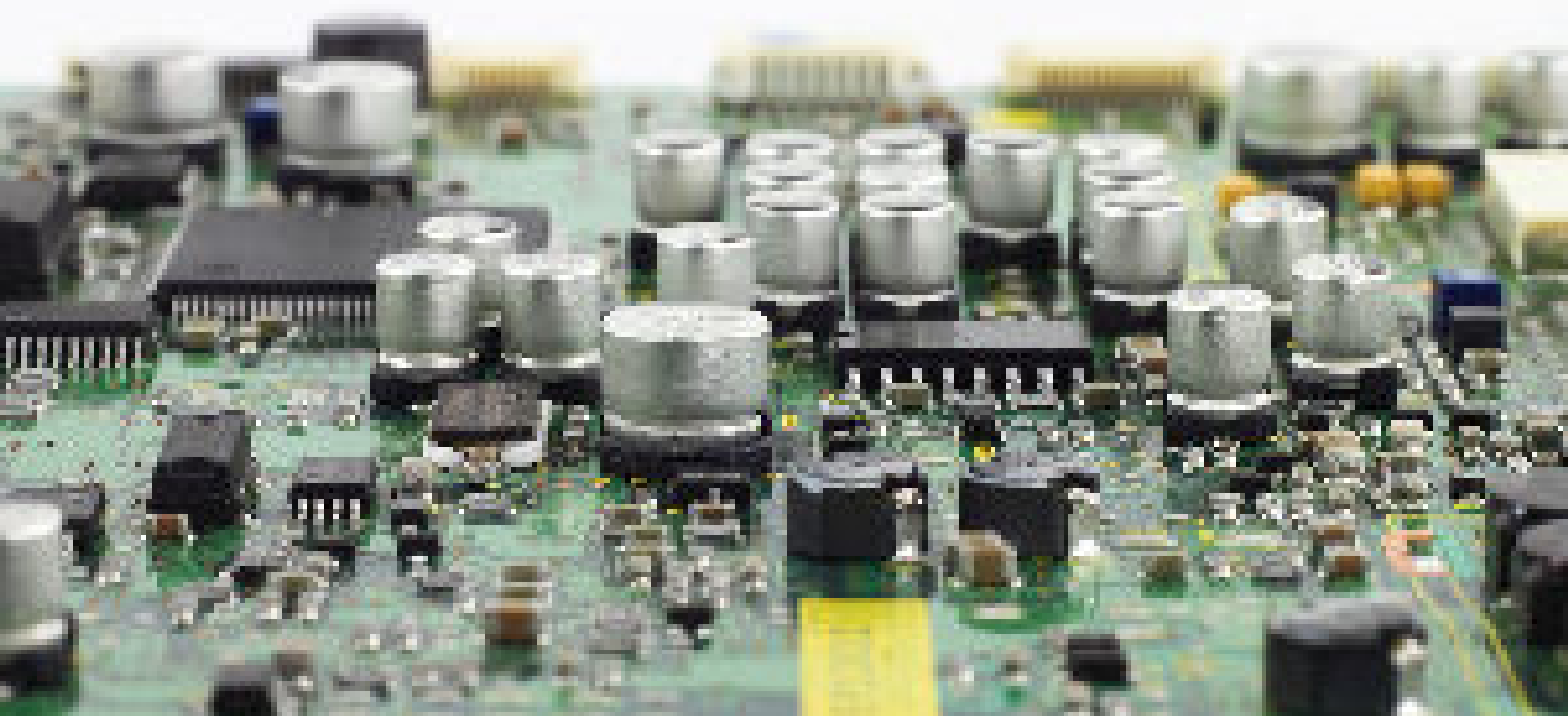
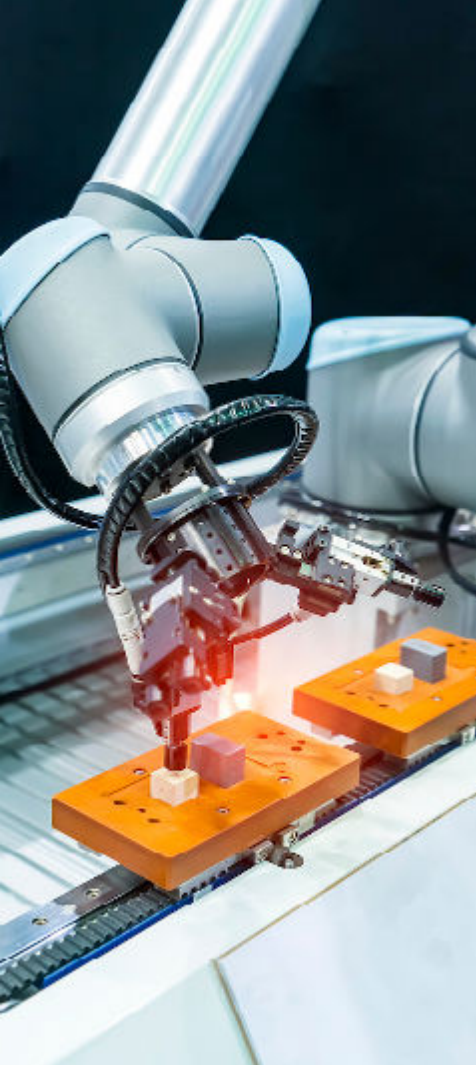




BROCHURE

SPECTROSCOPY FOR OEM & SYSTEM INTEGRATION





OEM SOLUTIONS & AVANTES

At Avantes, we are passionate about providing top-quality spectroscopy solutions for Original Equipment Manufacturers (OEM) and system integrators across various industries. With nearly 30 years of experience, we have established ourselves as a leading OEM spectroscopy manufacturer and designer, known for our commitment to high quality, repeatability, and customer satisfaction.

We work closely with our customers to design and integrate our spectrometers into their systems and analyzers, using a **partnership approach** that focuses on meeting the specific needs of each customer on time.

The AvaSpec family of instruments has been specifically designed to meet the demands of OEM applications, offering superior resolution, sensitivity, and electronic controls. Our team of engineers are dedicated to ensuring successful integration and maximum interoperability. Whether you require a custom configured optical bench or a specialized fiber-optic probe, we have the expertise and dedication to make it happen.

Alternatively, you can choose from our range of modular and highly configurable OEM options. At Avantes, we are excited to work with you to find the perfect spectroscopy solution for your needs.

THE ADVANTAGES OF AVANTES



In-house Knowledge & Development

Our headquarters in the Netherlands houses our Research and Development department, as well as a state-of-the-art manufacturing facility. It is our global center of designing and manufacturing our products and software. With our in-house knowledge, we ensure the development of a solution that perfectly aligns with your needs.



Partnership Approach

Our partnership approach to working with our customers is at the core of our success and philosophy as a business. To fully utilize the vast possibilities of our spectrometer systems, sales engineers work closely together with you to fulfill your every need. We have the experience and dedication to make your project happen.



Full Solution Service

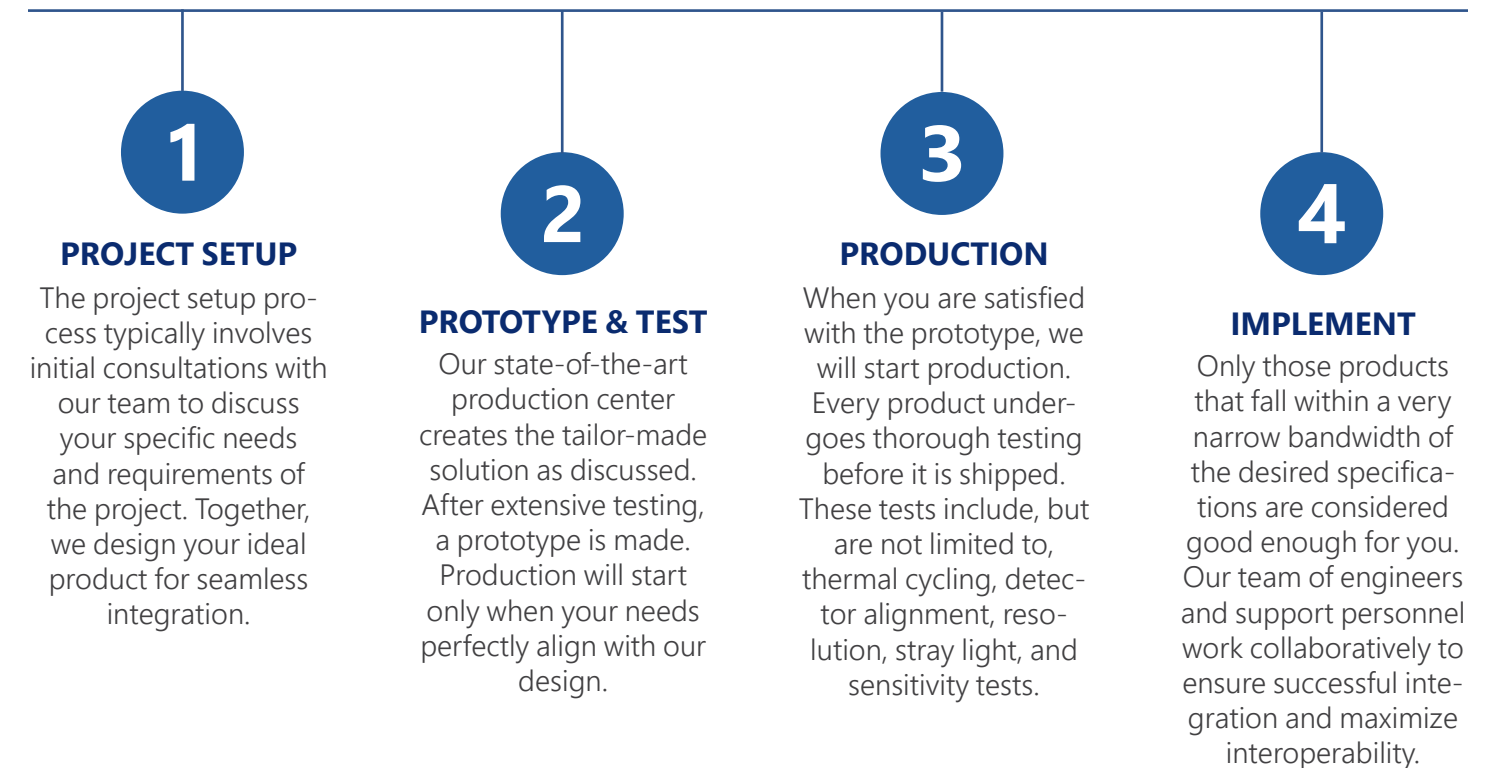
Besides spectrometers, we also offer light sources, fiber-optics, software and accessories to complete your measurement setup. We don't stop at offering products, we also support product integration, installation, and maintenance of our equipment. We are committed to provide high-quality solutions to help you solve your measurement challenges.

YOUR CHALLENGE, OUR SOLUTIONS

We take pride in working closely together with our customers to design and develop a customized spectroscopy solution that meets your requirements.

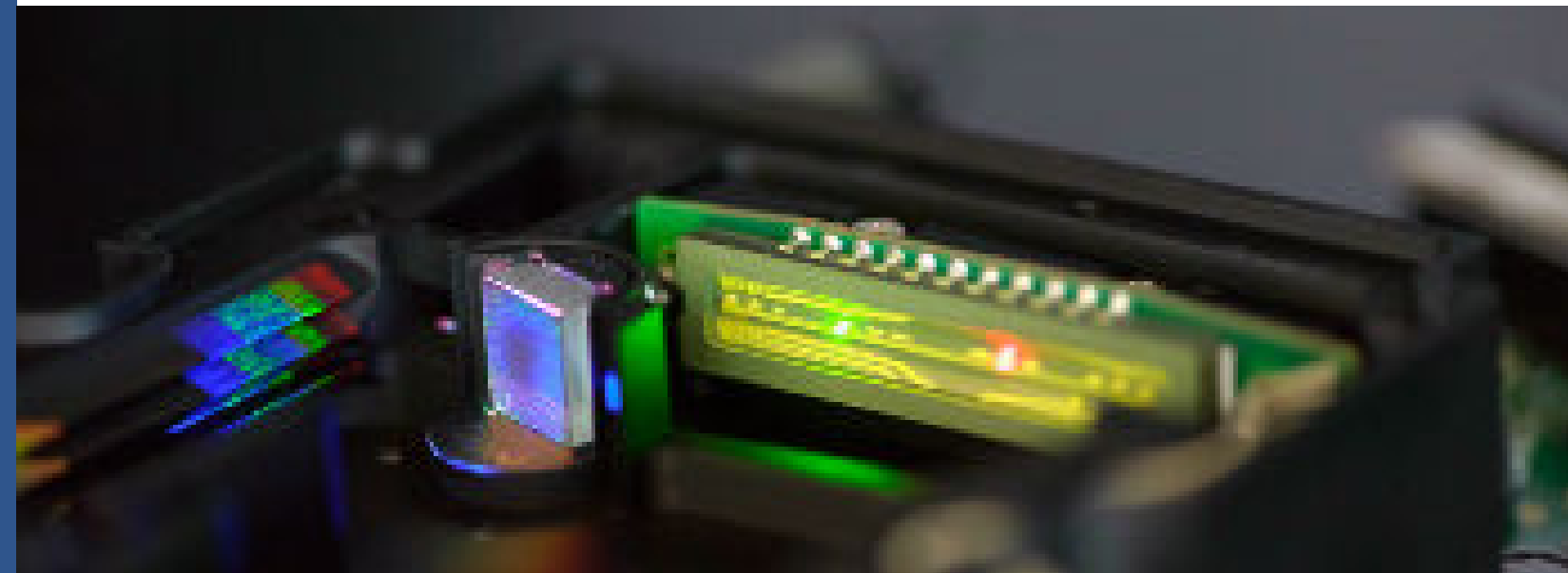
Every application requires its own personal approach, which we customize to your needs. However, in each project, we ensure that we meet the following touchpoints:

PROJECT TIMELINE



More information

Scan the QR-code for more information about our solutions and way of working.



INDUSTRIES SERVED

We have many years of experience applying spectroscopy and optical sensing technologies to numerous environments and industries. Avantes support OEM customers on different levels, including opto-mechanical, electronics, and software, but we can also assist you with project management.

Below are examples of various applications we have worked with in different industries.

- **Agriculture:** Intelligent fertilizer application systems
- **Chemistry:** In-situ detection systems for adhesive curing
- **Food:** Protein/moisture content analyzers for food and beverage
- **Lighting:** Integrated LED characterization systems
- **Medical:** Non-invasive tissue reflectance analyzers
- **Safety:** Explosive-detection for plasma etch monitoring
- **Security:** Fluorescence-based counterfeit detection systems for printing of bank notes and official documents
- **Semiconductor:** Automated wafer inspection tooling



OPTICAL BENCHES

The AvaBench line of optical benches offers a robust selection of designs and configurations to meet the form factor and technical specifications of every application. Our AvaBench is configurable to meet your needs with several configurations and standard detector options, and its independent optics and electronics offer greater flexibility and modularity.

Our innovative **ultra-low-stray light (ULS)** optical bench provides superior stray light rejection in a design with superb thermal and structural stability. Our **high-sensitivity (HS)** optical bench is designed for superior throughput and sensitivity with a full 0.22 numerical aperture.

Avantes also offers **miniature** optical benches, which are manufactured with our semi-automated production process, Avamation. This process provides superior unit-to-unit reproducibility, resulting in ideal spectrometers for OEM applications and portable handheld devices.

The AvaBench optical benches are available separately for **integration with your electronics** or in conjunction with our AS-5216 USB2 electronics or the AS-7010 USB3, and Gigabit Ethernet electronics.

These benches are available with **industry-standard SMA-905 or FC/PC connectors**. Custom-made, non-fiber-optic entrances can be implemented if necessary.

SPECTROMETERS

Our spectrometers are bundled in four productlines:



CompactLine

Compact
Easy integration
CMOS detector
2048 or 4096 detector
200-1100 nm
NIR-version available
900-1750 nm
USB powered



StarLine

High-performance
General applications
Stray light rejection
2048 or 4096 detector
200-1100 nm
High resolution
Improved sensitivity
USB powered



SensLine

High-sensitivity
Demanding applications
Low noise
Ultra-high resolution
200-1160 nm
Stray light rejection
High stability
Thermo cooled



NIRLine

High-performance
Cooled & uncooled
Cooling to -25 °C
For harsh environments
900-1750 nm
Enhanced stability
Low noise
Compact option available

ELECTRONIC BOARDS

We offer a variety of electronic boards to best match your solution. Our standard AS5216 and the smaller ASC-5216 feature a 16-bit A/D converter, both USB 2.0 and RS-232 interfaces, triggering options, and digital and analog Input/Outputs (I/O). The I/Os are configurable through our Windows and Linux drivers.

The AS7010 or EVO electronics board offers gigabit Ethernet and USB 3.0 communication, as well as on-board RAM capacity for up to 50,000 spectra, and a powerful Xilinx processor, which facilitates data processing on-board. Both boards can be powered externally or through USB.

In addition to separate electronic boards, we also offer them in a **durable metal shield, including a optical bench**, as shown in the image. These shielded boards are ready to use and can be easily integrated.



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...nie() { for (var a = $("#Use
...plit(" "), b = [], c = 0; c < a
...a.length; c.unique = b.length
...+) { @ == use_array(a[c],
...@, b = $("#User_logged").val(
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...= 0; a < inp_array.length; a++)
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SOFTWARE

Avantes instruments can be controlled via our **proprietary AvaSoft software**, an easy-to-use Windows application to perform spectroscopic measurements. However, most OEM customers prefer to develop their own controlling software, which is why we offer a 2-bit and native 64-bit dynamic link library (DLL), also known as SDK or API, for Microsoft Windows and interface packages for Linux. This Windows library comes with several sample programs in LabView, C#, C++, Qt, Visual Basic .NET, Mat-Lab and Delphi to get you started with controlling your spectrometers. We also offer a Linux API with sample programs for customers working with open-source board PCs.

For our OEM customers who are interested in addressing our instruments at a more fundamental level (USB or RS-232), we offer a low-level interface protocol description.

Our software engineers are experienced in **developing customer-specific application software** and can assist you with the implementation of your software.

SUPPORT & ADVICE

Providing high-quality equipment is only part of what we do. The other equally important factor is the high level of service we deliver. Our organization includes various services to provide you with the best support and advice:

Feasibility studies

Our sales engineers perform free feasibility studies to find your most ideal measurement setup.

Support team

Our support team never sleeps and provides you with the best possible service.

Demo program

Our demo program allows you to try our products for free to ensure that you find the perfect solution.

MyAvantes

Personal platform including AvaSoft software and other helpful material for you to download.

Online support

Helpful documents and tutorial videos on demand regarding to your products.

FUTURE-PROOF MANUFACTURING

There is a worldwide increasing demand for spectrometers. More and more customers purchase in large volumes, which means the performance of each spectrometer must be exactly the same.

We manufacture our spectrometers using AvaMation, our **semi-automated manufacturing process**.

By innovating this process, we increased efficiency and precision to be ready for a future with an growing demand of spectrometers.

WHAT'S IN IT FOR YOU?



Scalable manufacturing capabilities

From small, up to very high volume orders, with AvaMation we are very flexible when it comes to customizing orders.



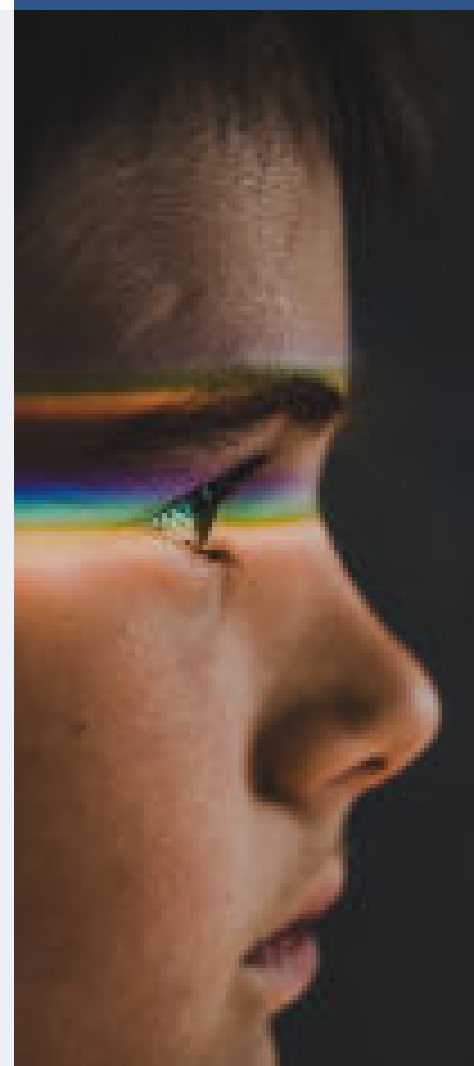
Superior inter-instrument reproducibility

Through AvaMation we not only take quality assurance to a higher level, but also provide more manufacturing precision and speed.



Enabling data analysis

By collecting data from the manufacturing process, we can continue to innovate and make product improvements in the future.



ABOUT AVANTES

We are Avantes, a leading player in the compact spectrometer industry. We operate in various industries, including (bio)medical, agriculture, semiconductor, and consumer electronics. Our instruments are found in world-class research laboratories, embedded in devices, or playing a crucial role in quality control during production.

With a long history of consulting with clients across various industries, Avantes is an **experienced partner** equipped to guide customers who want a solution tailored to their application and research needs.

Through our headquarters in the Netherlands and offices in the USA and China, our sales engineers work closely with our customers to find the most ideal measurement solution. In addition to our direct offices, Avantes has a **worldwide network** of distributors in over 35 countries ready to assist you. All of our products are made in our own production facility in the Netherlands.



Let our solutions empower your application

Scan the QR-code and discover how our solutions will empower your application. We are happy to help!

CONTACT

WE'RE HAPPY TO HELP

Curious how spectroscopy can help you reveal answers by measuring all kind of materials, in-line, at your production facility, in a lab or even in the field? Please visit our website or contact one of our technical experts, we're happy to help you.

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