



PRISMA

The WILD Group
magazine



MASTER OF OPTICS

WILD
PHOTONIC

Bundled know-how in optical
measurement methods

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Shaping the future with
leading research and
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analytica trade fair

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WHEN EDUCATION, RESEARCH AND INDUSTRY COME TOGETHER.



Andrea Gritsch
Head of Human Resources
WILD Group

In future, success will come to those companies who can attract and retain highly qualified specialists through education partnerships. This issue of PRISMA explains how the WILD Group applies this in practice. However, we don't deserve all the credit for the pleasantly high number of applications. We mostly owe the large selection of well-trained qualified specialists to the high concentration of educational institutions in our region.

As a result of their close links to the industry, our education partners – from vocational secondary schools to universities and universities of applied sciences – are keen to accommodate future requirements already at a very early stage. This benefits everyone: educational institutions and companies join forces to ensure that practical tasks receive more targeted research in a scientific context. This makes it easier for young talents to subsequently find a job because they acquire skills that

are in high demand on the labour market and they can advance on a personal level. Our customers and their high-tech projects ultimately benefit from this leading edge.

A leading edge is also needed when innovative ideas need to be implemented quickly. That is where WILD benefits from its partnership with the top-tier research centre Silicon Austria Labs, which we will be presenting in this issue.

In April, analytica 2024 in Munich will be showcasing the brilliant systems and technologies that emerge from exchange between science and practice. WILD and PHOTONIC will also be introducing exciting solutions here, which we can all be part of. Want to find out more? Then come and visit us at booth 504 in hall A3. We look forward to seeing you there!

Andrea Gritsch



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FORWARD-THINKING TECHNOLOGIES.

Optical measurement methods are gaining ground in new industries. In many of these, WILD's in-depth optics expertise and special assembly skills are in high demand.

Vehicle assistance systems like active cruise control, lane departure warning system or parking sensors. Cameras that provide images from great distances for the navigation systems we rely on every day. Dental scanners that create 3D images of patients' teeth, allowing for a smoother and more efficient treatment. Or industrial processes that collect and analyse precise measurement data almost at the speed of light. Optical measurement methods are becoming increasingly indispensable in our daily lives and digitalisation is further accelerating this trend. This comes as no surprise, since all technologies – from time-of-flight (TOF) to photometry and 3D stereo vision – come with a range of benefits that transform them into powerful tools for various disciplines. They can perform contactless measurements, collect three-dimensional information and deliver results in a fraction of a second.

OPTICS AS THE COMMON DENOMINATOR

What do optical measurement methods have in common? They use light to collect data and they need optical components like lenses, mirrors, filters, detectors and light sources to generate, control and analyse this light. This is precisely where WILD comes into the picture. "The common denominator of all these technologies is optics. We possess decades of expertise in this sector, which makes us a coveted technology partner for various different industries", CTO Wolfgang Warum emphasises.

The list of customer projects is long. For instance, WILD has already delivered aerial cameras that can capture high-resolu-

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Wolfgang Warum, CTO WILD Gruppe

tion images from an altitude of up to 2.5 kilometres. In the case of 3D scanners – from intra-oral scanners in dental medicine or laser scanners that can capture entire buildings despite fog or direct sunlight, to optical coherence tomography (OCT) devices - WILD is integrated in the development and production of a whole series of innovative products. The optomechanics specialist also manufactures the optical components of an advanced hyper-spectral imaging system that can work directly in the processing line (see more on page 7). WILD's know-how can even be found at games tables in casinos - e.g. in 3D stereo vision systems that monitor playing cards and bets to ensure a safer gaming experience.

PHOTONIC is heavily involved in fluorescence imaging. This is used for instance in flow cytometry, where it can analyse thousands of cells per second. It is therefore an efficient method in haematological diagnostics and research, and an indispensable tool in food analysis, DNA sequencing or the microbiological analysis of water quality. "By connecting different optical measurement methods with each other, we pave the way for innovative solutions in all industries", stresses Warum.

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HEADING THE RACE FOR THE BEST MINDS.

WILD is profiting from the exceptionally high concentration of educational institutions in Carinthia. The considerable pool of graduates completing their studies at various vocational secondary schools, universities and universities of applied sciences each year is a guarantee for future growth.

In the dynamic world of medical and optical industrial engineering, highly qualified specialists are the number 1 success factor. Companies established in regions with a high concentration of education and training institutions enjoy a competitive advantage. WILD is an example of just that. The Carinthia University of Applied Sciences and four higher technical schools generate around 600 graduates each year in a radius of just 40 km from WILD GmbH and WILD Electronics. The region also includes the Graz University of Technology and the Alpen-Adria University of Klagenfurt – two important educational hubs whose technical studies provide for a broad qualification base. All in all, an immense pool of talent that WILD can draw from.

“Whether for work & study, employer branding activities, joint events or research projects, WILD has proven an excellent partner of our university.

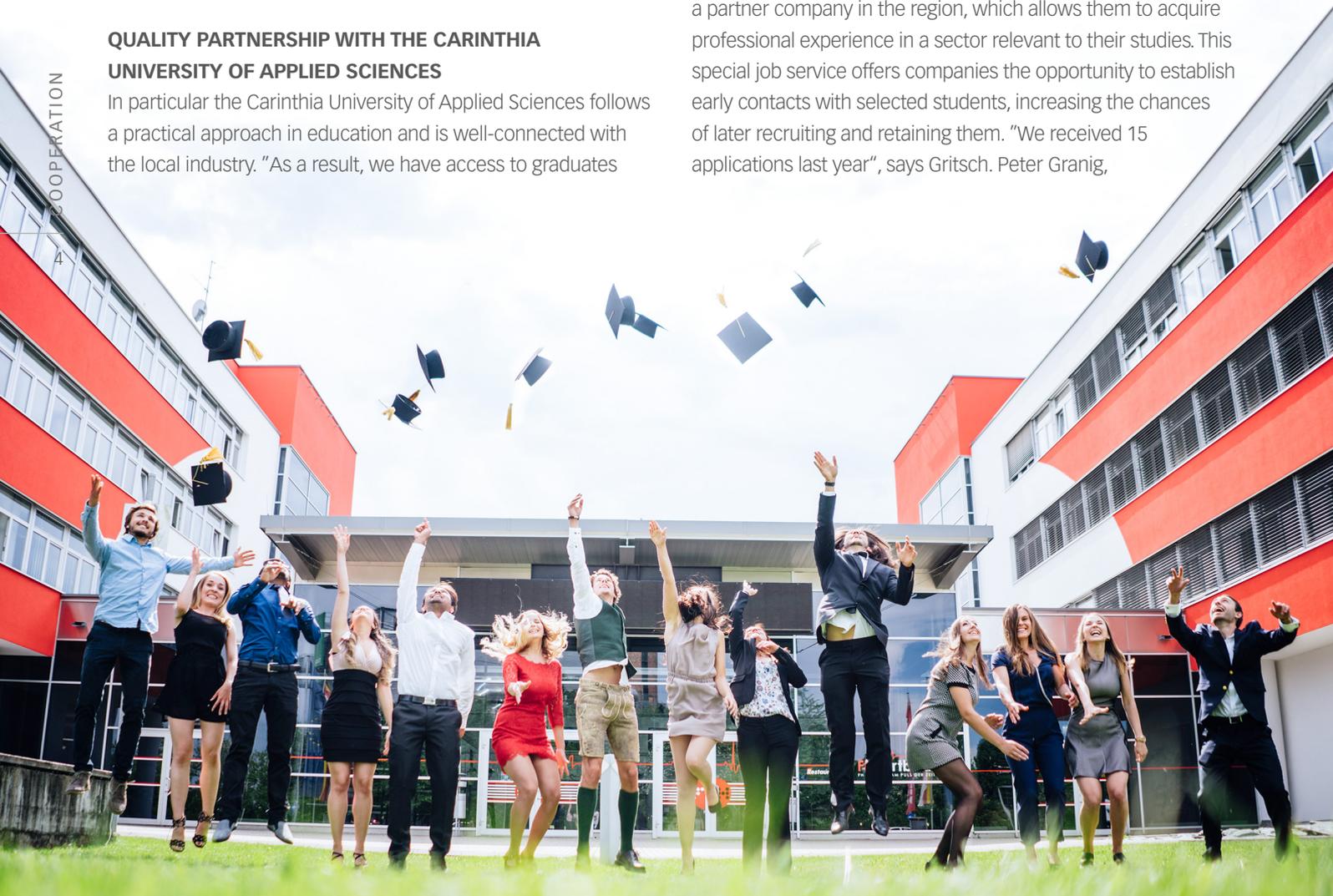
Peter Granig, Rector of the Carinthia University of Applied Sciences

who possess excellent technical skills and are familiar with the latest technologies”, stresses Andrea Gritsch, Head of Human Resources at the WILD Group. In the areas of engineering, health sciences, business, and management alone, the Carinthia University of Applied Sciences currently offers 40 bachelor and master studies, as well as 50 upskilling programmes. They include medical engineering and analytics, systems engineering or mechanical engineering, which are ideally suited for WILD’s requirements.

The Study & Work programme at the Carinthia University of Applied Sciences is unique in Austria. Students at the university apply for a part-time job at a partner company in the region, which allows them to acquire professional experience in a sector relevant to their studies. This special job service offers companies the opportunity to establish early contacts with selected students, increasing the chances of later recruiting and retaining them. “We received 15 applications last year”, says Gritsch. Peter Granig,

QUALITY PARTNERSHIP WITH THE CARINTHIA UNIVERSITY OF APPLIED SCIENCES

In particular the Carinthia University of Applied Sciences follows a practical approach in education and is well-connected with the local industry. “As a result, we have access to graduates





Rector of the Carinthia University of Applied Sciences, is equally appreciative of long-standing quality partnerships like the one with the WILD Group: "Whether for work & study, employer branding activities, joint events or research projects, WILD has proven an excellent partner of our university. This kind of cooperation is essential for the exchange of knowledge, ideas and resources, and leads to mutual benefit and innovation."

BASIC TECHNICAL TRAINING FOR YOUNG PEOPLE

A specific feature of the Austrian education system are the so-called "Höhere Technische Lehranstalten (HTLs)", vocational secondary schools that provide young people with comprehensive basic technical training after completing their lower cycle of secondary education. After five years, they graduate with a secondary school-leaving examination and a diploma examination. Internships and theses with practical sections are mandatory and provide additional insights into various disciplines. WILD also cooperates closely with these training institutions, such as HTL Mössingerstraße in Klagenfurt, where around 200 graduates per year are well-suited for covering the company's demand for experts in biomedical and healthcare technology, electronics and computer engineering, as well as electrical engineering. "We place the focus of our cooperation on theses. A team of two to three students work on a project with a task determined by WILD for a period of one year. Our training staff and experts at WILD accompany the students throughout the project. One exemplary project dealt with the automation of a previously manual humidification procedure for the polishing system in fibre-optic cable production, aimed at increasing the quality of the fibre optic cables", Director Hubert Lutnik explains.

Manuel Natali is someone who knows that this school ideally prepares students both for professional life and for a university

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Hubert Lutnik, Director HTL Mössingerstraße



Manuel Natali, Industrial Engineer WILD GmbH

career. He completed his extra occupational education at a HTL and went on to study biomedical engineering at the Technical University of Graz. "During my studies, I was able to benefit from the practical experience obtained at WILD. Conversely, I acquired extensive expert knowledge at the HTL and during my university studies on the basic underlying principles of the devices we manufacture", says Natali, who currently works as industrial engineer at WILD.

AHEAD IN THE RACE FOR TALENT

CTO Wolfgang Warum confirms that it is worthwhile opening the company's doors to high school and university students for internships, theses or field trips: "We secure a competitive advantage in the race for the best minds by establishing early contacts to young people. When they later contemplate entering a professional career, they know that WILD offers exciting opportunities."

HIGH QUALITY OF LIFE

Another reason for the large number of applicants - WILD hired 61 new staff in 2023 alone - is the attractiveness of Carinthia itself. "The high quality of life, excellent leisure-time opportunities and a dynamic technological environment, as well as an enticing research landscape help attract students, and also tempt graduates of renowned technical universities to return to Carinthia", Andrea Gritsch explains.

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LEADING RESEARCH CENTRE.

As the link between research and serial production, Silicon Austria Labs is a vital partner that is accelerating the creation of prototypes and small batch production in electronic-based systems.

Ultra-fine dust is very difficult to detect. Thanks to a cooperation with top-tier research centre Silicon Austria Labs (SAL), however, a WILD customer has been able to develop an optical sensor capable of detecting and quantifying these particles faster and more precisely than ever before. And this despite the fact that they measure only two ten-thousandths of a millimetre across or less. This is just one of several joint projects where support from SAL has helped to quickly and efficiently turn a development idea into a serial production-ready device, which is now being manufactured by WILD.

SAL, after all, is not just one of Europe's top five research centres in the area of microelectronics. For several years now, it has also been an esteemed network partner of the WILD Group and the first choice for cooperation when it comes to applied research in the areas of photonic systems, electronic sensors and advanced sensors & electronic technologies.

THE LARGEST RESEARCH CLEANROOM IN AUSTRIA

More specifically, WILD benefits from access to the largest research cleanroom in Austria, which was recently inaugurated by SAL. Both the cleanroom and the laboratories, which are open to its industry partners, offer ideal conditions for research, for testing new materials and for making prototypes. An additional advantage is that the close proximity to the research

centre allows access to the latest research results. "Interestingly enough, innovative companies that require fundamental research can get it partly financed through subsidies", explains Business Developer Martina Trinkel.

Many of the research activities conducted at Silicon Austria Labs coincide with the needs of WILD's customers. The research unit Integrated Photonics Technologies, for instance, develops integrated photonic devices for miniaturised, multifunctional sensors. Photonic Systems focuses on system solutions covering the entire optical spectrum. Research is also conducted here on applications in high-speed signal processing for multi-sensor matrices and innovative printed electronics, and their integration in intelligent systems.



SPECTROSCOPY: A BOOST FOR LABORATORY ANALYSIS.

Near-infrared (NIR) spectroscopy solutions allow for quick and reliable analyses across the entire value chain.

Quality control and process monitoring in the food processing industry rely on exact data regarding fat content, humidity, crude protein, or sugar content. In the pharma industry, precise control of the concentration of active substances in medicines is a must. And even in agriculture, farmers today are monitoring their harvest and feedstuffs directly in the field or in the stables to ensure the best possible supply for their animals and to efficiently process harvested crops. In these areas, NIR spectroscopy has established itself as the most suitable analysis method, and WILD has already developed a comprehensive know-how around the technology, ranging from MEMS-based concepts to FTIR spectrometers.

It is above all the combination of precise, quick measurements with powerful databases that make NIR spectroscopy solutions so essential as decision-making tools. There is currently a trend toward mobile solutions in this field. "Near-infrared light can penetrate deep into the material, making it ideal for heterogeneous sampling. In addition, it allows for real-time analysis without the need for elaborate sample preparation and it also delivers results with laboratory accuracy even under demanding environmental conditions. All this helps cut costs, save time and reduce both material

and energy consumption", explains Stephan Payer, Head of Business Unit WILD Electronics.

WILD has demonstrated on several occasions that the demand for stability, compact size and mobility can be compatible with utmost precision. For instance, the technology partner currently

“Near-infrared light allows for real-time analysis without the need for elaborate sample preparation and it also delivers results with laboratory accuracy even under demanding environmental conditions.

Stephan Payer, Head of Business Unit WILD Electronics

supplies the NIR spectrograph for an innovative hyperspectral imaging system, consisting of the diffraction grating, imaging optics for the camera and custom-made mechanical components. Thanks to its stable optomechanical design, it can be used directly in the process line - in this particular case, in sorting facilities. "Our optical components are so stable that they can withstand dust, vibrations and temperature

variations of up to 50 degrees," stresses Stefan Werkl, Head of Business Unit Optical Technologies at WILD GmbH.

As a technology partner for NIR spectroscopy, WILD supports its customers according to their respective requirements, from system integration and risk assessment to CE conformity or compliance with requirements for placing their products on the market, e.g. in the US.





analytica 2024: At the heart of progress.

Meet our experts for optical measurement systems at the analytica fair in Munich from 9 to 12 April 2024. Experience first-hand knowledge transfer at our booth 504 in hall A3.

Innovative optical measurement systems, highly mobile devices or the transition from manual procedures to automated processes have rapidly changed the way analytics, laboratory technology and biotechnology work today. As a result, technology partners who support manufacturers in these sectors must be capable of covering a broad spectrum of services. The WILD Group already supports its customers during development, takes charge of industrialisation and guarantees high quality in serial production. Its in-depth knowledge of optical technologies and of the respective complete device's structure are in high demand, as are its stable processes and quick response times.

The Group is exhibiting a range of examples at analytica, providing evidence of its ability to cover all the above factors. Be it novel laboratory analysis devices, smart optics concepts

or high-precision optical sensors - many of the projects that are implemented exclusively on behalf of customers are highly innovative, inspiring both WILD partners and customers alike. In addition, the experts of WILD and PHOTONIC know how to reconcile the highest quality requirements, a short time to market, target costing and fluctuations in demand. As a development and a technology partner they support both market leaders and startups. "Our expertise ranges from long-standing optics competence and sample handling to cleanroom purity and compliance with regulatory standards like ISO, GMP or FDA", says Head of Business Development Franz Aigner.

**Feel free to visit us at our booth
and get a first-hand impression yourself:
Hall A3/booth 504.**

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THE WILD GROUP

The WILD Group is comprised of the WILD brands which are established in Völkermarkt and Wernberg (Austria) and Trnava (Slovakia), as well as Vienna-based PHOTONIC. The technology partner develops and produces optomechatronic systems for medical and industrial applications as well as optical technologies exclusively on behalf of its customers. Approximately 500 staff members are always the first choice whenever precision and reliability are called for and wherever innovation takes place.