



EPIC Meeting on Fiber Sensors at HBK FiberSensing

19-20 April 2023, Porto, Portugal

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Schedule

Tuesday, 18 April 2023

- 19:00** Meet at @ NH Collection Porto Batalha hotel lobby to walk to the dinner place
- 19:30 – 22:30** Pre-event dinner @ O COMERCIAL restaurant (address: Rua Ferreira Borges, Palácio da Bolsa, 4050-253 Porto)
- 22:30** Departure by the bus transfer from the dinner place to NH Collection Porto Batalha hotel

Wednesday, 19 April 2023

- 12:00 – 13:00** Registration & light lunch @ NH COLLECTION Porto Batalha hotel
- 13:00 – 13:05** **EPIC – European Photonics Industry Consortium** – Welcoming Words – Antonio Castelo, Photonics Technology Manager (Europe/Spain)
- 13:05 – 13:15** **HBK FiberSensing** – Welcoming Words – Luis Ferreira, Director (Portugal)
- 13:15 – 13:45** **KEYNOTE: MCH Engineering** – Optical Fiber Sensors Commercialization: Present Status and Future Opportunities and Trends – Alexis Mendez, President (USA)
- SESSION 1: Fiber Optic Sensors Status and New Developments – Single and Multipoint**
- 13:45 – 14:00** **FBGS** – Combining the Best of Both Worlds: Ultra-precise Fiber Optic Sensing over Several Kilometers of Continuous Fiber Lengths Based on Discrete Fiber Bragg Gratings and Code Division Multiplexing – Bram Van Hoe, Director Sales & Marketing (Germany)
- 14:00 – 14:15** **Luna Innovations** – Creating Smart Parts with Lifetime Fibre Sensors – Ian Shannan, VP of Sales EMEA (United Kingdom)
- 14:15 – 14:30** **Redondo Optics** – Fiber Optic Sensor Systems for Applications where Weight, Size, and Power are Critical for Operation – Edgar Mendoza, CEO (USA)
- 14:30 – 14:45** **University of the Basque Country UPV/EHU** – Coupled-core Optical Fiber Sensors – Joel Villatoro, Ikerbasque Research Professor (Spain)
- 14:45 – 15:00** **engionic** – Gold-Coated Femtosecond FBGs for Expanded Temperature Sensing – Margarethe Kampling, Managing Director (Germany)
- 15:00 – 15:15** **art photonics** – Benefits of In-line Fiber Spectroscopy for Industrial Process-control & Medical Diagnostics – Tatiana Sakharova, Chief Technology Officer (Germany)
- 15:15 – 15:30** **Northlab Photonics** – Trends in FBG Manufacturing Technology – Per Karlsson, CEO & Co-Founder (Sweden)
- 15:30 – 15:45** **SENTEA Fiber Optic Sensing** – Breaking the Interrogator Cost Barrier: Photonic Integration as Disruptive Technology for Large-scale Deployment of FBG Sensing – Thijs Spuesens, CTO (Belgium)
- 15:45 – 16:30** Networking coffee break

Wednesday, 19 April 2023

SESSION 2: Fiber Optic Sensors Status and New Developments – Distributed

- 16:30 – 16:45** **FiberSight** – Humidity Monitoring: Overcoming Challenges and Uncovering New Applications with Distributed Fibre Sensing – Tiago Neves, Founder (Portugal)
- 16:45 – 17:00** **Aragon Photonics & The University of Zaragoza** – High Fidelity Sensing based on CP-OTDR, Unlocking New Emerging Applications – Pascual Sevillano, Technology Advisor & Professor (Spain)
- 17:00 – 17:15** **Exail** – From Fibers and Components to Sensing Systems – Nicephore Nicolas, Business Developer (France)
- 17:15 – 17:30** **Insigma Engineering** – Distributed Fiber Optic (Acoustic) Sensing for Safety and Security – İbrahim Ölçer, Founder (Turkey)
- 17:30 – 17:45** **VIAMI Solutions** – Raman & Brillouin Distributed Sensing: Design Paths to Easy Deployment – Daniele Costantini, Global Product Marketing Manager (Switzerland)
- 17:45 – 18:00** **Amplitude Laser** – Optical Sources/Lasers for Sensing Applications – Miguel Melo, Managing Director (Portugal)
- 18:30** Departure by the bus transfer from the meeting venue to the dinner place
- 19:00 – 22:00** Networking Dinner @ The Yeatman hotel, The Orangerie restaurant (address: Rua Do Choupelo (Santa Marinha), 4400-0888 Vila Nova de Gaia, Porto),
- 22:30** Departure by the bus transfer from the restaurant to hotel NH COLLECTION Porto Batalha

Thursday, 20 April 2023

- 08:00 – 08:20** Networking coffee @ NH COLLECTION Porto Batalha hotel
- 08:20 – 08:30** Recap by Antonio Castelo, Photonics Technology Manager, EPIC

SESSION 3: Structural Health Monitoring, Solutions and Applications

- 08:30 – 09:00** **KEYNOTE: Graz University of Technology** – Bridge Monitoring with Fiber Optic and Remote Sensing Techniques – Werner Lienhart, Head of Institute, Engineering Geodesy and Measurement Systems – (Austria)
- 09:00 – 09:15** **Epsimon & CSIC – University of Cambridge** – Fibre Optic Instrumented Geogrid for Sub-surface Ground Movement Detection – Nicky de Battista, Director & Research Associate (United Kingdom)
- 09:15 – 09:30** **Fibersail** – Fiber Optics Shape Sensing Solutions for the Wind Industry – Carlos Oliveira, CEO (Portugal)
- 09:30 – 09:45** **SMARTEC** – Fiber Optic Sensors for Structural and Geotechnical Monitoring – Daniele Inaudi, General Manager at (Switzerland)
- 09:45 – 10:00** **AIRBUS** – Carlos Miguel-Giraldo, NDT Production & Structural Health Monitoring Material, Processes & Tests (Spain)
- 10:00 – 10:15** **SYLEX** – Real Life Applications of FBG Sensing Technology – Peter Lowy, Business Development (Slovakia)
- 10:15 – 10:30** **CalSens** – 24/365 Monitoring Civil Infrastructures Using Fiber Sensors – Juan Jose Martinez, CTO Photonics (Spain)

Schedule

Thursday, 20 April 2023

10:30 – 11:15 Networking coffee break

SESSION 4: Fiber Sensors for Harsh Environments, Medical and Emerging Applications

11:15 – 11:45 KEYNOTE: Siemens Energy – Challenges and Opportunities for Fiber Optics in Harsh Environments – Evangelos Diatzikis, Fellow Engineer & Advisory Expert – Sensors & Advanced Controls (USA)

11:45 – 12:00 CERN – A Combined LPG-FBG Multi-sensing Platform for Simultaneous Measurement of Humidity and Radiation – Paolo Petagna, Section Leader (Switzerland)

12:00 – 12:15 HBK FiberSensing – Measuring under High-voltage in Railways – A Pantograph Monitoring Solution – Rita Lima, Sales Engineer (Portugal)

12:15 – 12:30 Optics11 – High Sensitivity Partial Discharge Monitoring Using FOS: Experience and Examples – Meüs van der Poel, Business Development Director (Ireland)

12:30 – 12:45 INESC TEC & University of Porto – Micro/Nanofabrication and Devices for Optical Sensing – Paulo Marques, Professor (Portugal)

12:45 – 13:00 CEA – Fiber Sensing Solutions at CEA List for Harsh Environments and SHM Systems – Guillaume Laffont, Head of Laboratory (France)

13:00 – 13:15 Philips Engineering Solutions – Advancing Fiber Integration and Assembly Towards Volume Production – Andrzej Sielecki, Process Architect Micro Devices (The Netherlands)

13:15 – 13:30 PhotonFirst – The Challenges and Opportunities for Integrated Photonic Sensing – Gideon Langedijk, Application Sales Engineer (The Netherlands)

13:30 – 14:30 Networking lunch

14:30 Departure by the bus transfer to HBK FiberSensing

15:00 – 16:30 Company visit @ HBK FiberSensing (address: Rua Vasconcelos Costa, 277, 4470-640 Maia Portugal)

16:30 Walk from HBK to the airport



Empower the innovators

HBK – Hottinger, Brüel & Kjær – is the world's foremost provider of integrated test, measurement, control, and simulation solutions across the entire test and measurement chain. The company offers a complete portfolio of products and solutions that unite the physical world of sensors, testing and measurement with the digital world of simulation, modelling software and analysis.

HBK FiberSensing is HBK's centre of excellence for fiber optic technology. Based in Porto, Portugal, it is home to all activities related to fiber sensor product development, manufacturing, business development and global sales.

Enabling new diagnostics tools



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Get real-time information on progression in treatment without the need to send samples to a laboratory.



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Advanced home diagnostics equipment for remote monitoring of patients recovering from an operation or illness.



Equipment for Molecular Diagnostics

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Our technology offer

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- Fiber optics
- Microfluidics
- Surface functionalisation
- Instrumentation
- Opto-electronic integration
- Custom medical patches
- Miniaturisation for micromodules and wearables

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Demo Case Open Calls Program has been opened since June 2021

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This project has received funding from the European Union's Horizon 2020 Research and Innovation programme under grant agreement No 871345. www.photonics21.org



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Participants



Name		Job Title	Company	Country
Adam	Funnell	Researcher	NORCE	Norway
Alexis	Mendez	President	MCH Engineering	USA
Andreia	Pereira	Senior Sales Engineer	HBK FiberSensing	Portugal
Andrzej	Sielecki	Process Architect Photonic Assembly	Philips Engineering Solutions	The Netherlands
Antonio	Castelo	Technology Manager	EPIC	Spain
Arántzazu	Núñez Cascajero	Researcher	AIMEN	Spain
Arnaud	Rigny	Business Development Director	Cailabs	France
Aswin	Haridas	Focal point SHM	Testia, an Airbus Company	Germany
Axel	Guede	Technical Sales Engineer	SEDI-ATI Fibres Optiques	France
Bram	Van Hoe	Director of Sales and Marketing	FBGS Technologies	Germany
Bruno	Afonso	Sales Director EMEA	Mycronic	Switzerland
Bruno	Sapha	COO	Ouronova	Brazil
Çağıl	Sözügüzel	Business Development Manager	Durmazlar Makina	Turkey
Carlos	Oliveira	CEO	Fibersail	Portugal
Carlos	Miguel-Giraldo	NDT Production & Structural Health Monitoring	AIRBUS	Spain
Christian	Raith	Managing Director	IMM Photonics	Germany
Cleitus	Antony	Researcher	Tyndall National Institute/UCC	Ireland
Clive	Matthews	Account Manager	Insensys	United Kingdom
Conor	Russell	Researcher	Tyndall National Institute/UCC	Ireland
Cristina	Barbosa	Product Manager	HBK FiberSensing	Portugal
Daniele	Costantini	Global Product Marketing Manager	VIAVI Solutions	France
Daniele	Inaudi	General Manager	SMARTEC	Switzerland
David	Méchin	Director	Photonics Bretagne	France
David	Laister	Area Account Manager	NBG Systems	Austria
Douglas	Aguiar	Co-Founder and CEO	Photon Path	Italy
Edgar	Mendoza	CEO	Redondo Optics	USA
Eduardo	Costa	CEO	Oronova	Brazil
Erik	Böttcher	CEO	NYFORS	Sweden
Evangelos	Diatzikis	Fellow Engineer	Siemens Energy	USA
Francisco	Araújo	Head of R&D Optical	HBK FiberSensing	Portugal
Francisco	López Torres	CEO	ARAGON PHOTONICS LABS	Spain
Gemma	Jones	Head of New Product Development	Insensys	United Kingdom
Gideon	Langedijk	Application Sales engineer	Photonfirst	The Netherlands
Guillaume	Laffont	Head of Laboratory	LIST CEA tech	France
Guillermo	Orellana	Full Professor-Group Leader	Universidad Complutense de Madrid	Spain
Hans	Damsgaard	Vice President, Marketing & Sales, OFS Specialty	OFS Fitel	Denmark
Ian	Shannan	VP of EMEA Sales	Luna Innovations	United Kingdom
Ibrahim	Ozdur	Associate Professor	TOBB University of Economics and Technology	Turkey

Participants



Name		Job Title	Company	Country
İbrahim	Ölçer	CEO	INSIGMA ENGINEERING	Turkey
Ivan	Tattier	Head of International Business Development	TEXYS International	France
Jaroslav	Demuth	Project Engineer	NBG Systems	Austria
Jean	Berney	CEO	Deeplight	Switzerland
Jens	Krause	Applications Engineer High Performance Sensors / SPCM	Excelitas Technologies	Germany
Jérôme	Grelin	R&D Director	TEXYS International	France
Joel	Villatoro	Research Professor	University of the Basque Country UPV/EHU	Spain
Johan	Pejnefors	CEO	Proximion	Sweden
John	Dowd	Product Manager	Optics11	Ireland
José	Monteiro	Head of Sales, Optical Business	HBK FiberSensing	Portugal
Juan Jose	Martinez	CTO Photonics	CALSENS	Spain
Justas	Baltrukonis	Head of Research Group	Workshop of Photonics	Lithuania
Kenny	Hey Tow	Researcher	RISE Research Institutes of Sweden	Sweden
Kristian	Nielsen	CTO	SHUTE Sensing Solutions	Denmark
Kristian	Rode	CCO	SHUTE Sensing Solutions	Denmark
Lars	Leininger	Manager R&D	WEINERT Fiber Optics	Germany
Laurynas	Cekanavicius	Head of Product Development	Workshop of Photonics	Lithuania
Luc	Thévenaz	Professor	EPFL - Swiss Federal Institute of Technology	Switzerland
Luis	Ferreira	Director	HBK FiberSensing	Portugal
Luisa	Almeida	Sales Assistant	HBK FiberSensing	Portugal
Mahmoud	Farhadroushan	Founder & Executive Director	Silixa	United Kingdom
Margarethe	Kampling	Managing Director	engionic Fiber Optics	Germany
Martin	Laging	Senior Sales Manager	NKT Photonics	Denmark
Massimo	Facchini	Global Sales and Applications	FibrisTerre Systems	Germany
Matteo	Montagnese	Senior Scientist Photonic Systems	Silicon Austria Labs	Austria
Matthew	Proctor	Project and Development Engineer	Fibercore	United Kingdom
Matthew	Leach	Lead Laser Engineer	Optek Systems	United Kingdom
Meüs	van der Poel	Business Development Director	Optics11	The Netherlands
Miguel	Melo	Managing Director	Amplitude Portugal	Portugal
Miguel	Llera	Senior Researcher	HE-Arc Ingénierie	Switzerland
Natalie	Tuchapsky	Sales	Superlum	Ireland
Natascha	Orban	Events Manager	EPIC	Germany
Nicéphore	Nicolas	Business Development Manager	EXAIL SAS	France
Nicholas	White	Account Manager	Fibercore Ltd	United Kingdom
Nicky	de Battista	Research Associate	University of Cambridge	United Kingdom
Nikolajus	Gavrilinas	CEO	Litilit	Lithuania
Paolo	Petagna	Section Leader	CERN	Switzerland
Pascual	Sevillano	Technology Advisor	ARAGON PHOTONICS LABS	Spain

Participants



Name		Job Title	Company	Country
Paulo	Marques	Professor	INESCTEC	Portugal
Pedro	Jorge	Senior Researcher	INESCTEC	Portugal
Per	Karlsson	CEO & Co-Founder	Northlab Photonics	Sweden
Peter	Lowy	Business Development	SYLEX	Slovakia
Rita	Abboud	Post-doc Researcher	EATON SOURIAU	France
Rita	Lima	Sales Engineer	HBK FiberSensing	Portugal
Robin	Hassell	Executive Vice President	Acqiris	Switzerland
Rogier	Vos	CCO	PhotonFirst	The Netherlands
Salvador	Sales	Professor	Universidad Politecnica de Valencia	Spain
Sami	Musa	CEO	Chilas	The Netherlands
Sercan	Keskinden	Photonics Specialist	Durmazlar Makina	Turkey
Stéphane	Barlerin	Engineer	EATON SOURIAU	France
Tania	Grandal González	Researcher	AIMEN	Spain
Tatiana	Sakharova	Chief Technology Officer	art photonics	Germany
Thijs	Spuesens	CTO	Sentea	Belgium
Tiago	Neves	Founder and CEO	FiberSight - Smart Sensing Solutions	Portugal
Tiago	Paixão	Sensors Submodule Owner - Blade Electrical Engineer	Siemens Gamesa Renewable Energy	Portugal
Ulrike	Helferich	COO	EPIC	Germany
Werner	Lienhart	Head of Institute	Graz University of Technology	Austria



Upcoming EPIC activities

EPIC Members Delegation to Canada
12-15 June 2023. Quebec, Canada

EPIC 20th Anniversary Celebration at
Laser World of Photonics
26 June 2023. Munich Germany

EPIC Meeting on Micro-Optics at
Laser World of Photonics
27 June 2023. Munich, Germany

EPIC Meeting on Ultrafast Laser Processing
at Laser World of Photonics
28 June 2023. Munich Germany

EPIC CEO Exhibitor Breakfast at
Laser World of Photonics
29 June 2023. Munich Germany

EPIC Technology Workshop on PIC post-processing
& packaging at Laser World of Photonics
29 June 2023. Munich Germany

EPIC Members Delegation to Korea
3-7 July 2023. Seoul, Korea

EPIC Members Delegation to Taiwan
21-26 August 2023. Taipei, Taiwan

EPIC Members Delegation to China
4-8 September 2023. Shenzhen, China

EPIC Members Delegation to India
11-15 September 2023. Bangalore, India

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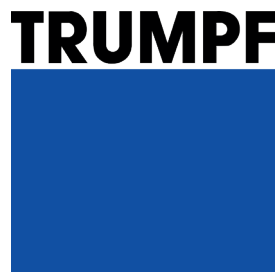


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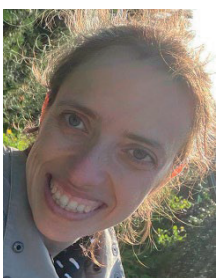
Biographies & Company Descriptions



Acqiris, headquartered in Geneva, Switzerland is a leader in the development of high-quality, high-speed signal acquisition & processing solutions for OEM's in the field of Swept-Source OCT, LIDAR, Fiber Sensing, Life Science, Ultrasonic, Medical Imaging, Commercial, Industrial and Research. Acqiris works with OEM's from the earliest stages of their product/project conception to volume manufacturing and through their product's life cycle. With superior state of the art technology, dedicated application specific solutions, from low-end to high-end, addressing the needs of 8-bit to 14-bit depth and 250MS/s to 10GS/s sample rates, imagine what you can see! www.acqiris.com



AIMEN is a leading research centre in Materials and Process Engineering. Located in Northern Spain, it operates as private, non-profit organization to provide high tech services and resources to a wide range of industries, from automotive to energy or medical devices. The research activity of AIMEN is mainly focused in materials engineering, robotics and manufacturing processes, all oriented to industrial applications and advanced manufacturing. The Laser Applications Centre of AIMEN is a dedicated infrastructure for research and development in laser based manufacturing and industrial photonics. This 1200 m² facility is equipped with state of the art laser-based manufacturing equipment. AIMEN conducts applied research in applications of machine vision and optical sensing, laser materials processing (thick section laser welding, Additive Manufacturing, cutting, surface treatment, precision laser machining, down to nanofabrication), together with system engineering and optical system development. AIMEN participates and coordinates multiple national and international research activities, in either publicly funded programs or under industrial partnership. www.aimen.es



Arántzazu Núñez Cascajero (Researcher) joined AIMEN in 2022, since then, she works as a researcher in distributed and punctual optical fibre sensors for temperature and strain monitoring in extreme environment applications. She obtained her Industrial Technical Engineering in Chemical Engineer degree and her BS and MSc in Materials Engineering by the Rey Juan Carlos and Carlos III Universities and her PhD in Electronics Engineering by the University of Alcalá. She has also been working in pyrometer optical fibre sensors for temperature measurements in difficult to access processes, in plastic optical fibre pressure sensors. She has also worked in the development and characterization of sputtered semiconductor materials for their application as solar cells, photoconductors and surface plasmon resonance sensors.



Tania Grandal González (Researcher) has Degree in Physics and Master in Photonics and Laser by the University of Santiago de Compostela. PhD student in the City University of London. Since 2012, she has been working at AIMEN in the development and adaptation of fibre optic sensors for different applications, especially in FBG technology and extreme environment applications. In addition, he also has experience in the management of projects with national and international funding.

AIRBUS

Airbus is a leader in designing, manufacturing and delivering aerospace products, services and solutions to customers on a worldwide scale. With around 130,000 employees and as the largest aeronautics and space company in Europe and a worldwide leader, Airbus is at the forefront of the aviation industry. We build the most innovative commercial aircraft and consistently capture about half of all commercial airliner orders. Thanks to our deep understanding of changing market needs, customer focus and technological innovation, we offer products that connect people and places via air and space. www.airbus.com



Amplitude develops and manufactures diode-pumped ultrafast lasers for scientific and industrial applications. Industrial applications include: Analytical chemistry, Lab-on-chip, Ophthalmology, Medical devices, Micro-machining, Internal engraving. Scientific applications include: Cellular imaging, Pump-probe, Nano-surgery, Analytical chemistry, Lab-on-chip, Free Electron Lasers. www.amplitude-laser.com



Miguel Melo (Managing Director) was born in Porto, Portugal, and received his diploma in Optoelectronics and Lasers and his master's degree in Electrical and Computer Engineering from the University of Porto. He initiated his R&D activity at INESC TEC where he worked in several national and European projects in the fields of optical fiber amplifiers, planar technology, and Bragg gratings for optical communications and fiber sensors. He then joined Multiwave Photonics as Product Manager, working in the development of high-power pulsed fiber lasers and amplifiers. After Multiwave, he co-founded MWTechnologies which was

acquired by Amplitude in 2022, and renamed Amplitude Portugal where he now serves as Managing Director. He has more than 15 years of experience in the industry and more than 25 publications in international scientific journals and conferences.



art photonics was founded in Berlin in 1998 to develop and produce specialty optical fibers, fiber optic probes, laser cables and bundles for a broad spectral range from UV to Mid IR. While FlexiRay® fiber cables and bundles are focused on applications in laser technologies and medicine, the other product line FlexiSpec® provides the best fiber solutions for process-spectroscopy in biotechnologies, in chemical, petrochemical, pharma and food industries. FlexiSpec® fiber probes also enable biomedical tissue diagnostics in-vivo and can be used for environment pollution monitoring in a field. www.artphotonics.com



Tatiana Sakharova (CTO) is the Chief Technology Officer in art photonics since 2019. She studied semiconductor technology and material science in Moscow, specializing in crystal growth. In addition to her diploma in technology from Moscow Institute of Fine Chemical Technology, she holds PhD in chemical technology from alma mater in 1994. As a scientist and coordinator of several student projects, Tatiana developed crystal growth technologies for the multilayer structures for infrared detectors. With her multidisciplinary background Tatiana

works since 1998 for art photonics, developing the unique technology of optical fibers for mid-IR range as well as engineering and production of fiber optic cables and spectroscopy probes.

Aragon Photonics Labs (APL) is a SME manufacturing company specialized in high-end test and measurement optoelectronic devices. APL was created in 2004 as a spin-off from Fibercom company with the main objective of developing, manufacturing, and commercializing high-resolution optical spectrum analyzer devices based on an owned patented technique. With the launch of the BOSA spectrum analyzer in 2005 APL specialized in supplying high quality measurement devices to R&D institutions. Further development of the technology and the launch of the HDCA component analyzer allowed the company to achieve a significant penetration in the industrial market for high resolution spectral measurements. From 2016 the business lines of the company were expanded to diversify its portfolio with developments in devices and solutions for solar plant measurement and analysis and distributed optical fiber sensing (DOFS). Particularly the APL fields of interest in sensing are focused in three lines of products: HECTOR (a traditional DAS amplitude system based on Rayleigh reflectometry developed with the University of Zaragoza), BLAST (a DTS Brillouin BOTDA) and HDAS (a high linearity DAS based on chirped pulsed Rayleigh); the two later lines have been exclusive licensed from University of Alcalá de Henares and CSIC. DOFS lines have taken advantage of the proven integration expertise of the company to obtain polished and mature measurement devices. Currently the company is developing new DOFS interrogation techniques to achieve ground-breaking dynamic DTS and centimetric resolution DAS, relying on its collaboration with various research partners. Through its history the company has specialized in integrating novel research produced in universities and other research institutions and translate it into final and polished products ready to respond to the market demands. has in-house facilities for assembling and testing all its products. www.aragonphotonics.com



Francisco López Torres (CEO) has a degree in Physics, Optics speciality, from the University of Zaragoza. During the second half of the 80's, while he was doing his postgraduate studies, he was founder member of the Grupo de tecnologías Fotónicas (GTF) of the Applied Physics Department of the Faculty of Sciences of the University of Zaragoza, where he worked on the design, characterization and modeling of nonlinear phenomena in optical fibers, especially related to the interpretation and understanding of the dispersion of the polarization modes of commercial single-mode optical fibers (PMD), an activity in which the group was

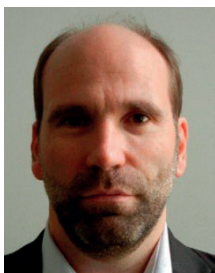
an international reference. After several years of research, in 1991, he founded the company Fibercom, of which he is currently Chairman of the Board of Directors. In 2004, he promotes the creation of the company Aragón Photonics Labs SLU (APL) of which he is currently CEO. Since 2019, after the acquisition by Fibercom SL of the company FOCUS SL, he holds the position of CEO of the company. He has several patents in service and more than a dozen technical articles published, all of them related to optical telecommunications or sensing. He is currently the head of the R&D division of Aragón Photonics Labs SL, which has more than half a dozen ongoing projects, being the head and/or coordinator of some of them.



Pascual Sevillano (Technology Advisor & Professor) received his M.Sc. and Ph.D. in physics from the University of Zaragoza in 2010 and 2015 both focused on the development of all-optical measurement techniques for telecommunication signals. In 2015, he joined the R&D department of Aragón Photonics Labs where he was in charge of the development and integration of new optical sensing solutions. In late 2020, he joined the University of Zaragoza, as an Assistant Professor in the Department of Applied Physics. In 2021, he becomes a member of the Engineering Research Institute of Aragon (I3A) and recently has rejoined

Aragon Photonics Labs as Technology Advisor in the Optical Sensing division of the company. His research interests are mainly focused on non-linear optical phenomena in fiber and its application in distributed sensing.

Cailabs was established in 2013 in Rennes and is a French deep-tech company which designs, manufactures and sells photonic solutions. By combining our state-of-the-art beam shaping technology (Multi-Plan Light Conversion or MPLC) with optimal engineering, we create innovative products that help solve some of today's major industrial and technological challenges for multiple applications, including: laser machining processes, aerospace, ground-based telecommunications, defense. www.cailabs.com

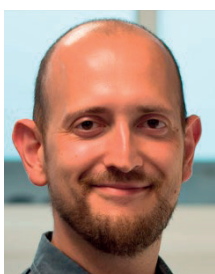


Arnaud Rigny (Business Developer Director) has more than 20 years of experience in the fields of photonics and semiconductor. After a 10-year experience in research and development at Corning then in product line management at Alcatel Optronics, he joined Soitec as a manager of research and development projects before taking on commercial responsibilities in 2007. He graduated from the Télécom ParisTech engineering school and has a doctorate in optoelectronics from Télécom ParisTech.

CALSSENS

Cálculo de Estructuras Sensadas (CALSENS) is a spin-off company of the Universitat Politècnica de València. Calsens was born in 2013 from the partnership between telecommunications and civil engineers collaborating since 2004 in photonic technology research projects applied to the monitoring of civil engineering, security systems and processes in the energy, aeronautics, or mining sectors, among others. Calsens has a multidisciplinary team with a high degree of expertise in civil engineering, photonic technology, signal processing, materials, engineering, and computing. This allows the company to offer optimal solutions adapted to the needs of the customer. In addition, there are Vocational Training and Master's degree students in internships, strengthening the University-Company connection. Calsens offers smart monitoring systems for structures and processes 24/7 days as well as advice for safety evaluation and decision-making to guarantee adequate working performance based on monitoring data. Real-time monitoring systems could be applied to structures such as bridges, tunnels, pipes, roads, satellites, wind poles made of composites, concrete, cement, steel, etc. At present, Calsens participates in national and European research projects, developing, validating, and calibrating new products and systems.

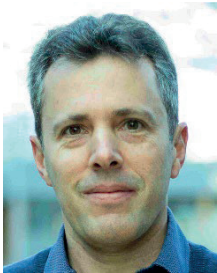
www.cal-sens.com



Juan José Martínez (CTO) has worked in multiple fields of research in photonics and optics from 2005, when he started his PhD studies at University of Zaragoza. He has participated in more than 10 public funded projects (both Autonomic, National and European founded programs) first as a researcher and later as director and coordinator. Either in universities, research centers or private companies, his expertise has always been linked to the world of photonics for multidisciplinary applications: optical communications, distributed fibre sensing, POF, free space optical metrology, optics solution for Concentrated Solar Power

Generation, Brillouin Spectroscopy, non-linear optical effects. After the completion of his PhD in optical communications in 2011 from University of Zaragoza, he successfully directed and completed a metrology project at University of South Wales (UK), in 2016, he started working for a private company where he continued to apply his acquired knowledge from university R&D to the creation and improvement of high-profile optical measurement products. As a senior researcher he has tens of published papers both in journals and conferences and is part of several industrial properties, all related to optics and photonics.

The CEA LIST institute, within the CEA* Technological Research Division, carries out research on intelligent digital systems. Its R&D programs, all with potentially major economic and social implications, focus on advanced manufacturing (robotics, virtual & augmented reality, non-destructive testing, vision), embedded systems (computing architectures, software and systems engineering, security & safety), and ambient intelligence (sensors, instrumentation & metrology, communication & sensory interfaces, data processing & multimedia). By developing cutting-edge technological research with applications in the industrial markets of transports, defense and security, manufacturing, energy and health, the CEA LIST helps its partners to enhance their industrial competitiveness thanks to innovation and technology transfer www.list.cea.fr



Guillaume Laffont (Head of Laboratory) is an engineer from Telecom Physique Strasbourg and completed PhD in physics and optics in 2001 at the Université de Lille, France for research on the photo-writing, modelling and sensing applications of (Tilted) Fiber Bragg Gratings. He is Head of the LSPM Lab on Systems and Photonic for Monitoring at CEA List in Saclay near Paris, with a team of 30 people. For almost 22 years, he has specialized in the development of innovative Optical Fiber Sensors and Instrumentations for monitoring applications in harsh and even extreme environments. He is also strongly working for the emergence of Structural

Health Monitoring (SHM) systems based on optical fiber sensors for aerospace, naval and nuclear applications. His current research includes the development of: i) specialized optical fibers and high temperature fiber coatings for sensing applications under high temperature/intense ionizing radiations, ii) advanced automated femtosecond-laser based writing platforms for wavelength-multiplexed Fiber Bragg Grating sensors and amplified Rayleigh distributed sensors, iii) innovative fiber-based sensors and especially FBG sensors for temperature, strain, pressure, acoustic and even biosensing applications, iv) Photonic Integrated Circuits based compact FBG monitoring systems and v) fiber-based systems and Artificial Intelligence-based methods for Structural Health Monitoring SHM using elastic guided waves and FBG ultrasonic receivers able to operate in harsh environments.



CERN, The “Conseil Européen pour la Recherche Nucléaire” often referred to as the “European Laboratory for Particle Physics”, was established in 1954 to uncover what the universe is made of and how it works. The laboratory has ever since become a prime example of international collaboration.

CERN mission is to:

- perform world-class research in fundamental physics.
- provide a unique range of particle accelerator facilities that enable research at the forefront of human knowledge, in an environmentally responsible and sustainable way.
- unite people from all over the world to push the frontiers of science and technology, for the benefit of all.
- train new generations of physicists, engineers and technicians, and engage all citizens in research and in the values of science.

www.cern.ch



Paolo Petagna (Section Leader) received a MSc degree in Aeronautical Engineering in 1989 from the University of Pisa. From 1989 to 1995, Paolo was contract researcher at the Dipartimento di Ingegneria Aerospaziale (DIA) of the University of Pisa, and was Founder Partner of ARIA, an applied research spin-off of DIA. In this context, he complemented his main scientific research on turbulent flows and mixing with a consulting activity on specific applied R&D problems c/o several industrial partners: Ferrari Auto, Brembo, Piaggio, ENEL, among others. In 1996, Paolo joined CERN collaborating to the conception, design and construction of the Central Tracker of the CMS experiment. From 2009, he leads the Detector Cooling Project of the CERN Physics Department. Paolo leads and actively collaborates to R&D activities covering: physics detector design; fiber optics-based sensors; CO₂ boiling flows; detector cooling systems; micro-fabricated cooling plates; and dynamic simulation of complex systems. He is co-author of approximately 150 scientific publications.



Chilas develops and commercializes ultra-narrow linewidth tunable external cavity lasers. The lasers are used in a wide range of applications, such as coherent optical communication, fiber sensing, Lidar and microwave photonics. The concept uses state-of-the-art Photonic Integrated Circuit (PIC) technology and has distinctive advantages of which the most important are:

- Ultra narrow linewidth
- Very wide tuning range
- Small footprint/size

www.chilasbv.com



Sami Musa (CEO) obtained a PhD in integrated optics from Twente University in the Netherlands in 2003. Following his graduation, he took several research positions in academic and industrial institutions including Technical Universities of Delft and Eindhoven in the Netherland, University of Limerick in Ireland and ASML. Sami has 18 US and International patents and co-authored more than 30 scientific papers.



The Centre for Smart Infrastructure and Construction (CSIC) is an Innovation and Knowledge Centre based at the University of Cambridge, UK. It is funded by EPSRC, Innovate UK and industry. We develop cutting edge sensing techniques and data analysis models to provide a powerful platform for delivering data to enable smarter whole-life asset management decisions, for both new infrastructure and existing assets. CSIC collaborates with partner organisations across policy, standards and industry adoption to effect transformative change. Through the University of Cambridge, CSIC is an active member of the UK Collaboratorium for Research on Infrastructure and Cities (UKCRIC) and is hosted in the UKCRIC-funded National Research Facility for Infrastructure Sensing (NRFIS). www.smartinfrastructure.eng.cam.ac.uk

Epsimon is a UK-based company providing consultancy services related to specialist instrumentation and monitoring applications for civil infrastructure, with particular expertise in fibre optic sensing technologies. We apply our skills to a variety of applications world-wide, including long-term structural health monitoring, performance-based design and design verification, and temporary monitoring of existing assets during construction. At Epsimon, we deliver complete monitoring

systems that address our clients' most demanding requirements, leveraging years of experience in designing and operating fibre optic sensing systems. Our in-depth knowledge of monitoring technologies is combined with expertise in civil, structural, geotechnical and soil engineering, enabling us to provide the right solutions to asset monitoring problems, however challenging they might be. We offer an end-to-end service, including specification, design, procurement, supply, installation and operation of fibre optic sensing hardware and software for infrastructure monitoring systems. We also provide bespoke cloud-based management, processing and real-time visualisation of monitoring data, giving our clients the information they require to understand how their infrastructure asset is performing. www.epsimon.com



Nicky de Battista (Research Associate and Director) is a Research Associate at CSIC, University of Cambridge, where he carries out applied research in state of the art monitoring technologies, with particular emphasis on developing applications of fibre optic sensing for civil infrastructure. He is also a Director of Epsimon, a UK-based specialist instrumentation and monitoring company which he co-founded in 2016. Nicky is a licensed architect and civil engineer with several years of experience as a structural designer and construction site engineer. He has a Master's degree in structural engineering and a PhD in structural health monitoring, both from the University of Sheffield, UK. Since 2009 he has designed, installed and operated monitoring systems in a number of high profile projects, including deep foundations, tunnel linings, bridges and building structures.

DURMA NEXT

Durma Next is a cutting-edge company that specializes in laser technologies and photonic industries. With a focus on manufacturing high technology products such as high power fiber amplifiers, ultrafast lasers, power and control electronics and sensor technologies. Durma Next is dedicated to providing customers with top-quality products that meet their specific needs. The company's commitment to excellence extends beyond its core products, as it is also engaged in new projects related to the laser industry and high technology products. With a team of experienced professionals and a relentless pursuit of innovation, Durma Next is poised to lead the way in the rapidly-evolving field of laser technology. www.durmazlar.com.tr



Cagil Sozuguzel (Business Development Manager) is Business Development Manager with 10 years of experience in field and responsible for creating and executing strategic plans for growth-oriented companies. Currently serving as the Business Development Manager at Durmazlar Machinery – Durma Next, Cagil is responsible for identifying and pursuing new business opportunities, developing partnerships, and driving revenue growth for the organization. Prior to be working as Business Development Manager, Cagil held different positions in R&D, Product Line management at Durmazlar Machinery. He holds a BS Degree in Engineering of Physics from Hacettepe University.



Sercan Keskinden (Photonics Specialist) is a photonics specialist with a background in physics engineering. He completed a master's in Optics and Photonics Engineering at Uludağ University in 2020. In 2019, he began working at Durmazlar Machinery as a photonics specialist in the Photonics R&D department. During his time there, he has been involved in several R&D projects as a project leader, focusing primarily on CW fiber laser system projects. His expertise lies in high-power CW fiber laser systems, laser measurements, fiber-based components and fiber-based applications.



DeepLight is a Swiss-based high-tech start-up company that manufactures photonic integrated ultra-low noise frequency-agile continuous-wave lasers for customers in scientific, industrial, and high-volume industrial markets. Its novel platform for hybrid integrated lasers with wavelengths spanning from visible to near infrared, building upon record low-loss silicon nitride photonic circuits, enhanced by piezo-electric MEMS actuators. This platform can address the whole range of coherent laser sensing applications and fabrication volumes of integrated laser sources – from single devices to fully automated mass production. Our first products with <10 Hz linewidth and frequency actuation bandwidth > 10 MHz are tailored for long-range FMCW LiDAR and DFOS applications. www.deeplight.ai



engionic Femto Gratings was founded in 2013 and is the first commercial supplier of femtosecond-laser-written Fiber Bragg Gratings (FBG) worldwide. engionic Femto Gratings provides FBG, that open up completely new sensing possibilities for a wide range of industrial and medical sensing applications. Whether you are looking for individual sensing solutions or highly specialized applications, engionic Femto Gratings guarantees high customer value in terms of quality and cost efficiency. In contrast to conventional FBG solutions, we can write FBG into all optical transparent fiber materials with a wide range of specifications and a broad variety of fiber coatings. Our available fibers cover high end specialty fibers as well as low-cost commodity fibers. Our production process is highly automated for large quantities, but at the same time it is flexible enough to realize customized, single unit products. The manufacturing setup enables us to produce customer-specific FBG on short notice with minimum delivery times. engionic Femto Gratings is part of the engionic Group. www.engionic-femto-gratings.de



Margarethe Kampling (Managing Director) studied Physics in Dortmund and Oldenburg. She graduated in the field of Optics at the University of Oldenburg. During her PhD work at the Fritz Haber Institute in Berlin, she has worked with fs Lasers in the field of Physical chemistry. She graduated with a PhD at the Free University in Berlin. After working several years as sales manager, focused on solutions for scientific research, she entered the engionic Group in 2013 as Head of Sales and supported the company's growth and further international expansion. Since 2021, Margarethe is the responsible Managing Director.



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



Antonio Castelo (Photonics Technologies Program Manager) has a PhD from the Department of Applied Physics of Universidad de Santiago de Compostela in laser processing of glassy samples. In Madrid, he made a postdoctoral stay at the Instituto de Óptica of the Spanish National Research Council (CSIC), where he worked on the fabrication of nanostructures with dielectric and metallic materials via pulsed laser deposition. In 2010, Antonio entered the world of distribution as a Sales Engineer in the Photonics Department of the company Acal BFi, a job that he continued in the Spanish company Grupo Álava since 2012. In the latter, he was responsible for sales and marketing for Spain and Portugal of different laser systems, optical and optomechanical components, optical metrology equipment and other nano-characterization devices. In 2021, he became US Sales Manager for the company FYLA, a manufacturer of supercontinuum and ultrafast fiber lasers, for the development of the market in this country and the establishment of new relationships with the most relevant research centers in the world of optics and photonics. At EPIC, Antonio is supporting the technical needs of our growing membership as well as the EU-funded initiatives.



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.

Souriau-Sunbank

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Eaton is an intelligent power management company dedicated to improving the quality of life and protecting the environment for people everywhere. We are guided by our commitment to do business right, to operate sustainably and to help our customers manage power, today and well into the future. By capitalizing on the global growth trends of electrification and digitalization, we're accelerating the planet's transition to renewable energy and helping to solve the world's most urgent power management challenges. Founded in 1911, Eaton has been listed on the New York Stock Exchange for nearly a century. We had 2022 revenues of \$20.8 billion and serve customers in more than 175 countries. www.eaton.com



Rita Abboud (Post-doc Researcher) received a PhD. Degree in Mechatronics, photonics and systems from the University of Technology of Compiègne, France in 2021. Her research topic was on the temperature sensing using Fiber Bragg Grating sensors in rotating machines. She is currently working as an optical expert at Eaton in collaboration with Roberval laboratory at Université de Technologie de Compiègne in France, where she leads R&T activities for the development of fiber sensors for use in aeronautics applications. During these years, she has specialized in the integration of innovative Optical Fiber Sensors for monitoring applications in harsh environments. Her current research includes the development of specialized optical fibers interconnect solutions for cryogenics and harsh environment, innovative fiber-based sensors and especially FBG sensors for temperature and strain applications, the integration of temperature sensors inside the electrical connectors and innovative solution for fiber optics interconnect technologies.



Stéphane Barlerin (Technology Manager) joined Eaton in 2020 as technology manager for power, signal and optic connectors of Souriau, Eaton ITD division. He obtained his M.S. in optics, optoelectronics, and microwave engineering from the Institut National Polytechnique de Grenoble (INPG) in 1992. From 1994 to 1999, he worked as product development engineer at Radiall, microwave and optic division. From 2000 to 2007, he worked at FCI as R&D engineer. From 2007 to 2010, he worked as RFID design & development manager at Linxens in Singapore, setting-up R&D department from scratch. From 2010 to 2020, he worked at Delphi/Aptiv as Project leader in advanced R&D, developing innovative connector solution based on new polymer materials for ESD protection, studying EL backlighting technologies to improving luminance homogeneity, designing NFC antenna design and electronic hardware for mobile phone wireless charging applications. Stéphane is currently the technical leader of SEWIS, an H2020 Clean Sky 2 European project, dealing with safety for HVDC more electrical aircraft wiring.



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



Jens Krause (Applications Engineer) is an Applications Engineer for High Performance Sensors and Low-Light-Level Detection at Excalitas Technologies. In this role, he is responsible for working with various teams including Sales, R&D and customer facing across EMEA and ASIA. Jens is working in the field of pulsed laser diodes and semiconductor detectors as Avalanche Photodiodes, PIN Photodiodes and Single-Photon-Counting Modules in various configurations. Also, laboratory work to support customers with measurement and calibration challenges is key of his role. Jens holds a diploma in atmospheric physics from the University in Mainz where he conducted several airborne field studies in cooperation with the German Aerospace Center on global trace gas mixing and dynamics in vicinity of climate change and the polar vortex. He has 10 years of research background in high precision absorption spectroscopy, dynamics, and infrared sensing.



Exail Photonics, from design to manufacturing, masters the complete production chain of specialty fibers, Bragg gratings, high speed modulation solutions and micro-optic assemblies. We provide turn-key laser systems delivering continuous and sub-ns pulsed signal wave, as well as instruments. Our solutions support a very wide variety of applications including high speed communications, fibers-based sensing, space, science, medical, and quantum technologies. www.exail.com



Nicephore Nicolas (Business Development Manager) graduated from Institut d'Optique Graduate School in 1997 and obtained an executive MBA from CNAM-ICSV in 2005. He made most of his career in the Fiber Optics and Telecom industry working in multi-site and multi-cultural environment; he has held various senior management positions with responsibility for product and business development as well as sales and marketing management in Photonetics, Nettekst, Anritsu, Yenista (now EXFO) and iXblue. Nicephore is currently Deputy Sales Director with a strong focus on business development for Photonics activities in exail.



FIBERSAIL is a Dutch-Portuguese company focused on providing advanced shape-sensing solutions for the wind industry. The company designs, develops, manufactures, and deploys fiber-optics-based sensors as part of a powerful shape-sensing platform that provides holistic full-blade transparency and monitoring solutions for the wind industry. Fibersail goal is to fill the need and potential in the wind energy market, enabling the next generation of smart and sustainable wind turbines, new business models and support wind energy leading position. www.fibersail.com



Carlos Oliveira (CEO) is the Chief Executive Officer of Fibersail. He holds a Master in Electrical and Computers Engineering (FEUP) and a Master in Business Administration (PBS) from the University of Porto. He has a passion for renewable energies and how they contribute to a cleaner, more sustainable, and better world. He has spent the last 15 years optimizing the way we harness the wind energy, 8 of them at the OEM, and knows first-hand how much the industry can benefit from using more advanced shape sensing technology and intelligent algorithms to optimize the way wind turbines are controlled and maintained.



FBGS, founded in 2005, is a Germany and Belgium based developer and manufacturer of tailored fiber optic sensing components and solutions combining both fiber optic sensors and interrogation technology. Their unique manufacturing technologies enable products suitable for both standard and bespoke applications in temperature, shape, strain, force and pressure sensing. Key players in industries such as process industry, energy, civil engineering or medical rely on FBGS to enable advanced monitoring in harsh or demanding environments where no other sensing methods can be implemented. Their strong application know-how has led FBGS to become an innovation driver, empowering their customers especially in medical catheter applications and steel casting monitoring. FBGS look toward a bright future based on steady and healthy growth. www.fbgs.com



Bram Van Hoe (Director of Sales and Marketing) graduated with Masters of Science in Electrical Engineering from Ghent University (Belgium) in 2008 and obtained his PhD degree from the Centre for Microsystems Technology (CMST), an IMEC associated research lab at Ghent University, in 2013 with a dissertation entitled “Photonic Skin Based on Polymer Embedding of Optical Sensors and Interrogation Units”. After a year of post-doctoral research, including 6 months stay at the Department of Mechanical and Aerospace Engineering at North Carolina State University focusing on the combination of optical sensing systems and integrally stiffened composite structures, Bram joined FBGS in 2014 as a Business & Technology Developer, where he is currently active as Director of Sales and Marketing.



Fibercore has been developing and offering specialty optical fibers for a multitude of applications such as fiber optic gyroscopes, current sensors, biomedical, telecom amplifiers, oil & gas, biomedical and more for over 40 years. The optical fibers used in these markets include our industry leading bowtie polarization maintaining fiber, spun optical fiber, erbium and erbium/ytterbium doped fiber, photosensitive fiber, bend insensitive fiber, hydrogen resistant fiber, high temperature fiber and a wide range of single mode fibers with operating wavelength range from 320 to 1625nm. Fibercore sells fiber throughout the world to over 50 countries to hundreds of customers, many of which are getting a custom optical fiber designed specifically for them and their unique application. www.fibercore.com



Matthew Proctor (Development and Project Engineer) is a Development and Project Engineer at Fibercore, where he has been working for 5 years. He has a proven track record of developing cutting-edge fibers for use in fiber optic gyroscopes, telecoms amplifiers, and distributed sensors. Matt completed his PhD at the University of Southampton, where he researched optically non-linear materials and has also worked in the field of fiber lasers.



Nicholas White (Lead Technical Account Manager) is the lead technical account manager responsible for European customers and their optical fiber sensing projects. He achieved a master’s degree in chemistry at the University of Bath then started his career as an analytical scientist in a water testing laboratory, latterly moving into a customer-facing role at a R&D consultancy whilst continuing to utilize his technical skills. Nick joined Fibercore in 2017 and works with our customers and the development team on key projects in the Aerospace & Defence, Biomedical, Energy and Industrial sectors.



FiberSight is a startup that specializes in developing innovative technologies for optical sensing applications. The company's expertise is focused on the field of photonics, and its mission is to modernize optical sensing by making high-precision temperature and humidity measurements more accessible and affordable across a broad range of industries and applications. Through cutting-edge research and a commitment to excellence, FiberSight is revolutionizing the way we sense and measure the world around us, paving the way for a brighter and more innovative future.
www.fibersight.pt



Tiago Neves (Founder and CEO) is the founder of FiberSight, a tech startup that emerged from CERN (The European Organization for Nuclear Research). Tiago received his Master's degree in Physical Engineering from the University of Coimbra in 2013, and then pursued a Ph.D. in Photonics from the Swiss Federal Institute of Technology Lausanne (EPFL), which he earned in 2021. Tiago's background led him to become a researcher at CERN, where he spent several years investigating photonics and developing innovative technologies for optical sensing applications. It was during this time that he began to envision a company that would bridge the gap between academic research and practical applications.



fibrisTerre Systems is a leading manufacturer of Distributed Fiber Optic Sensing instrumentation, providing long-range, uninterrupted health monitoring of strain and temperature for built and natural structures. With its unique and patented Brillouin BOFDA and BOFDR (Brillouin Optical Frequency Domain Analysis & Reflectometry) technology, fibrisTerre takes the next step in reliability and ease of use, providing unprecedented insight into critical assets condition in applications such as geotechnics and structural engineering, renewable energy, transportation, mining, pipelines, boreholes and more. Through a network of specialist integrators, industrial and academic partners, fibrisTerre's sensing technology is deployed in countless monitoring projects around the world.
www.fibristerre.de



Massimo Facchini (Head of Sales and Applications) earned his MSc in Electrical Engineering at the Politecnico di Milano, Italy, and his PhD in Optical Sensing Technology at the Swiss Federal Institute of Technology in Lausanne (EPFL, Switzerland). He worked as a scientific researcher at the Joint Research Center of the European Commission (JRC) and for the European Organization for Nuclear Research (CERN) in Geneva. He held the position of quality manager in the semiconductor processing industry and managed a competence centre for fibre optics technology in the cable industry. By joining fibrisTerre, he pursues his passion for optical metrology and is given the opportunity to continue exploring new and exciting areas of technology.



The Institute of Engineering Geodesy and Measurement Systems (IGMS) of Graz University of Technology (TUG) develops, installs and operates monitoring systems for natural phenomena (landslides, rockfalls) and civil infrastructure objects (bridges, tunnels, water dams, piles, retaining walls). We use modern sensors like laser scanners, robotic total stations and various types of fiber optic sensors to obtain high resolution data of small scale and large-scale objects. To obtain best performance these sensors are steered with our own control software. IGMS is involved in international and large-scale infrastructure projects. We develop fully automated calibration facilities in our measurement lab. These are used in our projects but are also available for industrial partners. We use advanced processing techniques for a real time analysis of big data acquired by continuous operating sensors. www.igms.tugraz.at



Werner Lienhart (Head of the Institute) is Full Professor and Head of the Institute of Engineering Geodesy and Measurement Systems (IGMS) at Graz University of Technology, Austria. Prior to this position, he was Product Manager Innovation at Leica Geosystems at the Headquarter in Switzerland. He has more than 20 years of experience in the monitoring of civil engineering structures using geodetic, geotechnical and fibre optic sensors. Werner has published more than 140 papers and holds several patents. He is President of the Austrian Geodetic Commission (OeGK) and President of the International Society for Structural Health Monitoring of Intelligent Infrastructure (ISHMII). Furthermore, Werner is co-founder of ACI Monitoring, a company specialized in fibre optic sensing in civil engineering and geotechnical applications.



The HE-Arc research teams, from the four teaching areas, are organised in teams, competence groups and institutes in order to meet the needs of its partners (companies, institutions, territorial communities) in applied research, innovation and development. The metrology and industrial vision group is a leading entity within the university that has a long experience in advanced optical sensing. The activities can be related to the development of advanced optical sensors and measurement systems, such as fiber optic sensors, interferometric systems and three-dimensional vision systems. www.he-arc.ch/en/engineering/research-groups/metrology-and-industrial-vision



Miguel Llera (Senior Scientific Researcher) holds a Microtechnology engineering diploma from the Ecole d'Ingénieurs du Canton de Neuchâtel. After working for a company of the Alcatel Group in the area of optical fiber alignment systems, he started to work in academic research. His early research interests started with optical communications and then shifted to fiber optic sensing. He has been involved in several EU research and industrial projects. His main research activities are now dedicated to the use of elastomeric optical fibers for medical applications where he was the principal inventor of a new elastomeric cladded optical fiber. He also works on several industrial-related projects using fiber sensing.

HBK FiberSensing is a business subsidiary of HBK – Hottinger Brüel & Kjær and a world leader in the development and production of advanced monitoring systems based on optical Fiber Bragg Grating (FBG) technology. The company offers the most complete portfolio of FBG sensors to measure strain, temperature, tilt, acceleration, and displacement, as well as measurement units and software packages for interconnection to external systems. HBK FiberSensing also provides technologically advanced solutions for monitoring, including custom development of OEM systems and monitoring projects. The main markets are structural health monitoring in Civil and Geotechnical Engineering, Energy, Industry and R&D. The company is supported by competences in fiber optic technology, optoelectronics, digital electronics and instrumentation, and is certified in accordance with ISO NP EN 9001:2015 standards. HBK FiberSensing is proud of having addressed hundreds of different monitoring projects and delivered thousands of sensors and measurement units around the world, while ensuring innovation & excellence of its products and services. www.hbkworld.com



Luís Ferreira (Director) obtained the Ph.D. in Physics from the University of Porto, Portugal, in 2000, having developed research work in the Physics Department of the University of North Carolina at Charlotte, USA. He is presently Director of Optical Business at HBK FiberSensing, a leading company on FBG advanced monitoring systems. Previously, he has been CEO and Member of the BoD of FiberSensing, which he co-founded in 2004. Other positions included: Senior Researcher at the Optoelectronics and Electronic Systems Unit of INESC Porto, leadership of the Advanced Development Unit at MultiWave Networks, and Assistant Professor at the Physics Department of the Faculty of Sciences of the University of Porto. He is author/co-author of +200 international communications, papers, book chapters and patents in the fields of Fiber Optic Sensing and Optical Communications.



Rita Lima (Sales Engineer) concluded an MSc. in Physics Engineering in 2017 from the University of Porto, Portugal. Over the past 5 years, she has worked as an Optical business sales engineer at HBK. During these years, she created sensing solutions and conducted sales projects from portfolio selection and sensing network design up to service management always focusing on fiber optic-based technology, across different markets and industries (R&D, SHM, Energy, Wind, etc). As a technical sales professional, she is responsible for promoting and selling HBK Optical Portfolio and services. She understands the needs of each customer and provide solutions that meet those needs. From all the skills she has developed, resilience, flexibility and teamwork are the most relevant ones.

INESC TEC (Institute for Systems and Computer Engineering, Technology and Science) is a private non-profit research institution, dedicated to scientific research and technological development, technology transfer, advanced consulting and training, and pre-incubation of new technology-based companies. The institution hosts over hundreds of integrated researchers. INESC TEC aims to achieve advancement in science and technology and to enable science-based innovation through the transfer of new knowledge and technologies to industry, services and public administration. www.inesctec.pt



Pedro Jorge (Senior Researcher) has PhD in Physics from Porto University (2006). He is a Senior Researcher at INESC TEC and an Assistant Professor (since 2019) at the Physics and Astronomy Department of the Faculty of Sciences of the University of Porto. Since 2007, Pedro leads the Biochemical Sensor group at INESC TEC, exploring the potential of photonic technologies in the development of new solutions for chemical and biological monitoring in environmental, biomedical and industrial applications. This activity is framed in a diversity of competitive national and International research projects with academia and Industry, where he acts as Principal Investigator, workpackage leader or regular team member, supervising also the training of advanced human resources at PhD and Msc level. Photonics technologies such as optical fiber sensors, interferometry, fluorescence spectroscopy, optical trapping and Laser Induced Breakdown spectroscopy are being explored in a diversity of applications ranging from systems for real time evaluation of minerals in underwater mining, to the determination of dCO₂ in Aquaculture tanks, manipulation, and diagnostic of single cells. Since 1998, Pedro co-authored more than 100 peer-reviewed papers, 3 book chapters and more than 200 communications in international and national conferences in the field of optical sensors. He is the author of 2 patents, and four Patent pending (EP). In total, these publications have attracted 3982 citations according to Google Scholar (user: P.A.S. Jorge) with, h-index of 34.

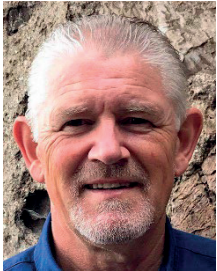


IMM Photonics develops and produces optical and optoelectronic products for a multitude of applications. Since our founding in 1992, we have been offering new and innovative components and modules to numerous customers from various technology sectors. From metrology and analytics, biophotonics and medical engineering to optical data transmission and security technology – our products are deployed in several areas of industrial production. Standard products include laser diode modules and collimators, fibre optic components, glass fibre testers and UV light sources for UV curing. Upon request, they can be customised and further developed according to specific customer requirements. In addition to standard products, we also offer OEM and ODM services. In the development of customised solutions, we adhere at all times to the customer's specifications, budget and time schedule. As a reliable and competent partner, we accompany our customers along the entire process – from prototyping to series production. Manufacturer, developer and distributor – with thirty years of experience in the photonics industry, a team of qualified engineers and developers, production sites in Germany that meet the highest technical standards and a global partner network, we are in a position to offer our customers innovative and economically effective solutions, even for complex tasks. www.imm-photonics.de



Christian Raith (Managing Director) has a degree in Bioengineering from the University of Applied Sciences in Munich. Christian started working at IMM Photonics in 2010. At the beginning in development, later in sales which he took over in 2014 and became sales director and in 2016 in addition marketing director. In 2020 he finally took over the commercial management from his mother and company founder Helga Raith together with his previous position as sales and marketing director and became managing director. Three years later, he also took over the development and production from his father and company founder Friedrich Raith.

Insensys has over 20 years of experience integrating fibre-optic sensing systems into customer applications. Our systems are currently supplied to the three major offshore wind OEMs and due to our success, we are now actively exploring and developing sensing solutions for emerging markets. www.insensys.com



Clive Matthews (Account Manager) has extensive experience in sales management and operations with a track record of executive leadership in business development, sales management, strategic key account growth, customer relationships, and product development, while creating and implementing sales/marketing strategies, setting sales targets, and handling major customer accounts. A strong communicator, Clive joined Insensys a year ago to support the existing customer database and to drive business development of new fibre-optic solutions for Wind Energy, Aerospace, Marine and other emerging fibre-optic sensing markets.



Gemma Jones (Head of New Product Development) leads a multidisciplinary engineering team to design Insensys' world leading optical fibre sensing systems. She graduated with a degree in Mechanical Engineering from Surrey University and has a decade of experience developing a breadth of industrial and consumer products, from low cost, volume electronics with a focus on lean manufacturing, to bespoke premium designs. Gemma has been with Insensys during its three years of rapid growth and continues to drive innovation to deliver the next generation of certified solutions for Wind Energy, Aerospace, Marine and other emerging markets.



Insigma Engineering was founded in 2020 to disseminate photonics-based sensor technology in diverse engineering fields. The company is currently focused on distributed fiber optic sensor technology for structural condition monitoring, perimeter intrusion detection, and photonic seismology applications. Insigma Engineering also provides technical consultancy and services to companies in developing their sensing solutions and relevant applications. The company has developed adaptive signal processing techniques for optical time domain reflectometry-based (OTDR) distributed acoustic sensor (DAS) detection systems. The company's new SIMONE ϵ series interrogators being developed utilize tunable laser technology-based frequency diversity techniques for both fully-distributed and quasi-distributed fiber optic sensing. www.insigma.com.tr



İbrahim Ölçer (CEO) received B. Sc. and M. Sc. degrees in electronics and telecommunication engineering from İstanbul Technical University (İTÜ) in 1992 and 1995, respectively. From 1994 to 2020, he worked for the Scientific and Technological Research Council of Türkiye (TÜBİTAK) where he was involved in several R&D projects. Between 2014 and 2020, he served as the deputy director in the National Research Institute of Electronics and Cryptology (UEKAE) to lead new projects on electro-optics & laser systems, software defined radio, and secure communication technologies. During this period, he started the fiber optic distributed acoustic sensing system (FOTAS ϵ) project. He received his Ph.D. degree in electronics engineering at Boğaziçi University, in 2019. After commercializing the FOTAS ϵ project outcomes with the industry, he founded Insigma Engineering to disseminate fiber optic sensing technology in new diverse engineering fields.



Litilit is on a mission to advance industries through well-designed, reliable and affordable femtosecond lasers. The company 12+ years of experience delivering fiber lasers and related components for industrial, medical and scientific applications. www.litilit.com



Nikolajus Gavrilinas (CEO & Co-Founder) has more than 15 years of experience managing design and production of optical modules, optical telecom devices and fiber lasers. Since 2003 he was leading R&D at an innovative telecom component manufacturer. In 2015 Nick co-founded Litilit (known as Integrated Fiber Optics at the time). Nick also serves as a principal project implementer at the Center for Physical Sciences and Technology. He holds 4 patent applications (one in the US) and he is a co-author of 2 scientific publications.



Luna Innovations is a leader in advanced lightwave measurement technologies, providing unique capabilities in high-performance test and characterization of fiber optic systems and integrated photonics, as well as solutions for distributed strain and temperature sensing. Luna's award-winning products, including optical component analyzers and ultra-high resolution backscatter reflectometers, are used to accelerate the design and development of the photonic components and systems that are the building blocks of modern, high-speed communications networks. Whether in the lab or in production, Luna's test systems provide fast and complete characterization of optical components and systems, delivering unprecedented visibility into the device's insertion loss, return loss, polarization, dispersion, etc. For the aerospace, automotive and energy markets, Luna's high-definition fiber optic sensing (HD-FOS) systems can accurately map strain and temperature profiles with sub-millimeter spatial resolution, using standard optical fiber. www.lunainc.com



MCH Engineering, LLC

MCH Engineering is a consulting firm with 20 years of experience specializing in technical and market analysis of the specialty optical fiber and fiber sensing technology sectors. We have helped scores of companies – from small startups to large corporations – to better understand the market trends and technological hurdles associated with diverse real-life applications and commercial segments in the fiber sensing space. The combination of our marketing analysis services with our in-depth technical expertise and past experience, have helped our clients gain unique insights as well as to accelerate and better direct their commercialization efforts, in a practical and cost-effective way. www.mchengineering.com



Alexis Méndez (President) received his PhD. degree in Electrical Engineering from Brown University, USA in 1992. Alexis was a fellow researcher and the former Group Leader of the Fiber Optic Sensors Lab within ABB Corporate Research (USA) where he led R&D activities for the development of fiber sensors for use in industrial plant, oil & gas, and high voltage and current electric power applications. He was also the former Director of Engineering Sensing Solutions at Micron Optics. He has written over 70 technical publications, taught several short courses, holds 5 US patents and is recipient of an R&D100 award. Alexis is a Fellow of SPIE and was past Chairman of the 2006 International Optical Fiber Sensors Conference (OFS-18), past Technical Chair of the 2nd Workshop on Specialty Optical Fibers and their Applications (WSOF-2). He is a member of the OFS International Honorary Committee, VP of the IEEE Fiber Sensors Standards Committee, co-editor of the “Specialty Optical Fibers Handbook”, co-author of SPIE’s “Fiber Optical Sensors Book”, and series editor of the CRC book series on fiber optic sensors.



MRSI Systems (Mycronic Group) is the leading manufacturer of fully automated, high-speed, high-precision and flexible eutectic and epoxy die bonding systems. We offer solutions for research and development, low-to-medium volume production, and high-volume manufacturing of photonic devices such as lasers, detectors, modulators, AOCs, WDM/EML TO-Cans, Optical transceivers, LiDAR, VR/AR, sensors, silicon photonics, co-packaging optics, 3-D hybrid packaging, and optical imaging products. With 35+ years of industry experience and our worldwide local technical support team, we provide the most effective systems and assembly solutions for all packaging levels including chip-on-wafer (CoW), chip-on-carrier (CoC), PCB, and gold-box packaging.
www.mrsisystems.com



Bruno Afonso (Sales Director EMEA) has joined MRSI as the Sales Director, EMEA. He is located in Switzerland and earned his BA in Industrial Engineering and his Master Degree in Electrical Engineering from Universidade da Beira Interior, Covilhã, Portugal. He has 15 years of project management and sales experience in the electronics and optoelectronics industries. He has a strong sales and technical background with die attach and packaging knowledge. He was previously the General Manager for Milltronics. Prior to that, he was the Europe and Middle East Sales Manager for Besi covering all equipment. Bruno is a great addition to the MRSI team with his technical knowledge, European network, and cultural flexibility to help MRSI’s customers. He speaks five languages fluently including English, French, Spanish, Portuguese, and German.



NORCE (Norwegian Research Centre AS) is one of Norway's largest independent research institutes, and deliver research and innovation with focus on energy, health, climate, environment, and society. Including NORCE's subsidiaries, the group has 1000 employees from around the world and an annual turnover over NOK 1,3 billion. NORCE Technology develop interdisciplinary solutions covering applications from subsea to outer space, and have expertise within remote sensing, fibreoptic DxS, vibrational spectroscopy, imaging, video analysis, machine learning, decision support, visualisation, drone and satellite mapping, smart instrumentation and signal processing.
www.norceresearch.no



TheNBGgroup is focused on customized fiber optic products along the complete fiber optic value chain for over 25 years. NBG mainly produce Fiber In Metal Tubes (FIMTs) for telecommunication and sensing applications where it is necessary to mechanically protect the fibers. With a production site in Austria, NBG is one of the only European companies in this field. NBG brings a very unique and flexible approach to the market and is used to jointly work with its customers. 150 employees in 3 countries develop and produce state-of-the-art fiber optic solutions covering fiber in metal tubes, sensing cables, FBG sensors, interrogation units and connectivity solutions. The field of operation ranges from industries like oil & gas, telecommunications, industrial processes, security, FTTx and many more. Challenge the NBG team with your project! www.nbg.tech



David Laister (Area Account Manager) graduated from the Technical University in Vienna with a master's degree in Computer Science. He has experience in working from multinational companies to start ups in the software industry. In 2009 he joined NBG Systems to help establish and grow the business of fiber optic sensing applications. In this area he worked for 8 years in product management and business development with a very high exposure to international markets around the globe. Since 2023, David is taking care for the European market as Area Account Manager, mainly looking for different applications and industries of NBG's Fiber In Metal Tubes. The industries and application go from traditional telecommunication to sensing applications.



Jaroslav Demuth (Project and R&D Engineer) graduated from the Czech Technical University in Prague with a degree in Physical Engineering on the topic of optical gain in semiconductor nanostructures. After graduation in 2009, he joined Safibra where he worked on fiber optic sensor technology with later profiling and deeper focus on Fiber Bragg Gratings. After a decade full of European and national research and commercial projects, he moved within NBG Holding directly to the headquarters in Gmünd where he continues to focus on sensor applications and in particular their use in combination with Fiber In Metal Tube technology for use in harsh environments such as high temperature, offshore O&G, geotechnical monitoring, etc.



NorthLab Photonics is a competence center for advanced fiber preparation, splicing, glass/fiber processing and FBG manufacturing solutions. The products and services are designed for a wide area of applications; from manufacturing of Fiber Bragg Gratings, Mode Field Adapters, combiners/bundles to preparation and splicing of polyimide, exotic and large diameter fibers. NorthLab customers are found in all industries and research areas where optical fibers are used. Examples are companies and universities working with high power lasers, sensors, medical probes, telecom and defense applications. The product portfolio includes the NORIA for “plug & play” manufacturing of Fiber Bragg Gratings, the ProCleave and ProCoater series for cleaving and recoating of standard and large diameter fibers and the ProView interferometer for end-face inspection. We are also long-term partners with 3SAE Technologies in the US and Furukawa in Japan as well as several other suppliers, distributors and research institutes around the world. www.northlabphotonics.com



Per Karlsson (CEO) graduated from the KTH Royal Institute of Technology in 1994 with a Master of Science degree in Mechanical Engineering. He started his career by joining Toshiba in Japan where he worked with design of manufacturing equipment for the semiconductor industry. Prior to co-founding Northlab Photonics in 2008, he served as a Business Development Manager, Product Manager, and Vice President for Sales and Marketing with Ericsson from 1998 to 2005. His expertise was then tapped by Accture Technologies in 2005 where he acted as president until 2008 when he co-founded Northlab Photonics, a fast-growing company focused on products and services for the photonics and fiber optics industry. Per has also served as business consultant with The Swedish Trade Council, where he offered consultancy services to Swedish companies doing business in Australia and New Zealand, and as member of the board for Noria Fiber Technologies.



NKT Photonics is the leading supplier of high-performance fiber lasers and photonic crystal fibers. Our main markets are Medical & Life Science, Industrial, Aerospace & Defense, and Quantum & Nano Technology. Our products include ultrafast lasers, supercontinuum white light lasers, low noise fiber lasers, and a wide range of specialty fibers. 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, power hundreds of the most advanced microscopes on the globe, and enable the quantum computers of tomorrow. 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 twenty 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. www.nktphotonics.com



Martin Laging (Senior Sales Manager) joined NKT Photonics in 2018, and since then, he supports our worldwide KOHERAS ultra low noise laser customers with a focus on fiber sensing applications. He is working in the photonics industry sales since 2004 and served several major OEM and key accounts in the fiber laser market. Martin received his PhD in Molecular Biology from the University of Göttingen in 2001.



NYFORS is an innovative supplier of advanced glass processing and optical fiber preparation equipment for high strength and specialty splicing operations. The product portfolio is continuously expanded to cover wider and more challenging customer applications. It currently includes CO₂ laser splicing and glass shaping equipment, automatic systems for fiber preparation and fiber stripping, high precision cleavers and optical fiber recoaters as well as proof testers and cleave check interferometers for bare fibers and ferrules. NYFORS also provides custom solutions for production applications such as volume manufacturing of fiber optical gyroscopes. A common feature, found in many products, is the automated fiber processing, intended to give consistent results and high production yield in volume production of optical fiber components. All NYFORS products are developed with the user in mind for comfortable and easy operation in production and laboratory environment. www.nyfors.com



Erik Böttcher (CEO) has accumulated broad international experience within fiber optics including specialty fiber processing and automation. Erik joined the privately owned NYFORS after studying Industrial Economics (M.Sc.) at the Royal Institute of Technology (KTH). Erik possesses an innovative entrepreneurial background, having started multiple businesses among a technical consultancy and an e-commerce start-up. Erik enjoys customer collaborations and strives to deliver pioneering and high-quality solutions. Erik is a devoted supporter of community investment. He is active across local non-profits, mentoring early start-ups, and expanding technical education opportunities.



OPTICS11 delivers state-of-the-art fiber optic sensing solutions for the energy, defense, and industrial sectors, safeguarding essential assets in demanding environments. For the energy sector, we excel in partial discharge monitoring, ensuring secure and efficient operation of crucial infrastructure. Our solutions supply valuable data to enhance safety, reduce downtime, and boost efficiency. In defense, we provide advanced fiber optic sensing systems, heightening situational awareness, and fortifying security. Our solutions aid military organizations in detecting threats and safeguarding critical infrastructure. In the industrial domain, we offer transformative sensing solutions for condition monitoring, asset tracking, and process control applications, promoting data-driven decision-making and optimized operations. Leveraging innovation and expertise, OPTICS11 is dedicated to driving progress and enhancing the world around us. www.optics11.com



Meüs van der Poel (Business Development Director) studied aerospace at Delft University. After his graduation, in 1989, he was active as a wind tunnel test engineer, exploring many measurement techniques, including strain gauges and (instationary) pressure measurements. From 2001 onward, Meüs was sales manager with companies including measurements in O&G/chemical, with Emerson and Honeywell, mostly 4-20mA and fieldbus techniques. From 2015 onward, Meüs further specialized in sales of compressor and turbine control systems, independent of the host control system. Since beginning of 2023, Meüs joined Optics11 as business director, responsible for developing fiber optic sensing technology into the wider industrial domain. Meüs is 58, married with 3 children, living in the Netherlands. In his free time, he enjoys playing volleyball.



OFS is a world-leading designer, manufacturer and provider of optical fiber, fiber optic cable, connectivity, fiber-to-the-subscriber (FTTx) and specialty fiber optic products. We put our development and manufacturing resources to work creating solutions for applications in such areas as telecommunications, medicine, industrial automation, sensing, aerospace, defense, and energy. We provide reliable, cost-effective fiber optic solutions that help our customers meet the needs of consumers and businesses today and into the future. Headquartered in Norcross (near Atlanta) Georgia, U.S.A., OFS is a global provider with facilities in several countries worldwide. OFS is part of Furukawa Electric Group, a multi-billion-dollar leader in optical communications. www.ofsoptics.com



Hans Damsgaard (Vice President) is responsible for Marketing and Sales of Specialty Photonics products at OFS. OFS offers a wide range of specialty fibers, assemblies, and technologies to help customers solving problems in communications, sensing, industrial, medical, aerospace, and other markets. Hans's background is a Master degree in experimental atomic physics from University of Aarhus, a PhD in optical communications from Technical University of Denmark, and a Bachelor in Business Administration from University of Copenhagen. Hans has held different positions over his service period, most recent before current position serving 10 years as Managing Director of OFS Fitel Denmark Aps, a major fiber manufacturing site in Europe.



OpTek Systems, headquartered in Abingdon, UK and with facilities in Europe, Asia and North America, is a global provider of precision laser micromachining solutions, delivered as both production equipment and sub-contract laser processing services. OpTek pioneered LaserCleave for precision laser processing of optical fibres (stripping, cleaving, lensing and fusing), for production termination of advanced fiber optic interfaces and interconnects. OpTek also works in other areas, such as, high-speed drilling of injection moulded components, laser milling of features in super-hard tooling materials, scribing of photovoltaic and display materials, cutting and drilling of quartz, bio-sensors, precision spray and injection nozzles, conventional and plastic electronics. The OpTek team combines the highest levels of experience and expertise with state of the art facilities, including lasers throughout the spectrum to deliver an advanced precision laser micromachining capability, from new process development to full production and tailored exactly to your specific requirements.

www.opteksystems.com



Matthew Leach (Lead Laser Engineer) studied Physics and got his Ph.D. in Applied Laser Physics at the University of Hull. He joined OpTek Systems in 2014, and has since worked in the laboratories developing cutting edge applications and processes. He works closely with customers to help deliver a product or machine meeting their specifications. He also works on R&D projects, either increasing internal capabilities, or working collaboratively towards a combined goal.



ouronova develops and provides technology-driven solutions for the oil & gas industry, increasingly supporting the energy transition to a low carbon economy. Our innovation portfolio is based on patent-protected technologies from the convergence of photonics, Industrial IoT, robotics, automation, and artificial intelligence. Our main product is the MODA System, a solution based on fiber optic sensors which are used to detect failures in flexible risers. With a proven track record on development and commercialization of this technology, we are the market leaders in the Brazilian Pre-salt field. Also related to photonics application, ouronova is developing, in partnership with Galp, a power laser system for subsea hydrate dissociation. www.ouronova.com



Bruno Sapha (COO) graduated in Electrical Engineering from the Catholic University of Rio de Janeiro (Puc-Rio) and later obtained a Master's degree with a focus on fiber optic sensors at the same institution. With over 20 years of experience in the oil and gas industry, he specializes in optical system applications, particularly in flexible pipeline monitoring and high-powered laser systems for subsea operations. At ouronova he leads the team in creating innovative solutions for the industry.



Eduardo Costa (President and CEO) is an entrepreneur and Chief Executive, with 20 years of hands-on experience in setting up and running world-class technology companies focused on photonics applications in the oil and gas industry, with specialty in both start-up and scaled growth stages. Eduardo graduated in Production and Electrical Engineering from the Catholic University of Rio de Janeiro (Puc-Rio). He holds a Master's degree in Production Engineer and an MBA from ESADE business school.



PHOTONPATH



PhotonPath is a European-based designer, manufacturer, and vendor of Integrated Photonics-based optical components and products. Our mission is to create and extend human knowledge. We tackle this challenge with our Integrated Photonics-based devices that obtain, transmit and process the world's information using light. We develop reconfigurable Photonic Integrated Circuits (PIC) for optical-based sensing applications and fiber optics telecommunication networks. Our product portfolio is reliable and competitive as we scale to mass production thanks to PhotonPath's technology stack for automatic chip testing, calibration, and assembly. www.photon-path.com



Douglas Aguiar (CEO and Co-founder) is a dynamic CEO and Co-founder with over a decade of experience in research and development of complex, high tech photonics components and systems. He is a seasoned expert in the design, fabrication, and operation of complex Photonic Integrated Circuits and has spearheaded the development of groundbreaking technologies, including high-speed optical transceivers, large-bandwidth optical amplifiers, wavelength routers, optical channel monitors, and submarine cable systems. In addition to his technical expertise, Douglas is a natural leader who has mentored junior engineers, managed cross-functional teams, and collaborated with diverse stakeholders to drive success. With a talent for effectively communicating complex technical concepts to both technical and non-technical audiences, and a Ph.D. degree in Integrated Photonics from Politecnico di Milano, Douglas is a persuasive and influential thought leader. He has a proven track record of adapting to new environments and technologies, demonstrating flexibility and resilience in the face of challenges.



Philips Engineering Solutions - We design, develop, and manufacture custom microelectromechanical systems (MEMS) and assemble micro devices. Our 140 experts working at the MEMS Foundry and Micro Devices Facility follow a phase-gated approach to demonstrate the feasibility and give proof of concept, develop the process to the required maturity level, and manufacture your devices with the right quality. At our facilities we offer MEMS prototyping, MEMS process development, MEMS manufacturing, as well as Micro Devices assembly and integration services. We follow our qualified way of making prototypes, systematically developing your idea into a prototype or device according to your requirements. We work with proven processes, methods and tools, making innovation work. www.engineeringsolutions.philips.com/photonic-applications



Andrzej Sielecki (Process Architect Micro Devices) received his MSc in Mechatronics, with specialization in Photonics Engineering from Warsaw University of Technology. He works in Philips since 2018 as a Process Architect for Photonic Assembly. In this role, Andrzej is focusing on developing and strengthening capabilities of Philips MEMS & Micro Devices in the field of photonic assembly. He has experience in various optoelectronic products, from development and design up to production, assembly, and installation. In his career he worked for Optics11, Eurotek International and Thorlabs.



Photonics Bretagne is a Photonics Innovation Hub located in Lannion (Brittany, France). The association integrates a Business Cluster supporting innovation, commercial and technology development of its members and a Research and Technology Organization (RTO) expert in the development of specialty optical fibers and related components (PERFOS® product line). We design and manufacture custom fibers such as microstructured (Airclad, Nonlinear PCF, Hollow-core, endlessly single-mode...), multicore, few mode, active VLMA but also silica capillaries, stress rods, Fan-in/Fan-out, fiber tapers. Scientific studies and proof of concepts in the field of biophotonics (in particular for the Agrifood sector) are also a growing activity. Photonics Bretagne is sited in a Photonics Park, at the heart of a rich ecosystem of industry, research centres and schools dedicated to photonics. www.photonics-bretagne.com



David Méchin (Director) received a PhD in Optoelectronics from the University of Saint-Etienne. He studied Bragg grating based optical add drop multiplexers in the research labs of France Telecom and Highwave Optical Technologies (1998-2002) in Lannion (France). He, then, worked on various topics in the field of nonlinear optics in fibres in the Physics Department of the University of Auckland and at Southern Photonics (2002-2009) in New Zealand. David is currently Director of Photonics Bretagne.



PhotonFirst is a pioneer in next-generation smart sensing technologies. Our mission is to empower our customers with the data-driven insights they need to make informed decisions about their assets. We understand FBG-based sensing applications better than anyone and are committed to use our Photonic ICs (PICs) technology to deliver reliable and affordable products that enable a paradigm shift in the fiber optic sensing world. PhotonFirst was the first company to use PICs as the heart of their measurement solutions, making them scale well with volume allowing for low cost data generation. www.photonfirst.com



Gideon Langedijk (Application Sales Engineer) worked on creating and maturing new technologies for 5 years in Oil & Gas as well as climate fields, after graduating Engineering Physics in Delft. Now for the last 1,5 year he has been responsible for matching the Photonic Integrated Circuit sensing technology platform of Photonfirst with the needs of customers in new markets / applications. Creating new technical concepts that make our customers successful.

PROXIMION



Proximion is developing and manufacturing high-end FBG-based products and systems. Special focus is complete fiber optic sensor systems for harsh environments. Starting in 1998 Proximion to date designs and manufactures the world's longest continuous and most complex FBGs. Proximion is a fully owned subsidiary to Hexatronic Group, publicly traded at NASDAQ. www.proximion.com, www.hexatronicgroup.com



Johan Pejnefors (CEO) received his PH.D. in solid state electronics from the Royal Institute of Technology (KTH) in Stockholm Sweden in 2001. After completion of his diploma, he joined Ericsson Microelectronics. In 2004, he began working for Proximion where he was responsible for several R&D projects as well as product development projects. From 2013, Dr. Pejnefors worked as VP of Production and Quality at Proximion and since 2019 he is the CEO of Proximion.



RISE Research Institutes of Sweden, Acreo is one of the leading research institutes in Europe within the fields of electronics, optics, communication techniques and sensor systems. We facilitate commercialization of research and collaborate with industry and academic partners. Types of assignments range from feasibility studies, long term research projects, prototyping, small scale production and verification/testing. One particular focus is Fiber Optics, where the R&D resources include fiber optic sensing and specialty optical fibers. www.ri.se



Redondo Optics

Redondo Optics is a US based fiber optic sensing company specialized in the development and production of physical, chemical, and biological sensor systems based on the use of its proprietary photonic integrated circuit (PIC) microchip platform for use in applications where, weight, size, power, and cost are critical for operation. Redondo Optics Inc.'s product lines include: 1) passive and dynamic fiber Bragg grating sensor interrogators, 2) opto-MEMS sensors for pressure, acceleration, vector sensors and hydrophones, 3) multi-channel intensity ratio-metric interrogation systems, 4) fluorescence lifetime (phase) detection systems, 5) fiber optic fluorescence sensors (O₂, CO₂, H₂, VOCs, T, P, pH, RH), 6) distributed fiber optic fuel leak detection systems, and 7) micro- and nanofluidic biochips for biological analysis. www.redondooptics.com



Edgar Mendoza (CEO) leads the technology and business strategy vision for Redondo Optics, with over thirty years of experience as a senior executive, strategic business development, and technology innovation in fast-growth start-up companies focus on emerging markets in aviation & aerospace, smart structures, renewable energy, life sciences, oil & gas, and defence and security. Edgar received his Ph.D. from the City University of New York with focus on the development of photosensitive glasses for photonic integrated circuit (PIC) microchip applications. Currently works in fields ranging from fiber optics sensors, silicon photonics, smart wearable fabrics, remote sensing, Lab-on-Chip opto-fluidics, diffractive and refractive optics, and nanomaterials.

SEDI-ATI fibres optiques



SEDI-ATI Fibres Optiques, bringing light to your customized, complex or extreme environment is our challenge! Since 1951, our mission is to design and build turn-key solutions to enable our customers to bring light in any environment, whatever their constraints are! SEDI-ATI offers achromatic multimode couplers, multimode wavelength division multiplexers, fiber optic hermetic feedthroughs, bundles & arrays, and medical probes. Our fiber assemblies are used in applications in extremely aggressive and hazardous environments such as those found in the oil and gas industry, in nuclear plants, in electric utilities, in the military and aerospace, or in the medical field. The applications of our products and solutions are as diverse as optical sensors, opto-pyrotechnics, cryogenics, or high-power lasers that can cut and weld steel. www.sedi-ati.com



Axel Guédé (Technical Sales Engineer) joined SEDI-ATI in September 2021, as a Technical Sales Engineer. Currently as an international corporate volunteer, Axel participated in the opening of our local sales office in Amsterdam then in Brussels and is in charge of sales development in Northern Europe, the UK and Switzerland. As an engineer, graduated from ENSSAT (Ecole Nationale Supérieure des Sciences Appliquées et de Technologies), Axel wishes to develop his commercial skills while associating his scientific background in the field of photonics, which is totally in line with the development of SEDI-ATI's export activities. This double competence is essential in the support of the customers addressed by SEDI-ATI.



Sentea has the ambition to become a market leader in fiber optic sensor interrogators leveraging the benefits of Silicon Photonics. Where most sensors fail in harsh environments, fiber optic sensors are resistant to extreme temperatures, electromagnetic interferences and corrosion, and they can safely be used explosive environments. They are often used as multi-point strain sensors in structural health monitoring in civil engineering, wind turbines, oil & gas, maritime and aviation. Fiber optic sensors are also used as vibration and load sensors on rotating equipment such as bearings, gearboxes and engines, as well as temperature sensors for industrial applications. Sentea offers cost-effective mini interrogators making fiber optic sensing scalable and affordable. www.sentea.com



Thijs Spuesens (CTO) obtained a MSc degree in Electrical Engineering/Broadband Telecommunication from TU/e in Eindhoven, The Netherlands. He then joined the Photonics Research Group from Ghent University, Belgium, to work on On-Chip Optical Interconnects on Silicon for which he obtained a PhD degree in Photonics. After obtaining his PhD, he worked as a postdoc at Ghent University and as a Photonics Design Engineer for imec where he was involved in several EU FP7 projects. In parallel, he worked on the commercialization of a silicon photonics based FBG interrogator, and in 2018, he co-founded Sentea where he is now responsible for the R&D activities.



SHUTE Sensing Solutions has developed a novel Polymer Optical Fiber (POF) sensor system which enables real-time monitoring of strain/stress, humidity, temperature, and vibrations in points along a hair-thin optical fiber. The technology is quite versatile, due to the small size of the fiber and the flexibility of the material used: Polymer (plastic). The polymer makes the sensors flexible, stretchable, and immune to electromagnetic interference (EMI); and makes it able to work in sophisticated environments, e.g., MRI, MPI, etc. The fiber sensor probe can go almost anywhere without compromising the structure it is embedded in. www.shute.dk



Kristian Nielsen (CTO) received M.Sc. and Ph.D from The Technical University of Denmark (DTU). He is Co-founder of SHUTE and co-inventor of the SHUTE patented technology. Kristian has the role as the CTO. He has 15+ years of experience working with optical fiber sensors and plastic optical sensors in particular.



Kristian Rode (CCO) holds M.Sc. from Copenhagen Business School (CBS). Kristian is head of sales and marketing. Kristian holds 20+ years of sales & marketing experience, from both B2b and B2c markets, and with world class international customers & distributors.

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Siemens Energy is one of the world's leading energy technology companies. The company works with its customers and partners on energy systems for the future, thus supporting the transition to a more sustainable world. With its portfolio of products, solutions and services, Siemens Energy covers almost the entire energy value chain – from power generation and transmission to storage. The portfolio includes conventional and renewable energy technology, such as gas and steam turbines, hybrid power plants operated with hydrogen, and power generators and transformers. A majority stake in the wind power subsidiary Siemens Gamesa Renewable Energy (SGRE) makes Siemens Energy a global market leader for renewable energies. An estimated one-sixth of the electricity generated worldwide is based on technologies from Siemens Energy. Siemens Energy employs 92,000 people worldwide in more than 90 countries and generated revenue of around €29 billion in fiscal year 2022. Siemens Energy is a trademark licensed by Siemens AG.

www.siemens-energy.com



Evangelos Diatzikis (Fellow Engineer) is a Fellow Engineer and Advisory Expert in Sensors and Advanced Controls with Siemens Energy. He has over 25 years of experience in the Energy markets with a specialization in sensors and monitoring systems. His undergraduate and graduate studies were in Physics and Optics. Siemens Energy is a global manufacturer of gas turbines, steam turbines, generators, transformers, compressors, and renewable energies.

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RENEWABLE ENERGY

Siemens Gamesa Renewable Energy (SGRE) is a leading global provider of wind power products and service solutions. Founded in April 2017 as a merger of Siemens Wind Power and Gamesa, SGRE is a global company based in Zamudio (Vizcaya, Spain), and has Siemens Energy AG as sole significant shareholder holding (98%). SGRE has more than 130 GW globally installed (Onshore and Offshore), €12.3 billion market capitalization and employs 28150 people distributed in more than 50 offices in 39 countries. SGRE has an extensive portfolio of Onshore and Offshore wind turbines (108 GW and 22 GW, respectively), and a wide experience within its Service business, having maintained and optimized more than 83.5 GW. SGRE aims to be the global leader in the renewable energy industry driving the transition towards a sustainable world, with the mission to make real what matters – clean energy for generations to come. www.siemensgamesa.com



Tiago Paixão (Sensors Submodule Owner) is the Sensors Submodule Owner of Siemens Gamesa Renewable Energy (SGRE) since January 2022, where he has been working towards the development and implementation of sensing systems on wind turbine blades. Before joining SGRE, Tiago worked as an Invited Lecturer and Researcher in the area of optical fiber sensors and lasers. Tiago holds a PhD in Physics Engineering from University of Aveiro and has more than 10 years of experience in sensors and photonics technologies.



Silicon Austria Labs (SAL) is an Austrian research center for electronic based systems (EBS). The application-oriented center offers cooperative research in the areas of Sensor Systems, RF Systems, Power Electronics, System Integration Technologies, and Embedded Systems and develops technologies for Industry 4.0, Smart Health, IoT, MEMS, MOEMS, energy, or lifestyle. SAL has extensive experience and competencies in macro– and micro-optics and integrated photonics for miniature optical sensors and multifunctional sensing systems, covering the whole R&D chain of simulation and system design, device fabrication and testing, photonic assembly and system integration, as well as the development and application of novel sensing concepts. SAL's R&D photonic projects bridge the gap between fundamental research and application with advanced technologies focusing on major industrial markets including quantum sensors, environmental sensors, non-linear spectroscopy and spectroscopic sensors, smart lighting and imaging systems, LIDAR and remote sensing systems. www.silicon-austria-labs.com

SILIXA

Silixa offers the finest portfolio of distributed sensing solutions available anywhere. Shaped by 15 years of pioneering research and application, our end-to-end solutions enable temperature, strain and acoustic measurements at the highest fidelity – even in the most hostile settings. www.silixa.com



Mahmoud Farhadiroushan (Founder & Executive Director) co-founded Silixa in 2007, and he is currently Executive Director. Prior to Silixa, he co-founded Sensornet in 1998 which was then received an investment from Shell Technology Ventures. Mahmoud worked as a Senior Research Fellow on non-linear fibre optic sensors at King's College London from 1994 to 1998. He successfully managed and completed European project. From 1990 to 1994, he initiated and managed a Joint Industrial Project (JIP) in fibre optic sensing for oil and gas applications that led to the formation of Sensor Dynamics which was then acquired by Schlumberger in 2001. From 1986 to 1990, he was a Research Fellow at University College London working on fibre optic sensors, integrated photonics devices. He was a Joint winner of Metrology Award in 2000, British Telecom Award in 2001, Institute of Physics Innovation Award in 2015, and The Queen's Award 2021 for Innovation on the behalf of Silixa.



SMARTEC was founded in 1996 as a start-up from EPFL (Swiss Federal Institute of Technology Lausanne). Today, more than 25 years later, it has become a leading developer and manufacturer of measurement and integrated geotechnical, structural health monitoring and safety systems. SMARTEC SA is now part of Roctest and the Nova Metrix group of companies. We support and train our customers in the design, installation and use of monitoring systems, as well as in data management and analysis. Our product range consists of sensors (fiber optic, vibrating wire and conventional), data acquisition systems and software for data management and analysis. SMARTEC's application expertise includes bridges, buildings, dams and dykes, geotechnical, tunnels, mining, nuclear power plants, pipelines and geothermal. www.smartec.ch



Daniele Inaudi (General Manager) received a degree in physics from the Swiss Federal Institute of Technology in Zurich (ETHZ). In 1997, he obtained his Ph.D. in civil engineering at the IMAC Laboratory of Stress Analysis of the Swiss Federal Institute of Technology in Lausanne. In 2005, he received a master's degree in business administration from the University of Southern Switzerland. Daniele Inaudi is co-founder of SMARTEC SA and General Manager of Roctest. He is author of more than 200 papers, five book chapters and a book on "Fiber Optic Methods for Structural Health Monitoring".



SUPERLUM Diodes develops and manufactures low coherent light sources based on semiconductor superluminescent diodes (SLD) and driving electronics in 650-1620 nm spectral range, as well as semiconductor optical amplifiers (SOA) and tunable swept light sources (SS) in 750-1100 nm spectral range. SUPERLUM products are used by over 250 companies worldwide in various applications: Optical Coherence Tomography (OCT), Fiber-Optic Sensing and Metrology, Non-Destructive Testing (NDT), Fiber-Optic Gyros, Speckle Free Illumination and others. Our R&D group can design complete opto-electronic systems for your application. www.superlumdiodes.com



Natalie Tuchapsky (Director of Sales and Marketing) has been instrumental in establishing the European branch of SUPERLUM, operating out of Ireland, since 2000. Natalie is a graduate of Moscow University with a Master's Degree in Physics, and has been rounding off her academic foundation with certification in Business Management, Finance and Digital Marketing. The comprehensive business approach has allowed her to build a robust cooperative relationship with Irish Industrial Development Authority, and have the company achieve ISO certification. Her current focus is on optimising company processes and continuing to expand and support the company customer base.



FIBER OPTICS



SYLEX is a mid-size company founded in 1995 and a world-class contract manufacturer of high-quality fiber-optic interconnect solutions and monitoring systems. With 250 employees and 7000m2 size we serve more than 200 clients around the globe per year. Our collaborations with universities and research centres are enhancing our production capabilities and ensure the readiness to quick integrate new challenging products for our clients. We are easy-to-talk-to team with well-organized production facility, strong quality processes and great scale up potential. We'd love to be addressed with your demanding requests. SYLEX offers automated monitoring solutions based on modernized FBG technology. These systems are used to monitor the structural health and operational conditions of infrastructure objects within many industries – civil, geotechnical, energy or transportation infrastructure, chemical, oil & gas or process control and automation. www.sylex.sk



Peter Lowy (Business Development Manager) graduated at electrical engineering / material science with focus on fiber optics and did an internship in Switzerland about fiber optic installations. He develops fiber optic applications for 18 years at Sylex, while last 13 years focuses on sensing systems for civil engineering, energy and other markets. Lately, he works on integrating AI/machine learning into data processing of fiber optic sensing data. Peter likes Sci-Fi literature and active sports.



TESTIA is an AIRBUS GROUP company with over 30 years of experience in the field of Non-Destructive Testing (NDT), quality inspections and training in aerospace. Following an ambitious development plan driven by increasing customer demand, TESTIA has now established a presence in major countries and can serve its clients globally: France, UK, Germany, Spain, Singapore, Canada and Mexico. Through its network, TESTIA provides worldwide services and a global solution to industry needs. As an Airbus company and thanks to a comprehensive network of partners we transfer our expertise from aerospace to other fields. TESTIA offers a unique range of NDT and Quality Inspection Equipment and Augmented Reality software for quick and efficient analysis of structures, components and assembly. www.testia.com



Aswin Haridas (Focal Point SHM) is the transnational focal point of Structural Health Monitoring (SHM) at Testia, Germany. He completed his Ph.D., which was focused on developing new inspection capabilities and strategies for critical aircraft engine structures, at Nanyang Technological University (NTU), Singapore in collaboration with Rolls-Royce Singapore. Prior to this, he had pursued his masters (M.Sc.) in Aerospace Structural Engineering as a joint degree program between Technische Universität München and NTU. He has over 8 years of R&D experience in identifying and developing Non-Destructive Testing (NDT) and Structure health Monitoring (SHM) solutions for industries including aerospace, automotive, civil and energy (among many others).



TEXYS Group, since 1999, has been designing, developing, manufacturing, and distributing embedded and laboratory solutions for the measurement of physical quantities (pressure, effort, temperature, current, inertia) by mastering various technologies: infrared, fiber optics, extensometry, wireless communication and signal conditioning, to name a few. Our brand LGS by Texys has specialized in the development of fiber optic measurement solutions for over 15 years. Our goal is to increase the competitive advantage of our customers by offering them innovative and competitive solutions for measurement and control systems based on fiber optic sensors using Fiber Bragg Grating technology (FBG). Depending on the application, we provide either a full package - study, sensors, interrogators, on-site installation - or a standard solution thanks to the products in our catalogue such as sensors and interrogators off the shelf. www.lightguidesolutions.com



Ivan Tattier (Head of International Business Development) has a Degree in Electrical Engineering (Major in Microwave) from Grenoble UJF, completed by an MBA Degree obtained in Lyon (France) in 1995. With more than 20 years of experience in technical sales of test, measurement and monitoring solutions on international projects, he is now Head of Business Development for TEXYS Group since 2020.



Jérôme Grelin (R&D Director) received his MSc (in 2004) and PhD (in 2007) degrees in optoelectronics from Grenoble INP, France. His original research interests were about the development of glass integrated optic devices in the MIR bandwidth. In 2010, he joined Smart Fibres (UK) as Engineer to work initially on a new generation of FBG interrogator instrument, before being appointed in 2015 Head of the Engineering team, focusing on NPI and customer projects delivery oriented in Oil&Gas and Aerospace applications. In 2021, he has been appointed R&D Director by TEXYS Group and is now responsible for the delivery of all development projects within the group.

TOBB ETÜ (TOBB University of Economics and Technology) is one of the leading research institutes for photonics technologies. www.etu.edu.tr/en



Ibrahim Ozdur (Associate Professor) is the Associate Professor of Electrical and Electronics Engineering at the TOBB University of Economics and Technology, Ankara. Dr. Ozdur obtained his PhD degree from The College of Optics and Photonics - CREOL, University of Central Florida in 2011. His PhD thesis was about microwave photonics and mode-locked lasers. After graduation he worked as a Senior Research Scientist at Applied Communication Sciences (formerly Telcordia and Bellcore), Red Bank, NJ, where he concentrated his efforts on quantum communication, LIDAR and optical networking. Dr. Ozdur is the recipient of The Young Scientist Award Programme from Turkish Academy of Sciences. He has published ~90 articles in refereed journals and conference proceedings, has been awarded 5 U.S. Patents.

The Tyndall National Institute, University College Cork, is a leading European deep-tech research centre in integrated ICT (Information and Communications Technology) hardware and systems. Specialising in both electronics and photonics – materials, devices, circuits and systems – we are globally leading in our core research areas of: Semiconductor wafer fabrication, Micro-electronic and photonic integration and packaging, and Optical communication systems. The Tyndall Photonic Systems Group investigate and find new ways to integrate different photonic and electronic technologies to demonstrate greatly enhanced capabilities (e.g. higher speed, capacity, or scalability) of optical communications, sensing and other applications. Research disciplines include photonic system design, modeling, integration and demonstration; high speed digital signal processing and high speed mixed signal (analog and digital) microelectronic circuit design and test. www.tyndall.ie



Cleitus Antony (Senior Staff Researcher) received the Ph.D. degree from the Tyndall National Institute, which contributed to record-breaking experimental demonstrations in advanced high-capacity fibre to the home networks. He has 15 years of experience as a Researcher in optical communications. He was an Engineer at Hitachi's World-Class Fibre Optic Division, Opnext Japan Inc., Yokohama. He has worked on several EU and national projects on research topics that span novel optical network architectures, optical amplification strategies, and digital signal processing techniques. He is currently a Staff Senior Researcher with the Photonics Systems Group, Tyndall. He holds five patents and has authored more than 50 peer-reviewed publications. His recent research interest includes exploiting machine learning to advance next-generation photonic networks and distributed fibre optic sensing.



Conor Russell (PhD Researcher) received a bachelor's degree in Electrical Engineering from University College Cork and a master's degree in Photonics Engineering from the Technical University of Denmark. He began a PhD in the Photonic Systems Group at Tyndall National Institute in 2021. The focus of his research is on using phase sensitive optical time domain reflectometry for distributed sensing in optical fibre communications networks.



The Complutense University of Madrid's Chemical Optosensors and Applied Photochemistry Group (GSOLFA) performs R+D+i activities that span from the molecular engineering of tailored (indicator) dyes to analytical chemistry in the field. The combined experience of our team members covers fiberoptic chemosensing, biosensors, photoactivated reactions, optical and laser-based analysis, and imprinted polymers for molecular recognition among other fields. 25+ years of contract research for private and public companies, deep knowledge of the end-user needs, and collaboration with the best national and international groups back up our many years' tradition of applied and basic research for improving the environment, the industrial processes and the quality of life. www.gsolfa.info/en



Guillermo Orellana (Full Professor and Group Leader) got his PhD from UCM. After (post)doctoral stages at the École Polytechnique Fédérale de Lausanne (EPFL, CH) and Columbia University (NY), he got tenure at the UCM Department of Organic Chemistry, where he is now Full Professor and Group Leader. His strongest expertise lies on the unique implementation of tailored photochemistry to the development of luminescent chemical sensors for industrial, environmental and health care applications. He has more than 140 publications, 20 PhD thesis and 20 patents are his contributions.



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Universitat Politècnica de València - Photonics Research Labs have their origins in the former Optical and Quantum Communications Group, initially hosted from 1991 to 2005 at the Communications Department. From an optical telecom core, the group has evolved to the application of the photonic technology to a wide range of diverse applications where the optical and photonic technology together with microwave photonics brings its added value. The group is structured in different Research Labs that focus in different related technologies with different fields of applications, such as: antenna beamforming, surveillance radar systems, and optical sensors; photonic integrated circuits and micro-fabrication technologies; and biophotonic sensors, automobilism and robotics. Nowadays, the PRL is currently formed by more than 30 young telecom engineers and physicists and is part of the Institute of Telecommunications and Multimedia Applications (iTEAM) of the Universitat Politècnica de València. The mission is to produce high-quality scientific knowledge in the field of optics, quantum optics and photonics, through research

projects, R&D contracts and collaboration agreements with the private sector. The PRL research activity is focused on several applications of photonics, mainly on optical communications of analog and digital signals, and radio-over-fiber systems. Part of the research is also performed in the field of fiber optic sensor and industrial photonics. www.prl.upv.es Since 2019, group members operate in a multi-disciplinary 500m2 class 10.000 micro-fabrication cleanroom (UPVfab, www.fab.upv.es).



Universidad del País Vasco Euskal Herriko Unibertsitatea

The University of the Basque Country (UPV/EHU) is a 30-year-old institution with 45,000 students, 5,000 world-class academic staff and state-of-the-art facilities. The UPV/EHU is a leading teaching and research institution in the Basque Country. The UPV/EHU has been recognized as International Excellence Campus by the Spanish Government, and it received the HR Excellence in Research Award in 2021. www.ehu.eus



Joel Villatoro (Research Professor) received the M.Sc. and Ph.D. degrees in optics from the INAOE - Instituto Nacional de Astrofísica, Óptica y Electrónica, Puebla, Mexico, in 1995 and 1999, respectively. He is currently Ikerbasque Research Professor at the University of the Basque Country UPV/EHU. Prior to his current position, he held research posts at Aston Institute of Photonic Technologies, Birmingham, U.K., the Institute of Photonic Sciences (ICFO), Barcelona, Spain, the Centro de Investigaciones en Óptica A.C., Leon, Mexico, the University of Valencia, Spain, and the Case Western Reserve University, Cleveland, Ohio, USA. In 2020, he was awarded the distinction of OPTICA Fellow for his contributions to interferometric optical fiber sensors. In 2021 and 2022, he was included in the prestigious list of the World's top 2% scientists. His research interests include interferometric sensors based on standard, multicore and photonic-crystal fibers, applications of sensors in real-world environments, and development of micro- and nano-sensors for biomedical applications.



VIAMI Solutions, created from JDSU, was founded in 1923 as Wandel and Goltermann, a European company that grew from two technicians building and selling radios, to one of the world's largest suppliers of electronic test and measurement equipment. VIAMI empowers Service Providers and IT organizations to manage the network lifecycle for complex 5G and Fiber networks with intuitive instruments, systems and technologies; and our expertise in light management and optical coatings help protect the world's bank notes from counterfeiters, enhance the colors you see, and enable advanced technology such as 3D sensing. www.viavisolutions.com



Daniele Costantini (Global Product Marketing Manager), over the last 20 years, developed and implemented fiber-optic structural monitoring solutions for several racing yachts programs (America's Cup and Around the World) and contributed to the industrial adoption of fiber-optic sensing in Energy, Transportation and Infrastructure applications with roles in product marketing and business management.



WEINERT group is a leading provider of ultrapure Fused Silica, preforms, and rods as well as optical fibers, cables, assemblies, and special components. Our extensive knowledge and passion for photonics – that stems from over 20 years of experience in the development, design, and production of fiber optic products – allows us to use this enabling technology to best provide effective and innovative problem-solving solutions for our customers. Moreover, by handling the entire value creation process in-house, from the production of preforms through to custom-manufactured optical components WEINERT has the capability to deliver on every aspect of a project from conception to final product – ensuring efficiency and generating the highest possible value add for our customers. www.weinert-industries.com



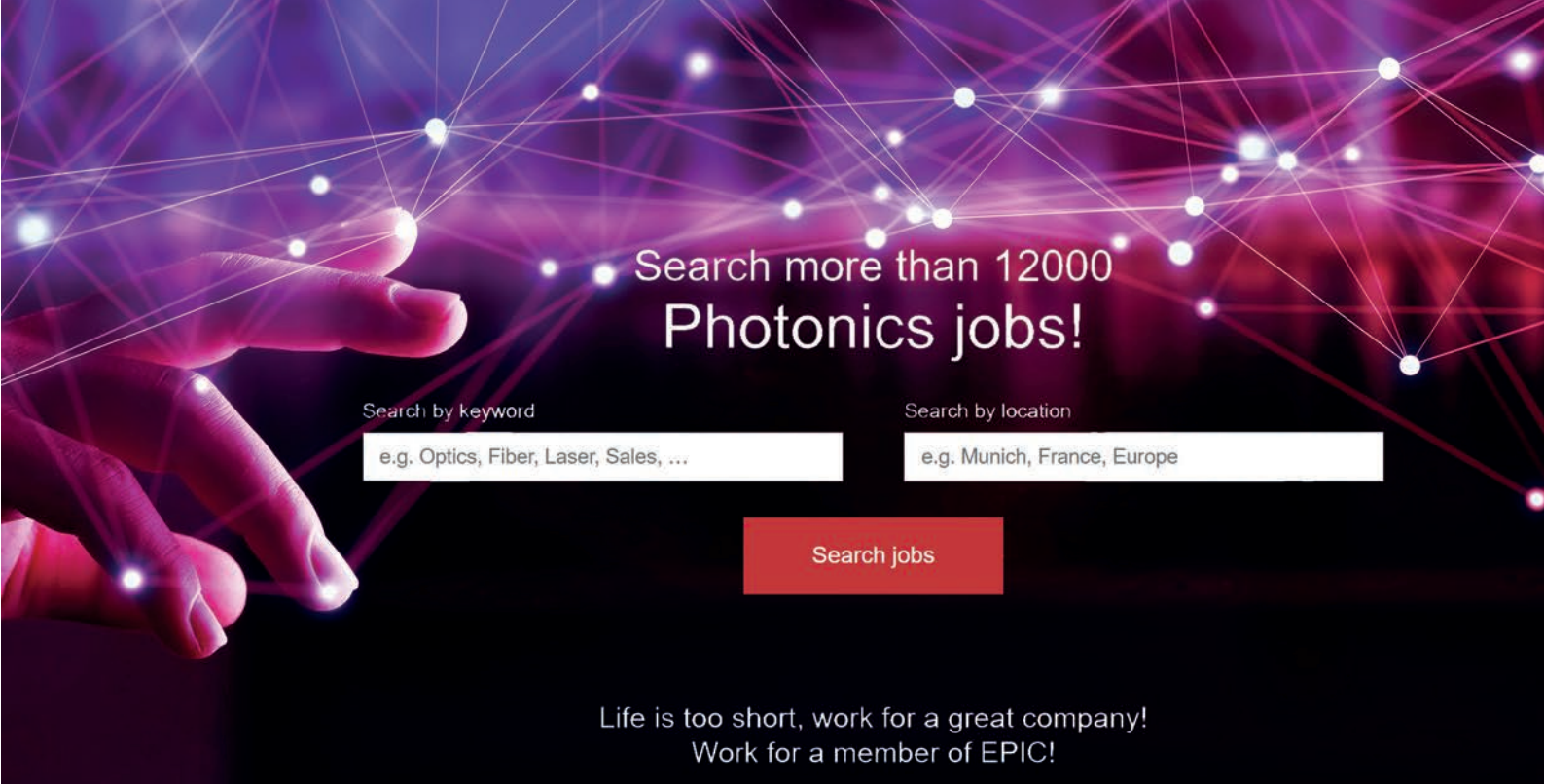
Lars Leininger (R&D Manager) graduated from Technische Universität Karlsruhe and holds a PhD degree from Technische Universität Berlin, where he focused on the development of high-power solid-state lasers. At Jenoptik Laserdiode, he managed the production of the high-power laser-diode assembly line. He joined Infineon Fiber Optics and held different positions in development and applications engineering of high-speed optical transceivers in Germany and in the US. Since 2007, he is with Leoni Fiber Optics, which later became WEINERT Fiber Optics, where he started in key account management. Currently he serves as a R&D Manager for funded development projects.



Workshop of Photonics (WOP) is a privately-owned company active in femtosecond laser micromachining. The company develops solutions and sells microfabrication workstations, provides contract manufacturing as well as software development services. Having well equipped industrial application laboratory, WOP can accommodate even the most challenging tasks from clients. Since 2003, WOP has been working on projects connecting scientific inventions with the market needs. Company's growth is fueled by a culture of open innovation and partnership with the local laser sector companies and worldwide partners. Clients range from research centers and laboratories to industrial companies active in the fields of semiconductors, medical, automotive and telecommunication. www.wophotonics.com



Justas Baltrukonis (Head of Research Group) is responsible for the development of laser micromachining technologies from prototype to small scale production and/or specialized workstation within Workshop of Photonics (Altechna R&D). He obtained his MS in Laser Physics at Vilnius university in 2020, and since then, continues his work in femtosecond laser industry. Justas expertise lies in glass and metal microfabrication including precision fiber alignment guide plates and direct fiber Bragg grating inscription.



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