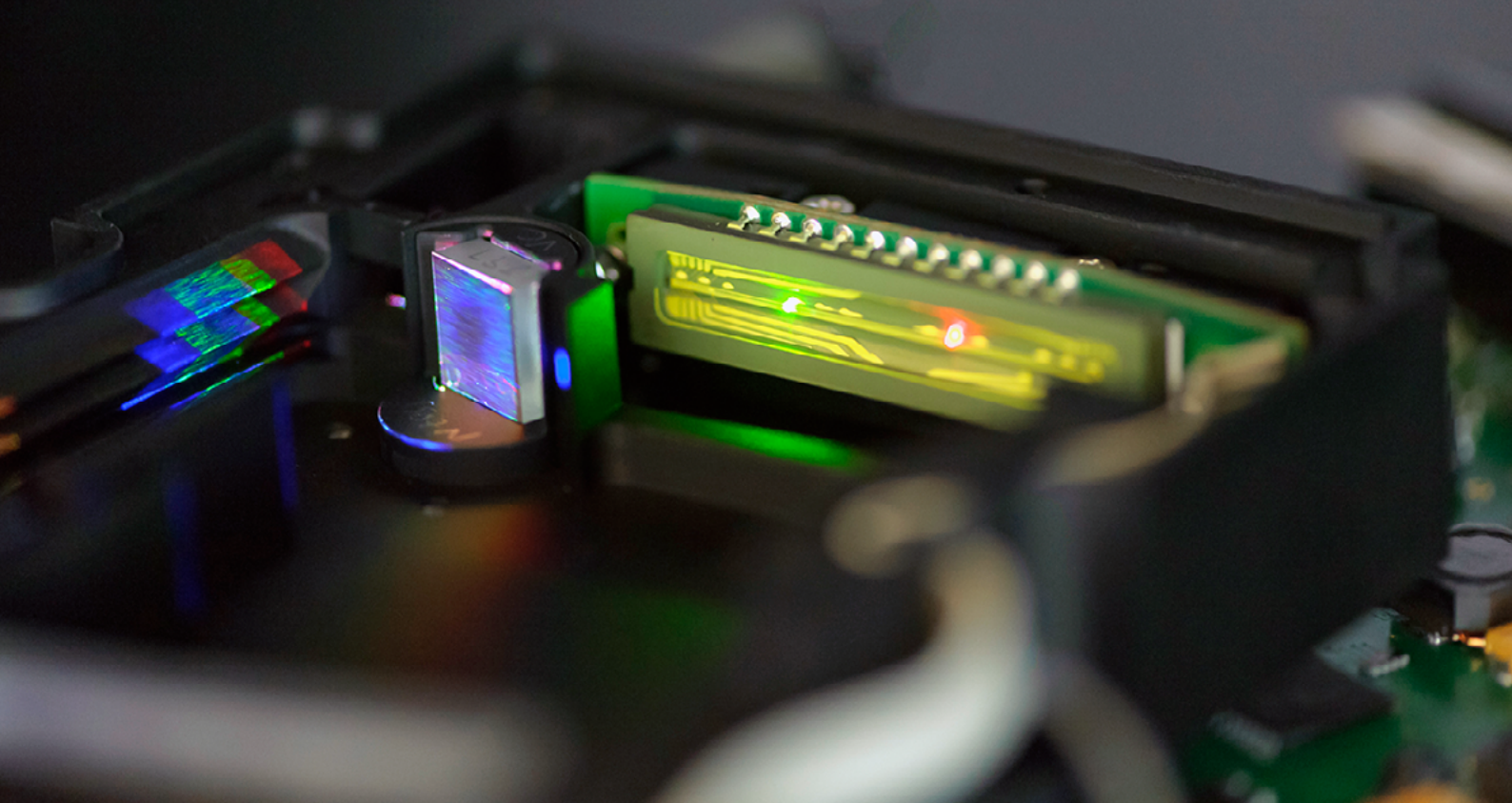


BROCHURE

AVANTES SPECTROMETERS

Our products in overview



ABOUT AVANTES

We are Avantes, a leading manufacturer of fiber-optic spectroscopy instruments and systems. We operate in various industries; from (bio)medical and agriculture to semiconductor and consumer electronics. Our instruments are found in world-class research laboratories, are embedded in devices, or play a crucial part in quality control during production. With an installed base of over 53.000 systems throughout the world and nearly 30 years of experience, we are an equipped partner to help you find the most ideal measurement setup.

Empowering spectroscopy solutions

Our miniature spectrometer systems are designed to enable research and industrial measurements and analysis involving the metrology of light. Our instruments facilitate measurements in ultra-violet, visible and near-infrared wavelengths (200-2500 nm).

Our vision

Avantes' vision is to enrich the lives of humankind in the world we live in. We do this by providing state-of-the-art, innovative measuring equipment that helps society live longer and healthier and will have a positive impact on the planet for generations to come.

How we operate

We have a long history of consulting with clients across diverse industries and applications. We are an experienced partner, equipped to guide customers seeking a solution tailored to their application and research needs. Our sales engineers work closely with customers to better understand their applications and recommend the ideal solutions.

Our offices

Our headquarters is based in Apeldoorn, the Netherlands. From here, we design, develop and manufacturer all of our products. Besides that we have a direct office in Colorado, United States, and two in China, where our colleagues offer support in sales and development of our products.

Exclusive Distributor Network

In addition to our direct offices, we work with exclusive distributors in over 35 countries who are well-trained in the configuration and usage of our spectroscopy solutions. With this worldwide network, we can guarantee our help whenever you need it.



EMPOWERING **SPECTROSCOPY** SOLUTIONS

INDUSTRIES SERVED

Spectroscopy is used in hundreds of applications across dozens of industries, with new uses found every day. You find spectrometers measuring light in the lab, on the manufacturing floor, and out in the field.

Avantes spectrometers, light sources, fiber-optic sampling accessories and in-house designed software provide the technology for spectroscopy in these and many other industries and applications:



Agriculture & Food

Applications:

- Fruit sorting
- Leaf measurement
- Plant health
- Grain analysis
- Dairy control
- Fertilizer automation



(Bio)Medical

Applications:

- Blood Analysis
- Endoscopy
- Dermal reflection
- Protein detection
- Cancer detection
- Medicine production



Chemistry

Applications:

- Raman spectroscopy
- Atmospheric chemistry
- Nanoparticle reactions
- Humidity detection
- Material science



Environmental

Applications:

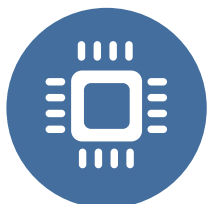
- Contamination
- Monitoring
- Recycling
- Pollution Monitoring
- Deep ocean analysis
- Wildfire detection



Lighting

Applications:

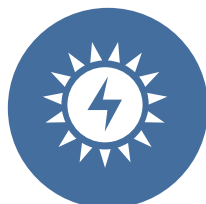
- Quality control
- Radiometry
- Photometry
- LED calibration
- Color identification



Semiconductor

Applications:

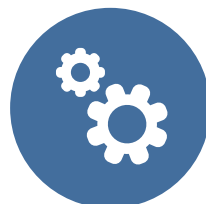
- Plasma diagnostics
- End-point detection
- Wafer inspection
- Thin-film measuring
- Coating deposition
- Quality control



Solar Energy

Applications:

- Production of solar panels
- Test photo-voltaic arrays with solar simulators
- Process control
- Plasma monitoring



Original Equipment Manufacturer (OEM)

- Project management
- Custom products when needed
- Bench only
- Custom software when needed

More information:

Click [here](#) to read more application examples

COMPACTLINE

Spectroscopy redefined, that is what we consider our CompactLine spectrometers to be. In applications where size matters, the CompactLine offers spectrometers with one of the **smallest form factors** on the market. The CompactLine enables easy integration into OEM- and handheld devices.

Reducing the size does not compromise the performance of these spectrometers. With multiple configurations available, the AvaSpec-Mini series can be applied for **numerous applications** in various industries.

Equipped with CMOS detectors and advanced electronics and communications, the AvaSpec-Mini series offers **both high resolution and speed**.

BENEFITS

- Size of a deck of cards
- Easy to integrate
- Suited for harsh environments
- USB powered
- Temperature and wavelength stability
- 2048 or 4096 pixel detector
- High unit-to-unit reproducibility
- NIR-version available (900-1700 nm)

MORE INFORMATION

Click [here](#) to view all CompactLine spectrometers.



STARLINE

The StarLine family of high-performance Avantes spectrometers exceeds the needs of most general spectroscopy applications in the UV and visible ranges. This line includes **high-speed instruments** suitable for use in process control, high-resolution instruments for optical emission spectroscopy (OES), and versatile solutions for irradiance and absorption spectroscopy, and other common applications.

The StarLine instruments are fully integrated with our modular platform, allowing them to function as **both standalone and multi-channel** instruments. The entire StarLine is available as an individual lab instrument, as well as an OEM module for integration into customers' existing systems.

BENEFITS

- Superior stray light rejection
- Fast integration time
- High resolution
- USB powered
- High-speed communication
- 2048 or 4096 pixel detector
- Improved sensitivity
- Ideal for general applications

MORE INFORMATION

Click [here](#) to view all StarLine spectrometers.



SENSLINE

The SensLine includes **ultra-high resolution, low-noise instruments** ready for customers needing higher performance for demanding applications with back-thinned and TE-cooled options. The back-thinned CCD detectors featured in this line are high-quantum efficiency detectors with excellent response in the **ultraviolet, visible, and near-infrared range** from 200 to 1160 nm. The SensLine is designed for demanding applications like fluorescence, luminescence, and Raman.

All SensLine instruments are fully integrated with our modular platform, allowing them to function as both standalone and multi-channel instruments. Every instrument in this product line is available as a lab instrument or an OEM module for integration into customers' existing systems.

BENEFITS

- Superior stray light rejection
- High stability
- Low noise
- Thermo-electrically cooled
- High sensitivity
- Temperature stability
- Widest dynamic range
- High speed acquisition

MORE INFORMATION

Click [here](#) to view all SensLine spectrometers.



NIRLINE

Instruments in our AvaSpec NIRLine are high-performance, near-infrared spectrometers that are optimized for the demands of measuring long wavelengths. This line provides **leading-edge performance** for dispersive NIR instruments with toroidal focusing mirrors and dynamic dark correction for **enhanced stability**.

Options include uncooled, **back-thinned CCD detectors** out to 1700 nm or InGaAs detectors with thermo-electrical cooling suitable for measurements up to 2500 nm. Instruments in the NIRLine are available as lab instruments or OEM modules for integration into customers' existing systems.

BENEFITS

- Cooled and uncooled options
- Mini-NIR for easy integration
- Suited for harsh environments
- Support cooling to -25°C
- High-sensitivity
- Low noise
- High unit-to-unit reproducibility
- Enhanced stability

MORE INFORMATION

Click [here](#) to view all NIRLine spectrometers.



PRODUCT PORTFOLIO

Beside spectrometers, we offer a wide range of products to complete your measurement setup.

Light Sources

Avantes' light source options include deuterium, tungsten halogen, and LED for spectral ranges from 190nm – 2500 nm. The AvaLight line consists of several calibration sources for irradiance and spectral line calibrations. All light sources are fiber optic coupled with SMA connectors.

Fiber Optics

We offer an extensive line of fiber optic cables, bundles, and probes. Our in-house production facility manufactures fiber optics for deep UV, UV/VIS, and VIS/NIR applications using high-quality silica fibers. Custom configurations for fiberoptic reflection, absorption, and fluorescence probes are always negotiable.

Software

AvaSoft software is a 32 and 64-bit compatible application-oriented software package that enables complete control over our spectrometers. Application-specific software solutions are available. Our in-house engineers can work with customers to support standard and custom application needs (DDL).

Accessories

We offer a wide range of fiber optic coupled sampling accessories such as cuvette holders, integrating spheres, filters, filter holders, and flow cells. In addition, Avantes offers a variety of fiber optic accessories, including collimating lenses, cosine correctors, and vacuum feedthroughs.



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 all over the globe. Avantes' organization includes various specializations to provide you with the best possible service and advice:

Feasibility studies

Our sales engineers perform feasibility studies to find the right solution for your application.

Support team

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

Demo material

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

MyAvantes

Personal MyAvantes platform where you'll find your needed AvaSoft Software and other material for you to download.

Online support

Our website is full of helpful documents and tutorial videos for extra help with your products.

AVAMATION: FUTURE-PROOF MANUFACTURING

There is a worldwide increasing demand for spectrometers. More and more customers purchase in large volumes, which means that the performance of each spectrometer must be exactly the same. Historically our spectrometers are assembled by hand with great precision and expertise, but with **AvaMation**, we semi-automated our manufacturing process. We decided to innovate this process to increase our efficiency and precision so we are ready for a future with an increasing demand of spectrometers.

This new way of manufacturing not only benefits Avantes when it comes to efficiency, but also yields the following benefits for its customers.

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.

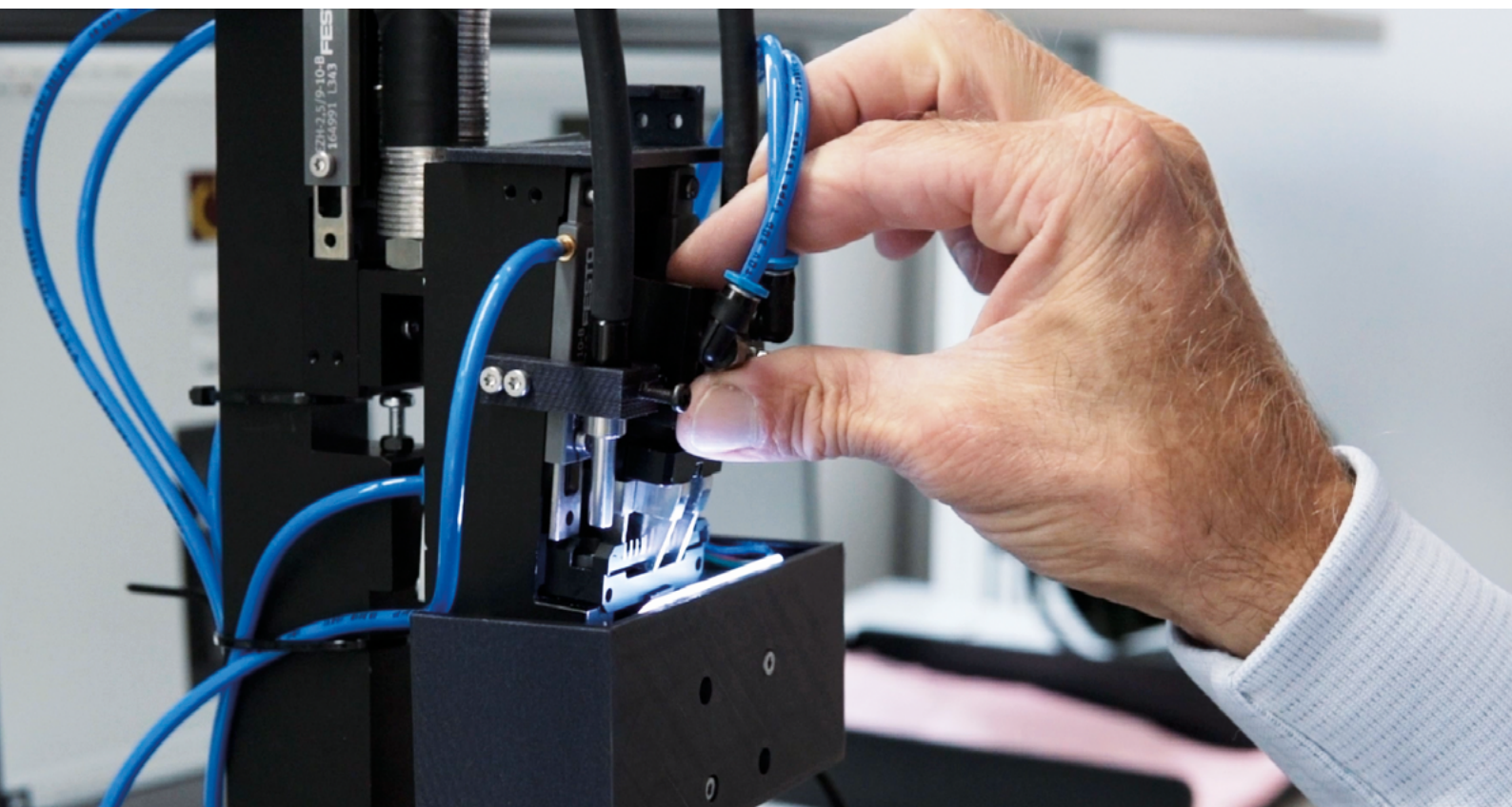


Enabling data analysis

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

More information

Do you want to know more about AvaMation?
Click [here](#) to read all about it.



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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