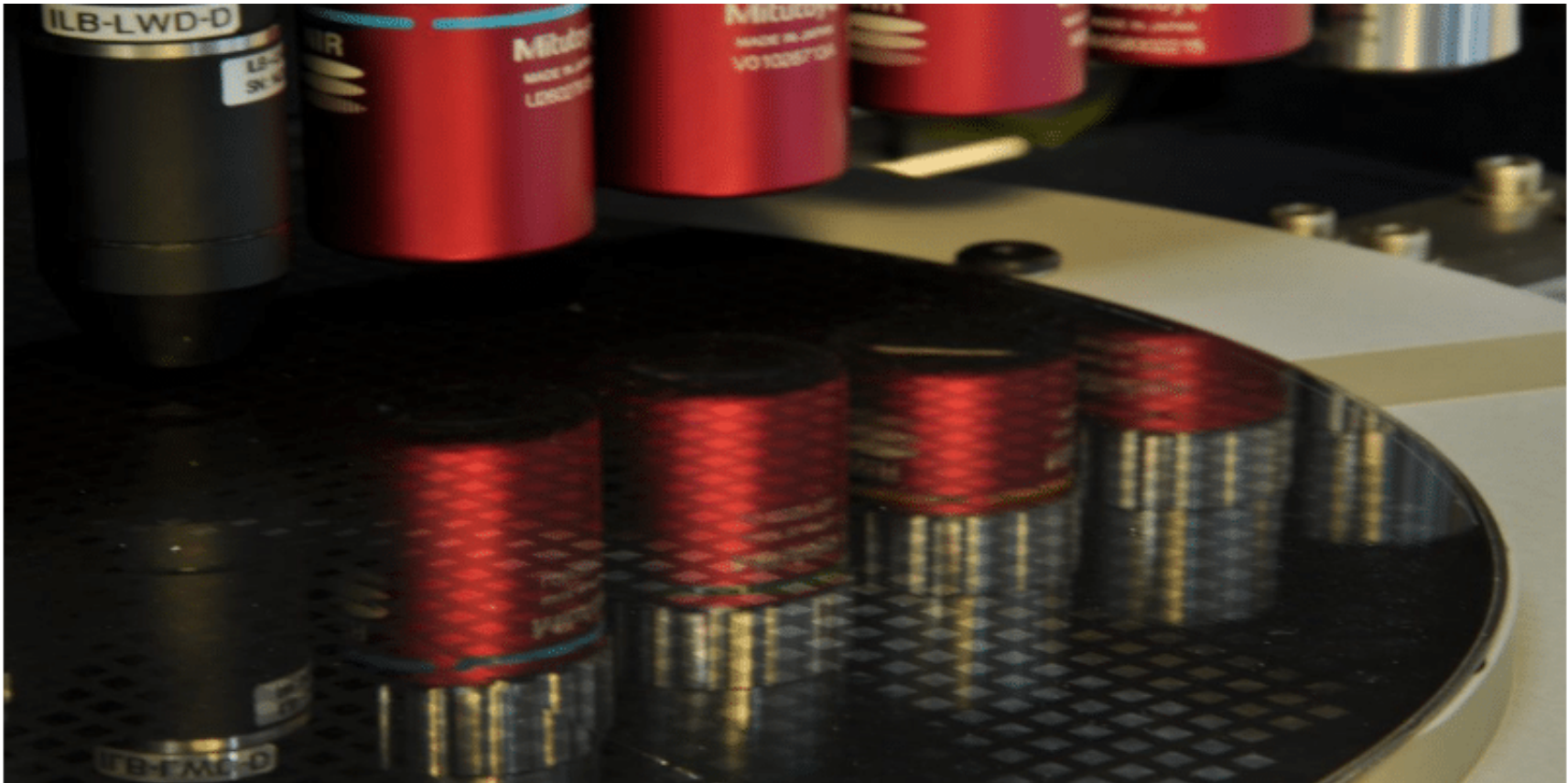**unity** SC

METROLOGY SOLUTIONS
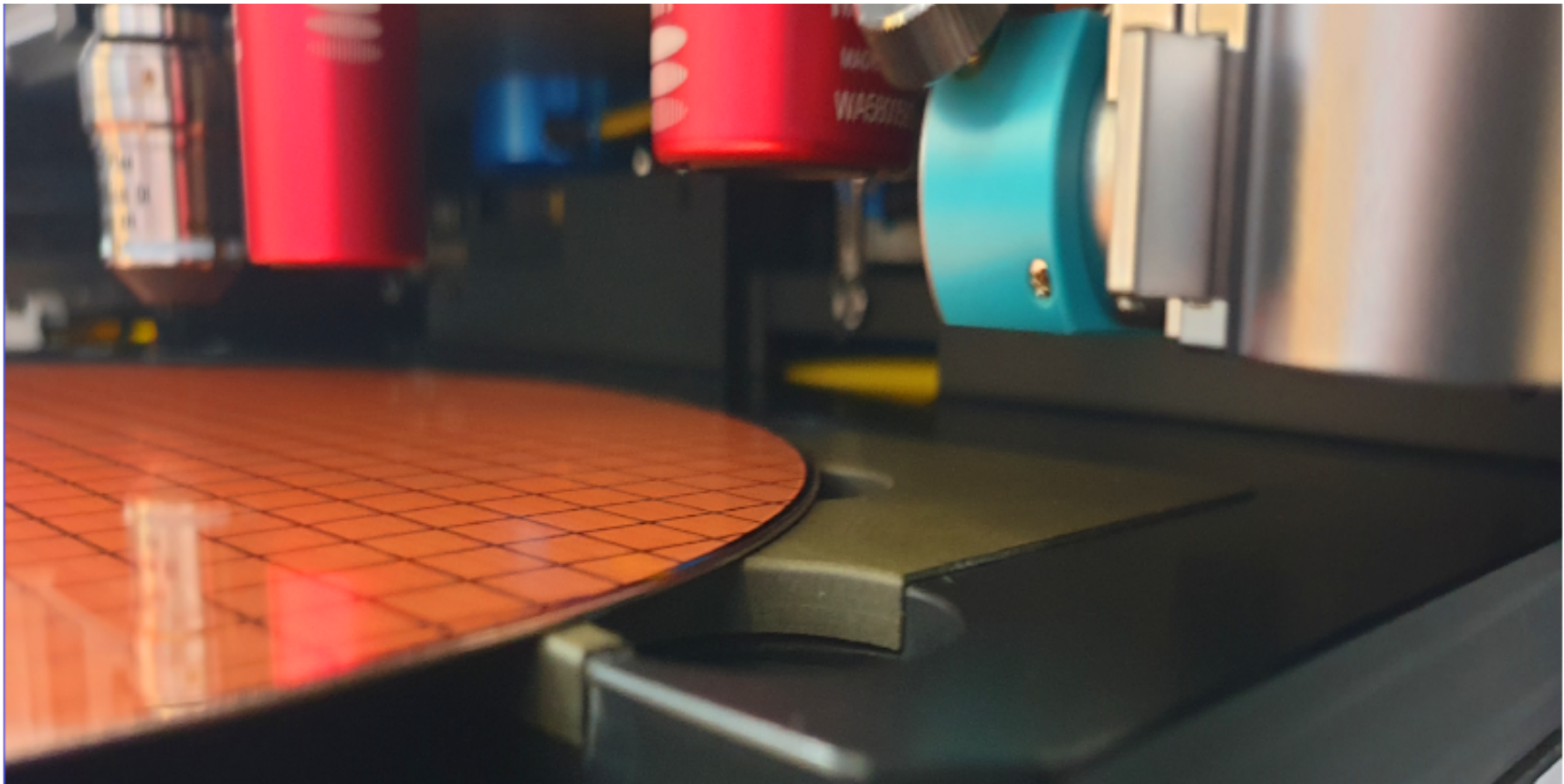
TMAP solutions

TMAP-AP

The TMAP-AP is the complete metrology solution for 3D IC/TSV process control with the best balance between performance, throughput and cost of ownership (CoO).

The TMAP-AP measure multiple layer stacks and differentiate them in the order they are placed. Even under highly warped conditions, the TMAP Series' state of the art design provides dependable measurement where and when you need it.

Main Applications

Advanced Packaging	MEMS
FOWLP	2.5D & 3D IC TSV

HBM

TMAP ^{NST} $_{3D}$

The TMAP ^{NST} is a non contact full field metrology solution based on optical microscopy enabling surface topography measurements at the nano scale.

The TMAP ^{NST} is pushing the boundaries of conventional microscopy with performances that stretch beyond contact profilometry and into the AFM space.

Main Applications

Cu CMP	Hybrid Bonding : Pre/Post Bonding
Front End CMP	Front End Etch
On/Out of plane Overlay	

INSPECTION SOLUTIONS

LIGHTSpEED

The LIGHTSpEED is the first unpatterned surface inspection solution that combines darkfield inspection and advanced Synchronous Doppler Detection Technology to capture nanometer scale defects on all kind of wafers.

As a part of the modular LIGHTsEE series from UnitySC the LIGHTSpEED can be used as a stand-alone tool or as part of a cluster in combination with other UnitySC technologies such as Phase Shift Deflectometry or brightfield confocal chromatic 2D inspection.

Main Applications

IQC	Process Monitoring
Specialty Substrate	Advanced Packaging
Power	MEMS

LIGHTsEE

The LIGHTsEE, Combo PSD/iEDGE is the leading solution for Power applications to reveal latent defects. It allows to detect sliplines, cristalographic defects as well as particles and contamination.

It also integrates a highly sensitive edge inspection can inspect standard, thin and Taiko wafers. This Combo is a unique solution for Slip lines and nanometer scale defect detection without contact, allowing simultaneous double side inspection.

Main Applications

Epi Inspection	Advanced Packaging
Wafer Thinning	Wafer Maker
Power / IGBT	

# AOI – Automated Optical Inspection solutions

ODIN

ODIN is a fully automated high-resolution AOI tool for the optical inspection of patterned and non-patterned wafers, their edges and back sides. All these features are seamlessly integrated in one single platform. Advanced 2D- and 3D metrology options for CD, OVL, VIA and film thickness and additional modules for super-fast macro scans (WOTAN) and edge inspection (THOR) enable true all-side wafer inspection and characterization.

Another key feature of this platform is the combined high throughput and high sensitivity, which is unique for automated macro inspection systems on the marketAny defect found can be captured in parallel and in the same run with the help of a built-in high-end microscope with Optics by Carl Zeiss.

Main Applications

|	
True Color Imaging Technology	3D CCS Bump Measurement
Advanced Automasking	Integrated High resolution review µscopy
Probe Mark Inspection	Integrated Metrology for CD/OVL
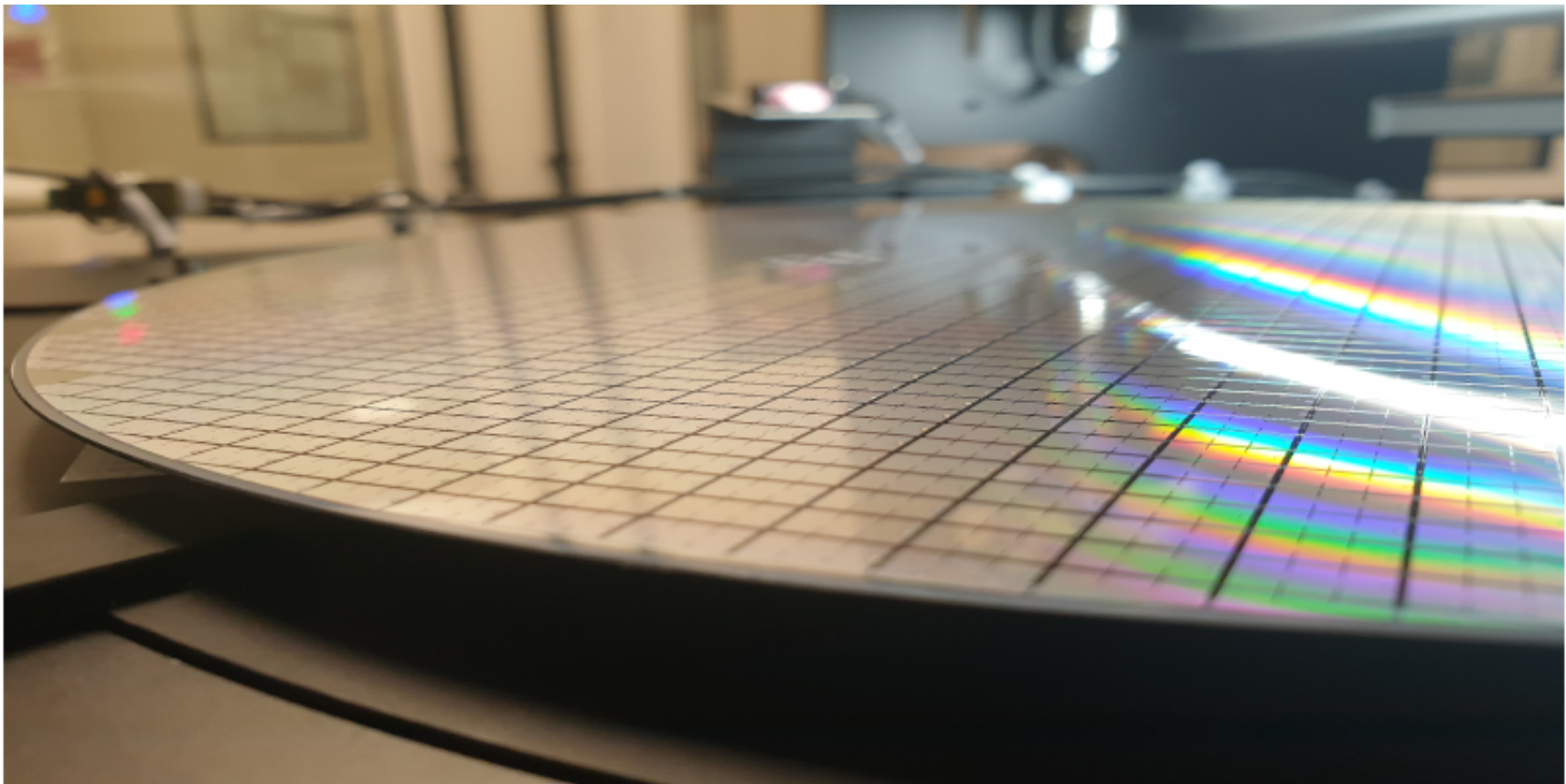
WOTAN

WOTAN is a fully automated, recipe-free, high-speed AOI tool for simultaneous front and back side inspection. It automatically detects macroscopic defects based on a wafer-to-wafer comparison. Key application is high throughput process monitoring and tool control . Easy-to-read instant result display options allow short correction cycles.

WOTAN is available stand-alone and in combination with edge inspection modules (THOR).

Main Applications

BS Roughness Monitoring	Wafer Signature Detection
Litho Defocus & Tilt Detection	Color Variation Detection
Automated Scribe Line Masking	
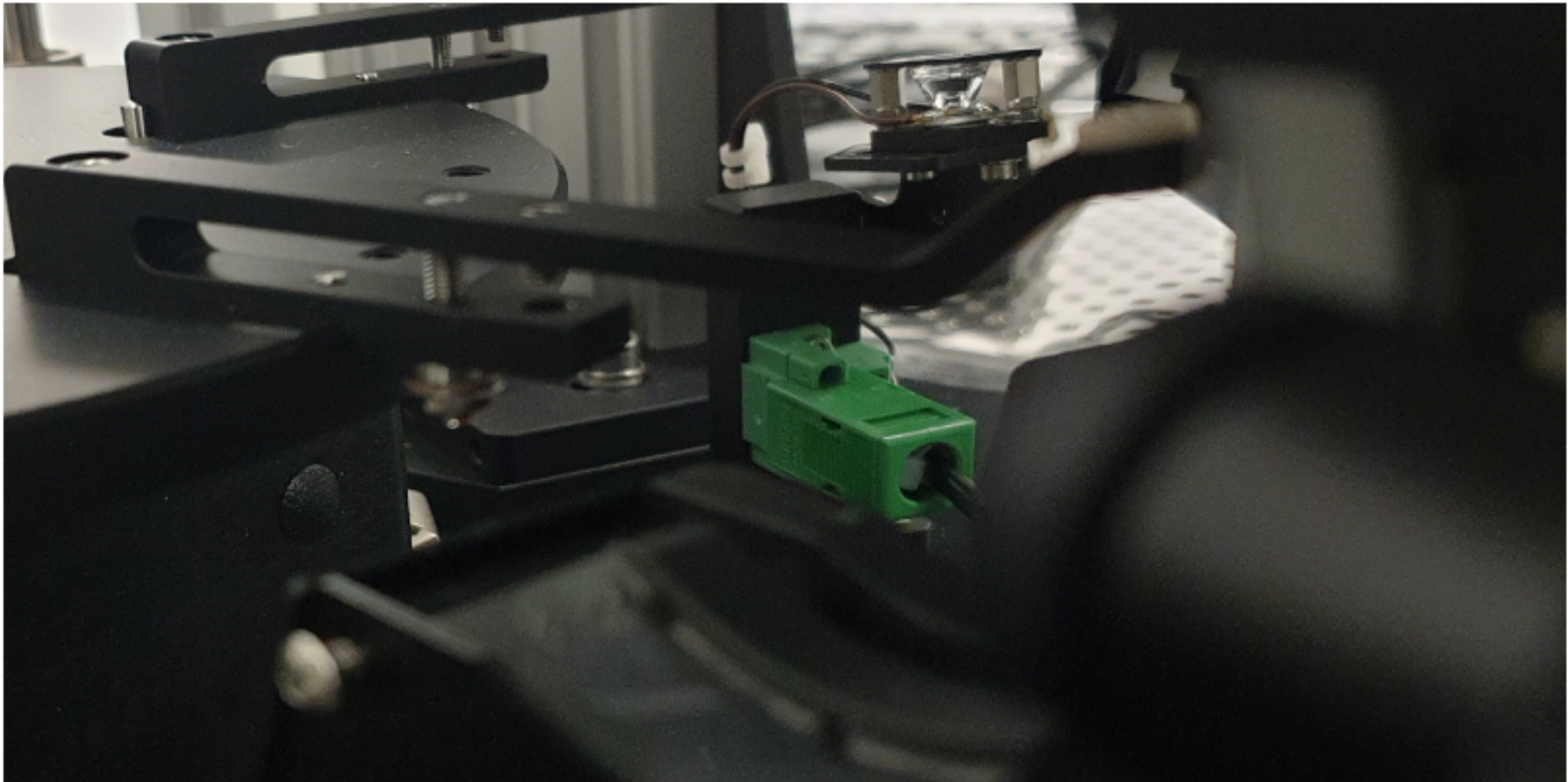
THOR

THOR is a fully automated, high-speed, high sensitivity AOI tool for edge inspection in all five zones. The built-in edge bead removal (EBR) metrology option allows for precise process monitoring and tool control.

THOR can be incorporated as a module into ODIN and WOTAN platforms to enable true all-side wafer inspection and characterization.

Main Applications

EBR/WEE	Overprinted Edge Inspection
Advanced Defect Binning (ADB)	Wafer Maker
Bonding 3D Packaging	All Edge Zones

AXIOSPECT

Axiospect is a versatile tool family for automatic and manual optical inspection, review and metrology. It's flexibility comprises vacuum and edge grip wafer handling, optional macro and edge inspection modules as well as metrology options for CD, OVL and film thickness.

Axiospect is the optimal complement to any optical defect inspection system for its automatic defect review ability based on KLARF. The wide range of available optical imaging techniques make it a universal tool for in-line defect engineering. It seamlessly integrates into wafer fab automation and comprises Optics by Carl Zeiss.

Main Applications

Macro Defect Documentation (DEDO)	360° Tilt & Wobble Macro
CD/OVL	FS/BS µScopy
Film Thickness	

DISCOVER OTHER SOLUTIONS

Internet Of Thing

IoT technology in its ultimate form will consist of an ecosystem of securely hyperconnected devices driving the word of tommorow. Discover how Unity^{SC} helps semiconductor vendors accelerating the next IoT generation.

.

High Perf. Computing (HPC) & High Band. Memory (HBM)

AI-driven data analytics is based on real-time data processing on a large scale. Discover how Unity^{SC} helps Semiconductor industry in optimizing computing and memory architecture so that large data sets and time-critical data can be more efficiently and securely handled.

Automotive

Automation, Electrification, Digital connectivity and advanced security ! All these trends have one common enabler, advances in semiconductor components. Discover how Unity^{SC} can help Semiconductor vendors to reach the ultimate level 5 of the automotive industry.

AI & Extended Reality

Augmented reality and artificial intelligence are distinct technologies, but together they create unique digital experiences. Discover how Unity^{SC} helps the Semiconductor industry move the boundaries of the digital world.

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What's new

Press releases

Unity SC opens a new location in Germany

by Marcom Officer | Sep 18, 2019

UNITY SC OPENS A NEW LOCATION IN GERMANY Montbonnot-Saint-Martin, the 12th of September 2019. Unity SC is deploying rapidly the strategic execution plan to differentiate in the market, and adapting its resources globally to address the fast growth. At the same time,...

GREENTROPISM and UNITYSC's Collaboration

by Marcom Officer | Sep 17, 2019

 GreenTropism and UnitySC sign MoU to collaborate tackling Molecular contamination identification on Advance Packaging issues using advanced sensing and artificial intelligence Taiwan, September 17, 2019 - GreenTropism a leading French startup on artificial...

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Events

Meet UnitySC during SEMICON Korea

News

UnitySC Opens a New Office in South Korea

by Marcom Officer | Jan 28, 2020

Mr Sungtae Kim, our Korean Key Account Director, and his team will be ready to meet you at SEMICON Korea, the key meeting on semiconductor market. Then event will be held from the 5th to the 7th of February 2020, at the Korea World Trade Tower, #4205, 511,...

UnitySC in Munich this week

by Marcom Officer | Nov 15, 2019

UnitySC was represented during two important events this week : Our Key Account Managers Mr Yves Budillon, and Mr Gilles Vera have hold a booth during the SEMICON Europa in Munich from the 12th to the 15th of November. They have been joined by our Product Line Manager...

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by Marcom Officer | Oct 30, 2019

We are pleased to announce that UnitySC has expanded to open a new office in South Korea ! UnitySC has officially opened a new office in Yongin-si, South Korea, the 28th of October 2019. As part of the strategy and worldwide growth, UnitySC is expanding locally its...

"Technologies development driven by MEMS challenges" at MEMS World Summit 2019

by Marcom Officer | Oct 15, 2019

Mr Mathieu NOEL, Product Line Manager for Metrology solutions at UnitySC, will present a paper during the MEMS World Summit, the 11th and 12th November 2019 at the Hilton Munich Park Hotel. The paper subject will be "Technologies development driven by MEMS...

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