EPIC

EUROPEAN PHOTONICS INDUSTRY CONSORTIUM

EPIC Meeting on Photonics for AR/VR/MR: from Design to System Integration and Mass Production at Jabil Optics

11-12 May, Jena, Germany

HOSTED BY

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Schedule

Wednesday, 10 May 2023

18:40	Meet at Steigenberger Esplanade hotel lobby to walk to the dinner place
19:00 – 22:00	Dinner @ Steakhouse am Johannistor (address: Johannisplatz 29)
22:00	Walk from the dinner venue to Steigenberger Esplanade hotel

Thursday, 11 May 2023

11:30	Meet at Steigenberger Esplanade hotel lobby to walk to Jabil Optics. Majority option.
11:40	Optional departure by the bus transfer from Steigenberger Esplanade hotel to Jabil Optics (address of Jabil Optics: Carl-Pulfrich-Straße 5d, 07745 Jena). Limited to 20 people.
12:00 – 13:00	Registration & networking lunch at Jabil Optics
13:00 – 13:05	Welcoming words by Jeremy Picot – Clemente, Photonics Technology Manager at EPIC – European Photonics Industry Consortium (France/Europe)
13:05 – 13:15	Welcoming words by Pascal Grahnert, Managing Director at Jabil Optics (Germany)

SESSION 1: INTEGRATION AND MASS MANUFACTURING CHALLENGES

13:15 – 13:45	**KEYNOTE: Jabil Optics** – From Design to System Integration and Mass Production at Jabil Optics – Simon Schwinger, Director of Business Development (Germany)
13:45 – 14:00	**Applied Materials** – Enabling New Applications in the AR Market – Gauthier Briere, Product Marketing (USA)
14:00 – 14:15	**NKT Photonics** – SuperK Lasers for Test and Measurement – Deepak Nair, Product Line Specialist (Denmark)
14:15 – 14:30	**imec** – Integrated Photonic for Non-Communication Applications beyond SiP & SiN – Amin Abbasi, Senior Business Development Manager (Belgium)
14:30 – 14:45	**Inkron** – Enhancing AR Waveguide Performance : The Role of Process Optimization and Material Science – Jukka Perento, VP Operations and Sales (Finland)
14:45 – 15:00	**Imagine Optic** – How Can Wavefront Sensing Support AR/VR/MR Integration and Production? – Rafael Porcar, Scientific Coordinator (France)
15:00 – 15:15	**DELO** – How Adhesives Enable AR/VR – Stephan Prinz, Product Manager (Germany)
15:15 – 15:30	**Morphotonics** – Applying a Display Manufacturing Mindset to High-volume AR Waveguide Production – Zheng Li, Business Development Manager (The Netherlands)
15:30 – 16:30	Networking coffee break

Schedule

EUROPEAN PHOTONICS INDUSTRY CONSORTIUM

Thursday, 11 May 2023

SESSION 2: APPLICATIONS AND NEXT CHALLENGES OF XR MARKETS

16:30 – 17:00	**KEYNOTE: STMicroelectronics** – Laser Beam Scanning for Near-to-eye Display: Architectural, Optical, Photonic and Systems Considerations – Bharath Rajagopalan, Director, Strategic Market Development (USA)
17:00 – 17:15	**Dispelix** – Jussi Rahomaki, Chief Product Officer (Finland)
17:15 – 17:30	**Magic Leap** – Kristina Uhlendorf, Optical Engineer (Germany)
17:30 – 17:45	**MICROOLED** – Smart AR Glasses: a Very Low Power Companion Device – Xavier Bonjour, Partnerships Director (France)
17:45 – 18:00	**Lynx** – Stan Larroque, CEO (France)
18:00 – 18:15	**WaveOptics** – Snap's Journey to the Next Generation Spectacles – Our First AR Glasses – Arseny Alexeev, Director of Nanophotonics R&D (UK)
18:15 – 18:30	**Stanford Mixed Reality & Nakamir** – Mixed Reality Applications in Industry and Medicine – Christoph Leuze, Director & CEO (USA)
18:45	Departure by the bus transfer from Jabil Optics to the restaurant
19:15 – 22:30	Networking dinner @ Landgrafen restaurant (address: Landgrafenstieg 25)
22:30	Departure by the bus transfer to Steigenberger Esplanade hotel (limited number of people) or walk back to hotel downhill (majority option).

Friday, 12 May 2023

07:45	Meet at Steigenberger Esplanade hotel lobby to walk to Jabil Optics. Majority option. Luggage will be taken by the bus.
08:00	Departure by the bus transfer from Steigenberger Esplanade hotel to Jabil Optics. Limited to 20 people.
08:20 – 08:40	Welcoming coffee @ Jabil Optics
08:40 – 08:45	Recap by Jeremy Picot-Clemente, Photonics Technology Manager at EPIC – European Photonics Industry Consortium (France/Europe)

SESSION 3: DESIGN, SOFTWARE AND SIMULATIONS

08:45 – 09:15	**KEYNOTE: LightTrans** – Demands and Solutions for Modeling and Design Techniques of AR/VR Glasses – Frank Wyrowski, Co-Founder & President (Germany)
09:15 – 09:30	**Synopsys** – AR/VR Craves Disruption in Optical Design: What Are the Solutions? – Emilie Viasnoff, Business Development Director (USA)
09:30 – 09:45	**Photonics Precision Engineering** – Tolerancing Metalenses: from a Classical Perspective – Dominik Schulz, Optical Design Engineer (Germany)
09:45 – 10:00	**Ansys** – From Design to Human Vision Experience of an AR system – Sandra Gely, Senior Application Engineering Manager (France)
10:00 – 10:15	**TriLite Technologies** – The Role of Software in High Volume LBS Manufacturing for AR Glasses – Susan Backhaus, HO Product Marketing & Business Development (Austria)

Schedule

Friday, 12 May 2023

10:15 – 11:00 Networking coffee break

SESSION 4: EMERGING TECHNOLOGIES FOR XR MARKETS

11:00 – 11:30 **KEYNOTE: Coherent** – Advanced Photonic Materials, Components and Laser Processes to Enable the Metaverse – Gerald Dahlmann, Director Strategic Marketing (Switzerland)

11:30 – 11:45 **OQmented** – Laser Beam Scanning Based Light Engines for Displays and 3D Sensing in XR – Thomas von Wantoch, Managing Director (Germany)

11:45 – 12:00 **OPTOFIDELITY** – Cloud Streaming and E2E Latency for Immersive XR – Murat Deveci, Director, Business Development (USA)

12:00 – 12:15 **NIL Technology** – Advanced Masters for AR Waveguide Displays – Theodor Nielsen, CEO & Founder (Denmark)

12:15 – 12:30 **Epson Europe** – Custom AR Glasses Made Easy! – Alex Zaretsky, Market Development Manager (United Kingdom)

12:30 – 12:45 **Fraunhofer FEP** – O/LED Microdisplays for AR/VR/MR: Requirements and Features – Uwe Vogel, Division Manager Microdisplays and Sensors (Germany)

12:45 – 13:30 Networking lunch

13:30 – 15:00 Company tour at Jabil Optics

15:15 Optional departure by the bus transfer to Jena central station

15:15 – 16:15 Optional After – Reception @ Jabil Optics rooftop

16:30 Optional departure by the bus transfer to Jena central station

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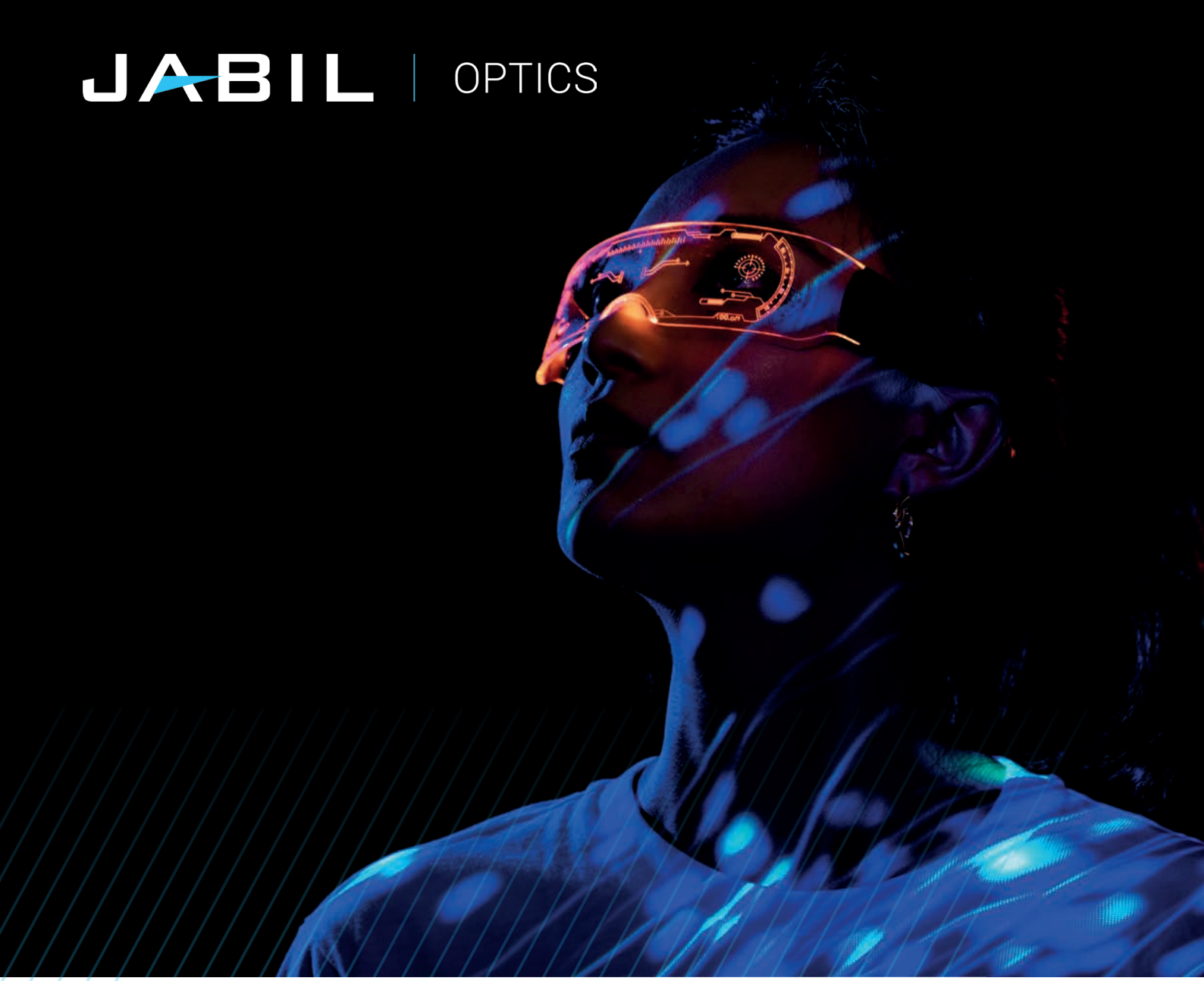

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www.phabulous.eu

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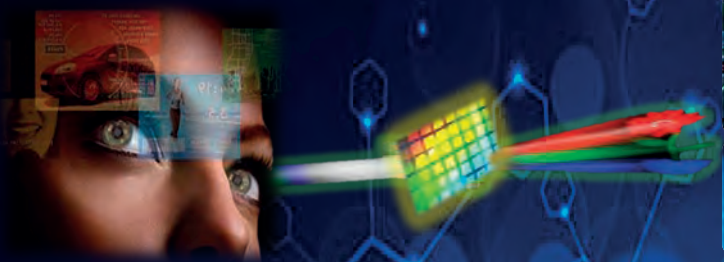
Toppan Photomask has been a lead supplier for semiconductor photomasks for more than 30 years.
Building on our experience and technology we offer a wide range of nanoimprint masters. 6 inch quartz molds and up to 8 inch silicon wafer based molds.
State-of-the-art electron beam writers are our preferred tools to create patterns specified by customers.
Advanced etch tools are used to meet demanding requirements for waveguides and other nano-optical structures.



*If YOU can imagine it, WE can **image** it.*


AR Glasses


Sensing Devices


Bio Chip


Holography

Corporate Headquarters:
Toppan Photomask Co., Ltd.
3-19-26, Shibaura, Minato-ku
Tokyo, 108-0023, Japan
Tel: +81-3-5418-3927

US Regional Head Office:
Toppan Photomasks, Inc.
131 Old Settlers Blvd.,
Round Rock, TX 78664, USA
Tel: +1-512-334-7000

EU Regional Head Office :
Toppan Photomasks,
Rähnitzer Allee 9,
01109 Dresden, Germany
Tel: + 49-351-8109-0

https://www.photomask.co.jp/english/

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Participants

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Name		Job Title	Company	Country
Alex	Zaretsky	Market Development Manager	Epson Europe	United Kingdom
Amin	Abbasi	Business Development Manager	imec	Belgium
Andreas	Frangen	Account Manager	Toppan Photomask	Germany
Anke	Siegmeier	Managing Director	OptoNet	Germany
Anne	Maiwald	Marketing Communications Specialist	Jabil Optics	Germany
Arseny	Alexeev	Director, Nanophotonics Technology	WaveOptics (Snap Inc)	United Kingdom
Axel	Haunholter	Regional Sales Manager	OptoSigma	France
Bharath	Rajagopalan	Director, Strategic Marketing	STMicroelectronics	USA
Brid	Connolly	Strategic Applications Manager	Toppan Photonmask	Germany
Christian	Brock	Technical Sales	Optocraft	Germany
Christoph	Leuze	Director & CEO	Stanford Mixed Reality & Nakamir	USA
Daniel	Winters	R&D Image Quality	TRIOPTICS	Germany
David	Reuss	System Architect	Jabil Optics	Germany
Deepak	Nair	Product Line Specialist	NKT Photonics	Denmark
Dimitris	Mandridis	Head of Optical Engineering	Theon Sensors	Greece
Dominik	Schulz	Optical Design Engineer	Photonics Precision Engineering	Germany
Douwe	Geuzebroek	CTO	Brilliance	The Netherlands
Elisenda	Lara	Marketing Manager	EPIC	Spain
Emilie	Viasnoff	Business Development Director	Synopsys	USA
Fabien	Divo	Optical Innovation Manager	Luxottica	Italy
Frank	Wyrowski	President	LightTrans	Germany
Frederik	Bachhuber	Innovation Manager	Schott	Germany
Gauthier	Briere	Product Marketing	Applied Materials	The Netherlands
Gerald	Ihninger	Senior Manager Engineering	Sony DADC	Austria
Gerald	Dahlmann	Senior Director Strategic Marketing	Coherent	Switzerland
Guillaume	Basset	Group leader of Micro-Nano Optics	CSEM	Switzerland
Hans- Joachim	Stöhr	Sales Manager	Novel Optics	Germany
Harald	Rossmeier	Senior Product Manager OEM Diode Lasers	TOPTICA Photonics	Germany
Hendrik	Zachmann	Business Development Manager	Jabil Optics	Germany
Hendrik	Zachmann	Business Development Manager	Jabil Optics	Germany
Henning	Rehn	Team Leader Optical Design	Fisba	Switzerland
Inès	Hia	Technical Sales Engineer	PHASICS	France
Jean	Berney	Director	Freeptyc	Switzerland
Jeremy	Picot - Clemente	Photonics Technology Manager	EPIC	France
Jessica	van Heck	Managing Director	PHABULOuS	The Netherlands
Joanna	Wiberg	Optics Specialist, Partner	Eclipse Optics	Sweden
Joost	van Kerkhof	COO	PHIX	The Netherlands
Jukka	Perento	VP Operations	Inkron	Finland

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20 YEARS

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OptoSigma

SUSS MicroOptics

Participants

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Name		Job Title	Company	Country
Jussi	Rahomäki	CPO	Dispelix	Finland
Kathrin	Riegen	Design Project Manager	Jabil Optics	Germany
Kristina	Uhlendorf	Distinguished Engineer	Magic Leap	USA
Lasse	Karvonen	Director Optical Engineering	Microsoft	Finland
Malte	Ennen	Sales Manager	ficonTEC	Germany
Martin	Rogge	Product Manager	Finetech	Germany
Mathias	Schulz	Engineering Services Director	Jabil Optics	Germany
Michael	Bulk	Product Manager Applied Microscopy	Excelitas Technologies (Qioptiq Photonics)	Germany
Murat	Deveci	Sr. Technical Account Manager	OPTOFIDELITY	Finland
Myun-Sik	Kim	Principal Strategic Business Development	Axetris	Switzerland
Pascal	Grahnert	Managing Director	Jabil Optics	Germany
Rafael	Porcar	Scientific Coordinator	Imagine Optic	France
Reto	Keller	Business Development Manager	Materion Balzers Optics	Liechtenstein
Sandra	Gely	Application Engineering Manager	Ansys	USA
Simon	Schwinger	Director Business Development	Jabil Optics	Germany
Stan	Larroque	CEO	Lynx	France
Stefan	Steiner	Principal Scientist	Wyrowski Photonics	Germany
Stephan	Lutgen	µLED Platform Lead	Meta	Germany
Stephan	Schabacker	Sales & Business Development EMEA	Corning	Germany
Stephan	Prinz	Product Manager	DELO	Germany
Susan	Backhaus	Head of Product Marketing & Business Development	TriLite	Austria
Theresa	Kunz	Principal Design Engineer	Jabil Optics	Germany
Theodor	Nielsen	CEO & Founder	NIL Technology	Sweden
Thomas	Handke	Senior Business Development Manager	Jabil Optics	Germany
Thomas	Achleitner	Business Development Manager	EV Group	Austria
Thomas	von Wantoch	Managing Director	OQmented	Germany
Tobias	Kaposi	Business Development Manager	Panacol-Elosol	Germany
Ulrike	Helfferich	COO	EPIC	Germany
Uwe	Linss	Director of Sales EMEA	FOCUZ Manufacturing	Germany
Uwe	Vogel	Division Director Microdisplays ans Sensors	Fraunhofer FEP	Germany
Viktor	Schütz	Senior Business Development Manager	Carl Zeiss	Germany
Vygintas	Jankus	Display Partnership Manager	CEA-Leti	France
Ward	van der Tempel	CTO	VoxelSensors	Belgium
Xavier	Bonjour	Partnerships Director	Microoled	France
Zheng	Li	Business Development Manager	Morphotonics	The Netherlands

Biographies & Company Descriptions

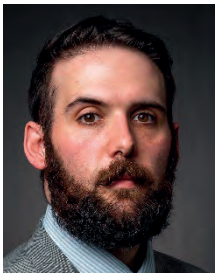
Ansys is the global leader in engineering simulation. If you've ever seen a rocket launch, flown on an airplane, driven a car, used a computer, touched a mobile device, crossed a bridge, or put on wearable technology, chances are you've used a product where Ansys software played a critical role in its creation. Through our strategy of Pervasive Engineering Simulation, we help the world's most innovative companies deliver radically better products to their customers. By offering the best and broadest portfolio of engineering simulation software, we help them solve the most complex design challenges and create products limited only by imagination. Founded in 1970, Ansys is headquartered south of Pittsburgh, Pennsylvania, U.S.A. **www.ansys.com**

Sandra Gely (Senior Application Engineering Manager) is a Senior Manager in Application Engineering team focusing on optical simulation solution at Ansys. She holds a Master's Degree in Physics, Optical & Electronic Engineering from Institut d'Optique Graduate School, Paris, France. She joined Optis in 2014 and has taken various consulting and application engineering roles in Europe and then in North America. After joining Ansys through Optis acquisition in 2018, she has been working closely with High Tech companies in North America to provide suitable simulation tools for their applications. She is now leading a team of Optical Application Engineers in Europe.

Axetris serves OEM customers with micro technology based (MEMS) infrared light sources, laser gas sensors, gas flow sensors & controllers and micro-optical components used in industrial, telecom, environmental, medical and automotive applications. Our multi-disciplinary and highly skilled engineering and manufacturing teams combine broad experience in design, manufacturing and metrology from MEMS components to advanced optical and electronic sensor modules. Axetris supports its customers with in-depth application know-how. Customers benefit from excellent product value, consistent high product quality and outstanding customer support. OEMs rely on Axetris worldwide as a competent partner for customer-specific solutions from concept to volume production. Axetris is ISO 9001:2015 certified and ISO TS 16949 compliant and operates its own 6-inch to 8-inch wafer MEMS foundry for its own products and contract manufacturing for external customers. A wafer back end, a sensor assembly and calibration facility under clean room conditions completes the manufacturing infrastructure of Axetris. **www.axetris.com**

Myun-Sik Kim (Principal Strategic Business Development) received a PhD in Photonics from École Polytechnique Fédérale de Lausanne (EPFL), Switzerland, in 2011. Since January 2019, he works at Axetris Micro-Optics business unit at several roles. Application Engineer Team Manager, Product Manager, and currently he serves as Principal Strategic Business Development questing future markets and applications of Axetris Micro-optics products. His expertise is Micro-optics and its applications (e.g., telecom & datacom transceivers and 3D imaging devices like LIDAR and light-field camera). While working at EPFL and UCSD as a scientific staff, he authored 29 peer-reviewed internal journals, many SPIE proceedings, and a book chapter edited by Prof. Emil Wolf, "Progress in Optics

Applied Materials has expertise in materials engineering is the foundation for all the integrated circuits and flat panel displays that you use every day in computers, TVs, and mobile devices. Just as semiconductor technology changed the world of electronics, photonics technology will change the world of optics as we know it. Today, the Engineered Optics group, is leveraging decades of expertise in manipulating materials at an atomic level on an industrial scale to now manipulate photons and create new optical devices based on nanometer-sized structures. These new components can realize any optical function (lenses, beam splitters, polarizers, color filters, etc.) while allowing much thinner components than current solutions. This new field of optics will have a huge impact on Artificial Intelligence, Machine Learning, Autonomous vehicles, AR/MR, and a lot more. **www.appliedmaterials.com**



Gauthier Briere (Product Marketing Manager) is Product Marketing Manager at the Engineered Optics group under the CTO Office at Applied Materials. He obtained his Master Degree on Physics of Lasers and Light Matter Interaction at the Universite of Bourgogne. He, then pursues by doing a PhD in nanophotonics in 2019 at the Universite of Cote d'Azur under the supervision of Patrice Genevet at the Laboratory CRHEA, on the topic of Metasurfaces made of Gallium Nitride with application in the visible range. In 2020, he joined Dispelix, a successful Finnish start up, developing waveguide combiner for augmented reality application. He is now leading the Product marketing for flat optics at Applied Materials.

Brilliance delivers the ultimate light engines for Augmented Reality projection applications. We integrate red, green and blue laser light into the smallest, most efficient and easiest to integrate light engine module. Our light engines enable our customers to overcome the challenges of miniaturization, integration, energy efficiency and overall comfort for all AR projection application. Our patented silicon-nitride based platform and laser integration are based on >20 years of integrated photonics experience, offer technical superiority and allow high quality low cost volume production. **www.brillianceRGB.com**

LioniX International is a leading global provider of customized microsystem solutions. We have driven technological and commercial development in photonic integrated circuits since 2001. We work with OEMs and system integrators, using a vertically integrated approach to support all stages of the production process, from design to delivery of a finished module. And with world-class fabrication facilities, we scale production volumes as customer requirements grow. Our ability to deliver innovative modular solutions based Photonic Integrated Circuits (PICs), lies in our strong IP portfolio. This includes our proprietary waveguide technology–TriPleX®–as well as the fundamentals of our competences in micro-fluidics, opto-fluidics and MEMS. **www.lionix-international.com**

Douwe Geuzebroek (CTO) has over 15 years of experience in integrated photonics and its applications, ranching from R&D to product development stages. He has a strong interest in matching the technical aspect of a technology to the needs of the market. Douwe has a background in Electrical Engineering in which he finished his PhD at University of Twente at the Integrated Optical MicroSystem (IOMS) group on a topic of applying integrated optical microring resonators in telecommunication networks. In 2005, he joined LioniX as a Design Engineer and Project Leader, focusing on microring resonators and other integrated optical telecommunication devices, and was actively involved in the start-up of XiO Photonics in 2008. As VP Marketing and Sales at XiO Photonics, he supported the development of the waveguide technology for visible light applications and the introduction of this technology in several products. He participated in several research projects both national and European. Currently he is involved in the acquisition of new commercial and research projects for photonic integrated modules in Life Science, metrology and telecommunication applications.

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CEA-Leti is an applied-research Institute located in Grenoble-France and specialized in micro and nano technologies. The 'Optics and Photonics Department' develops technologies in the field of lighting, display, sensing, imaging and communications. The department is integrated over the whole development cycle (Design, Fabrication and Tests), from the material (GaN, Si, Ge, III-V) to devices and circuit fabrication (200mm/8'' CMOS fab, 100mm/4'' III-V fab), packaging and test. In addition to Leti's 1,700 employees, there are more than 250 students involved in research activities, which makes Leti a mainspring of innovation expertise. Leti's portfolio of 1,880 families of patents helps strengthen the competitiveness of its industrial partners. **www.leti.fr**

Vygintas Jankus (Display Partnership Manager) is a Display Partnership Manager at CEA-Leti and is responsible for MicroLED, OLED, LCD technologies for VR/MR/AR, automotive, luxury TVs, smartwatches and other applications.

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Coherent empowers market innovators to define the future through breakthrough technologies, from materials to systems. We deliver innovations that resonate with our customers in diversified applications for the industrial, communications, electronics, and instrumentation markets. Headquartered in Saxonburg, Pennsylvania, Coherent has research and development, manufacturing, sales, service, and distribution facilities worldwide. **www.coherent.com**

Gerald Dahlmann (Senior Marketing Director) is Senior Director of Marketing at Coherent. He has 20 years experience in the high-tech industry in the field of sensors, optics, optoelectronics and semiconductors. Gerald holds a degree in Electrical Engineering from TU Darmstadt and a PhD from Imperial College London.

CSEM: Swiss Center for Electronics and Microtechnology, founded in 1984, is a private applied R&D center. Our 550-strong workforce specializes in micro- and nanotechnologies, systems and surface engineering, low-power information and communications technologies, and photonics. The main focus of CSEM's photonics program is the development of optoelectronics components and their optimal integration into innovative products. Our technologies are able to address the needs of a very wide range of fields, from healthcare, watch-making, aerospace, security and medical, to consumer electronics and cleantech. **www.csem.ch**

DELO is a leading manufacturer of high-tech adhesives and other multifunctional materials as well as corresponding dispensing and curing equipment. The company's products are mainly used in the automotive, consumer, and industrial electronics industries. They can be found in almost every mobile phone and every second car worldwide, for example in cameras, loudspeakers, electric motors, or sensors. Customers include Bosch, Mercedes, Huawei, Osram, Siemens, and Sony. DELO's headquarters are in Windach near Munich, with subsidiaries in China, Japan, Malaysia, Singapore, and the USA as well as representative offices and distributors in numerous other countries. The company has 950 employees and achieved a turnover of 182 million euros in last the fiscal year. **www.delo.de**

Stephan Prinz (Product Manager) is the responsible Product Manager for high-performance optical polymers at DELO Industrial Adhesives. He obtained his M.Sc. in optics and photonics from Karlsruhe Institute of Technology and his Ph.D. in physics from Technical University of Munich. For seven years he developed cutting-edge ultra-short pulsed laser systems at TRUMPF for scientific applications like attosecond metrology or multiphoton spectroscopy. Stephan joined DELO in 2020 where he is now in charge of the company's strategic development in the field of micro- and nano-optical applications.

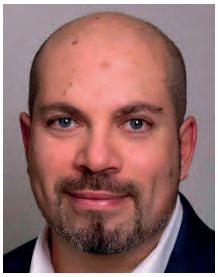
Dispelix develops and delivers see-through waveguides that are used as transparent displays in extended reality (XR) devices. Our elegant, high-performance XR waveguides optically combine the virtual and the real seamlessly and naturally. We are the trusted and visionary partner of the most demanding customers in XR, and enable the industry leaders to redefine the form, function, and feel of XR wearables. Dispelix is headquartered Finland, with subsidiaries in the United States and China. **www.dispelix.com**

Jussi Rahomäki (Chief Product Officer) is the Chief Product Officer of Dispelix, a company focused on see-through displays for augmented reality. Jussi is an experienced professional in diffractive and nanoscale optics, pursuing technology and business initiatives at the forefront of augmented reality industry. He has built his strong expertise in augmented reality industry and nanoscale optics technologies at various business and academic positions over his career. He received his MSc. and PhD. in physics from the University of Eastern Finland, and his executive MBA degree from Henley Business School. In his free time, Jussi is an avid mountain climber and paraglider.

Eclipse Optics is Scandinavia's leading developing partner when it comes to optics and photonics. We combine a deep knowledge and expertise in optics with an understanding for product development. Our consultants have experience from a wide range of applications and our customers can be found in many different areas, e.g. Life Science, Automotive, Safety/Surveillance, Green energy and Consumer electronics. We can assist our customers with everything from conceptual studies to complete turnkey solutions. Read more about us and our projects on **www.eclipseoptics.com**

Joanna Wiberg (Optical Specialist and Partner) has extensive experience of optical design for a wide range illumination and imaging applications. Applications include spectroscopy, illumination for microscopy, medtech, and photography as well as light guide design. Joanna is also the regional manager of Eclipse's Malmö office.

Epson is a global technology leader dedicated to becoming indispensable to society by connecting people, things and information with its original efficient, compact and precision technologies. The company is focused on driving innovations and exceeding customer expectations in inkjet, visual communications, wearables and robotics. Epson is proud of its contributions to realising a sustainable society and its ongoing efforts to realising the United Nations' Sustainable Development Goals. Led by the Japan-based Seiko Epson Corporation, the worldwide Epson Group generates annual sales of more than JPY 1 trillion. **www.epson.eu**



Alex Zaretsky (Market Development Manager) brings a wealth of industry experience, having spent over two decades working in both R&D and commercial roles for major hi-tech manufacturers. Graduated with a BEng(Hons) degree in Electronics & Embedded Systems from Northumbria University at Newcastle upon Tyne, gained strong technical background through working in the semiconductors industry from 2000. Since the beginning of 2018, he has served as a key member of Epson Europe's New Market Development team, driving the development of partner ecosystems for the Optical Engine Module and the related Go-to-Market strategy. Additionally, he is the European Product Manager for Moverio AR smart glasses and is passionate about sharing his knowledge and experience of augmented reality innovation.

EPIC is the European industry association that promotes the sustainable development of organisations working in the field of photonics. Our members encompass the entire value chain from LED lighting, PV solar energy, Silicon photonics, Optical components, Lasers, Sensors, Displays, Projectors, Optical fibres, and other photonics-related technologies. We foster a vibrant photonics ecosystem by maintaining a strong network and acting as a catalyst and facilitator for technological and commercial advancement. EPIC works closely with related industries, universities, and public authorities to build a more competitive photonics industrial sector, capable of both economic and technological growth in a highly competitive world-wide marketplace. **www.epic-assoc.com**

Elisenda Lara (Marketing Manager) studied Media and Communication at Universitat Autònoma de Barcelona and has been working in content marketing for more than ten years. She started her career in audio-visual media working as a cultural reporter, then jumped into the e-commerce sector, and before joining EPIC she has contributed to the dissemination of photonics through an association of the sector.

Jeremy Picot-Clemente (Photonics Technologies Program Manager) is a physicist specializing in optics. After a PhD in Physics/optics and an MBA in Dijon (France), he decided to explore the photonics industry for several years by managing photonics systems integration for various applications and in different companies. At EPIC, Jeremy oversees the development of the optics and micro-optics fields, and all related technologies and applications. He has a strong interest in new technologies involving photonics, such as AR/VR, LiDAR, 3D sensing, and imaging devices.

Natascha Orban (Events Manager) completed her studies in Office Management in 2020. She has worked in events planning for medium-sized industrial companies completely on her own responsibility. Multi-channel campaigns and diverse online events were also part of her remit. In February of 2023, she successfully completed the certificate course as a human resources specialist. She has a strong interest in travel, new technologies and event organisation.

Ulrike Helfferich (Chief Operating Officer) has a Diploma in Engineering Physics and a deep knowledge of the photonic market after more than 20 years of working at international companies in the sector. Ulrike has extensive sales and business development experience with wide knowledge in optics, photonics, semiconductor, and machine-building market, based on business relationships to large scale and medium-sized businesses. Ulrike worked among others with applications related to spectroscopy, distance sensors, optical measurement, and image sensors. Her broad experience includes among others creating new business cooperation and especially in the past years a structured approach in different leadership roles.

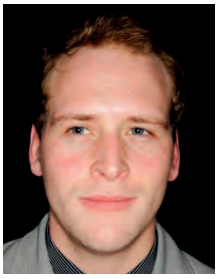
EV Group (EVG) is a leading supplier of high-volume production equipment and process solutions for the manufacture of semiconductors, MEMS, compound semiconductors, power devices and nanotechnology devices. A recognized market and technology leader in wafer-level bonding and lithography for advanced packaging and nanotechnology, EVG's key products include wafer bonding, thin-wafer processing and lithography/nanoimprint lithography (NIL) equipment, photoresist coaters, as well as cleaning and inspection/metrology systems. With state-of-the-art application labs and cleanrooms at its headquarters in Austria, as well as in the U.S. and Japan, EVG is focused on delivering superior process expertise to its global R&D and production customer and partner base – from the initial development through to the final integration at the customer's site. Founded in 1980, EVG services and supports an elaborate network of global customers and partners all over the world, with more than 1250 employees worldwide and fully-owned subsidiaries in the U.S., Japan, South Korea, China and Taiwan. **www.EVGroup.com**

Thomas Achleitner (Business Development Manager) is a Business Development Manager at EV Group, concentrating on Micro and Nanoimprinting for diverse applications, such as nanophotonic elements and wafer level optics. Thomas holds a degree in Innovation and Product Management from University of Applied Sciences Upper Austria. He has accrued six years of experience as a Senior Process Engineer in Nano Imprinting Lithography, specifically focusing on diffractive optical elements for Augmented Reality and Virtual Reality devices.

Excelitas Technologies® is a photonics technology leader focused on delivering innovative, high-performance, market-driven solutions to meet the lighting, optronics, detection and optical technology needs of our OEM customers. Serving a vast array of applications across biomedical, scientific, safety, security, consumer products, semiconductor, industrial manufacturing, defense and aerospace sectors, Excelitas stands committed to enabling our customers' success in their end-markets. Our photonics team consists of approximately 7,000 professionals working across North America, Europe and Asia, to serve customers worldwide. Connect with Excelitas on Facebook, LinkedIn, Instagram, and Twitter. **www.excelitas.com**

Michael Bulk (Global Product Manager) is the Global Product Manager of the applied microscopy group at Excelitas Technologies. He has over ten years of experience in the design and development of complex optical systems for industrial, medical and defense applications. His roles extend across a wide range including R&D, operations, application engineering and product management. He holds a Masters and Bachelor of Applied Science degree in Engineering Physics with honors distinction from McMaster University in Hamilton, Ontario.

ficonTEC is a recognized market leader for automated assembly and testing systems for high-end photonic components, devices and PICs (photonics integrated circuits). Considerable process capability and dedicated assembly technologies have been accumulated in serving the needs of a broad selection of industry segments – including telecom and datacom, high-power diode laser assembly, sensing from bio-med to automotive, micro-optics, and more. **www.ficontec.com**



Malte Ennen (Sales Engineer) graduated from Carl von Ossietzky University Oldenburg in 2017 with focus on engineering physics and photonics. He carried out research in the field of system design and concepts for laser micro processing machines. After leaving academics, he served as a project manager at Pulsar Photonics to develop custom laser machines for micro processing applications and as sales engineer at SmarActs metrology division where he was strongly involved in projects regarding semiconductor and fundamental research applications. At ficonTEC he is responsible for discussing requirements and proposing solutions to customers applications.

Finetech, since its foundation in 1992, has evolved into a leading global supplier of micro assembly and SMD rework equipment for customers involved in microelectronics. Finetech's sub-micron bonding equipment supports the most precise and complex applications. Facilitating innovation and boosting new product developments have always been driving forces at Finetech. In order to support customers at the development stage, and help them transition their processes into production, Finetech has been focusing on efforts to expand its portfolio of automated bonders. Along with its development machines, the company offers semi- and fully automated production systems combining process flexibility, high precision and speed. Finetech works in close partnership with customers - many have grown in parallel with us, forming countless productive relationships over the years. The company serves a broad range of industries, including Datacom & Telecom, Industrial Semiconductor, Consumer Electronics, Medical Technologies & Life Sciences, Aerospace & Avionics, Automotive, Defense & Security, Energy, as well as universities and research facilities. With subsidiaries on three continents and an extensive global network of representatives, Finetech ensures quick response times, fast on-site service and personal consultation at all times. **www.finetech.de**

Martin Rogge (Product Manager) is a seasoned Product Manager with a background in Communications Technology. He graduated from the Harz University of Applied Sciences in Wernigerode, Germany in 2004, having studied with a focus on photonic packaging. After completing his studies, he began his career as a development engineer, working on the production of opto-electronic receivers and fiber optics. In 2008, Martin joined Finetech and quickly assumed responsibility for applications and projects in the advanced packaging field, leveraging his expertise in opto-electronic packaging. Since 2010, Martin has served as the Product Manager for Finetech's automated FINEPLACER® solutions, now covering the entire range of automation bonder platforms.

FISBA, founded in 1957, is a worldwide leading supplier of customized optical components, systems and microsystems for high-performance applications. Our highly qualified lens designers and engineers are always on the lookout for perfectly tailored solutions for customers in life sciences, diode laser integration, machine vision, optical communications and defense & security. From micro-optics for FAC and SAC laser diodes to raw lenses for fully assembled optical systems and prototypes for complex optics in large-scale production, we offer everything from a single source. Full service from initial feasibility studies and design, as well as serial production and assembly, has enabled FISBA to become one of the most trusted optical manufacturers in the industry today. FISBA operates from facilities across Europe (St. Gallen, Switzerland and Berlin, Germany), in China (Shanghai) and in the USA (Tucson, Arizona). **www.fisba.com**

Henning Rehn (Team Leader Optical Design) is physicist, graduated from Friedrich Schiller University, Jena in 1991 and received a Dr. rer. nat. in applied optics from the same university in 1995. After some years as a postdoc, he started an industrial career at Carl Zeiss, Jena, developing some of the early data projectors. In 2001, he moved to OSRAM for projector lamp development. Later, he also worked as a group leader in predevelopment and LED-based specialty products, and from 2013 as a principal key expert for optical design. In 2018, he moved to Switzerland to join FISBA and became a team leader of the optical design group. He has authored over 40 scientific papers and around 50 patents.

Focuz Manufacturing (FOCUZ) is a contract manufacturer providing high-precision Optical-Electronic Manufacturing Services (O-EMS) to OEM customers in Industrial, Biomedical & Healthcare, Clean Energy, Datacom, Automotive, and Optical Communication. Focuz has a facility with 6,200-sq.m and over 800 employees based in Northern Bangkok, Thailand. A new facility with in total 13,600-sq.m, including clean rooms, will be ready in Q3-2023. Key manufacturing capabilities are:

- COB, Hybrid assembly & packaging (Lasers, VCSEL, PD, Image Sensors, MEMS, CMOS, X-ray, etc.)
- EMS/Service for Image Sensor packaging, for biomedical and industrial camera application
- Precision Optical Assembly (Optical Amplifiers (EDFA), LIDAR, TOSA/ROSA, Transceivers, etc.)
- PCBA & Box build (including RF/Microwave, Power electronic, etc.)
- High-speed transceivers, AOC, Optical HDMI & USB assemblies & new developments, etc.
- Medical and bio-medical FO probes and/or medical sub-system assemblies and sensors & scanners

We can support dedicated production lines with highest IP protection and drop shipments to any countries, including complete Supply Chain Management. **www.focuz-mfg.net**

Uwe Linss (Director of Sales EMEA) had been working for almost 10 years in SIECOR/Corning Optical Fibers (since 1992) after finished study Technical university in Leipzig. In 2002, he changed into LEONI Fiber Optics, as key-account manager in first 10 years but was nominated and appointed to lead this companies APAC sales and business development activities, being successful and with huge growth. Since 2021, he is managing and being responsible for FOCUZ Manufacturing and new customers and projects in EMEA, and an organic growth of sales and market share in Europe. Main market access is focused by semiconductor and packaging markets, sensor and CMOS or line sensor applications, and bio-medical market, too. He is located and live in Thuringia/Germany, and collaborating with German and European customers and new projects from there.

Fraunhofer Institute for Organic Electronics, Electron Beam and Plasma Technology FEP works on innovative solutions in the fields of organic semiconductors as well as vacuum coating and surface treatment. The competences in technologies for organic electronics, IC/system design and precision coatings provide a basis for R&D in photonics. We offer a wide range of possibilities for R&D and pilot production, especially for photonic components and applications such as OLED microdisplays, flexible OLED lighting, flexible organic electronics and organic and inorganic sensors, optical filters and wearables, as well as processing, sterilization, structuring and refining of surfaces. Our key technologies build the basis for developing new products in further fields of applications such as: medical applications, smart building and architecture, solar energy, packaging or transport. Our services encompass all of the necessary steps in a development project – from the conceptualization phase to transfer of the technology or licensing. Moreover, this development work is supplemented by the work on novel, pioneering technologies with companies, research and public institutions within public funded projects of various funding authorities like the EU. **www.fep.fraunhofer.de**

Uwe Vogel (Head of Division Microdisplays and Sensors) is a skilled worker in semiconductor microelectronics in 1983, diploma in information technology in 1991, doctoral degree in biomedical engineering in 1999. Center for Applied Optics Studies at Rose-Hulman Institute of Technology (Terre Haute/Indiana, 1992), Dresden University hospital/hearing research (1995-98). With Fraunhofer in Dresden/Germany since 1998, starting as analog IC designer. Since 2000, he is the head of Analog/Mixed-Signal IC design group, later on focusing on OLED-on-Silicon, i.e., device design, technology and applications (e.g., in smart glasses or/and optoelectronic sensors), CMOS backplanes, OLED microdisplay for near-to-eye display (augmented-/virtual-reality), 3D displays, display driver IC, high-speed data transmission. Since 2010, Uwe is the head of division "Microdisplays and Sensors", and since 2014 - Deputy Director of Fraunhofer FEP.

Freeptyc commercialises a new analytical optics software solution that revolutionises the development of freeform and holographic lens assemblies. Its solution is used by AR/VR companies to accelerate the design of VR projection systems and combiners by automatically generating thousands of optical systems that meet the customer requirements and can be validated in any established optical simulation software. **www.freeptyc.com**

Jean Berney (Director) is a physicist with a PhD in Photonics from the Ecole Polytechnique Fédérale de Lausanne (EPFL, Switzerland). He is the founder of multiple deep tech start-ups and has notably created Attolight, a company that provides nano-meter resolution spectroscopy instruments to the semi-conductor industry and Deeplight, a company that provides PIC-based lasers for sensing applications. He is a director at Freeptyc and the inventor of its technology.

Imagine Optic is a provider of Shack-Hartmann wavefront sensing hardware and software, adaptive optics technologies and professional services in applied optics. The company works with scientists and industrials in domains including pure science, industrial quality control, space and defense, automotive, semiconductors and many others. From X-EUV to SWIR wavelengths, we develop, manufacture, distribute and support a very large range of optical metrology and wavefront correction technologies. From augmenting resolution in bioimaging applications to improving beam shape and propagation for ultra-high intensity lasers, we have the optical solution to meet customer needs. **www.imagine-optic.com**

Rafael Porcar (Scientific Coordinator) graduated in optics and electronics in 1996, and first worked as an optical engineer and project manager for the development of custom metrology systems in Paris. After a few years as a research engineer at ICFO in Barcelona, he founded two deep tech photonics start-ups and, as CEO and CTO, developed his experience in collaborative research and innovation, intellectual property management and public and private funding. Since 2021, he is putting his expertise at the service of Imagine Optic's scientific and marketing department and is in charge of the optical metrology product line and new product development.

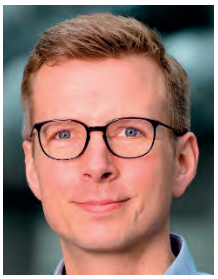
Inkron is a developer and manufacturer of high and low Refractive Index (RI) coating materials. These industry leading optical coatings cover record breaking RI range between 1.1 and 2.0 in VIS/NIR range. The high RI materials are optimized for the Nano Imprint Lithography (NIL) process. Targeted applications include DOE (Diffractive Optics Elements) such as Waveguides for XR devices, optical diffusers, LIDAR and other photonic applications. High refractive index materials are complemented by Inkron's matching low refractive index materials with RI range of 1.1-1.4. Typical applications of the low RI materials cover anti-reflective coatings (visible and NIR range), waveguide claddings and adhesive layers. The in-house synthesized resins and formulations are optically clear, thermally stable and commercially ready for demanding applications. Other products offered by Inkron cover thermally conductive adhesives, encapsulant materials and a range of printable inks. **www.inkron.com**

Jukka Perento (Vice President Operations) is responsible of among other Business Development and sales and marketing at Inkron. Jukka has previous experience in management roles in multi-nationals as well as with start-up companies. Previously, he was CEO of three start-up companies in the field of measurement technologies, conductive polymers and functional materials. He is experienced in international B2B sales, management and operations.

Imec performs world-leading research in nanoelectronics. We leverage our scientific knowledge with the innovative power of our global partnerships in ICT, healthcare and energy. We deliver industry-relevant technology solutions. In a unique high-tech environment, our international top-talent is committed to providing the building blocks for a better life in a sustainable environment. Imec has diverse photonic tracks which carry out world-leading R&D and opportunity for access. **www.imec.be**

Amin Abbasi (Business Manager) received his PhD degrees in ultra-high-speed directly modulated DFB lasers from Ghent University/imec in 2016. He continued his research at imec/UGent on 100 Gb/s single-channel EAM modulators until 2017. He joined AntwerpSpace/OHB as Photonic Team Leader on microwave photonics applications. From 2020, he is in the role of Business Development Manager at imec, covering imec's SiN/Si 200- and 300-mm photonic platforms for multiple applications such as quantum computing, lidar, bio-sensing, AR/VR. He has (co-)authored more than 50 peer-reviewed publications.

Jabil Optics has been recognized by leading companies as the premier service provider for advanced optical design, industrialization and manufacturing. Our team is specialized in solving complex optical problems for our customers in the automotive, industrial, medical and consumer markets. Our services have been successfully utilized in applications like AR / VR, Automotive & Industrial Lidar, 3D Perception and Advanced Camera Systems. Jabil Optics is part of Jabil Inc. where more than 250,000 employees at over 100 facilities in 28 countries are part of a global team representing the most technologically advanced and trusted manufacturing solutions provider in the world. Even at our global scale with manufacturing space totalling in excess of 50 million square feet, we remain an entrepreneurial organization, with a common purpose to make a positive impact for our employees, our customers, and our partners. **www.jabil.com/optics**



Hendrik Zachmann (Business Development Manager) is part of Jabil Optics team in Jena since 2019. Prior to joining Jabil, he worked at Carl Zeiss SMT (Semiconductor Equipment) and Solarion (Solar Cells). Hendrik holds a degree in physics from the University of Leipzig and received his doctorate in 2011. With more than 15 years of professional experience as a project leader & manager and his physical background, Hendrik is ideally suited to successfully guide customer projects from the initial idea to production and always be the ideal contact person.

Kathrin Rieken (Design Project Manager) has been part of the Jabil Optics team since 2014. She is working as project manager and is mainly responsible for our customers in the AR / VR space. Kathrin has a unique set of skills and experience in agile project management. At Jabil Optics she thrives on implementing scrum/ kanban elements into a classical waterfall approach as an answer to the changing environment that cannot always be answered by classical approaches. Kathrin has a Master of Science (Photonics), University of Jena. Before joining Jabil, she has worked at Fraunhofer IOF. In her free time, she enjoys reading books about leadership and agile.

Simon Schwinger (Business Development Director) joined Jabil Optics in Q4/2019. Simon comprises 20+ years of hands-on experience along the entire photonic chain. Having started his career in Digital Imaging (digital camera modules and systems for scientific, industrial and consumer applications), he extended his professional background in optics (classical, polymer optics, hybrid systems) for Automotive and Consumer Electronics. Development, marketing and sales of professional-grade Illumination as well as Power Electronic solutions complete his portfolio. He graduated from the University of Applied Sciences in Jena and holds an MBE® degree from Steinbeis University Berlin. Prior to his current role, he filled several cross-company management positions, e.g. at JENOPTIK AG. As a member of the board of the industry association SPECTARIS he actively shapes and drives the prosperous future of Photonics.

Theresa Kunz (Principal Design Engineer) has been a key optics expert in Jena team for >12 years and currently leads a six-person optical design team supporting highly complex consumer electronics including AR applications and automotive optical system design efforts. Her key competence is to design cost-effective solutions for stable production processes. A variety of intricate customer projects and internal capability builds ensures the team is always adept in the latest technologies. Theresa holds a master's degree in Laser and Optics design from the University of Applied Sciences in Jena.

LUXOTTICA | Exciton

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Luxottica Exciton designs and produces high purity and high-performance dyes, including Narrow Band Visible & Infrared Absorber dyes for optical filters, Fluorescent and the closely-related Laser dyes. For about 50 years, Exciton has excelled in the design and production of high purity and high performance dyes. Their expertise includes Narrow Band Visible and Infrared Absorber dyes for optical filters, Fluorescent and the closely-related Laser dyes. **www.exciton.luxottica.com**

LYNX

Lynx Mixed Reality was founded 2 years ago by Stan Larroque. Thanks to a dedicated team of innovators in electronics, software, optics and hardware, we've developed the Lynx-R1 headset. We believe our AR/VR ecosystem deserves a versatile and open device like Lynx, at a very affordable price point, for all kind of uses from games & entertainment to professional training and education. Virtual Reality as a medium is the best story teller, and Augmented Reality is basically a superpower. Both of these technologies are transforming the way we learn, play, and interact in the real world and all the virtual ones. We put our hearts into Lynx, and we hope you will enjoy with experiences we can't even imagine today. **www.lynx-r.com**

LightTrans International is the general distributor of the fast physical optics software VirtualLab Fusion and offers software licenses, technical support, and training. Our solutions provide the next level of combined accuracy, flexibility, and speed in optical simulation technology. Customers benefit in an ever-growing range of applications, including but not restricted to:

- diffractive optics
- gratings & metasurfaces
- diffusers
- AR/VR glasses
- advanced modeling of lens systems
- fiber coupling
- ultrashort laser physics
- scattering
- interferometry

Our experts suppoprt your development team also through technical support projects. The software VirtualLab Fusion is developed and produced by our partner company Wyrowski Photonics. **www.lighttrans.com**

Frank Wyrowski (President) co-founded the company LightTrans International GmbH in 1999 and the company Wyrowski Photonics GmbH in 2014. He has been professor of technical physics at the Friedrich Schiller University of Jena and head of the Applied Computational Optics Group since 1996. His work as entrepreneur, researcher and teacher is dedicated to developing fast physical optics techniques and software to address the increasing demand to overcome the limitations of ray optics in modern optics and photonics applications. Customers worldwide benefit from his engagement through the companies´ consulting and engineering services, and the commercial optical design software VirtualLab Fusion. Current R&D topics include applications like lightguides for AR&VR, light shaping, microscopy, interferometry, fiber coupling, diffractive and meta lenses, DOE, HOE, freeform, microlens arrays and physical optics theory in general.

Stefan Steiner (CTO) is the CTO at LightTrans International. He started out as an optical scientist, almost 7 years ago and became Principal Scientist, 4 years ago. Now, he is the head of the optical engineering department and therefore responsible for the management of customer projects, consulting services, and training courses at LightTrans. He also gathers and evaluates requirements in the field of optical modelling and design arising from the latest innovative applications in the market and develops new solutions and simulation technologies. With more than 12 years in micro-structure technology and fabrication, he is responsible for the in-house designs of waveguide devices for augmented and mixed reality, where he draws from the knowledge gained during his Ph.D. work at the University of Jena and Fraunhofer IOF.

Meta builds technologies that help people connect, find communities, and grow businesses. When Facebook launched in 2004, it changed the way people connect. Apps like Messenger, Instagram and WhatsApp further empowered billions around the world. Now, Meta is moving beyond 2D screens toward immersive experiences like augmented and virtual reality to help build the next evolution in social technology. **www.about.facebook.com**

Magic Leap is an enterprise AR company that seamlessly integrates the digital world with the physical in order to amplify human potential and create value for enterprise users. Magic Leap 2 is the industry's smallest and lightest device built for the enterprise. It is the only device with innovative breakthroughs like Dynamic Dimming™ technology, the industry's largest field of view, and unparalleled image quality, color fidelity, and text legibility.These innovations were developed to address the barriers that prevented the widespread adoption of enterprise AR, and are critical to making AR a viable technology that can be used daily for training, remote assistance, remote collaboration, and visualization in operating rooms, manufacturing floors, construction sites, and other scenarios. Magic Leap was founded in 2010, and is proudly headquartered in Florida with eight additional offices across the globe. **www.magicleap.com**

Kristina Uhlendorf (Head of the Optical Design and Quantified Experience Group) received her PhD in physics at the Fraunhofer-Institute for Applied Optics and Precision Engineering / Friedrich-Schiller University Jena, Germany. Prior to joining Magic Leap in 2021, she held several optical design engineering / managing positions at Carl Zeiss AG, Australian National University (Canberra), Jenoptik Optical Systems GmbH and Jabil Optics GmbH.

MATERION
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Materion Balzers Optics is the innovative and independent industry partner for the development and production of coated optical components and subassemblies. The company possesses a broad and in-depth knowhow in optical thin-film coating processes, complemented by sophisticated patterning, glass bonding and sealing, and further processing capabilities necessary for producing optical thin-film coated components up to optical subassemblies. Highly experienced and skilled development and engineering teams collaborate closely with customers to develop innovative solutions meeting their specific requirements. The combination of these capabilities and skills places Materion Balzers Optics at the forefront of markets in the photonics industry such as Life Science, Industry, Consumer, Space, Automotive, and Lighting. **www.materionbalzersoptics.com**

Reto Keller (Business Development Manager) is responsible for thin-film coatings and optical assemblies used in Consumer applications such as Mobile Phones, Projection Displays and Smart Glasses. He has worked in product development and product management for the Telecom industry for more than 15 years, including an assignment abroad in Shanghai as Head of R&D, before he has joined Materion Balzers Optics in 2018 as a Business Development Manager. Reto has obtained his MBA in International Management from Kalaidos University of Applied Sciences in 2013 and a BSc in System Engineering from NTB in Buchs in 2009.

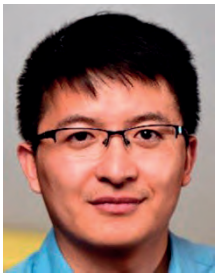
MICROOLED is a leading AMOLED microdisplays and smart AR glasses manufacturer. Our proprietary AMOLED technology elevates near-eye displays to the next level with optimal picture resolution, image brightness, and power consumption efficiency. **www.microoled.net**

Xavier Bonjour (Marketing & Partnerships Director) is the Marketing & Partnerships Director at MicroOLED, a leading provider of micro-displays, heading up the deployment of ActiveLook®, a proprietary "Lite AR" sports glasses technology, that provides the lowest-power heads-up display module to the eyewear industry currently on the market. Xavier has over 25 years of experience in consumer electronics technologies, having previously held several senior executive positions with Technicolor, LG, and Philips, and has served as a board member at Movea, a start-up focusing on motion-sensing data fusion, (successfully sold to TDK). Prior to MicroOLED, he was the Founder and CEO of 3D Sound Labs, a startup company that launched the first 3D audio headphones and provided other personalized audio solutions to the VR/AR market. He holds a Master of Science degree in digital technology from Heriot-Watt University, and a Master of Engineering from ESIEE. He also graduated from the Entrepreneurship Program at ESCP.

At **Microsoft**, our mission is to empower every person and every organization on the planet to achieve more. Microsoft enables digital transformation for the era of an intelligent cloud and an intelligent edge. Microsoft operates in 190 countries and is made up of 181,000 passionate employees worldwide. In Finland Microsoft develop solutions in the fields of optics, micro- and nanofabrication, and metrology. **www.microsoft.com**

Lasse Karvonen (Director Optical Engineering) is working as Director Optical Engineering at Microsoft. He joined the company on 2016 and has been working on Mixed Reality display related topics during his time at Microsoft. Before joining Microsoft, Lasse has been working at Aalto University (Finland) on photonics and micro and nanotechnology. He received his PhD degree from Aalto University in 2013.

Morphotonics is the leading supplier of large-area nanoimprint technologies. We offer innovative, commercially proven nanoimprinting equipment, powered by extensive process knowledge and a diverse portfolio of materials. This enables micro- and nanostructures to be applied on extremely large areas in high volume production, leading to improved products with cost advantages for customers in the display, automotive, and other deep technology sectors. Morphotonics is located in the Brainport Region of Eindhoven in The Netherlands. Our R2P nanoimprint technology has been adopted by leading customers in Europe, United States and Asia. **www.morphotonics.com**



Zheng Li (Business Development Manager) has been working for Mophotonics as Business development manager since Sep 2022. With a technical background in Materials Science and Chemistry, he worked in multiple roles such as product development, project management, technical support and business development. Zheng has a strong interest in bridging research with applications, exploring potential customers & markets, and solving customer pain-points by providing the right solutions.

NIL TECHNOLOGY

MEMBER OF EPIC EUROPEAN PHOTONICS INDUSTRY CONSORTIUM

NIL Technology (NILT) is leading in the area of nano-optics. Vertically integrated from design to mass production of diffractive optical elements (DOE) and meta optical elements (MOE) also known as metalenses. In addition, NILT supports the growing AR/VR/MR industry with highly specialized masters for replication of waveguides used in the AR display. NILT is your go to partner for nano-optics solutions, from development to mass production. We enable future optical solutions for Smartphones, Augmented Reality, IoT, Automotive, and in addition we serve the biotech and space industries among others. **www.nilt.com**

Theodor Nielsen (Founder & CEO) holds an engineering master's degree from The Technical University of Denmark (DTU) where he specialized in nanotechnology. Theodor has worked with nanoimprint lithography since 2003 where he took part in pioneering the nanoimprint activities in Denmark. He has held the position as CEO in NIL Technology since 2006. Since 2019, Theodor has been leading the transformation of NIL Technology from being a technology company to become an advanced optics company, focusing on optics by nano-structures defining a new standard for optics in metalenses, DOEs and advanced waveguide displays.

NOVEL 永新光学

Novel Optics, is situated in Jena, Germany, parent company Ningbo Yongxin Optics Co., Ltd. in Ningbo, China. Novel Optics is a public company and listed at Shanghai Stock Exchange. The service offerings are Professional Optical Solutions, Design, Prototyping, Volume Production e.g. for lenses, lens elements and prisms, specific optical filters, windows, mechanical components, sub-assemblies, lidar components in the fields of Industrial Automation, Security, professional Camera Optics, Consumer- and Sports Optics, Life Science, Medical- and Automotive Industry. This includes excellently skilled teams, fabrication technologies, SCM network, quality assurance and globally existing certifications in the targeted fields of business as well as in environmental- and social responsibility. **www.yxopt.com**

Hans-Joachim Stöhr (Business Development Manager) has earned his Physics Diploma from Friedrich-Schiller-University in Jena, Germany. He works for Novel Optics Europe since 2020, before this as Sales Director for Jabil Optics in Photonics Design- and Manufacturing Services, for Carl Zeiss in the fields of Digital Imaging, Display Technologies and Photonics Design Engineering where he headed development projects and research groups in the fields of optical systems development, optical technology development and systems for semiconductor technology.

NKT Photonics is the leading supplier of high-performance supercontinuum lasers, single frequency fiber lasers, ultrafast lasers, and photonic crystal fibers. Our main markets are within medical and life science, quantum and nanotechnology, aerospace and defense and industrial applications. We have lasers in space and deep under the oceans and our products run in both clean rooms and on oil rigs at sea. We seed the world's largest laser fusion experiment and power hundreds of the most advanced microscopes on the globe. We aim to make a difference in the world and we are involved in projects that will transform the way we live through life-science, renewable energy and the basic understanding of the universe. With over fifteen years of expertise, IP and experience, NKT Photonics strives to continually be the market leader in everything we do. NKT Photonics has its headquarters in Denmark with sales and service worldwide. NKT Photonics is wholly owned by NKT A/S. **www.nktphotonics.com**

Deepak Nair (Product Line Manager) holds a Masters in Photonics, and a PhD is diode laser technology. He has worked at various capacities in the photonics industry for over 13 years. He has been associated with NKT Photonics for the past 7 years and is currently in the role of product line manager with commercial responsibility for the SuperK and PILAS lasers. He is focused towards enabling a paradigm shift using super continuum technology in a variety of applications using broadband light within NKT Photonics' strategic business areas.

NTS Optel, since 1986 based in Nijmegen the Netherlands, is part of the NTS group. NTS Optel is a 1e tier solution provider on customized optical & laser tooling, modules or turn-key systems. We focus on development and production in the following application areas: Illumination, Imaging, Sensors and Laser beam delivery/steering. Our strategy is to be the Technology Partner for our OEM customers in these application areas and to be the SME in Nanostructure Optical Inspection. Our market focus lies in Semiconductor, Life science and Medical. NTS Optel is a vertical integrated optical specialist with 45 professionals in both D&E and production equipped with cleanrooms and grey room production areas. **www.nts-optel.com**

Leon Hol (Managing Director) is the Managing Director NTS Optel since January 1 2022, his whole working life active in the High Tech. Starting from his study Bachelor Mechanics, he stepped into the world of Semiconductor and Photonics. Coop with several Front End and Back End OEM Customers in several roles such as Engineering, Project Management and Sr. Sales Management. He was involved in the early days of EUV and Cryo technology and did several projects both in Litho, Metrology and several Back End process steps. Since January 1 2022, he started as Managing Director of NTS Optel and, together with the Management Team, set an ambitious financial and technology growth plan.

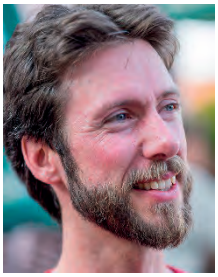
OptoFidelity is an optical metrology and industrial automation company. With its HQ, located in Finland, OptoFidelity serves to its customers also from their Cupertino, CA and Redmond, WA offices in USA and various locations in the APAC region. With their own R&D, service and manufacturing facilities in Europe, USA as well as in China, OptoFidelity employs about 600 skilled engineers and other staff. OptoFidelity is currently the market leader for AR metrology and testing. Their turnkey systems are available for functional and performance testing of DOE/HOE/ROE AR waveguide combiners, light engines as well as subassemblies and EOL testing of fully assembled smart glasses/HMDs. **www.optofidelity.com**

Murat Deveci (Senior Technical Account Manager) works as a Director, Global Sales and Business Development at OptoFidelity. At OptoFidelity, he manages AR optical metrology business cases. In addition to his role within the company, he is also the Committee Chair of "IQM3 – Image Quality Metrics, Methods and Measurements" within LaSAR Alliance. In general, his work is heavily focused on solving the challenges with image quality testing, waveguide characterization, waveguide production, light engine testing for various near-to-eye displays in module and system level. Murat has a M.Sc. in Materials Engineering from Tampere University of Technology, Finland. He also completed studies in Industrial Engineering and Mechanical Engineering in Finland, Denmark and Turkey.

OptoNet - the Photonics Network Thuringia represents the leading players of Photonics in Jena region, empowers communication and cooperation, strengthens the international visibility and supports talent promotion. The cluster, situated in the heart of Germany and Europe, is a top business location with a unique density and an extraordinary wide range of optics technology. With more than 100 members, around 20 years of cluster experience and a broad international network, OptoNet considers itself as one of the German hubs for Photonics industry. **www.optonet-jena.de**

Anke Siegmeier (Managing Director) is co-managing director of OptoNet, one of the leading networks for optical technologies in Europe. The Thuringian cluster based in Jena connects more than 100 highly innovative, internationally successful companies and research institutes and is committed to promoting technology, innovation, securing skilled workers as well as training and further education. Being member of EPIC, OptoNet likewise enhanced international cooperation, AR/VR and other photonic application oriented topics and connecting their players is the goal of participating in this event. Anke has a background in business administration from Friedrich Schiller University in Jena and Sweden with a focus on auditing, human resources, law and international management. For more than 15 years she has been working in Thuringia's photonics industry, which is one of the most successful in the world, not least due to the close cooperation with science and research institutions.

Optocraft develops and manufactures Shack-Hartmann wavefront sensors and system solutions for testing optics and lasers. Companies and research organizations worldwide rely on Optocraft's measurement technology in production and R&D. Innovative metrology solutions enable our customers to pioneer the future of optical systems and boost manufacturing quality to new levels. **www.optocraft.de**



Christian Brock (Sales Manager) studied Physics in Bayreuth and obtained his PhD in monitoring of laser materials processing at the Bavarian Laser Center in Erlangen. In 2014, he joined Optocraft where today he is responsible for technical sales and innovation management.

Optosigma is a leading global manufacturer of Optical Systems, Optical Assemblies, Optical Coatings, Opto-Mechanics, Manual and Motion Control Stages, and a variety of complimentary Photonics products. With over 19,000 standard items, we provide a wide range of high-quality products, and we also manufacture custom solutions to support various industries including Life Sciences, Bio-Medical, Semiconductor, Displays, Research, Telecommunications, Aerospace and Defense. "OptoSigma" was born in 1995 as a California Corporation as a subsidiary of SigmaKoki Co., Ltd., Tokyo Japan. SigmaKoki was born in Japan in 1977. Today, OptoSigma is our global brand name with affiliates in France, Germany, Singapore and China. Together we are known as, "The SigmaKoki Group" and we have over 45-years of experience and counting. Our motto follows three important words, Appreciation, Challenge, and Creation. Through creation, we follow a Japanese word, "Monozukuri" that can be defined as the art, science, and craft of manufacturing. Through "Monozukuri", we employ the highest quality standards for craftsmanship and continue to seek ways to improve our process, efficiency, and methods, all for the benefit of our highest priority, YOU, "Our Customers". We strive and challenge ourselves to create solutions that enable new technologies for a better tomorrow and a brighter future. **www.optosigma.com**

Axel Haunholter (Reginal Sales Manager) is an accomplished professional with a 2015 Master's degree in Photonics from Munich University of Applied Sciences. He completed his Master's thesis at Laser Components, where he improved the production process for high-reflective mirrors by optimizing substrate and coating coatings. With several years of experience in the optics industry, Axel has improved his skills in optics design consulting, particularly in stray light analysis. In 2016, At Laser 2000, Axel served as a Technical Advisor for the optics and optomechanics divisions, where he demonstrated his expertise in the field. In 2020, at OptoSigma, Axel is responsible for providing Optics and Optomechanics consulting services to clients across Germany and Western Europe. His technical knowledge, coupled with his customer-focused approach, make him an invaluable asset to the company.

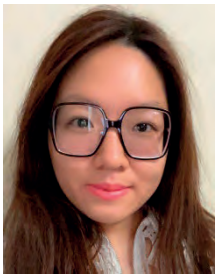
OQmented is a spinoff from Fraunhofer Institute for Silicon Technology. The founders of OQmented have been major drivers in the development of MEMS mirror technology for more than 20 years. They have put together a very dedicated team of engineers and employees who are passionate about the world's most advanced laser scanning and projection technology. We enable breakthroughs and market disruptions for some of the automotive and consumer industries' top technology developments. We are committed to excellence, offering you complete laser scanning solutions of the highest quality. OQmented develops, integrates and sells complete laser scanning solutions composed of a MEMS chip, driver electronics, application specific system electronics and software for automotive, consumer and industrial applications such as LIDAR, adaptive laser headlights, HUDs, 3D cameras, augmented reality displays, virtual reality displays, high power laser displays, structured lighting and laser material processing. **www.oqmented.com**

Thomas von Wantoch (Managing Director) received the Dipl.-Ing. degree in electrical engineering and information technology from the University of Kiel, Germany, in 2010. Afterwards he has been working on the development of MEMS mirror technology and applications, starting as research associate at the University of Kiel (CAU Kiel) in 2010, subsequently in different roles at the Fraunhofer Institute for Silicon Technology (ISIT) beginning in 2012. His expertise is in application development for MEMS mirrors, particularly in the areas of system design, control and feedback control systems, electronic design and manufacturing, software development for microcontrollers and FPGAs as well as setup, testing, validation and characterization. In 2018 he co-founded OQmented.

Panacol is a leading international manufacturer of industrial adhesives as well as medical grade adhesives, providing an extensive product range of UV adhesives, structural adhesives, and conductive adhesives for a wide variety of applications and industries. This includes optical grade resins for wafer level optics, micro-, and nanoimprint manufacturing of next generation optical devices in the automotive, consumer, and medical markets. Furthermore, with Panacol's new Black&Light technology, pure UV curing of solvent-free, ultra-black optical grade resins finally becomes available for efficient and energy saving shading and encapsulation processes. As a member of Hoenle Group and as a partner of UV equipment manufacturer Hoenle, innovative UV- and UV-LED curing systems are also available from Panacol. **www.panacol.de**

Tobias Kaposi (Business Development Manager) received a PhD from TU Munich in 2016 and has been working in the adhesives industry since then, with a strong focus on emerging optical applications for the consumer and automotive markets. After six years with DELO, first as an application engineer and later sales engineer, he has been with Panacol since October 2022.

PHASICS, founded in 2003, offers state-of-the-art optics metrology and imaging solutions, from standalone SID4 wavefront sensors to fully automated test benches, Kaleo MTF, Kaleo MultiWAVE, and a fully modular metrology solution, Kaleo Kit. This range of wavefront measurement systems and quantitative phase imaging solutions is based on innovative, high-resolution wavefront-sensing technology. PHASICS' unique, patented wavefront sensing technology is called QuadriWave Lateral Shearing Interferometry (QWLSI). This technology was developed to overcome the ShackHartmann limitations: it offers ultra-high resolution, high sensitivity (sub-nanometric), and a wide dynamic range (hundreds of microns). PHASICS has a strong customer focus and cares about satisfying all its customers' needs. Its robust R&D team develops innovative features, explores new applications, and customizes standard configurations to customers' requests. Thanks to these large innovative projects, PHASICS covers a wide range of applications, including laser testing, adaptive optics, lens alignment and quality control, refractive index mapping in materials, quantitative phase imaging for biology, and plasma and gas density measurements. **www.phasics.com**



Inès Hia (Technical Sales Engineer) graduated with a Master's Degree in Engineering from the Institut d'Optique Graduate School (part of the Paris-Saclay University) in 2022. Specialized in photonics and optical metrology, she joined PHASICS as part of the business development team to pursue innovation opportunities in consumer and quantum markets, making use of her strong experience with wavefront.

PHIX Photonics Assembly is offering a cost-effective manufacturing service for Photonic Integrated Circuit (PIC)-based modules in scalable volumes; from prototypes to large scale production. PHIX has experience with all PIC technology platforms and is specialized in hybrid integration of multiple PICs in one module both with optical fiber interfaces as well as free space optical interfaces through micro optical components. PHIX is located in Enschede, the Netherlands **www.phix.com**

Joost van Kerkhof (COO) started PHIX in 2018 together with Albert Hasper (CEO). He has more than 25 years of experience in the micro-nano technology industry. Before starting PHIX, Joost was the CEO of XiO Photonics since 2013 and the COO of LioniX International since the merger of XiO Photonics, LioniX and SatraX into LioniX International in 2016. Before joining XiO Photonics, Joost worked with Sensata Technologies as Director Business Integration. In this role, he built a significant experience in business case analysis and development. Before his role in business management, he has held positions within Texas Instruments (which became Sensata Technologies in 2006) as Director R&D and Director Operations. In these positions, he has brought several products in high volume production. Joost holds a master's and Ph.D. degree in electrical engineering specialized in micro-nano technology and (bio)sensors.

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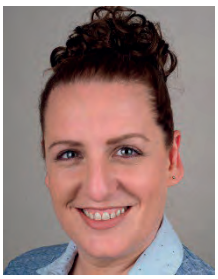
PHABULOuS is the European pilot line and one-stop-shop for all requests for prototyping and manufacturing of free-form micro-optics services: from pilot to full-scale production. PHABULOuS serves as the single entry point to a full supply chain of Europe's leading Companies and Research & Technology Organizations. PHABULOuS's goal is the industrial manufacturing of innovative and highly demanded micro-optical components for various photonics applications, with a clear roadmap for high volume production in Europe at a competitive cost. **www.phabulous.eu**



Jessica van Heck (Managing Director) has a bachelor's degree in engineering from the University of Applied Sciences in the Netherlands and has over 20 years of experience in the corporate world. As Managing Director, she is the entry point to the pilot line and its services for companies aiming to pilot and produce devices integrating free-form micro-optical components.

photonics
precision engineering

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Photonics Precision Engineering is a team of experts offering optical design with tolerancing, system engineering and project management, with experience gained in many years within international projects. Beside the support of complex optical developments, PPE also does the sourcing and integration of customized optical designs and solutions. On-site training of employees or co-development is part of the services of the Jena optics design consulting agency. **www.ppe-jena.com**

Dominik Schulz (Optical Design Engineer) previously worked as a Research Assistant at Martin-Luther University Halle-Wittenberg pursuing his PhD in physics. His research focused on investigating and deriving simulation methodology for electromagnetic phenomena in non-trivial media and structures, as well as setting up high-end numerical infrastructure for solving the resulting numerical challenges. The physical topics included, e.g., scattering behavior in magnonic, optical, and quantum mechanical systems, modification of vortex fields, and THz applications in metamaterials. Following his studies, he joined PPE as an Optical Design Engineer specializing in wave optical applications such as DOEs, HOEs, and metasurfaces, where he solves tasks ranging from investigation, design, to tolerancing.

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glass made of ideas

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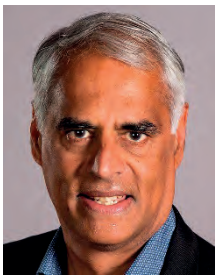
SCHOTT is a leading international technology group in the areas of specialty glass, glass-ceramics and related high-tech materials. With over 135 years of experience, the company is an innovative partner to many industries, including the home appliance, pharma, electronics, optics, life sciences, automotive and aviation industries. SCHOTT has a global presence with production sites and sales offices in 34 countries. In fiscal year 2020/2021, the Group generated sales of EUR 2.5 billion with its 17,000 employees. SCHOTT AG has its headquarters in Mainz (Germany) and is solely owned by the Carl Zeiss Foundation. This is one of the oldest private and largest science-promoting foundations in Germany. As a foundation company, SCHOTT assumes special responsibility for its employees, society and the environment. **www.schott.com**

Sony DADC is a leading high-volume manufacturer of precision products of the utmost quality. We are establishing our partly unique manufacturing technologies and processes in the field of refractive and diffractive micro-optics and photonics. Sony DADC fabricates nano- and micro-structured optical components based on optical grade polymers. Manufacturing methods such as nano-imprint lithography (NIL), high-precision injection molding and various coating processes are used. Apart from customized, scalable mass manufacturing for global customers we also offer electroforming processes (e.g. for the creation of durable metal shims and molding inserts) as well as research and development for next-generation applications. **www.sonydadc.com**

Gerald Ihninger (Senior Engineering Manager) graduated in 1993 in physics at the Johannes Kepler University (JKU, Linz Austria) on semiconductor physics. After his master, he joined Sony DADC as an automation engineer for cleanroom mass production of optical storage media in 1995. Since 2003, Gerald is responsible for the automation/electronics-lab and metrology team. After some years, he also took on responsibility for quality assurance for the disc business. In addition to physics, his experience covers a wide range from mechanical engineering, and software engineering to electronics and project management of national/international projects. In 2021, he started to evaluate the market, technology and processes of nano/micro optics elements. Now he leads the Micro Optics program for refractive-, diffractive- and meta optical elements from prototyping to mass production at Sony DADC.

At **ST**, we are creators and makers of semiconductor technologies. As an integrated device manufacturer, we work with our customers and partners to design and build products, solutions, and ecosystems that address their challenges and opportunities, and the need to support a more sustainable world. We create semiconductor solutions that are integrated into each of the billions of electronic devices people across the globe interact with every day. By getting more from technology to get more from life, ST stands for life.augmented. ST has committed to be carbon neutral by 2027 and in 2022 generated $16.1 billion in revenue. **www.st.com**



Bharath Rajagopalan (Director of Strategic Marketing) is Director of Strategic Marketing at STMicroelectronics, responsible for developing the company's strategy for Augmented Reality leveraging ST's broad technology and product portfolio. Bharath is a veteran of the electronics industry, having served in technical, managerial, and executive roles in research and development, manufacturing, product development, and marketing. Bharath is also serving as the Chair of the LaSAR Alliance. Prior to ST, he has held a number of leadership positions including roles at MicroVision, Dolby Laboratories, Texas Instruments and IBM in semiconductor technology development and manufacturing, display technology development and imaging systems. Bharath holds MS, and PhD degrees in electrical engineering and an MBA.

Stanford University, founded in 1885, is a private research institution nestled in the heart of California's Silicon Valley. Renowned for its innovative spirit and academic excellence, Stanford offers a diverse range of undergraduate and graduate programs across seven schools. With a distinguished faculty and an extensive research portfolio, the university fosters an interdisciplinary approach to learning and problem-solving. Stanford's picturesque campus, spanning 8,180 acres, is home to cutting-edge facilities, a thriving arts scene, and a vibrant student community that cultivates a collaborative and entrepreneurial atmosphere. **www.stanford.edu**

Nakamir is a software startup in Menlo Park, California, that is changing the way we create Augmented Reality content. With a strong focus on the “Reality” aspect of Augmented Reality, Nakamir has developed a unique method to make creation of Augmented Reality training and guidance content as easy as taking a video by relying on sensor recordings of real world interaction. The Nakamir Augmented Reality Assistant (NARA) allows experts to automatically create custom training content while interacting with the real world. Trainees experience a virtual instructor that guides them step-by-step through complicated procedures. **www.nakamir.com**

Christoph Leuze (Director & CEO) is director of the Visualization Core at the Stanford Wu Tsai Institute where his research focuses on virtual and augmented reality technologies for medical applications, and founder of Nakamir, a startup creating training and guidance solutions for the factory of the future leveraging Augmented Reality. He taught the first Stanford course on medical mixed reality development and founded the Stanford Medical Mixed Reality program, an institute-wide initiative to bring together academia, clinic and industry to establish and improve mixed reality applications for patient care. Christoph has received multiple prizes for his work in Augmented Reality including the IEEE VR People's choice award for the best AR demo, the TechConnect Award for one of the most promising technological innovations for national security and the prize for the best 3D video at the Ars Electronica Art and Science Festival. He has studied at Leipzig and Chiba University and received the Otto Hahn medal of the Max Planck Society for his PhD thesis at the Max Planck Institute for Human Cognitive and Brain Sciences in Leipzig.

Synopsys is accelerating the adoption of photonic and PIC technologies with software to design energy efficient, high-performance photonic devices, systems, and integrated circuits. Our Photonic Solutions portfolio includes the RSoft™ Photonic Device Tools, the Photonic System Tools, and the PIC Design Suite. Offering the industry's only seamless design flow, the Synopsys Photonic Solutions portfolio enables innovations in consumer and industrial communication, sensing, and imaging applications – from concept to manufacturing. **www.synopsys.com**

Emilie Viasnoff (Business Development Director) graduated from Ecole Normale Supérieure (Lyon, France) as a physicist specializing in optics and photonics. She holds a Ph.D. from the University of PARIS Sud, France, on optical properties of photonic crystals. From 2005 to 2009, she worked as an R&D project leader at Saint-Gobain. In 2009, she moved to CEA-LETI and then CEA-DRT, where she spent 12 years in various positions as manager of R&D teams in display technologies, optics, photonics, microelectronics, and microsystems. In 2021, she moved to the Bay area, where she is now in charge of the strategy and business development for the Optical Solutions Group within Synopsys. Emilie has published over 15 publications, papers, books, and articles and holds eight patents.

THEON SENSORS
Advanced Optronics

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THEON SENSORS is a highly flexible, medium-sized, European company specializing in the development and manufacture of Electro-Optic Night Vision Systems and Thermal Imaging devices. THEON is an Original Equipment Manufacturer (OEM) and consequently owns and controls every aspect of its product technology, including optics, mechanical and electronic assemblies. THEON Sensors demonstrates a worldwide presence and customer base supplying its systems to Armed Forces & Law Enforcement Agencies in many countries including several NATO member countries. Additionally, THEON cooperates with renowned vehicle manufacturers supplying Night Vision Driver Viewers for Armored vehicles and Main Battle Tanks. **www.theon.com**

Dimitrios Mandridis (CTO) got his degree in Applied Physics at the National Technical University of Athens and his MSc PhD in Optics at CREOL, The College of Optics and Photonics of the University of Central Florida (USA). He has since worked for 11 years at THEON SENSORS of Athens Greece, a defense product manufacturer, where he is currently the CTO. He is responsible for system and optical design architecture and the technology and product development roadmap. During his tenure, THEON SENSORS transformed from a regional Night Vision manufacturer to a world leader of Night Vision and uncooled LWIR thermal imaging with an expanded product catalogue. Optics and electronics for AR and VR are in their immediate interest. Dimitrios is a lifetime member of SPIE and the EPIC contact point for THEON SENSORS.

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TOPTICA develops and manufactures high-end laser systems for scientific and industrial applications. The portfolio includes diode lasers, ultrafast fiber lasers, terahertz systems and frequency combs. These systems are widely used in quantum optics and spectroscopy, biophotonics and microscopy, as well as test and measurement. **www.toptica.com**

Harald Rossmeier (Senior Product Manager) started his career at TOPTICA in 1999 after graduating with an engineering degree in physics from the University of Applied Sciences in Munich. He played a leading role in the development of industrial OEM diode laser systems and later assumed the role of product manager for this segment. In 2011, he moved to the US to drive the application and business development in Biophotonics and Semicon for TOPTICA. Upon his return to Germany in 2014, he resumed the position of product manager for OEM diode lasers, focusing on providing high-end solutions for industrial lithography and holography applications as well as for semiconductor metrology.

Toppan Photomask is the world's premier provider of photomasks for semiconductors. Headquartered in Tokyo, TPC was launched in April 2022 as a carve-out from Toppan Inc., a diversified global leader in communications, security, packaging, decor materials, and electronics solutions. TPC leverages its worldwide customer service network and eight manufacturing facilities in key geographical locations to offer the world's most advanced technology. Toppan has been a lead supplier for semiconductor photomasks for more than 30 years. Building on our experience and technology we offer a wide range of nanoimprint masters. 6-inch quartz molds and up to 8-inch silicon wafer-based molds. State-of-the-art electron beam writers are our preferred tools to create patterns specified by customer for the master molds. Advanced etch tools are used to meet demanding requirements for waveguides and other nano-optical structures to support the merging requirements of the AR/VR/MR applications. **www.photomask.co.jp/english**

Andreas Frangen (Senior Account Manager & Business Development) has a distinctive engineering background and many years of experiences in several semiconductor-related companies. Andreas graduated in 1995 at Technical University Dresden as an Electrical engineer with specialization on precision engineering. He started his career with KLA-Tencor as a service engineer for wafer inspection equipment. Prior to joining Toppan, Andreas was with Infineon / Qimonda and had several positions in engineering, primarily in the field of metrology, lithography and photomask application. Andreas joined Toppan Photomasks in 2010 as an Application Engineer, being the technical interface between customers and the engineering group. Since 2015, Andreas is managing large account of European semiconductor and optics customers with a special focus on none-standard products. He develops new business opportunities by consistently bringing Toppan's high-end patterning technology together with needs and applications inside and outside the semiconductor ecosystem.

Bríd Connolly (Strategic Applications Manager) is responsible for product development and strategic alliances for photomask product applications. During her career, Bríd has held various positions in the photomask industry starting as process engineer and then moving into Sales, Technical Sales and management roles before taking on her current role in 2020. Bríd obtained her degree in Applied Physics at DCU, Dublin.

TriLite designs and builds the world's smallest projection displays and ensures that everyone can enjoy augmented vision as lightweight as the eyewear of today. TriLite's display solutions are based on proprietary, multi-parameter algorithms and deploy advanced machine learning algorithms to generate laser beam scanning devices with unprecedented size, weight and image quality. An outstanding team of multidisciplinary researchers and manufacturing experts stands behind TriLite's multiple-patented technology. TriLite enables its customers to accelerate the availability of leading-edge display solutions for mass market Augmented Reality applications. **www.trilite-tech.com**

Susan Backhaus (Head of Product Marketing & Business Development) has over 25 years of experience in telecommunications and hi-tech industries. She joined TriLite in September 2022, where she leads their product marketing & business development, contributing her solid understanding of technology and wide industry knowledge to enable TriLite to accelerate the availability of leading-edge display solutions for mass market Augmented Reality applications. She is a member of the Institute of Influencer & Analyst Relations (IIAR>) and was nominated in 2022 as one of the top 10 Analyst Relations Professionals of the Year. She received her Master's in Electrical Engineering from the University of Cape Town in 1993.

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TRIOPTICS optical measurement and manufacturing systems speed up and improve the development, production and quality control of lenses, optical lens systems and camera modules around the world. With our broad knowledge base in optical metrology systems, comprehensive product range and international focus, we create lasting customer value and benefits. The basis for our success and the continuous expansion of our technological and market leadership is the high level of investment in research and development. We offer customized solutions for industry, science, and the markets of the future – from basic products to special systems. **www.trioptics.com**

Daniel Winters (R&D Image Quality) has earned a PhD in Engineering Physics from the University of Linz, Austria and has >20 years' experience in the field of Optics and Optical testing working in Europe, North America and Australia. His main fields of interest are Test & Metrology applications in the field of Augmented/Virtual Reality, LIDAR, and other optical sensing technologies.

VoxelSensors

VoxelSensors is the creator of a novel category of efficient 3D perception solutions for blending the physical and the digitally augmented and virtual worlds. Its proprietary and patented Switching Pixels technology achieves unprecedentedly low power consumption, latency, and computational complexity. Switching Pixels is a game changer that unlocks the true potential of fully immersive experiences for consumer electronics and enterprise AR / VR / MR wearables and various other industries. **www.voxelsensors.com**

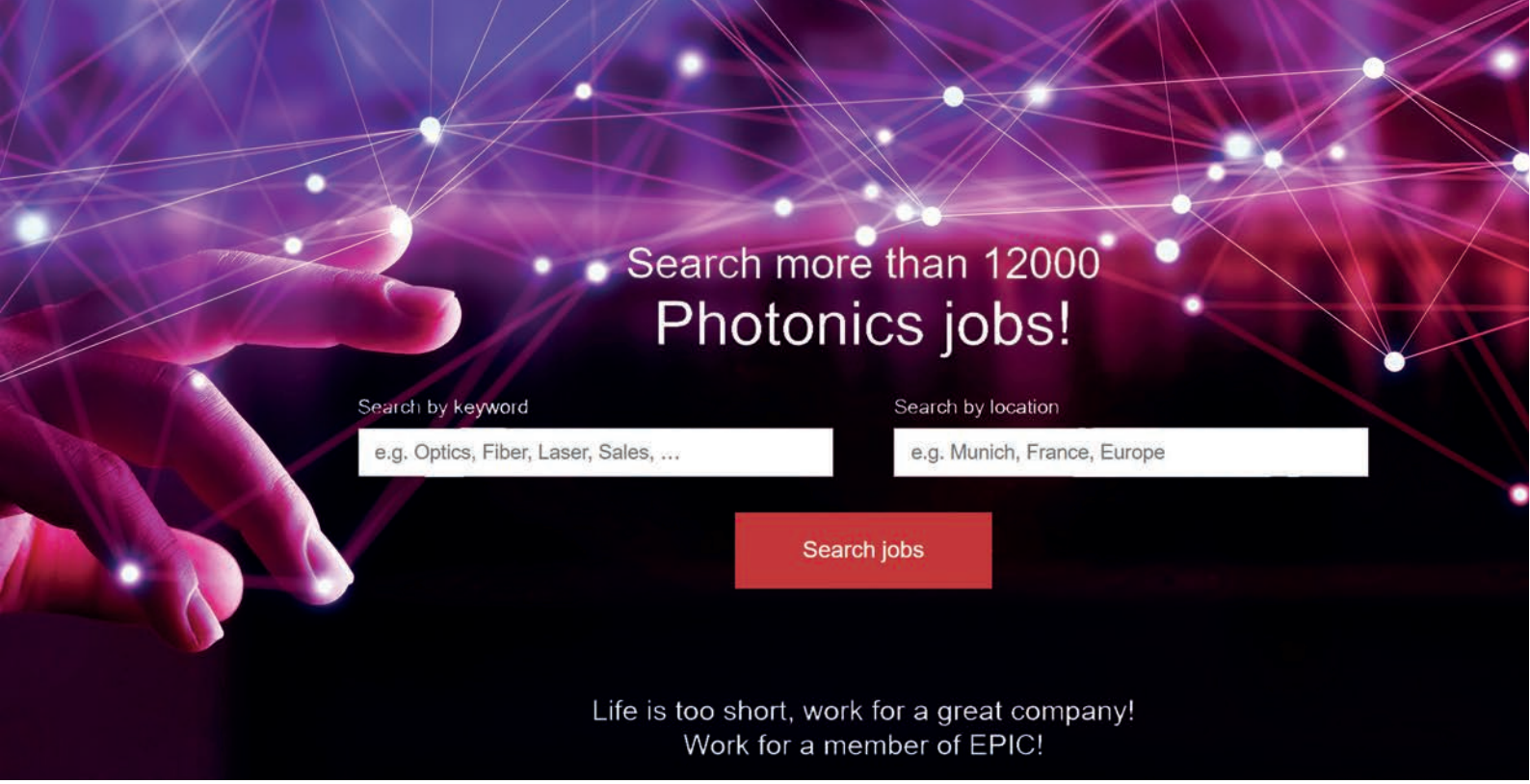
Ward van der Tempel (Co-Founder & CTO) is VoxelSensors' technical guru. He has over 15 years of experience in analog and digital CMOS sensors design. He was co-founder and Product Director of Spectricity, developing miniature spectrometer solutions. Before this, he co-founded Optrima (later merged with SoftKinetic) to bring to market 3D Time-of-Flight technology. After the acquisition by Sony in 2015, Ward was Head of Technology at Sony Depthsensing Solutions, driving SDS's 3D time-of-flight (ToF) technology roadmap. Ward holds a MSc. Eng. degree and a PhD in Electrical Engineering, both from the Vrije Universiteit Brussel, Belgium.

WaveOptics is a wholly owned, independent subsidiary of Snap Inc. We are a world leading designer and manufacturer of revolutionary Augmented Reality (AR) Glass Lenses and Projectors – two key optical components of any AR headset. Our Glass Lenses are based on diffractive waveguides and have a balance of attributes that deliver a superior display to the widest range of users. Our Projectors are designed to meet requirements of AR applications and paired with our Glass Lenses to deliver best in class experience for the end user. **www.waveoptics.ar**

Arseny Alexeev (Director of Nanophotonics Technology) received his BSc (2006) and MSc (2008) degrees in applied physics from the Saint-Petersburg State Polytechnical University, Russia. In 2013, he obtained PhD in Nanophotonics and Nanoelectronics from the University of Exeter, UK, and then worked at the same university as a Research Fellow in the Functional Materials group. Since 2018, Arseny is leading Research & Development of novel technologies for Augmented Reality displays at WaveOptics. He is also a coordinator of the Industry Forum of the UK Metamaterials Network and member of the EPIC AR/VR/MR Advisory Committee.

ZEISS is an internationally leading technology enterprise operating in the fields of optics and optoelectronics. With our holistic and innovative ZEISS Microoptics Multifunctional Smart Glass technology platform we enable integrated, transparent, and interactive optical functionalization of all transparent media, incorporating innovative approaches in the fields of e.g., optical design, mastering, replication, and integration of volume holographic films and stacks. We utilize single and combinations of the 4 fundamental optical function: projection, detection, lighting, and filtering to create unique large format holographic applications as well as revolutionize existent ones by re-engineer classical optical systems with our microoptics and holographic technology. In total ZEISS develops, produces and distributes highly innovative solutions for industrial metrology and quality assurance, microscopy solutions for the life sciences and materials research, and medical technology solutions for diagnostics and treatment in ophthalmology and microsurgery. The name ZEISS is also synonymous with the world's leading lithography optics, which are used by the chip industry to manufacture semiconductor components. There is global demand for trendsetting ZEISS brand products such as eyeglass lenses, camera lenses and binoculars. With over 38,000 employees, ZEISS is active globally in almost 50 countries with around 60 sales and service companies, 30 production sites and 25 development sites. **www.zeiss.com**

Viktor Schütz (Senior Business Development Manager) studied Photonics at the University of Applied Sciences in Emden. He holds a PhD degree in engineering from the Leibniz University of Hanover and an MBA degree from the Private University of Applied Sciences Göttingen. He is an author of various scientific publications and patents. After starting his career at the LZH (2008-2016) as a research fellow, he promoted and integrated new photonics solutions at LG Electronics (2016-2020) as a Technology Manager. Since August 2020, Viktor is active for ZEISS as a Senior Manager in the field of Business Development & Partnership Management for innovative microoptics and holographic applications.



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