9 October 2023. 15:00 - 17:00 CEST

EPIC Online Technology Meeting on Optical Metrology Solutions for the Industry

EPIC
EUROPEAN PHOTONICS INDUSTRY CONSORTIUM

9 October 2023. 15:00 - 17:00 CEST

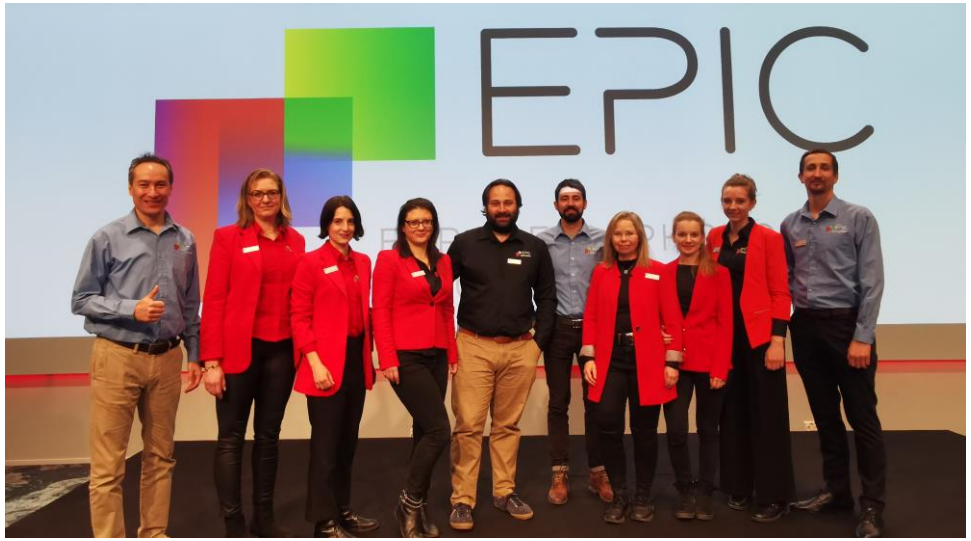
EPIC Online Technology Meeting on Optical Metrology Solutions for the Industry

EPIC
EUROPEAN PHOTONICS INDUSTRY CONSORTIUM

New Decade
New Logo
Same Mission

European Photonics Industry Consortium

- Technology
- Market Reports
- Networking
- Access to markets
- Mentorship
- HR Support
- Investment



EPIC Events

PHYSICAL MEETINGS

11-12 Oct. 2023	EPIC Meeting on Industrial Quantum Photonics Technology at TOPTICA	**Munich, Germany**
24-25 Oct. 2023	EPIC Meeting on Laser Appl. along Battery Manufact. Process at ARENA2036	**Stuttgart, Germany**
23-27 Oct. 2023	EPIC Members Delegation to Taiwan	**Taipei, Taiwan**
7-8 Nov. 2023	EPIC Members Investors Meeting	**Eindhoven, Netherlands**
13-14 Nov. 2023	EPIC Meeting on Microelectronics & Photonics – Two Sides of One Coin	**Munich, Germany**
29-30 Nov. 2023	EPIC Meeting on Photonics assisted Cancer Pathology and Surgery at UZA	**Antwerp, Belgium**

ONLINE MEETINGS

16 October 2023	EPIC Online Marketing Meeting: **Google Analytics I – unlock the power of GA4**
17 October 2023	EPIC Technology Report on **Freeform Optical Systems by Oliver Faehnle**
23 October 2023	EPIC Online Technology Meeting on **LIDARs on Chips**
06 November 2023	EPIC Online Technology Meeting on **Optical Design and Simulations: Tools and Use-cases**
20 November 2023	EPIC Online Technology Meeting on **New Mid-IR Developments for Novel Industrial Manufact.**
08 December 2023	EPIC Workgroup on **Sustainable Photonics**

More information: https://epic-assoc.com/epic-events/

EPIC Online Technology Meeting on Optical Metrology Solutions for the Industry

JePPIX Pilot Line

- Manufacturing pilot line for Indium Phosphide PICs offering design, manufacturing and testing services.
  www.jeppix.eu

MICRO-OPTICS IS... Phabulous

European Pilot Line for the manufacturing of free-form micro-optics offering accelerated innovation & production cycles from prototypes to piloting and large volume production.
www.phabulous.eu

MedPhab Photonic Medical Devices

Pilot line dedicated to manufacturing, testing, validating and upscaling new photonics technologies for medical diagnostics.
www.medphab.eu

PhotonHub Europe PHOTONICS INNOVATION HUB FOR EUROPE

Single pan-EU Photonics Innovation Hub offering a comprehensive range of supports to industry for the accelerated uptake and deployment of photonics.
www.photonhub.eu

multiple

Project to develop cost-effective multi-modal monitoring solutions with a breakthrough impact on production quality and efficiency.
www.multipleproject.eu

Pulsate

The PAN-European network for empowering SMEs digital competences in laser-based advance and additive manufacturing (LBAAM).
www.pulsate.eu

Event sponsor:

Acktar Advanced Coatings

ESSENT OPTICS

modulight

9 October 2023. 15:00 - 17:00 CEST

EPIC Online Technology Meeting on Optical Metrology Solutions for the Industry

EPIC
EUROPEAN PHOTONICS INDUSTRY CONSORTIUM

EssentOptics Europe

Outstanding spectral measurements of optical coatings on flats and lenses

www.essentoptics.com

Type of measured sample: PLANO OPTICS

Solution: PHOTON RT spectrophotometers

PHOTON RT
Spectrophotometer

Features: %T / %R

Six wavelength ranges:
From 380 – 1 700 nm to 185 – 5 200 nm

Types of samples:
- Flats
- Cubes
- Cemented prisms

Angular S-pol / P-pol data
- 0 – 75 (85) deg AOI
- S, P, Avg
- %R / %T (both absolute)

Size of samples:
- Min 4 mm
- Max 150 mm

PHOTON RT 7512
Spectrophotometer

Features: %T / %R

Wavelength ranges: 7 500 – 12 500 nm

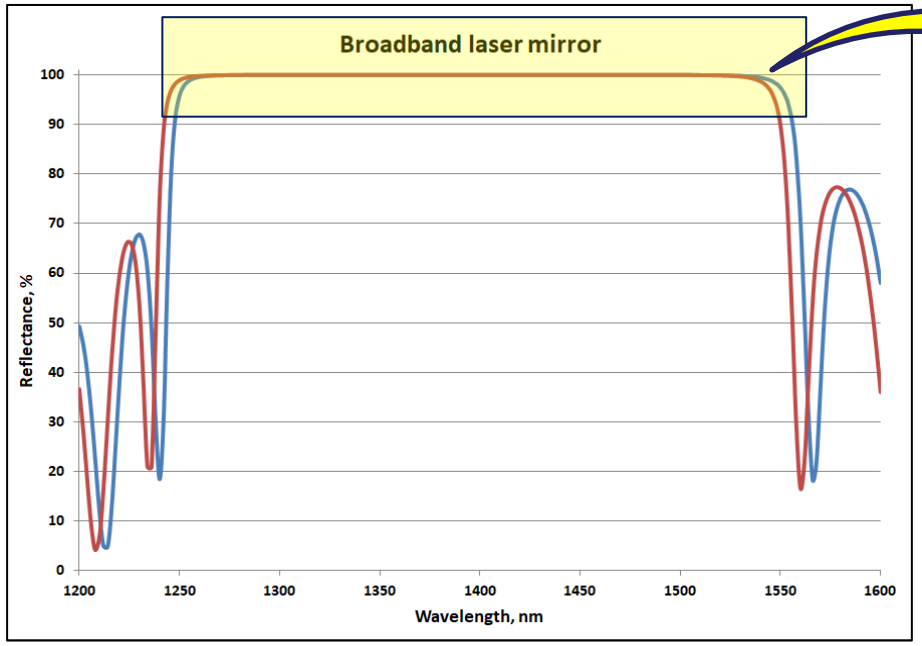
Types of samples:
- Flats
- Cubes
- Cemented prisms

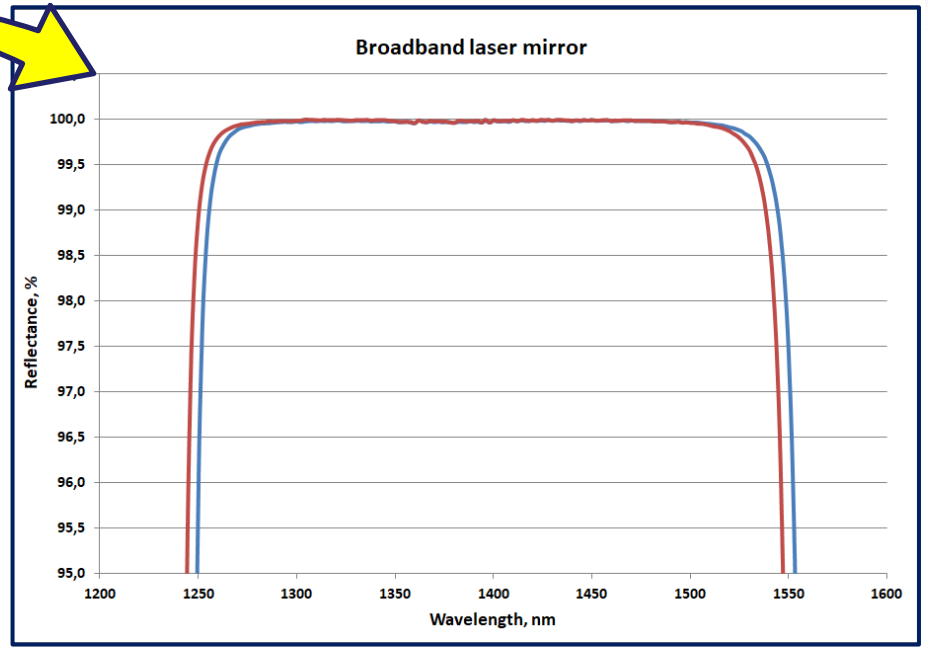
Angular S-pol / P-pol data
- 0 - 60 deg AOI
- S, P, Avg
- %R / %T

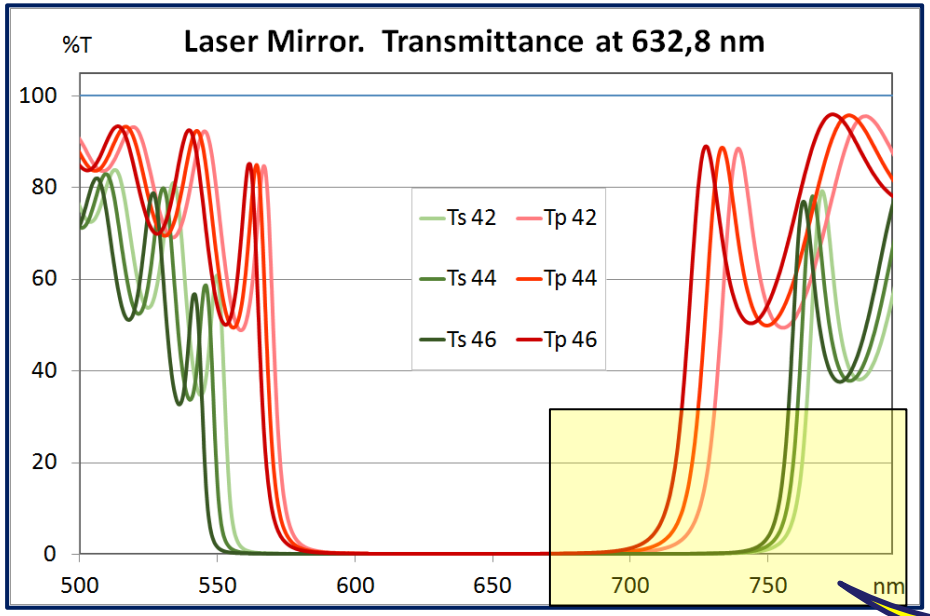
Size of samples:
- Min 10 mm
- Max 210 x 150 x 40 mm

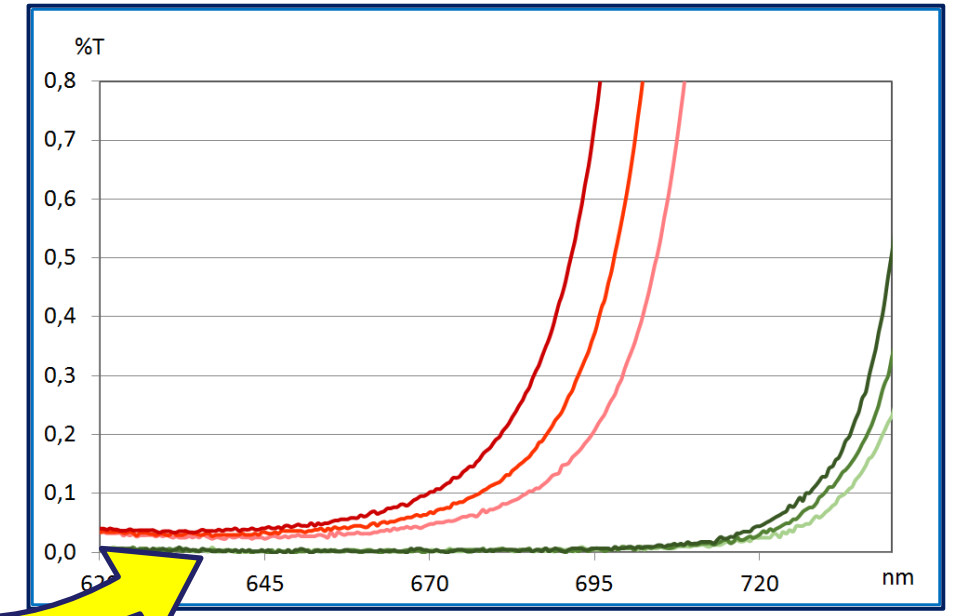
Unique capabilities

Very good beam divergence: +/-1 deg; Fully unattended operation; Fast and high accuracy measurements


Broadband laser mirror
Reflectance, %
Wavelength, nm


Broadband laser mirror
Reflectance, %
Wavelength, nm


Laser Mirror. Transmittance at 632,8 nm
%T
Ts 42
Tp 42
Ts 44
Tp 44
Ts 46
Tp 46
nm


%T
nm

This is Modulight

We fight cancer with science and technology

- We are a biomedical company that designs and manufactures laser devices for the treatment of cancer and eye diseases and for genetics
- Exclusive supplier to 10+ pharmas, other Fortune 500 companies & well-known cancer centers
- We also manufacture products for other high-value applications such as quantum computing
- 20+ years track record of semiconductor lasers & optics (UV – 2000+ nm) for medical and high value-add applications

Life sciences

・ Oncology ・
・ Ophthalmology ・
・ Genetics & diagnostics ・

Other high value-add applications

・ Quantum computing ・
・ Digital press ・
・ Weather monitoring ・
・ Environment & sensing ・

Services

・ Data analytics & Cloud ・
・ Lifecycle support with recurring service plans ・ Regulatory design & approvals ・
・ Pay-per-use services ・ On-site/online training and annual calibration ・
・ Regulatory and feature software updates ・

modulight

WHY & WHEN to think about scattered light

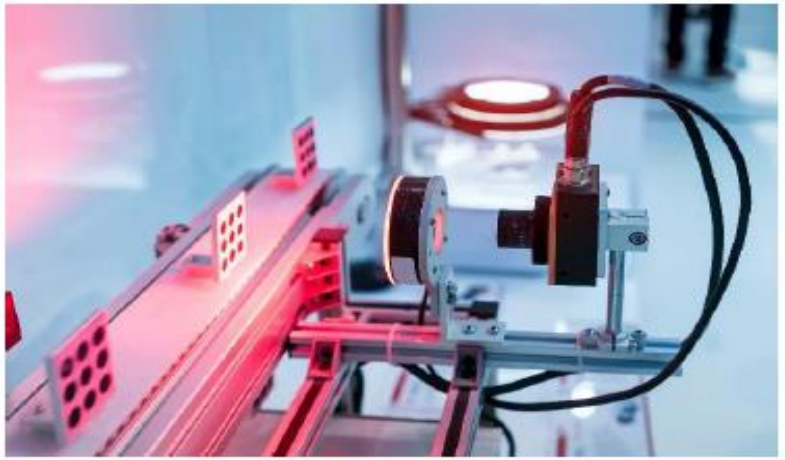
Acktar
Advanced Coatings

WHY

- Enhancing signal-to-noise
- Increasing sensitivity
- Improving image quality & contrast
- Reducing complexity

WHEN

- As early as possible in the development process of new photonic instruments and systems
- But it is never to late to implement improvements in existing products later in the product lifecycle



EPIC Online Technology Meeting on Optical Metrology Solutions for the Industry

October 9th, 2023 - 15:00 CEST @Youtube: EPIC Photonics

EPIC
EUROPEAN PHOTONICS INDUSTRY CONSORTIUM

End-users

R&D
Fraunhofer IPT
Tekniker
ICFO
INL
Defence
aselsan
Optical Storage Media
Sony DADC
ams OSRAM
SWATCH GROUP
TATA STEEL

Photonic Components

Augmented Reality
ENVISICS
Optical Fibers
NKT Photonics
Opto-Mechatronic Systems
NTS OPTEL
Positioning Systems
PI
Sensing
Melexis
Wavefront Sensors
imagine optic
OPTOCRAFT
LASER COMPONENTS
TEC
FerroTec
EXCELITAS TECHNOLOGIES
Ibsen photonics
EKSMA OPTICS
BROADCOM
connecting everything

Metrology

AR/VR
OPTOFIDELITY
Semiconductor & Electronics
KLA
Industrial Inspection
perceptron
Medical Imaging Devices
imagine eyes
ESSENT OPTICS
Optics
Microscopy
Opto
OEM Spectrometers
Ibsen photonics
THz
HÜBNER
LAMBDA-X
OPTIMEC
Spectral Light Measurements
Instrument Systems
KONICA MINOLTA Group
ADMESY
Polytec
TRIOPTICS
Mitutoyo
AMETEK
OPTOCRAFT
imagine optic
NTS OPTEL

Optics and Micro-optics

Edmund optics worldwide
High Power Laser Optics You Can Trust
SÜSS MicroOptics
EKSMA OPTICS
Altechna
FEMTOPRINT
3D PRINTING FOR GLASS MICRODEVICES
SELENE DEVELOPMENT
Beam Shaping
PowerPhotonic

Lasers

Dual-Comb Lasers
K2PHOTONICS
VCSELS
BANDWIDTH10
Medical Applications
modulight
NKT Photonics
HÜBNER
hilase
COHERENT
QS LASERS
TOPTICA

Optical Design

LUCEDA PHOTONICS
ASE OPTICS EUROPE
SYNOPSYS

Coatings & Filters

Vacuum Coating Systems
artemis OPTICAL
MATERION
BALZERS OPTICS
HEF GROUPE
Acktar Advanced Coatings
SPECTROGON
Optical filters • Coatings • Gratings
FerroTec

Laser Workstations & Machines

LASEA LASER SOLUTIONS
OXFORD LASERS

Market Intelligence / Consultancy

PHOTONIKBIZ
Tematys
Exploration of photonics markets

Advanced Materials

SUMITOMO ELECTRIC
Glass
SCHOTT
glass made of ideas

Added Value Distribution

Lahat Technologies Ltd.
LASER 2000

EPIC

Service Providers

Engineering & Development
ASE OPTICS EUROPE
Innovations Accelerator
AQUITAINE SCIENCE TRANSFERT
Accélérateur d'innovations
Software
OPENCADD
MODEL - BASED DESIGN DRIVEN COMPANY
Manufacturing
Focuz
manufacturing services
Free-form Optics
Phabulous
Funded by:
PICs
picstech
photonic integrated circuits fabless ecosystem
PSSP
Photonics Supply & Services Partner
FEMTOPRINT
3D PRINTING FOR GLASS MICRODEVICES

Cameras & Detectors

tec5
MEMBER OF THE NYNOMIC GROUP
SILINA
SHAPE YOUR SENSOR
Xenics
Infrared Solutions

Equipment

Automated Assembly and Testing
ficontec
photonics assembly & testing
OPTOTEK MEDICAL
BY LUMIBIRD MEDICAL
Medical
modulight
Advanced Plasma-Processing
Plasma-Therm
Production
IMS
TAKING YOU STEPS AHEAD
Nanofabrication
HEIDELBERG INSTRUMENTS
The power of direct writing
monphotonics
Semiconductor Manufacturing
APPLIED MATERIALS
make possible
Test and Measurement
yelo
MICROCHIP
ASMPT

R&D

csem
VTT
TU Delft
Fraunhofer CAP
SAL
SILICON AUSTRIA LABS
UPC
UNIVERSITAT POLITÈCNICA DE CATALUNYA
BARCELONATECH
RI.SE
PAMUKKALE ÜNİVERSİTESİ
DENİZLİ

EPIC Online Technology Meeting on Optical Metrology Solutions for the Industry

October 9th, 2023 - 15:00 CEST @Youtube: EPIC Photonics

EPIC
EUROPEAN PHOTONICS INDUSTRY CONSORTIUM

End-users

R&D
Fraunhofer IPT
Tekniker
ICFO
INL
Defence
aselsan
Optical Storage Media
Sony DADC
ams OSRAM
SWATCH GROUP
TATA STEEL

Photonic Components

Augmented Reality
ENVISICS
Optical
Opto-Mechatronic Systems
NTS OPTEL
Positioning Systems
PI
Sensing
Melexis
LASER COMPONENTS
Wavefront Sensors
imagine optic
OPTOCRAFT
TEC
FerroTec
EXCELITAS TECHNOLOGIES
Ibsen photonics
BROADCOM

Metrology

AR/VR
OPTOFIDELITY
Semicon
Electroni
KLA
Industrial Inspecti
perceptron
Medical Imaging Devices
imagine eyes
ESSENT OPTICS
Optics
Microscopy
Opto
OEM Spectrometers
Ibsen photonics
THz
HÜBNER
LAMBDA-X
OPTIMEC
Spectral Light Measurements
Instrument Systems
KONICA MINOLTA Group
ADMESY
Polytec
TRIOPTICS
OPTOCRAFT
NTS OPTEL
Mitutoyo
AMETEK
imagine optic

Optics and Micro-optics

Edmund optics worldwide
High Power Laser Optics You Can Trust
SÜSS MicroOptics
EKSMA OPTICS
Altechna
FEMTOPRINT
3D PRINTING FOR GLASS MICRODEVICES
SELENE DEVELOPMENT
Beam Shaping
PowerPhotonic

Lasers

Dual-Comb Lasers
K2PHOTONICS
VCSELS
BANDWIDTH10
Medical Applications
modulight
NKT Photonics
HÜBNER
hilase
COHERENT
QS LASERS
TOPTICA

Optical Design

LUCEDA PHOTONICS
ASE OPTICS EUROPE
SYNOPSYS

Coatings & Filters

Vacuum Coating Systems
artemis OPTICAL
MATERION
BALZERS OPTICS
HEF GROUPE
Acktar Advanced Coatings
SPECTROGON
Optical filters • Coatings • Gratings
FerroTec

Laser Workstations & Machines

LASEA LASER SOLUTIONS
OXFORD LASERS

Market Intelligence / Consultancy

PHOTONIKBIZ
Tematys
Exploration of photonics markets

Advanced Materials

SUMITOMO ELECTRIC

Glass

SCHOTT
glass made of ideas

Added Value Distribution

Lahat Technologies Ltd.
LASER 2000

EPIC

Service Providers

Engineering & Development
ASE OPTICS EUROPE
Innovations Accelerator
AQUITAINE SCIENCE TRANSFERT
Accélérateur d'innovations
Software
OPENCADD
MODEL - BASED DESIGN DRIVEN COMPANY
Manufacturing
Focuz
manufacturing services
Free-form Optics
Phabulous
Funded by:
PICs
picstech
photonic integrated circuits fabless ecosystem
PSSP
Photonics Supply & Services Partner
FEMTOPRINT
3D PRINTING FOR GLASS MICRODEVICES

Cameras & Detectors

tec5
MEMBER OF THE NYNOMIC GROUP
SILINA
SHAPE YOUR SENSOR
Xenics
Infrared Solutions

Equipment

Automated Assembly and Testing
ficontec
photonics assembly & testing
OPTOTEK MEDICAL
BY LUMIBIRD MEDICAL
Medical
modulight
Advanced Plasma-Processing
Plasma-Therm
Production
IMS
TAKING YOU STEPS AHEAD
Nanofabrication
HEIDELBERG INSTRUMENTS
The power of direct writing
monphotonics
Semiconductor Manufacturing
APPLIED MATERIALS
make possible
Test and Measurement
yelo
MICROCHIP
ASMPT

R&D

csem
VTT
TU Delft
Fraunhofer CAP
SAL
SILICON AUSTRIA LABS
UPC
UNIVERSITAT POLITÈCNICA DE CATALUNYA
BARCELONATECH
RI SE
PAMUKKALE ÜNİVERSİTESİ
DENİZLİ

EPIC Online Technology Meeting on Optical Metrology Solutions for the Industry

October 9th, 2023 - 15:00 CEST @Youtube: EPIC Photonics

EPIC
EUROPEAN PHOTONICS INDUSTRY CONSORTIUM

End-users

R&D
Fraunhofer IPT
Tekniker
ICFO
INL
Defence
aselsan
Optical Storage Media
Sony DADC
amu
OSRAM
SWATCH GROUP
TATA STEEL

Photonic Components

Augmented Reality
ENVISICS
Optical
Opto-Mechatronic Systems
NTS OPTEL
Positioning Systems
PI
Sensing
Melexis
LASER COMPONENTS
Wavefront Sensors
imagine
OPTOCRA
TEC
EXCELITAS TECHNOLOGIES
Ibsen photonics

Metrology

AR/VR
OPTOFIDELITY
Semicon
Electroni
KLA
Indus
Spectr
ESSENT OPTICS
Optics
Microscopy
Opto
OEM Spectrometers
Ibsen photonics
Medical Imaging Devices
imagine eyes
Spectral Light Measurements
Instrument Systems
KONICA MINOLTA Group
ADMESY
THz
HÜBNER
LAMBDA-X
OPTIMEC
Polytec
TRIOPTICS
OPTOCRAFT
Mitutoyo
AMETEK
imagine optic
NTS OPTEL

Optics and Micro-optics

Edmund optics worldwide
High Power Laser Optics You Can Trust
SÜSS MicroOptics
EKSMA OPTICS
Altechna
FEMTOPRINT
SELENE DEVELOPMENT
Beam Shaping
PowerPhotonic

rs

Comb
K2PHOTONICS
VCSELS
BANDWIDTH10
Medical Applications
modulight
HÜBNER
hilase
COHERENT
NKT Photonics
QS LASERS
TOPTICA

Optical Design

LUCEDA PHOTONICS
ASE OPTICS EUROPE
SYNOPSYS

Coatings & Filters

Vacuum Coating
artemis OPTICAL
MATERION
BALZERS OPTICS
HEF GROUPE
Acktar Advanced Coatings
SPECTROGON
Optical filters • Coatings • Gratings
FerroTec

Laser Workstations & Machines

LASEA LASER SOLUTIONS
OXFORD LASERS

Advanced Materials

SUMITOMO ELECTRIC
Glass
SCHOTT glass made of ideas

Added Value Distribution

Lahat Technologies Ltd.
LASER 2000

EPIC

Service Providers

Engineering & Development
ASE OPTICS EUROPE
Innovations Accelerator
AQUITAINE SCIENCE TRANSFERT
Accélérateur d'innovations
Software
OPENCADD
MODEL - BASED DESIGN DRIVEN COMPANY
Manufacturing
Focuz
manufacturing services
Free-form Optics
Phabulous
Funded by:
PICs
picstech
photonic integrated circuits fabless ecosystem
PSSP
Photonics Supply & Services Partner
FEMTOPRINT
3D PRINTING FOR GLASS MICRODEVICES

Cameras & Detectors

tec5
MEMBER OF THE NYNOMIC GROUP
SILINA
SHAPE YOUR SENSOR
Xenics
Infrared Solutions

Equipment

Automated Assembly and Testing
ficontec
photonics assembly & testing
OPTOTEK MEDICAL
BY LUMIBIRD MEDICAL
Medical
modulight
Advanced Plasma-Processing
Plasma-Therm
Production
IMS
TAKING YOU STEPS AHEAD
Nanofabrication
HEIDELBERG INSTRUMENTS
The power of direct writing
monphotonics
Semiconductor Manufacturing
APPLIED MATERIALS
make possible
Test and Measurement
yelo
MICROCHIP
ASMPT

R&D

csem
VTT
TU Delft
Fraunhofer CAP
SAL
SILICON AUSTRIA LABS
UPC
UNIVERSITAT POLITÈCNICA DE CATALUNYA
BARCELONATECH
RISE
PAMUKKALE ÜNİVERSİTESİ
DENİZLİ

EPIC Online Technology Meeting on Optical Metrology Solutions for the Industry

October 9th, 2023 - 15:00 CEST @Youtube: EPIC Photonics

EPIC
EUROPEAN PHOTONICS INDUSTRY CONSORTIUM

End-users

R&D
Fraunhofer IPT
Tekniker
ICFO
INL
Defence
aselsan
Optical Storage Media
Sony DADC
ams OSRAM
SWATCH GROUP
TATA STEEL

Photonic Components

Augmented Reality
ENVISICS
Optical
Opto-Mechatronic Systems
NTS OPTEL
Positioning Systems
PI
Sensing
Melexis
LASER COMPONENTS
Wavefront Sensors
imagine
OPTOCRA
TEC
EXCELITAS TECHNOLOGIES
Ibsen photonics

Metrology

Semicon
Electroni
KLA
Indus
AR/VR
OPTOFIDELITY
Medical Imaging Devices
imagine eyes
ESSENT OPTICS
Optics
Microscopy
Opto
OEM Spectrometers
Ibsen photonics
Spectral Light Measurements
Instrument Systems
KONICA MINOLTA Group
ADMESY
THz
HÜBNER
LAMBDA-X
OPTIMEC
Polytec
TRIOPTICS
OPTOCRAFT
NTS OPTEL
Mitutoyo
AMETEK
imagine optic

Optics and Micro-optics

Edmund optics worldwide
High Power Laser Optics You Can Trust
SÜSS MicroOptics
EKSMA OPTICS
Altechna
FEMTOPRINT
SELENE DEVELOPMENT
Beam Shaping
PowerPhotonic

Lasers

Comb
K2PHOTONICS
VCSELS
BANDWIDTH10
Medical Applications
modulight
HÜBNER
hilase
COHERENT
NKT Photonics
QS LASERS
TOPTICA
ASE OPTICS EUROPE
SYNOPSYS

Coatings & Filters

Vacuum Coating Systems
OPTICHE
HEF GROUPE
SPECTROGON
Optical filters • Coatings • Gratings
FerroTec

Laser Workstations & Machines

LASEA
LASER SOLUTIONS
OXFORD LASERS

Advanced Materials

SUMITOMO ELECTRIC
Glass
SCHOTT
glass made of ideas

Added Value Distribution

Lahat Technologies Ltd.
LASER 2000

EPIC

Service Providers

Engineering & Development
ASE OPTICS EUROPE
Innovations Accelerator
AQUITAINE SCIENCE TRANSFERT
Accélérateur d'innovations
Software
OPENCADD
MODEL - BASED DESIGN DRIVEN COMPANY
Manufacturing
Focuz
manufacturing services
Free-form Optics
Phabulous
Funded by:
PICs
picstech
photonic integrated circuits fabless ecosystem
PSSP
Photonics Supply & Services Partner
FEMTOPRINT
3D PRINTING FOR GLASS MICRODEVICES

Cameras & Detectors

tec5
MEMBER OF THE NYNOMIC GROUP
SILINA
SHAPE YOUR SENSOR
Xenics
Infrared Solutions

Equipment

Automated Assembly and Testing
ficontec
photonics assembly & testing
OPTOTEK MEDICAL
BY LUMIBIRD MEDICAL
Medical
modulight
Advanced Plasma-Processing
Plasma-Therm
Production
IMS
TAKING YOU STEPS AHEAD
Nanofabrication
HEIDELBERG INSTRUMENTS
The power of direct writing
monphotonics
Semiconductor Manufacturing
APPLIED MATERIALS
make possible
Test and Measurement
yelo
MICROCHIP
ASMPT

R&D

csem
VTT
TU Delft
Fraunhofer CAP
SAL
SILICON AUSTRIA LABS
UPC
UNIVERSITAT POLITÈCNICA DE CATALUNYA
BARCELONATECH
RI.SE
PAMUKKALE ÜNİVERSİTESİ
DENİZLİ

EPIC Online Technology Meeting on Optical Metrology Solutions for the Industry

Moderators: Antonio Castelo, PhD — Technology Manager for Bio-Medical and Lasers

Agenda:

15:00 – 15:10	Opening by Antonio Castelo, Photonics Technology Manager at EPIC + **Sponsors**
15:10 – 15:25	**Challenges in Measurement and Characterization of Microoptical Components** Toralf Scharf, Director Technology at SUSS MicroOptics
15:25 – 15:40	**Optical Measurement Technologies at Tata Steel** Frenk van den Berg, Research and Development at Tata Steel
15:40 – 15:55	**Industry optical testing boosted by LIFT wavefront sensing** Rafaël Porcar, Scientific Coordinator at Imagine Optic
15:55 – 16:10	**V-Optics** Kevin Contreras, R&D Manager at V-Optics
16:10 – 16:25	**High precision dimensional inspection for industry from R&D** Andres Cifuentes, CEO at ASE Optics
16:25 – 16:40	**Optical Metrology for Image Quality and Latency Performance of AR Smartglasses** Murat Deveci, Director, Business Development at Optofidelity
16:40 – 16:55	**Measurement of the Optical Quality of Windows and Objective Lenses Using Wavefront Metrology** Christian Brock, Sales Manager at Optocraft
16:55 – 17:00	Closing by Antonio Castelo, Photonics Technology Manager at EPIC

Event sponsor:

Acktar Advanced Coatings

ESSENT OPTICS

modulight

9 October 2023. 15:00 - 17:00 CEST

EPIC Online Technology Meeting on Optical Metrology Solutions for the Industry

EPIC
EUROPEAN PHOTONICS INDUSTRY CONSORTIUM