



THE SEMICONDUCTOR RDV

**BUSINESS
FINLAND**


Invest in
**Grenoble
Alpes**


MINALOGIC
Auvergne-Rhône-Alpes

Photonics Finland

Photonics is a branch of science exploring technology related to visible light and other electromagnetic radiation. It focuses on the generation, manipulation and detection of light and offers solutions to various global challenges we are facing in the near future.

Finland has become one of the leading countries of photonics development and innovation in Europe. We have a great deal of expertise, particularly in imaging, microphotonics, nanophotonics and XR technology.

The sector is seeing rapid growth and provides excellent international opportunities Joensuu, Oulu and Tampere form the photonics ecosystem of the InnoCities. The urban network supports the growth of the sector's businesses, international networking and foreign investments in Finland.

**BUSINESS
FINLAND**

OUR SOLUTION

Photonics Finland unites companies and research institutions in Finland's photonics sector, promoting industry development and acting as a national advocate. We facilitate networking, innovation, and collaboration by linking individuals, businesses, and educational bodies. Through strong international ties and a deep understanding of our members' needs, we ensure the sector's competitiveness and success. Photonics Finland is a dynamic leader, driving the industry forward and enhancing the operational environment for our members.

BENEFIT FOR THE CUSTOMER

Photonics Finland enhances your competitive edge by fostering innovation, collaboration, and access to a robust network of industry leaders. We ensure you stay at the forefront of photonics advancements, providing opportunities for growth, international connections, and tailored support for your specific needs.

COMPETITIVE ADVANTAGE

Photonics Finland supports the development of new business and research opportunities and helps realize the full potential of photonics in industry and society in Finland in sectors like health care, energy efficiency, safety, manufacturing, and sustainability.

Photonics Finland is the single point of contact for the whole photonics ecosystem in Finland.

COMPANY DESCRIPTION

Photonics Finland is a technology cluster that drives forward the photonics industry and research in Finland by connecting Finnish photonics companies, universities, research institutes, experts, students, and public authorities. Photonics Finland has over 250 individual and more than 120 organizational members.

CONTACT

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Title Development manager

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Link to the company's webpage

<https://innokaupungit.fi/en/photonics/>

<https://businessjoensuu.fi/en/photonicsjoensuu>

<https://www.photonics.fi/>



Business Tampere – Your business. Our passion

OUR SOLUTION

We at Business Tampere match your company with growth opportunities and partnerships in the Tampere Region, Finland and globally.

We offer you our expertise in business service development, investments and internationalisation opportunities.

Chips from Tampere program is our strategic initiative to leverage the transformation of chips value chains and opportunities of the EU Chips Act.

In the program we will establish the Finnish Chips Competence Centre, create a plan for SiPFAB Pilot line with WBG functionality and contribute to the development of EU design platform.

COMPANY DESCRIPTION

Business Tampere is a not-for-profit economic development agency of the Tampere City Region.

CONTACT

Petri Räsänen

Program director

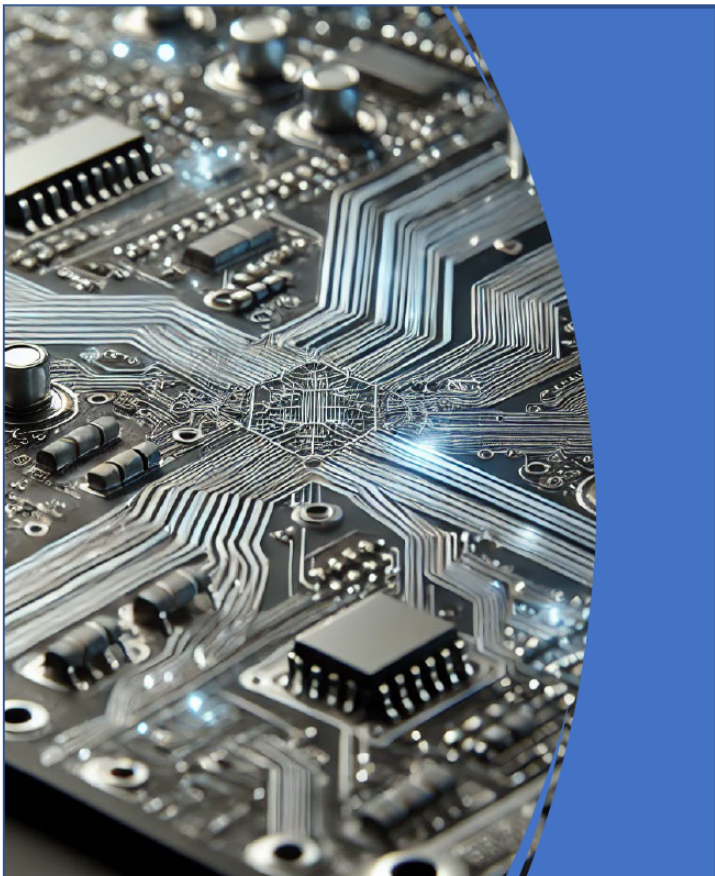
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[Chips from Tampere - Business Tampere Magazine](#)

BENEFIT FOR THE CUSTOMER

Max. 300 characters with spaces



From a Love of Green PCBs - We Build Connections

OUR SOLUTION

We support companies in enhancing their growth strategies and achieving market leadership through cutting-edge technological solutions. Our core expertise lies in the PCB (Printed Circuit Board) industry, where we focus on advancing interconnection and circuit board technology.

Our goal is to enhance the functionality of end products and enable innovative technological experiences for users. Sustainability is one of the key areas of electronic development, we are committed to driving the future of PCB technology, shaping the field in line with evolving environmental standards.

BENEFIT FOR THE CUSTOMER

EIPC is a network of Professionals in the Electronics Industry providing platforms to exchange business & technology information for the success of the European electronics industry. Tariya oy works with EIPC.

COMPETITIVE ADVANTAGE

Our expertise in R&D, strategy creation, and technology roadmaps helps our customers and members lead in technology-driven innovation, from R&D to industrialization, with a strong emphasis on quality and environmental sustainability

COMPANY DESCRIPTION

Tariya Oy specializes in interconnection technology, with a focus on PCBs and works with EIPC. EIPC is a network of Professionals of the Electronics Industry providing platforms to exchange business & technology information for the success of the European electronics industry.

CONTACT

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CAPTURING EVERY RAY OF LIGHT

OUR SOLUTION

Elfys designs and manufactures photodetectors based on novel black silicon technology, enabling superior sensitivity over a wide wavelength range from UV to NIR.

Photodetectors are used in a wide range of products such as spectroscopy instruments, wearable health monitoring devices, and X-ray scanners. Elfys technology is also applicable to CMOS imaging sensors, offering unmatched capability for low-light imaging.

Our solution greatly improves any light-sensing application by enabling the reliable detection and measurement of weak light signals.

BENEFIT FOR THE CUSTOMER

Elfys products' high sensitivity provides several benefits compared to existing products on the market:

- Better data with higher signal to noise ratio
- Extended battery lifetime by saving in LED power consumption
- Smaller device footprint for better product design

COMPETITIVE ADVANTAGE

The superior performance of Elfys photodetectors is based on an inventive combination of modern MEMS nanotechnology and atomic layer deposition. The core technologies are patented and in the possession of the company.

COMPANY DESCRIPTION

Elfys was founded in 2017 and is located in Espoo, Finland. The company is based on long-term research work at Aalto University. Our core team consists of senior researchers, engineering leaders and business professionals. 40% of Elfys staff are women, and we speak 7 languages at native level.

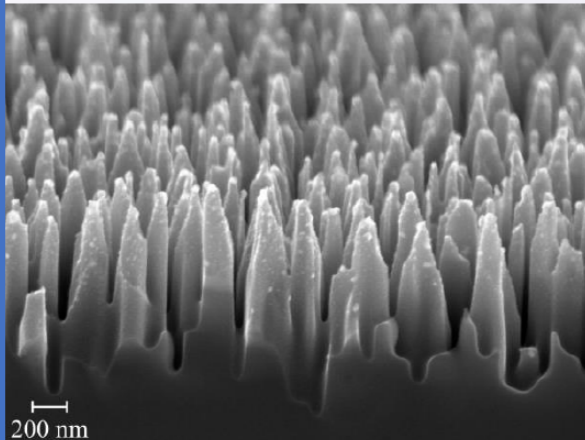
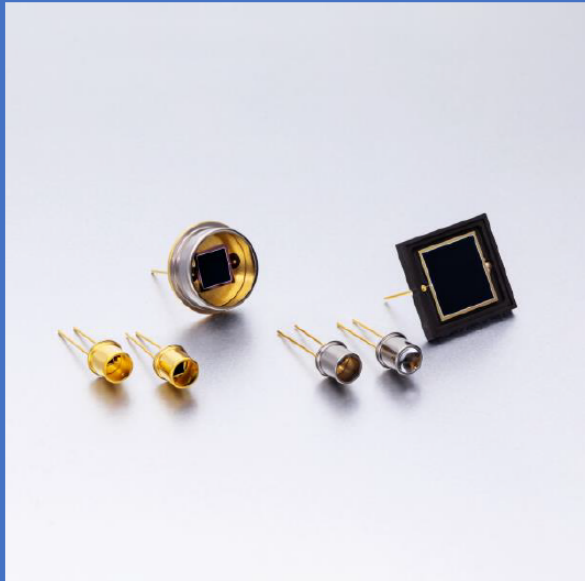
CONTACT

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Helsinki Partners

Helsinki Partners

– we match people with possibilities

OUR SOLUTION

Helsinki Partners is a city marketing, investment promotion and talent attraction company owned by the City of Helsinki. Our mission is to promote the city's sustainable growth and build Helsinki's global reputation and brand.

BENEFIT FOR THE CUSTOMER

Helsinki has services for companies whether you're looking to expand your company, grow and develop solutions, or find new business opportunities in Finland's capital, Helsinki.

The services provided by Helsinki Partners are always tailored for each customer and **free of charge**.

COMPETITIVE ADVANTAGE

Helsinki offers all the essentials for semiconductor R&D: solid manufacturing, research capabilities, infrastructure, a rich history of innovation, and a 30-year public-private ecosystem partnership. In Helsinki you can pave the way for a sustainable semiconductor industry. Helsinki boasts world-class quantum technology expertise, serving as a global RDI hub where microelectronics and quantum tech converge. Helsinki Partners helps to tap into this ecosystem and to find opportunities your business is looking for.

CONTACT

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OUR SOLUTION

VTT offers research and development of new materials, technologies, devices, systems and processes. Our 200+ R&D experts are ready to help you create new microelectronics solutions using our in-house and external technology platforms, IPR and expertise.

We are an innovator in the field of microelectronics and a central player in shaping the industry, both in Finland and internationally. Our know-how enables us to be pioneers in developing novel micro-electro-mechanical systems (MEMS), photonics integrated circuits, quantum devices and other specialised components used to create a wide range of sensors and devices.

COMPETITIVE ADVANTAGE

We can provide the entire development cycle, from feasibility study and fundamental research to prototyping and small-scale manufacturing. We have capabilities to integrate different technology platforms and create unique solutions including MEMS, photonics integrated circuits, quantum and other specialised components, RF devices as well as 2D materials.

COMPANY DESCRIPTION

VTT is a visionary research, development and innovation partner for companies and the society, and one of the leading technical research organisations in Europe. We promise to always think beyond the obvious.

CONTACT

Name: Piia Konstari

Title: Lead, Microelectronics and quantum technology

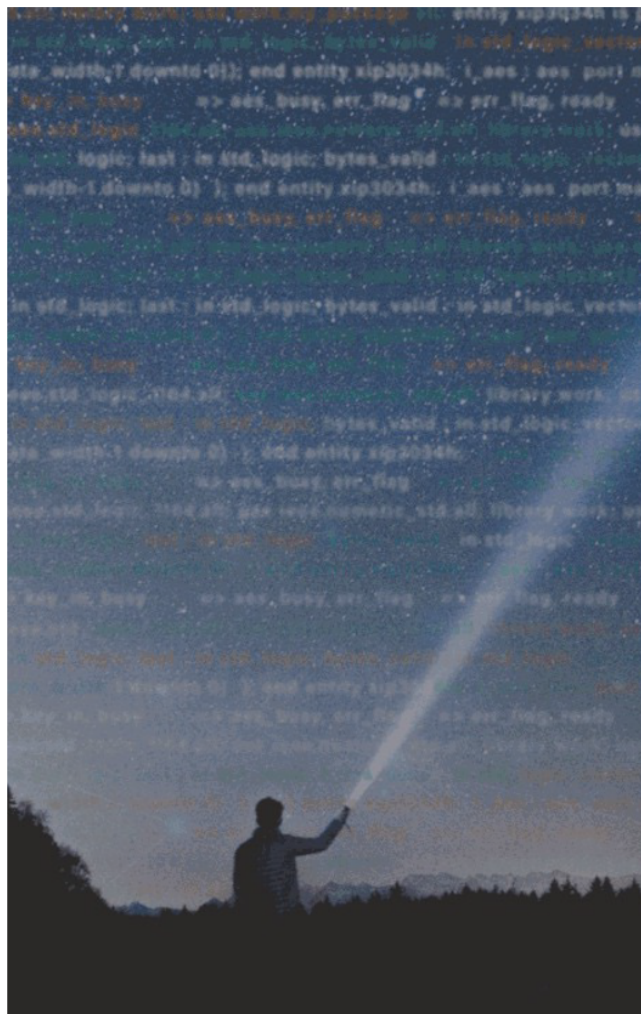
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Link to the company's webpage:

[Your R&D partner in sustainable growth | VTT \(vttresearch.com\)](https://www.vttresearch.com)





**BUSINESS
FINLAND**

XIPHERA LTD.

PEACE OF MIND IN A DANGEROUS WORLD

OUR SOLUTION

Xiphera has a wide portfolio of ready-to-use cryptographic IP, and continuously develops the offering further, to meet the latest developments in cryptography – such as Post Quantum Cryptography.

Our highly-optimized IP cores enable our customers and partners to implement cutting-edge security solutions in their industrial, IoT, and communications equipment, fulfilling security requirements for data confidentiality, authenticity, and integrity.

BENEFIT FOR THE CUSTOMER

Pure hardware logic based cryptography enables the highest security levels with optimized performance, low power-consumption and ease of validation. Our IP cores enable fast time-to-market and low implementation costs for our customers, while fulfilling the most demanding security requirements.

COMPETITIVE ADVANTAGE

Our cryptographic IP cores are developed in-house, enabling effective support for customer projects. They implement cryptography in pure digital logic, without embedded CPU or software – for performance, security, low power consumption, and ease of validation. The IP cores are highly optimised for resource conservation, area, and throughput.

COMPANY DESCRIPTION

Xiphera implements the latest standards-based security algorithms and protocols as IP cores for FPGA and ASIC circuits, enabling equipment manufacturers to secure their products and protect their customer networks, data, and critical infrastructures throughout their life cycles.

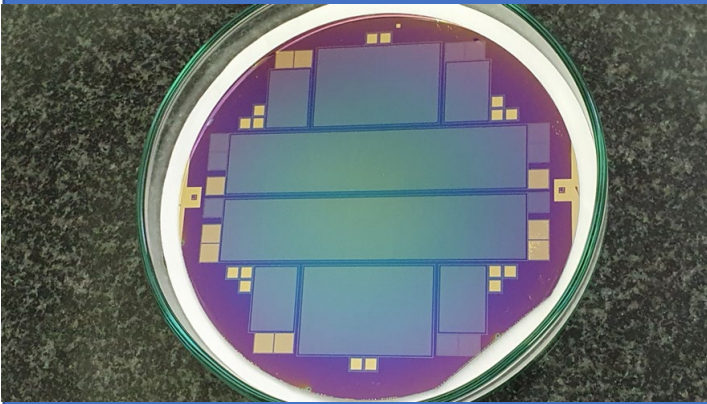
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XIPHERA
PEACE OF MIND IN A DANGEROUS WORLD

TRUE COLOR X-RAY

Chromium compensated gallium arsenide detectors for X-Ray and γ -ray spectroscopic imaging



**BUSINESS
FINLAND**

ZEELTA

SMALL THINGS - BIG DIFFERENCE

OUR SOLUTION

Technology to produce pixel X-ray sensors based on HR:GaAs:Cr wafers, with the following technical characteristics:

- Detected photon energy range, keV 5-60 (up to 100 keV with lower quantum efficiency)
- Thickness of the sensitive layer, microns 500-1000
- Leakage current density (T=23 °C and 200 V), $\mu\text{A}/\text{cm}^2$, no more than 3
- Radiation resistance*, MGy, not less than 1,2
- Yield, %, not less than 60

BENEFIT FOR THE CUSTOMER

our detectors provide a quality of the image which is ultimately unachievable at the existent X-ray equipment; they also provide the possibility for color vision within x-ray diapason. becomes possible to create fundamentally new methods of non-destructive testing and medical diagnostics.

COMPETITIVE ADVANTAGE

We give “new eyes” for X-ray diagnostic, non-destructive testing and safety

COMPANY DESCRIPTION

Zeelta Oy was founded with the team of well-known professional in semiconductor physics

CONTACT

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Link to the company's webpage <https://zeelta.com/>



HR-GaAs:Cr Technology Residence

ENTER ESPOO

OUR SOLUTION

Kvanttinova is the latest initiative for semiconductors and quantum technology which expands the Nordic's largest Micronova's shared cleanroom. Already over 20 companies have engaged in planning of Kvanttinova. The investments totals of half billion euros altogether.

BENEFIT FOR THE CUSTOMER

Enter Espoo builds the Kvanttinova ecosystem with VTT and Aalto University and helps Espoo ecosystem players to grow.

COMPETITIVE ADVANTAGE

The leading quantum ecosystem in Europe and the epicentre of Finnish innovation is in Espoo. The innovation culture is unique and attracts deep tech talents from all over the world to the ecosystem.

COMPANY DESCRIPTION

Enter Espoo is owned by the City of Espoo. It helps companies and investors to enter Espoo and grow in the epicentre of Finnish innovation.

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<https://www.enterespoo.fi/>

ENTER ESPOO

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