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SILEO Pool of Technology Uptake Facilitators

1st Open Call for Business Digital Transformation Projects

V03

HISTORY OF CHANGES		
Version	Publication Date	Change
V01	13.04.2023	Initial version
V02	19.04.2023	New profiles added (in total 19)
V03	27.04.2023	New profiles added (in total 22)

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1. About the SILEO project

Project Acronym:	SILEO
Project Title:	Supporting recovery and business transformation of lighting & furniture SMEs for the Europe Industry of Tomorrow
Project Reference:	Grant Agreement n° 101074564
Call Identifier:	SMP-COSME-2021-CLUSTER
Project duration:	36 months (01.09.2022 – 31.08.2025)
Project budget:	1.438.835,42 EUR 1.050.000,00 EUR will directly benefit lighting and furniture SMEs in the form of financial support (to third parties)/ lump sums / prizes
Website:	https://clustercollaboration.eu/eu-cluster-partnerships/euroclusters/sileo
SILEO Open Calls Application portal:	https://clustersubmissionplatform.eu/eurocluster_post/business-digital-transformation-projects-1st-open-call/

SILEO Eurocluster project is co-financed by the Single Market Programme (SMP/COSME Pillar) of the European Union. SILEO gathers seven key lighting and furniture clusters from Austria, France, Italy, Romania and Spain.

COVID-19 has shown that resilience matters and laid bare the ‘resilience divide’ between small and large firms. SILEO Consortium will support the European Small and Medium-sized Enterprises - SMEs of the lighting-furniture sector to recover fully from the crisis, become more resilient and better prepared for the digital and circular transition needs and challenges.

SILEO Eurocluster project will help the European lighting and furniture SMEs to be proactive actors in this transition.

SILEO Consortium aspires to capture all the digitalisation potential for the furniture and lighting SMEs with a concerted effort channelled through an open and inclusive ecosystem for innovation and technology business upgrading with accompanying business support measures including expert consultancy, business resilience building guidance, reinforced by direct financial support schemes and talent placement service to help companies attract talents.

SILEO CONSORTIUM		
<p>European Lighting Cluster Alliance</p>	1. ELCA European Lighting Cluster Alliance	Italy
<p>CLUSTER ROMANIE</p>	2. Cluster Lumière	France
<p>C I C A T</p>	3. CICAT Lighting Cluster	Spain
<p>rete di imprese</p>	4. Rete di Imprese Luce in Veneto	Italy
<p>business upper austria</p> <p>BUILDING INNOVATION CLUSTER</p>	5. Business Upper Austria - OÖ. Wirtschaftsagentur GmbH (BIZUP) Building Innovation Cluster (BIC)	Austria
<p>TRANSYLVANIAN FURNITURE CLUSTER</p>	6. TFC Transylvanian Furniture Cluster	Romania
<p>LEGNO ARREDI CASA</p>	7. Cluster Legno, Arredo e Sistema Casa FVG	Italy

During the project course, the SILEO Consortium envisaged 5 typologies of Financial Support to Third Parties - FSTP to be activated through open calls for cascade funding. The SILEO budget for the FSTP (financial support) open calls is 1.050.000,00 EUR.

The following financial support schemes for lighting and furniture SMEs are planned:

1. SILEO Hack Day Travel Support for lighting & furniture SMEs (financial support through lump sum)

Two 1-day international Hackathons “*SILEO Tech Challenge - Hack Days to Drive Innovation in Lighting & Furniture*” - will be organised by Rete di Imprese Luce in Veneto and Transylvanian Furniture Cluster in Italy and Romania. To help the maturation of ideas and investment projects, SILEO Consortium will support lighting and furniture SMEs’ participation in the project hackathon events and help them take an active part in the matchmaking with technology providers with the SILEO Hack Day Travel Support.

Two open calls envisaged one per hackathon event. 1st Call planned for June 2023, 2nd Call planned for 2024.

2. SILEO Business Digital Transformation Projects (financial support through lump sum)

Financial support to SILEO Business digital transformation projects aims to facilitate the collaboration of lighting and furniture SMEs with digital technology providers/facilitators and access to specific expert consultancies to boost business green and digital transition.

Two open calls envisaged. 1st Call planned for 17 April 2023; 2nd Call planned for January 2024.

3. **SILEO Advance Technology Uptake Projects** (financial support through lump sum)

Financial support through the SILEO Advance Technology Uptake Projects will be offered to support lighting and furniture SMEs in implementing/developing/integrating the new advanced technology(ies) into their business operations to support company resilience, digital and green transformation.

Two open calls envisaged. 1st Call planned for January 2024; 2nd Call planned for September 2024

4. **SILEO Talent Placement Projects** (financial support through lump sum)

Financial support through the SILEO talent placement projects aims to help SMEs attract talents - young professionals to reinforce company digitalisation and circular economy transitions, and to facilitate the job placement of new graduates in the world of work.

One Call planned for November 2023.

5. **SILEO Best Company Story-telling video Contest** (cash prizes)

To support companies' visibility and international appeal, lighting and furniture SMEs will be invited to take part in the SILEO International Contest for the "Best SME Storytelling" video, showcasing their green and/or digital transition success story (-ies).

One open call is planned for September 2024.

2. **SILEO Pool of Technology Uptake Facilitators**

In the frame of the SILEO Financial support to third parties scheme (cascade funding), and in particular, for the Business Digital Transformation Projects and Advanced Technology Uptake Projects, SILEO Consortium will identify and select **technology providers and/or digitization experts** through a specific **Call for Expression of Interest (Eoi)** to support SMEs - beneficiaries of these two funding opportunities - in implementing the project activities. The received Eoi applications are evaluated by the SILEO Partners to assess the expertise, competence and knowledge and technology transfer capacity in the target domain of advanced technologies uptake and digitalisation processes for SMEs.

The **SILEO Pool of Technology Uptake Facilitators** includes validated technology providers, tech-savvy companies (technology companies), Digital Innovation Hubs, Competence Centres, Academia, research centres and up-scaling entities, digitalization experts and other bodies who are interested in supporting lighting and furniture SMEs in the digital and green transition and answered the specific **Call for Expression of Interest (Eoi)** launched by SILEO Consortium partners.

The SILEO Pool of Technology Uptake Facilitators is published on the [SILEO Application Portal](#) and on the [SILEO ECCP profile page](#).

Under the SILEO Open Calls for Business Digital Transformation Projects and Advanced Technology Uptake Projects, the **SME Applicant can select the technology provider(s) and/or digitalisation expert(s) from the existing list of validated expert organisations or can propose its own** by submitting the Expression of Interest Form (Eoi) completed by the proposed service provider to SILEO Coordinator ELCA and Partner of reference for country of origin (of the applicant and provider).

The Eoi form of a new provider must be submitted by email at the latest two weeks before the Call closure. For the SILEO 1° Open Call for Business Digital Transformation Projects (Call opening 17.04.2023 – call closure 20.06.2023) the Eoi must be submitted until 06 June 2023.

The SME Applicant and the selected technology provider(s) and/or digitalisation expert(s) must be two independent legal entities to avoid any conflict of interest. Moreover, there should be no conflict of interest between the technology provider/digitalisation expert and the SILEO project partners.

SILEO Business Digital Transformation Projects

In view of the [1st SILEO Open Call for Business Digital Transformation Projects](#), the SILEO Pool of Technology Uptake Facilitators will support SME beneficiaries in accessing the following expert services as:

- General expert consultancy on company digitalisation processes** (*Which company processes might be digitised to improve its innovation and business potential?*)
- Specific expert consultancy on identified advanced technology(ies) and/or digitalisation process(es) to concretely explore its potential uptake at the company level**, its implementation procedure into the firm operations and scale of investment (*How the specific technology or digitalisation process can upgrade business growth, green and digital transformation, what are its cost-benefit and estimated investment plan?*)
- General expert consultancy for business transformation and market analysis**: support in market intelligence analysis including an outline of the size of the (new) market (segments) potentially accessible thanks to the company's technological upgrading, product demand, trends, customers, competitors (*What are the new market prospects in view of the company digital upgrading?*)

The [Call for Expression of Interest](#) will be open two weeks before the deadline of the 1st Open Call for Business Digital Transformation Projects (**until 06 June 2023**).

Experts interested must send their expression by email to the SILEO Coordinator ELCA and SILEO Partner of reference for the country of origin (of the applicant and provider).

SILEO SME HELPDESK			
Country	SILEO Partners	Representatives	E-mail
EU & SMP Associated countries	ELCA European Lighting Cluster Alliance	Marta Krakowiak	Marta.krakowiak@elcacluster.eu
France	Cluster Lumière	Mary Hadidi	m.hadidi@cluster-lumiere.com
Spain	CICAT Lighting Cluster	Andrea Padre Martinez	apadre@secartys.org
Italy – Veneto Region	Rete di Imprese Luce in veneto	Antonella Venza	antonella.venza@luceinveneto.com
Austria	Business Upper Austria - OÖ. Wirtschaftsagentur GmbH (BIZUP) - Building Innovation Cluster (BIC)	Isabella Mantello	isabella.mantello@biz-up.at
Romania	TFC Transylvanian Furniture Cluster	Andreea Toma	andreea.toma@hygia.ro
Italy – FVG Region	Cluster Legno, Arredo e Sistema Casa FVG	Caterina Pezzicar	caterina.pezzicar@clusterarredo.com

SILEO Advanced Technology Uptake Projects

In view of the upcoming SILEO Open Call for Advanced Technology Uptake Projects (1st Open Call scheduled for January 2024), the SILEO Pool of Technology Uptake Facilitators shall support SME beneficiaries in the following activities:

- a) **Prototyping of new products** using the selected advanced technology; and/or
- b) **Testing the new digital solution(s) and/or advanced technology(ies) application** in specific company production/manufacturing/commercialisation/management processes and its/their effective demonstration (pilot application).

List of advanced technologies and digital solutions individuated from SILEO Consortium (*not exhaustive list*)

SILEO Partners carried out a preliminary but methodical research on the most requested and relevant advanced technologies that are key to enable digital and green transitions of lighting and furniture companies.

Thanks to this bottom-up exchanges, the following advanced technologies (not exhaustive list) have been individuated as of paramount importance for the lighting and furniture SMEs:

- ✓ **Additive Manufacturing** (3D printing) - The technology will improve resource efficiency in both production and use phases as manufacturing processes and products can be redesigned for AM, as well as extend product life achieved through technical approaches such as repair, remanufacture and refurbishment, more sustainable socio-economic patterns like stronger person-product affinities, closer relations producers - consumers.
- ✓ **Augmented and Virtual Reality** - support implementation of smart products, enhance focus on delivering customer experience and hyper customization for designers and end-users. Customization through VR allow lower product errors, diminish waste, impacting positively the shift towards a low-carbon-based economy.
- ✓ **Big Data & Analytics** - Data-based analysis tools used to visualize bottlenecks and risks in real time and present them in a comprehensible way.
- ✓ **Cybersecurity** - Most of the new building facilities are equipped with grid-connected products incl. lighting, electricity, heating etc. The lighting fixtures are used for the IoT sensors. Unfortunately, this makes them attractive for cyber-attacks. Thus, cyber security technologies should be included into smart lighting products.
- ✓ **Industrial IoT (IIoT) & sensors** - IIoT increase safety and efficiency at production sites, reduce human errors, improve logistic and distribution and thus increasing the resilience of companies to crisis related to suppliers. The integration of sensors or the development of printable codes to the wood logs for the raw material tracking and data acquisition. Available functionalities allow for very precise management of light sources so that the lighting is perfectly suited to the function of the ambient, and the energy consumption is maximally rationalised
- ✓ **Robotics** - efficient implemented robotics, such as material handling, welding, MIG, spot and arc welding, etc., will enable SMEs to improve the safety standards, the quality of their products and their resources usage.
- ✓ **Artificial Intelligence** - useful for product proposals via apps and for product development. AI has the potential of impacting the whole product design, increasing customisation. Lower errors and higher creativity in production.

- ✓ **Digitalisation of marketing and online trading**
- ✓ **Image scripting technologies** - This technology can be used to produce photorealistic images of each furniture or lighting product, enabling it to be showcased online in detail. Thus, consumers can view these products online, can zoom in and out without any loss of quality or clarity, or rotate images at any angle. Besides that, portions of the image can even be dissolved in order to reveal hidden components and features
- ✓ **WebAR:** This technology can help businesses in getting products to market in time and effectively communicate the worth and utility of a complicated and expensive product in B2B. It is also a sales tool that allows a customer to easily visualize how a product will fit within their own home. This is achieved with digital models of products that can be placed within real environments using AR technology
- ✓ **Machine learning:** Using artificial intelligence allows one to create a personalized buying experience for every individual customer
- ✓ *Others*

3. List of validated organisations

The following list, the **SILEO Pool of Technology Uptake Facilitators**, is the expert database, which includes all the validated technology providers and digitalisation experts who have expressed their interest in supporting lighting and furniture SMEs under the SILEO Open Calls. The following list is organized at country level and ordered alphabetically.

Code	Organisation	Country	Sector
4	IDEAZ e.U.	Austria	Furniture
10	INGELUX consultants	France	Lighting
11	MATEREAL	France	Lighting
21	Consortium Ubiquitous Technologies s.c.a r.l.	Italy	Both
1	EDALAB	Italy	Lighting
22	Forma Srl	Italy	Lighting
2	Foxwin	Italy	Furniture
3	GF Tech S.r.l.	Italy	Both
15	Lightcube SRL	Italy	Lighting
13	OFFICINA DIGITALE S.r.l.	Italy	Both
12	Quasar srl	Italy	Furniture
17	Rawfish srl a Socio Unico	Italy	Both
9	Skeinholding s.r.l.	Italy	Both
8	SMACT SCPA	Italy	Both
14	VISUP SRL	Italy	Furniture
19	enlum Nikodem Derengowski	Poland	Both
5	Crantec	Portugal	Both
7	INNO Robotics srl	Romania	Furniture
6	TESAGON INTERNATIONAL	Romania	Furniture
16	Acondicionamiento Tarrasense (Leitat)	Spain	Both
18	Enlighting Technologies SL (KUMUX)	Spain	Lighting
20	Sterna Innovation Projects, SL	Spain	Lighting

Technology Uptake Facilitators in Austria

IDEAZ e.U.

IDEAZ
Business Innovation



Technology provider name	IDEAZ e.U. (code 004)
Location	Rohrbach-Berg, Austria
Company typology	Innovation Consulting
Expertise sector	Furniture
Contact person	Edith Öller Email: edith@ideaz.at Phone number: 0043681 10373347
Website	www.ideaz.at
Speaking languages	German, English, French, Spanish

PROFILE

IDEAZ Business Innovation was founded in 2020 with the aim of helping companies to actively prepare for the future in times of dynamic change in the market and technology environment and to strengthen their position in the market. We are convinced that only companies that act sustainably will be successful in the long term. Even innovative companies often need a new perspective, new methods or a new way of thinking.

IDEAZ offers support focusing on **innovation & sustainability** including **consulting, facilitation, workshops and project** support in the field of: Product & Service Innovation (including digital & tech-innovation), Business Modelling (including Business Models for Sustainability), Circular Economy, Ecological and Social Impact, Purpose & Values, Vision & Strategy, CoCreation, User-centered Design, Design Thinking, Scrum, Agile in Hardware, Agile Leadership

Your consultant, **Dr. Edith Öller** is the founder of IDEAZ Business Innovation.

In addition to studying International Business Administration, she graduated from the University of Fine Arts and dealt intensively with the topics of design thinking and business modelling. In her work, she combines creativity and analytics. In addition, she has many years of experience as a CEO and Business Development Manager in various companies, and she supports start-ups and young founders as a start-up mentor.

For more information: www.ideaz.at

EXPERTISE PROVIDED IN THE FURNITURE SECTOR:

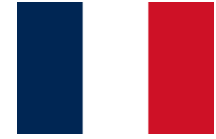
Product & Service Innovation (including digital & tech-innovation), Business Modelling (including Business Models for Sustainability), Circular Economy, Ecological and Social Impact, Purpose & Values, Vision & Strategy, CoCreation, User-centered Design, Design Thinking, Scrum, Agile in Hardware, Agile Leadership.

KNOWLEDGE AND EXPERTISE RELATED TO ADVANCED TECHNOLOGIES AND DIGITAL SOLUTIONS

Technology/Solution	Expertise
Additive Manufacturing (3D printing)	Facilitation, consulting & support of innovation project dealing with 3D printing in architecture as well as supporting business model processes including additive manufacturing solutions (e.g. to become more „circular“).
Augmented and Virtual Reality	Facilitation, consulting & support of innovation project using AR/VR for product demonstration, product individualization and in „virtual showrooms“ as well as supporting business model processes including AR/VR solutions.
Robotics	Facilitation, consulting & support of innovation project using robotics solutions.
Artificial Intelligence	Facilitation, consulting & support of innovation project using AI for product proposals.
Facilitation, consulting & support of innovation project using AI for product proposals	Facilitation, consulting & support of innovation projects and business model processes including digitalisation of marketing and online trading (also in combination with VR/AR or AI-tools).
Innovation Processes	Facilitation & support of product/service innovation and business modelling processes using user-centered and agile co-creation methods as Design Thinking, Scrum and including the Circular Economy and SDG framework.

Technology Uptake Facilitators in France

INGELUX consultants



Technology provider name	INGELUX consultants (code 010)
Location	Vaulx en Velin, France
Company typology	SME innovative company
Expertise sector	Lighting
Contact person	Christophe MARTY Email: c.marty@ingelux.com Phone number: +33 6 71 17 88 73
Website	www.ingelux.com
Speaking languages	French, English, Spanish

PROFILE

Ingélux is an innovative lighting design and engineering office, which uniquely combines a sensitive approach of light together with a strong scientific background. We aim at being the preferred partner of professionals (architects, engineering firms, municipalities, urban planners, manufacturers, public research labs) for indoor and outdoor lighting applications. We strive to help them achieving their goals by creating high quality luminous environments, at day and night, with the smallest impact on the environment and the lowest energy consumption.

Our long lasting cooperation with renown architects, global engineering firms, leading property developers, urban planners of large cities and key manufacturers makes our application knowledge always up to date and accurate. We are involved in international research and development programs on fundamental needs of lighting applications in order to consolidate our knowledge and methodologies in this very field.

Ingélux is also engaged in a number of international initiatives, which aim at using light and its enabling technologies in the best possible way. We propose high precision lighting design leading to comfortable light ambiances with optimized energy consumption and environmental benefits.

EXPERTISE PROVIDED IN THE LIGHTING SECTOR:

Lighting design: daylight, artificial light, and visual comfort as well as energy savings linked to light. Human centric lighting, on site assessment and diagnostics, light innovation.

KNOWLEDGE AND EXPERTISE RELATED TO ADVANCED TECHNOLOGIES AND DIGITAL SOLUTIONS

Technology/Solution	Expertise
Augmented and Virtual Reality	We provide real time lighting simulations using high fidelity materials with calibrated renderings. We also present VR images to our clients to present lighting projects, with calibrated lighting ambiances.
Image scripting technologies	We produce light calibrated images through simulation tools/software. These simulations can be used for taking decisions with the clients saving time and cost of samples. Virtual twins can be produced for that matter.

MATEREAL



Technology provider name	MATEREAL (code 011)
Location	Vaulx en Velin, France
Company typology	SME research and innovation company
Expertise sector	Lighting
Contact person	Christophe MARTY Email: c.marty@matereal.net Phone number: +33 6 71 17 88 73
Website	www.matereal.net
Speaking languages	French, English, Spanish

PROFILE

MATEREAL provides a wide range of spectral SVBSDF files from a patented measurement method of real materials. The digitized materials can then be utilized in different renderers, with enhanced results obtained by spectral software and with calculators allowing BSDF extended exploitation. Complex materials such as sparkle paints, polarized materials, anisotropic materials, and texturized materials can now be characterized by MATEREAL and converted into a PBR material, making movies and video games even more realistic with physical based light effects brought by new categories of materials, and by renewal of previously existing ones. More and more materials are being characterized, making MATEREAL a key player in world's digitization.

MATEREAL is a startup created in May 2021, with the support of Ingelux lighting Design and national laboratory ENTPE in France. MATEREAL exploits and develops a patent by ENTPE, and has reached maturity for presenting its spectral material database and the corresponding PBR formats of it.

EXPERTISE PROVIDED IN THE LIGHTING SECTOR:

Characterization of the optical behaviour of complex materials. Digitization of materials for PBR description: production of SVBRDF files to be used in light simulation software. Spectral, anisotropic, polarized, texturized materials.

KNOWLEDGE AND EXPERTISE RELATED TO ADVANCED TECHNOLOGIES AND DIGITAL SOLUTIONS

Technology/Solution	Expertise
Augmented and Virtual Reality	We provide SVBRDF files to be used in VR simulations, allowing actors to create scientific-based environments for the simulations.
Artificial Intelligence	Our SVBRDF files can be used to run multiple simulations of different situations, allowing to train AI displays in scientifically-based environments. Matereal is a support to train AIs with high number of simulates situations, without need of real samples or environments.
Digitalisation of marketing and online trading	Matereal can digitize most type of materials (texturized / polarized/ spectral/..) to be used for simulation in any type of application, including marketing and online trading
Image scripting technologies	Matereal provides the data files describing the materials of the simulated scenes, with scientifically-based measurements. The file include the complex behaviour of materials such as spectral/diffraction/polarization/etc. SVBRDF can be used to create Virtual twins and link to AI for instance.

Technology Uptake Facilitators in Italy

Consortium Ubiquitous Technologies s.c.a r.l.



Technology provider name	Consortium Ubiquitous Technologies s.c.a r.l. (code 021)
Location	Cascina, Italy
Company typology	technology provider, tech-savvy company
Expertise sector	Lighting/Furniture
Contact person	Luca Tavanti Email: luca.tavanti@cubitlab.com Phone number: +39 0500984198
Website:	https://www.cubitlab.com/
Speaking languages	Italian, English

PROFILE

Cubit is a small company specialised in Internet of Things (IoT) systems, fluid dynamics (FD) digital twins, and drones. Founded in 2007 by the University of Pisa and a group of Italian SMEs, Cubit is located in the Technological Park of Navacchio (<https://www.polotecnologico.it>).

Our IoT business unit designs and realises custom electronic devices, monitoring & control systems, and IoT solutions for industrial automation, environmental monitoring, home & building automation, etc. We can cover the complete engineering cycle of a new electronic product from hardware design to certification and industrialisation, the development of software, including complex and intelligent applications, the integration in third party systems, the realisation of simple cloud platforms to provide complete vertical IoT solutions.

Our FD business unit carries out consultancies in computational FD, numerical simulations and optimisation, fluid-structure interactions, test and experimentation.

Our team is composed mostly of experienced professionals who closely collaborate with the customer to guide it through its digital transformation process. Since our foundation, we have brought to completion 60+ commercial projects for the development of new products, supporting the customer from the idea to the market entrance and contributing to the creation or acceleration of start-ups (SensorID, Kyunsis, Nuvap). We have taken part in co-financed research and innovation projects, both at regional (ERDF) and European level (FP7, H2020, Horizon Europe). We are certified ISO 9001:2015.

EXPERTISE PROVIDED IN THE LIGHTING SECTOR:

Smart street lighting system: Cubit designed, prototyped, engineered, certified, and developed the hardware and software of five different modules for wireless remote control of street lamps for public lighting (DALI 2.0 compliant), including the design and implementation of a custom wireless mesh network protocol for reliable communication of hundreds of nodes (<https://intellienergy.it/smart-lighting/>).

EXPERTISE PROVIDED IN THE FURNITURE SECTOR:

TIAMBIENTA (ERDF, Regione Toscana): Cubit designed and implemented a set of IoT devices integrated in the furniture and a data storage and visualisation platform for living environments – camper vans, boats, kindergartens – with the aim of increasing well-being, comfort and safety for users, as well as monitoring the environment and the products for better management and maintenance. Spindle Vibration Sensor (SVS): Cubit developed a device for measuring and analysing the vibrations of electrospindles or bi-rotary heads for woodworking machines. The SVS can measure and integrate accelerations on three axes, apply appropriate filtering, report events of possible collisions, critical vibration regimes and malfunctions.

KNOWLEDGE AND EXPERTISE RELATED TO ADVANCED TECHNOLOGIES AND DIGITAL SOLUTIONS

Technology/Solution	Expertise
<p>Industrial IoT (IIoT) & sensors</p>	<p>We have 15+ years experience in the design and realisation of industrial IoT devices and systems, comprising a wide set of micro-controllers (e.g. ARM, ESP32), sensors (e.g. gases, dust, flow, radon, light, acceleration), communication technologies (e.g. ZigBee, Z-Wave, BLE, DALI, Modbus, Wi-Fi, EtherCAT, MQTT), and cloud platforms (FIWARE, AWS, custom). Our clients span from large companies (e.g. Seco, SCM, Generali, Enel) to SMEs (e.g. SICEP, Intellienergy, TecnoFerrari, EnerLife). We are an ST Microelectronics Proof of Concept (PoC) centre.</p>
<p>Computational Fluid Dynamics (CFD) and Numerical Optimisation (NO)</p>	<p>We have consolidated experience in fluid dynamics design, CFD, numerical simulations and optimisation, fluid-structure interaction, FEM, test and experimentation (wind tunnels, naval tanks, air conditioning), with a strong academic background (continuous cooperation with the University of Pisa), and solid operational knowledge, the result of activities carried out in automotive, marine, aeronautical, and civil sectors (e.g. Ferrari, Fincantieri, Alenia, General Electric, INFN). We own a cluster of 9216 cores.</p>

EDALAB




Technology provider name	EDALAB (code 001)
Location	San Giovanni Lupatoto, Italy
Company typology	Tech-savy company
Expertise sector	Lighting
Contact person	Giovanni Perbellini Email: giovanni.perbellini@edalab.it Phone number: +39 045 2570357
Website:	www.edalab.it
Speaking languages	English, Italian

PROFILE

EDALAB is a software engineering company founded in 2007, originally as a spin-off of the Department of Computer Science of the University of Verona, committed in supporting the innovation with modern electronic systems, leveraging on the software development as a key service to build new distributed and robust digital solutions. EDALAB is now focused on the delivery of customized IoT Platforms in many fields of applications, Industry, Smart Building, Logistics and agriculture, supporting its customers in ‘connecting’ their products and plants. EDALAB is certified ISO9001 and counts 15 engineers with expertise in hardware and software development, coordinated by project managers who ensure the correct workflows.

The main services EDALAB provides are related to the building of customized IoT Platform with the re-use of existing secure and robust software components (i.e. the BOX-IO Platform) and with the development of new dedicated hardware and software parts. The typical projects concern the data acquisition from the field, its transmission to the Cloud and the development of a software dashboard in which the customer extracts the value from the acquired data. EDALAB supports the customer in all project steps, starting with the design and ending with production and after-sale support. Other services linked with the above are the design and development of HMI for operators, design and development of Mobile Apps, design and development of custom firmware and hardware.

Customers find in EDALAB a unique partner for their IoT projects, a partner who strives to constantly update its expertise in the modern technology and to deliver the best service quality and technology transfer.

EXPERTISE PROVIDED IN THE LIGHTING SECTOR:

- Development of IoT Platform to control lights in industrial warehouse environment. Management of the whole data flow with the ZigBee protocol and development of the operators' workflow for installation and services to the end-users.
- Development of home automation platform with the management of Zigbee light drivers from different vendors, integrated with several other sensors
- Development of custom led drivers hardware (AC/DC, DC/DC) connected with ZigBee protocol

KNOWLEDGE AND EXPERTISE RELATED TO ADVANCED TECHNOLOGIES AND DIGITAL SOLUTIONS

Technology/Solution	Expertise
Industrial IoT (IIoT) & sensors	EDALAB is committed in the development of IoT Platforms, integrating OTS or custom sensors, gateways and Cloud services with the most recent software technologies.

Forma Srl



Technology provider name	Forma Srl (code 022)
Location	Vicenza, Italy
Company typology	Digital innovation
Expertise sector	Lighting
Contact person	Gaetano Bertolo Email: g.bertolo@webforma.it Phone number: +39 0444304125
Website	https://www.webforma.it/
Speaking languages	Italian, English, Spanish

PROFILE

Forma is an Italian company with 26 years of experience in developing custom software for Public Administrations and for small, medium and large company. Flexibility and speed of execution are our main characteristics. Secure applications, accessibility, open source software, large DB maintenance (with Postgresql), standard coding, project management ... represent the way to develop our projects.

EXPERTISE PROVIDED IN THE LIGHTING SECTOR:

B2B website and software for lighting company.

KNOWLEDGE AND EXPERTISE RELATED TO ADVANCED TECHNOLOGIES AND DIGITAL SOLUTIONS

Technology/Solution	Expertise
Big Data & Analytics	Development of large and structured DB. More of 25 years experience in Postgresql DBMS (including GIS and time-series data for IoT) with open source analysis tools.
Image scripting technologies	3d rendering file automatic generation from CAD files. Hidden and secure watermarking of images. Large experience with JavaScript ES5.

Foxwin srl società benefit



Technology provider name	Foxwin srl società benefit (code 002)
Location	Udine, Italy
Company typology	Knowledge and technology provider
Expertise sector	Furniture
Contact person	Filippo Causero Email: filippo.causero@foxwin.eu Phone number: +39 3331256234
Website	https://www.foxwin.eu/
Speaking languages	Italian, English, Spanish

PROFILE

We believe that the success of your organisation depends on people. Foxwin is a benefit corporation that helps organizations improve their governance through data-driven consulting services and software that engages all employees and stakeholders.

We developed a software called Fennec that is capable to collect from employees the internal inefficiencies, cluster them and find out what are the most urgent and important to be solved. Foxwin consultants, expert in management consulting, facilitate employees and managers in finding out the solutions to improve processes efficiency, business growth, digitalisation and organization clarity. The main advantages in using Fennec are: it reduces assessment costs by half (we don't need to interview many managers and employees to find out the inefficiencies) and increases engagement of employees because we listen to the needs of all collaborators.

We developed an ESG assessment software to help the companies that want to start their green transformation journey. Foxwin consultants, experts in sustainable development, through an online form and interviews to key managers, assess in less than one day how sustainable the enterprise is. The advantage in using our software is to show through a visual dashboard the results obtained in the following dimensions: environment, social, governance and the impact on UN Sustainable development goals.

EXPERTISE PROVIDED IN THE FURNITURE SECTOR:

We have been working with furniture companies on different topics. Some examples are:

ESG Assessment service:

- Preparation of an impact report for a furniture company. The document, entitled "furniture for future", was drawn up for a project that won a call, which central topic was the circular economy.
- Preparation of ESG Assessment report for a company, which produces outdoor furniture.
- Preparation of ESG Assessment report for a company, which produces goods derived from wood

KNOWLEDGE AND EXPERTISE RELATED TO ADVANCED TECHNOLOGIES AND DIGITAL SOLUTIONS

Technology/Solution	Expertise
Big Data & Analytics	<p>We use our internally developed software Fennec to gather hundreds of data from employees, cluster them and generate insights that help managers in prioritising the organisation development activities. In a complex system, such as an SME, is difficult to understand the most important problem or bottleneck that must be solved. Managers are usually full of decisions to take and don't have the time to analyse deeply each one. Through our consultant services and software, we show them a list of all inefficiencies in descending order of popularity and importance perceived by employees. Managers are then able to take data driven decisions with clarity and quantification.</p>
Digitalisation of marketing and online trading	<p>We started our business as a startup 6 years ago and learned how to use different and sophisticated CRM for marketing automation and commercial activities. Now we use our experience to help other businesses adopting this type of software and train their employees in using them effectively.</p>
ESG assessment	<p>We developed a software to assess easily how sustainable an SME is. Many assessment tools (such as the popular B Impact assessment) are too difficult for SMEs because they ask hundreds of questions and request quantitative answers. For example, they ask how much CO2 the business produces in a year. We developed a series of questions to help companies that want to start a green transformation, not the ones that are already expert in this field. The software shows a dashboard that highlights immediately how sustainable the enterprise is in the dimensions of environment, social, governance, economic and communication/reporting. It also shows the positive impact on the 17 Sustainable development goals.</p>

GF Tech S.r.l.



Technology provider name	GF Tech srl (code 003)
Location	Buttrio (UD), Italy
Company typology	CyberSecurity, IT Consulting, Academia, Digital Innovation
Expertise sector	Lighting, Furniture
Contact person	Matteo Greatti Email: matteo.greatti@gftech.srl Phone number: +39 340 36 89 945
Website	https://www.gftech.srl/
Speaking languages	Italian, English

PROFILE

GF Tech is a startup born in mid-2021 made up of a team of experts with more than 15 years of experience in sector of Information Technology.

We offer assistance and consultancy in the IT sector, Cyber Security and technological solutions for companies. From the design of Infrastructure and management of IT networks with certified system engineers, to Big Data analysis to facilitate the decision process business making and development thanks to Business Intelligence.

Over the years, the GF Tech staff has worked together on related projects to the various fields of networking, IT and security: from designing WiFi for densely visited commercial areas, to WiFi for industry 4.0 in production plants, networks over very large surfaces and with a large number of workstations with related infrastructure virtualized and cybersecurity (firewall, segmentation, VPN) up to corporate systems composed of many interconnected offices to the central data center. All these challenges built up the experience and the staff's know-how, as well as the well-established ability to work in team under pressure; these abilities allowed the team to make a well-rounded system integrator.

EXPERTISE PROVIDED IN THE LIGHTING & FURNITURE SECTOR:

- Lighting sector: WiFi for Industry 4.0 in production plants
- Furniture: WiFi for Industry 4.0 in production plants

KNOWLEDGE AND EXPERTISE RELATED TO ADVANCED TECHNOLOGIES AND DIGITAL SOLUTIONS

Technology/Solution	Expertise
Cybersecurity	WiFi design for densely visited commercial areas, WiFi for industry 4.0 in production plants, networks for very large areas and with many stations with related virtualized infrastructure and cybersecurity (firewall, segmentation, VPN) even in business systems composed of many locations interconnected to each other and to the central datacenter.

Lightcube SRL



Technology provider name	Lightcube srl (code 015)
Location	Padova, Italy
Company typology	Knowledge and technology providers
Expertise sector	Lighting
Contact person	Diego Barbisan Email: diego.barbisan@light-cube.com Phone number: +39 347 306 6186
Website	www.light-cube.com
Speaking languages	Italian, English

PROFILE

LightCube is a spin-off of the University of Padua founded in 2011 and deals with the research, development and design of LED systems, both for general lighting applications and for specific custom applications, from the industrial field to the biomedical and photobiological fields. LightCube offers its partners a complete design service for custom LED lighting systems. The integration of photometric, electronic, optical and thermal design in a single design development represents a significant competitive advantage for partner companies. Customers who rely on Lightcube have the opportunity to fully follow the development of the project. From optical design, to the creation of prototypes, to the optical and thermal characterization phase, up to the creation of the finished product. This allows to considerably shorten the times of industrialization and consequently the project costs.

In terms of services, Lightcube covers all sectors of both industrial and experimental research and development. The spin-off uses state-of-the-art instrumentation: source meters, parameter analyzers, power meters, for electrical characterization; integrating spheres with spectrometer, photogoniometer with diameter up to 2 meters, for photometric analysis; spectroradiometers, optical power meters and instrumentation specifically designed for optical characterization; high resolution infrared camera, calibrated thermocouple systems and proprietary electrical techniques for thermal characterization.

EXPERTISE PROVIDED IN THE LIGHTING SECTOR:

Lightcube offers advanced skills in all design phases in the lighting sector. Starting from the optical and thermal design phase of lighting products, to the study and implementation phase of control electronics including the prototyping of dedicated PCB boards. After the prototyping, Lightcube offers optical and electrical characterization services thanks to the advanced instrumentation at its disposal. Source meters, parameter analyzers, power meters, for electrical characterization; integrating spheres with spectrometer, photogoniometer with diameter up to 2 meters, for photometric analysis; spectroradiometers, optical power meters and instrumentation specifically designed for optical characterization; high resolution infrared camera, calibrated thermocouple systems and proprietary electrical techniques for thermal characterization.

LightCube offers support for IOT communication of LED based lamps with specific light protocols (DMX, Dali and general purpose protocols (Bluetooth, Wi-Fi, Zigbee, etc.)). After the products industrialization, Lightcube offers support for the EPREL energy label registration and ecodesign limits. Moreover, Lightcube offers dedicated courses on lighting techniques, optics design and reliability study on LED sources.

KNOWLEDGE AND EXPERTISE RELATED TO ADVANCED TECHNOLOGIES AND DIGITAL SOLUTIONS

Technology/Solution	Expertise
Additive Manufacturing (3D printing)	Experience in design and modelling of 3D optics. Design of the tools necessary for the production of small quantities of optical reflectors. Prototyping of 3D samples with 3D printers.
Industrial IoT (IIoT) & sensors	Experience in environmental sensors (UV, VIS and IR lighting, capacitive sensors, temperature, humidity, etc.). Experience in communication protocols for lighting (DMX, Dali) and general protocols (Bluetooth, Wi-Fi, Zigbee). Experience in optical adaptive feedback for the control of the light (intensity, CCT).

OFFICINA DIGITALE S.r.l.

OFFICINA DIGITALE

ENABLING TECHNOLOGY



Technology provider name	OFFICINA DIGITALE S.r.l. (code 013)
Location	Treviso, Italy
Company typology	CyberSecurity - Infrastructure Management - IT Security
Expertise sector	Lighting/Furniture
Contact person	Paolo Picchi Email: paolo.picchi@officina-digitale.net Phone number: +39 0422 911828
Website	www.officina-digitale.net
Speaking languages	Italian, English

PROFILE

Officina Digitale was founded in 2001 as an IT company to support commercial companies in the design and assistance of their information systems. The evolution of the services offered position it as MSSP (managed security services provider) and MSP (managed service provider) for the management of security and service continuity of IT systems. The company operates throughout the country with a focus on northern Italy. The team is made up of 7 people with IT certifications at various levels.

Knowledge: Advanced Networking, Cloud, Messaging Systems, Virtualization, Advanced Unified Communication Systems, IT Datacenter.

Services offered: ADS (System Administrator - GDPR compliant) - Infrastructure management (MSSP/MSP)
Benefits of the services offered: guarantee of continuous operation of IT systems

EXPERTISE PROVIDED IN THE LIGHTING & FURNITURE SECTORS:

Complete management of it systems, security, users, service continuity, updates, crm/erp/mes integration, iot ot/it separation

KNOWLEDGE AND EXPERTISE RELATED TO ADVANCED TECHNOLOGIES AND DIGITAL SOLUTIONS

Technology/Solution	Expertise
Cybersecurity	In-depth knowledge of issues relating to networking in its various forms, network and application firewalling, creation and maintenance of corporate and infrastructural posture aimed at preventing and eliminating cybersecurity risks. Execution of periodic assessments aimed at determining the real level of security established. In-depth knowledge of software tools and leading methodologies in the cybersecurity market.

Quasar srl



Technology provider name	Quasar srl (code 012)
Location	Tavagnacco, Italy
Company typology	Consulting company
Expertise sector	Furniture
Contact person	Luca Diracca Email: dirluca@quasarud.it Phone number: 0432573516
Website	http://www.quasarud.it/
Speaking languages	Italian, English

PROFILE

Quasar Srl was founded in 1992 as a consultancy firm. Over the years it has grown a multidisciplinary group of professionals to respond to different needs and develop different improvement projects in companies and public administration entities convinced that each structure cannot separate the strategic elements from the managerial ones and both these aspects from the economic ones.

It is currently made up of a "Management Systems" division that deals with organizational issues and a "Corporate Innovation" division that deals with digitization projects and predictive analysis projects. Again, the skill mix and multidisciplinary nature are the strong point of Quasar, as it deals with organizational issues with digital competence and awareness - because in 2023 there is no organizational enhancement without digital tools - and digital issues with organizational competence and awareness - because no tool is able to improve an organization that cannot read and innovate itself.

We offer innovation management services - training, implementation of innovation management systems, setting up of innovation projects, process reengineering - and organizational consultancy services in all contexts related to organization process management - management systems, certifications in accordance to ISO 9001, compliance to the CE marking standards, tools for growth and adaptation with respect to global sustainability (i.e. environmental, social and governance, so-called ESG).

EXPERTISE PROVIDED IN THE FURNITURE SECTOR:

Even if our approach is transversal to the type of organization, over the years we have developed a solid knowledge of the market for chairs, furniture and interior design products in projects with large, medium and small manufacturing companies. We believe our experience in the fields of innovation management and process reengineering with manufacturing companies, even outside the furniture and lighting sectors, can be a valuable asset for any prospective client.

KNOWLEDGE AND EXPERTISE RELATED TO ADVANCED TECHNOLOGIES AND DIGITAL SOLUTIONS

Technology/Solution	Expertise
Big Data & Analytics	Quasar Srl develops Analytics projects to visualize, analyse and design business processes both in production plants and in services companies.
Artificial Intelligence	Quasar Srl develops Predictive Analytics and Prescriptive Analytics algorithms aimed to improve the efficiency and effectiveness of production, logistics, quality assurance by analysing historical data about the business processes, forecasting future outcomes and, possibly, draw specific recommendations.
Innovation management	Quasar Srl helps big and small companies design and develop digitalization projects, analysing risks, designing a project management strategy and supporting the company during the project either as a project manager or as a coach of the project manager. Quasar Srl helps big and small companies to implement an innovation management system according to ISO 56002.
Business Process Reengineering	Quasar Srl help companies to re-design their business processes through a consolidated activity of cooperative reengineerization laboratories in which the key users of the business process are guided into rethinking it from scratch and create, as an output of the laboratory, a roadmap for the implementation project.

Rawfish srl



Technology provider name	Rawfish srl a Socio Unico (code 017)
Location	Vicenza, Italy
Company typology	Digital Tech Agency
Expertise sector	Lighting/Furniture
Contact person	Alessandro Lorenzin Email: alessandro.lorenzin@rawfish.com Phone number: +39 0444 962617
Website	https://rawfish.com
Speaking languages	Italian, English

PROFILE

Rawfish is a mobile agency that combines design and development, crafting unique digital experience. Born in 2012, Rawfish has three offices, Vicenza, Milan and Switzerland. It is divided into 6 areas with specific and vertical skills: iOS, Android, Backend, UI/UX, Frontend Web, Project Management. In 2022 Rawfish has 34 employees, but by 2025 it is expected to reach 50 employees.

We develop custom software solutions end to end. Service design, UI UX design and development of mobile, web and backend solutions. Our expertise drive us to design and create cutting-edge and technically excellent user centric experiences. We develop mobile app and web products, always keeping up with the latest technological trends.

EXPERTISE PROVIDED IN THE LIGHTING SECTOR:

Knowledge of connection methods and related communication protocols with hardware devices such as lights and sanitization and sensor systems.

EXPERTISE PROVIDED IN THE FURNITURE SECTOR:

Knowledge of connection methods and related communication protocols with hardware devices such as handles and access management systems to physical premises (doors, windows, etc.).

KNOWLEDGE AND EXPERTISE RELATED TO ADVANCED TECHNOLOGIES AND DIGITAL SOLUTIONS

Technology/Solution	Expertise
Industrial IoT (IIoT) & sensors	Development of a mobile application in the IOT field as part of multi-year projects concerning smart and sustainable living environments and iot systems for healthy and safe living environments. Development of a mobile application for home automation management of fully furnished apartments that can be rented for long periods and for any type of user.

Skeinholding s.r.l.



Technology provider name	Skeinholding s.r.l. (code 009)
Location	Villanuova sul clisi, Italy
Company typology	IT and digital innovation industry
Expertise sector	Lighting/furniture
Contact person	Roberto Dallavilla Email: amministrazione@skeinholding.com Phone number: +39 3349048561
Website	www.skeinholding.com
Speaking languages	Italian, English, Spanish

PROFILE

Skeinholding is an international organisation focused on the realisation and distribution of Virtual and Augmented Reality services, digitalisation of marketing and online trading, image scripting technologies specialising in the construction sector such as lighting and furniture.

Our solutions range from the realisation of image scripting technologies for the detailed representation of products and their components, to the realisation of augmented reality systems for the positioning of company products in rooms with real dimensions and choice of finishes, and in the realisation of infocommerce, ecommerce, PIM solutions and digitalisation of marketing to enter international markets and consolidate existing ones.

EXPERTISE PROVIDED IN THE LIGHTING SECTOR:

Creation of IT developments for some of the most important manufacturer in the international B2B and B2C markets. Development of AR visualization, Product WebAR and Image scripting technologies.

EXPERTISE PROVIDED IN THE FURNITURE SECTOR:

Creation of IT developments for some of the most important manufacturer in the international B2B and B2C markets. Software in cloud for the creation of 3D real-time render, development of AR visualization for maintenance, Product WebAR and Image scripting technologies.

KNOWLEDGE AND EXPERTISE RELATED TO ADVANCED TECHNOLOGIES AND DIGITAL SOLUTIONS

Technology/Solution	Expertise
Augmented and Virtual Reality	Realisation of interactive augmented reality systems for the positioning of company products in rooms with real dimensions and choice of finishes,
Digitalisation of marketing and online trading	Programming and publishing of info-commerce, e-commerce, PIM solutions and digitalisation of marketing to enter international markets and consolidate existing ones.
Image scripting technologies	realisation of image scripting technologies for the detailed representation of products and their components with the possibility to zoom, rotate and interact with the customer directly.
WebAR	Integration in web portals of 3D visualization in high definition related to the products with the possibility to integrate their position in the real environment using AR.

Smact scpa

competence center
SMACT



Technology provider name	Smact scpa (code 008)
Location	Venice, Italy
Company typology	Competence Center, DIH
Expertise sector	Lighting/furniture
Contact person	Diego Pellizzari Email: diego.pellizzari@smact.cc Phone number: +39 3666499331
Website	https://www.smact.cc/
Speaking languages	Italian, English, Spanish, French

PROFILE

SMACT cc was established in 2018 to respond to the Italian Economic Development ministry call "Highly Specialised Competence Centres 4.0", part of the national "Industry 4.0 Plan". Following these requirements, a public-private-partnership (PPP) has been set up among 11 universities and RTOs in the Triveneto region and 29 companies and other institutions, with three fundamental areas of activity:

- Orientation of companies towards digital transformation;
- Managerial and technical, theoretical and experiential training for companies;
- Management of business research and innovation projects including technology transfer activities.

Then, SMACT cc launched the 'SMACT Innovation Ecosystem' (SIE) to coalesce other specialised skills over the ones of its founding members. At the moment, the program has been joined by 25 companies, leading the SIE to almost 70 entities. Thus, leveraging and activating SIE's knowledge, SMACT can mobilise many areas of specialisation to develop business solutions based on new technologies such as IoT, Cloud, Cybersecurity, Artificial Intelligence, Big Data and Analytics, Blockchain, Robotics and Augmented Reality.

Since its foundation, the Italian Economic Development ministry allocated to SMACT cc 2.7m€ to co-finance Innovation, Industrial Research and Experimental Development projects. These resources have been turned into 34 innovation projects, involving 49 research groups from the SIE to support companies in the fulfilment of their business ambitions.

EXPERTISE PROVIDED IN THE LIGHTING SECTOR:

SMACT cc has developed and deployed an academic research, through its associated Universities, to define which are the advanced technologies applications in the lightning and furniture manufacturing processes and the related cost-benefit.

EXPERTISE PROVIDED IN THE FURNITURE SECTOR:

SMACT cc has developed and deployed an academic research, through its associated Universities, to define which are the advanced technologies applications in the lightning and furniture manufacturing processes and the related cost-benefit.

KNOWLEDGE AND EXPERTISE RELATED TO ADVANCED TECHNOLOGIES AND DIGITAL SOLUTIONS

Technology/Solution	Expertise
Augmented and Virtual Reality	Knowledge developed in the previous innovation projects carried out by SMACT cc and present in SMACT Innovation Ecosystem
Big Data & Analytics	Knowledge developed in the previous innovation projects carried out by SMACT cc and present in SMACT Innovation Ecosystem
Cybersecurity	Knowledge developed in the previous innovation projects carried out by SMACT cc and present in SMACT Innovation Ecosystem
Industrial IoT (IIoT) & sensors	Knowledge developed in the previous innovation projects carried out by SMACT cc and present in SMACT Innovation Ecosystem
Robotics	Knowledge developed in the previous innovation projects carried out by SMACT cc and present in SMACT Innovation Ecosystem
Artificial Intelligence	Knowledge developed in the previous innovation projects carried out by SMACT cc and present in SMACT Innovation Ecosystem
Blockchain	Knowledge developed in the previous innovation projects carried out by SMACT cc and present in SMACT Innovation Ecosystem
Computer Vision	Knowledge developed in the previous innovation projects carried out by SMACT cc and present in SMACT Innovation Ecosystem

VISUP SRL

VISUP®



Technology provider name	VISUP srl (code 014)
Location	Milan, Italy
Company typology	Tech-savvy Company
Expertise sector	Furniture
Contact person	Gabriele Venier Email: gabriele@visup.it Phone number: +39 340 244 5408
Website	https://www.things5.com/
Speaking languages	Italian, English, French, Spanish

PROFILE

VISUP is a software house that specialises in data collection, analysis, and visualisation in the IoT field. The company was founded in 2015 and has since focused on Big Data Analytics for the Internet of Things (IoT) in the industrial sector.

VISUP offers a range of products specifically designed for industrial machinery and appliance manufacturers (OEMs), including Things5 and Plant9, which were developed through the company's extensive experience in data-driven insights. VISUP's services include Big Data and Analytics, Artificial Intelligence, Human-Like AI-ChatBots, and IoT Connected Products. By leveraging the power of Big Data and Analytics, VISUP empowers businesses to optimise operations, drive innovation, and gain a competitive edge.

The company excels in creating custom-designed analytics applications that unlock the true potential of IoT data for addressing specific business challenges. VISUP also specialises in creating algorithms for intelligent and personalised lighting to improve the quality of life for people. The advantages of using VISUP's services include improved decision-making through real-time visualisation of bottlenecks and risks, increased customization and reduced errors in machine operations through the use of Artificial Intelligence, and improved customer support through the use of Human-Like AI-ChatBots. VISUP's IoT Connected Products provides a comprehensive solution that helps businesses manage their IoT devices effectively and efficiently.

EXPERTISE PROVIDED IN THE FURNITURE SECTOR:

Visup Srl is a highly experienced company in the field of IoT solutions for kitchen appliances. With a strong track record of successful projects, Visup has established itself as a leading player in this market segment. The company has worked with some of the biggest names in the industry, collaborating with worldwide market leaders to create innovative and cutting-edge solutions that meet the needs of modern consumers. Thanks to its deep expertise and extensive knowledge of the latest technologies, Visup is able to deliver high-quality services that are tailored to the specific requirements of each client.

KNOWLEDGE AND EXPERTISE RELATED TO ADVANCED TECHNOLOGIES AND DIGITAL SOLUTIONS

Technology/ Solution	Expertise
Big Data & Analytics	Leveraging our extensive experience in data-driven insights, we specialise in creating custom-designed analytics applications that unlock the true potential of IoT data for addressing specific business challenges. With a deep understanding of data-based analysis tools, we excel in visualising bottlenecks and risks in real time, presenting them in an easily digestible format for quick decision-making. Our dedicated team of experts works closely with clients to identify their unique needs and develop tailored solutions, ensuring seamless integration and maximum value extraction from the wealth of available data. By harnessing the power of Big Data and Analytics, we empower businesses to optimise operations, drive innovation, and gain a competitive edge in today's rapidly evolving marketplace.
Industrial IoT (IIoT) & sensors	Our area of specialisation in the IoT industry focuses on Connected Products' IoT technology. For further information on our solutions in this area, please refer to the specific paragraph below.
Artificial Intelligence	Our expertise in this field focuses on creating algorithms for intelligent and personalised lighting to improve people's quality of life. For example: -Smart lighting algorithms that automatically adjust brightness based on sunlight levels for optimal illumination. - Personalized lighting tailored to your circadian rhythm, promoting better sleep and overall well-being. -Customised lighting solutions designed to accommodate specific health conditions such as colour blindness, myopia, or autism. -Lighting algorithms specially crafted to cater to the needs of young children.
Human-Like AI-ChatBots	<p>The Bot is built on the latest AI technology (Chat GPT like), making it capable of understanding customer queries and providing relevant responses in real-time about your company's knowledge base (maintenance manuals, procedures, etc.).</p> <p>Our bot is designed to handle a wide range of customer support inquiries, from basic issues to complex problems, and provide instant solutions. With its advanced capabilities, our Bot can help customers get answers to their questions quickly and efficiently, without the need to wait for a human representative and cut-off costs for Customer Support.</p>
IoT Connected Products	<p>IoT Development Platform.</p> <p>Our IoT Development Platform is a comprehensive solution that offers a range of features to help businesses manage their IoT devices effectively. With OTA firmware and software batch updates, users can easily update their devices remotely, ensuring that they are always up-to-date with the latest features and security patches. The platform also offers device analytics, which allows users to monitor the performance of their devices and identify any potential issues. Bi-directional communication enables seamless communication between devices and the platform, while user behaviour analysis provides valuable insights into how users interact with their devices. Remote diagnostics and service allow users to troubleshoot and resolve issues remotely, while API interoperability ensures seamless integration with other systems. Automated reporting provides real-time data on device performance, while installation site analytics help users optimise their device placement. Finally, alarms and notifications ensure that users are alerted to any issues or events that require their attention. Overall, our IoT Development Platform is a powerful tool for businesses looking to manage their IoT devices effectively and efficiently.</p>

Technology Uptake Facilitators in Poland

enlum Nikodem Derengowski



Technology provider name	enlum Nikodem Derengowski (code 019)
Location	Szymbark, Poland
Company typology	Tech Savvy
Expertise sector	Lighting/Furniture
Contact person	Nuria Diago Alonso Email: nuriadiago@gmail.com Phone number: +33 6 38 76 66 67
Website	www.enlum.eu
Speaking languages	English, Polish, Danish, French, Spanish, Catalan

PROFILE

Enlum is a young Polish company focused on research- and innovation-based design processes. It was founded in 2019, and it's portfolio of services is based on research (psychometric techniques, lighting technology, and NIF of light) and design (lighting, architectural, artistic) activities.

The major activities and services utilising advanced technologies are:

- Digital prototyping using 3D modelling and accurate simulations of materials and lighting.
- Aiding the design (lighting, furniture, architecture) with usage of online-based tool for surveying, communicating, and co-creating of a product. This service allows for quick feedback on the design (within company, as well as between the company and product users) and its implementation.
- Research-based calibration techniques for representation of visual stimuli, allowing for realistic representation of the design.
- Photogrammetry and drone photography in the architecture-focused projects, allowing for accurate representation of site-conditions.
- Surveying lighting conditions and material properties through measurements (luminance, illuminance, spectrum), questionnaires, simulations, and photography (classic and drone).

The major advantage of using Enlum's services is its scientific background, and research-based techniques implemented in the design processes. Moreover, Enlum's mission is to stay up to date with the newest - and community verified - technologies, especially in the domain of 3D modelling and digital prototyping.

EXPERTISE PROVIDED IN THE LIGHTING SECTOR:

Optical calculations, 3D image and video production , material simulation, 3D rendering, calibration of images, calibration of screens, spherical imaging, image processing, visual quality assessment (comfort, agreeableness, etc.), construction of narrative of sessions dealing with prototype testing, management of surveys, processing of results, statistical analysis.

EXPERTISE PROVIDED IN THE FURNITURE SECTOR:

3D simulation of scenes, real-time adjustment of materials photometry, production of sessions allowing testing of concepts and processing of results (preferences, observations, suggestions, applications, etc.), simulation of the design in a digital-twin of a 3D environment created using photogrammetry.

KNOWLEDGE AND EXPERTISE RELATED TO ADVANCED TECHNOLOGIES AND DIGITAL SOLUTIONS

Technology/Solution	Expertise
Digitalisation of marketing and online trading	Enlum proposes interactive sessions to communicate innovative solutions through invitations of participants . Solutions are prepared through co-design and are presented in context of indoor or outdoor scenes.
Image scripting technologies	Enlum proposes interactive sessions for the design teams and their partners to explore, test and validate digital prototypes. Solutions are presented in context (indoor or outdoor scenes). An important and quick step in prototype analysis before manufacturing.

Technology Uptake Facilitators in Portugal

Crantec




Technology provider name	Crantec (code 005)
Location	Esposende, Portugal
Company typology	Technologies Solutions Engineering, R&D, Expertise & Integration
Expertise sector	Lighting/furniture
Contact person	José Tabu Email: contact@crantec.net Phone number: +33 6 95 94 13 87
Website	https://www.crantec.net
Speaking languages	English, French, Portuguese,

PROFILE

Crantec is an Engineering and R&D Company, an IT Expert and Pioneer on LiFi (Light Communications), IoT, AI solutions integration collaborating for more than 10 years with PureLiFi Company (<https://pureLiFi.com>), (Leader on LiFi technology development) with full access to the state of the art LiFi technology (hardware and software) as a LiFi Solutions Provider. Crantec is a Member of Solar Impulse (<https://www.solarimpulse.com>) World efficient Solutions Foundation fighting the Climate change and addressing sustainability challenges while enabling economic growth.

As an Technology Expert Integrator, Crantec ambition is to provide on the market innovative end-to-end Low-carbon high Energy efficient solutions addressing the Climate change, Connectivity, Cybersecurity and security issue in various sectors including Smart Home, Smart Building, Smart Cities, Hospital, Medical, School, Industry 4.0, ...

Our field of knowledge and technology include expertise and strong skills on:

- **Networking and hardware Infrastructure** : Power Line Communications, Fibre Optical network, Power Over Ethernet (PoE) as the Backbone and foundation of high Energy efficient Digital and secure network infrastructure with the integration of the Solar Energy as a Power Source ;
- **Wireless Mobile Network Infrastructure**: WiFi and LiFi (Light Communications) high speed Wireless Mobile network solutions integration;
- **Cybersecurity**: Cybersecurity solutions and stack integration;
- **Security**: AI Smart Surveillance and Observation applications integration with real-time video analysis and Deep Learning technology.
- **Industrial IoT and sensors**: Design and manufacturing of high efficient and secure connected IoT Solutions integrating innovative technologies such as (**PoE, USB-C PD LED Luminaire, WiFi/LiFi Access Point, AI, BLE, Sensors**) using **3D Printing Technology**;

- **Light Sector:** Manufacturing of innovative connected and high efficient LED Luminaire fixture, LiFi /WiFi LED Luminaire Access Point
- **Furniture Sector:** Design and Manufacture of Digital furnitures integrating innovative technologies and connectivity (AI, LiFi /WiFi);
- **Robotics:** LiFi/WiFi solutions integration on robotics for Industry 4.0
- **Artificial Intelligence (AI):** Artificial Intelligence solutions integration on IoT objects, Infrastructures and Network solutions.
- **Machine Learning:** AI Machine Learning solutions integration addressing various sectors such as Security Smart surveillance, Industry process automation, Smart Office Digital transformation, E-Commerce, Services, Banking, Training, ...
- **Light Communications:** Design and integration of High Speed interference-free secure Wireless communications solutions based on visible light and/or Laser Based Infrared Light.

Crantec have Expertise and skills in key technologies with a great experience over the entire chain of its activities. Crantec vision is to Design, Manufacture, develop and implement low-carbon-based solutions on the market. Crantec solutions rely on Resilience, Connectivity, Energy saving, Energy efficiency, Cybersecurity, Usability.

- **Network Backbone:** Crantec provide a Greentech Networking and Infrastructure solutions based on Fibre Optic (POL, GPON, FTTO (x)) and Power over
- **Ethernet (PoE++ 802.3bt)** Standard technologies as the foundation of low consumption Energy efficient and Energy saving Networking Backbone infrastructure for IP-based Smart Building, Smart Home, Smart City, Industry 4.0....;
- **Connectivity:** Crantec design Low consumption and High efficient and Energy saving LED Luminaire, LiFi / WiFi LED Wireless Access Point Luminaire designed on top of **USB-C Power Delivery high Power LED technology**. Crantec develop innovative USB-C technology to develop new generation of Human Centric LED Lamp Luminaire (Low-carbon) connected on Power over Ethernet Network;
- **Cybersecurity:** Crantec integrate Cybersecurity tools and AI features on its designed products such as connected PoE LED Luminaires, fixtures, LiFi/WiFi Access Point, IoT Objects as a connected secure platform.
- **Usability:** Crantec integrate AI solutions for a better and easy User Experience

Over time, Crantec have been able to develop a Vision and a Global Strategy on key technologies. We can supply and integrate global solutions with a joint development on specific projects with our Partners. We can also assist them from the analysis and proposal of technical solutions to the deployment to ensure the full success of their projects.

EXPERTISE PROVIDED IN THE LIGHTING SECTOR:

Crantec design, develop and manufacture innovative connected and Low-carbon Energy efficient LED Luminaire, fixture, LiFi /WiFi LED Luminaire Access Point based on USB-C PD high power LED Luminaire technology.

EXPERTISE PROVIDED IN THE FURNITURE SECTOR:

Crantec design and Manufacture Digital furnitures integrating innovative technologies and connectivity: AI, LiFi / WiFi) wireless mobile connectivity technologies.

KNOWLEDGE AND EXPERTISE RELATED TO ADVANCED TECHNOLOGIES AND DIGITAL SOLUTIONS

Technology/ Solution	Expertise
Additive Manufacturing (3D printing)	Crantec use 3D Printing technology to design and manufacture its products such as LED Luminaire, LiFi/WiFi Access Point, IoT Device Platform.
Augmented and Virtual Reality	To successfully support the implementation of smart products for VR application, there is a strong needs of high speed, high bandwidth, reliable and low latency network infrastructure, as a backbone and as the foundation of VR Network infrastructure. LiFi is the only reliable high speed Wireless technology which can achieve a low latency to support VR and AI applications. LiFi is a Low-carbon , Energy efficient and Green technology solution to achieve the Net Carbon Network Communications infrastructure. LiFi network infrastructure is based on Fibre Optic technology interconnected with Power Over Ethernet (PoE) LAN Network. LED Luminaires Access Point are then connected to a PoE network which is interconnected with the Optical network Backbone connected to the Internet.
Cybersecurity	Crantec integrate Cybersecurity tools and AI Artificial Intelligence features on its designed products such as connected PoE LED Luminaires, fixtures, Furnitures, LiFi/WFi Access Point, IoT Objects as a connected secure platform.
Industrial IoT (IIoT) & sensors	Crantec design and manufacturing Low-carbon high Energy efficient and secure connected IoT Solutions integrating innovative technologies such as USB-C PD LED Luminaire, WiFi/LiFi Access Point with integrated BLE technology and Sensors using 3D Printing Technology;
Robotics	Crantec integrate LiFi/WiFi Wireless connectivity technologies on robotics, machine for Industry 4.0, Medical solutions, Industrial IoT Devices ...
Artificial Intelligence	Crantec integrate Artificial Intelligence AI solutions addressing needs in various sectors such as IoT objects, AI Smart Surveillance, Environment monitoring, Hardware Infrastructures and Network solutions.
Machine learning	Crantec integrate AI Machine Learning solutions addressing needs in various sectors such as Security Smart surveillance, Industry process automation, Smart Office Digital transformation, E-Commerce, Services, Banking, Training, using realistic AI Virtual Human Assistant (Digital twin) AI Deep Learning technology.
Light Communications technology	Crantec is an Expert, Pioneer and Integrator on LiFi Solutions. Crantec have been collaborating and developing LiFi technology with PureLiFi Company for 10 years now: Design and integration of High Speed interference free secure Wireless communications solutions based on LED visible light and/or Laser Based Infrared Light. Crantec have been designed and developed real life LiFi solutions on the market. LiFi is a wireless technology holds the key to solving challenges faced by 5G. LiFi can transmit at multiple gigabits, is more reliable, virtually interference free and uniquely more secure than radio technology such as Wi-Fi or cellular. LiFi is a Low-carbon , Energy efficient and Green technology solution to achieve the Net Carbon Network Communications infrastructure. LiFi network infrastructure is based on Fibre Optic technology interconnected with Power Over Ethernet (PoE) LAN Network. LED Luminaires Access Point are then connected to a PoE network which is interconnected with the Optical network Backbone which is connected to the Internet.

Technology Uptake Facilitators in Romania

INNO Robotics SRL



Technology provider name	INNO Robotics SRL (code 007)
Location	Cluj-Napoca, Romania
Company typology	Tech Provider
Expertise sector	Furniture
Contact person	Mihaela IOANEȘ Email: mihaela.ioanes@inno-robotics.com Phone number: +40765 335 040
Website	www.inno-robotics.com
Speaking languages	Romanian, English, Spanish

PROFILE

Inno Robotics is a wholly Romanian-owned company started in 2011. It has become the largest national integrator of fully automated solutions of industrial robots, while also gaining the trust of our external customers. Over the years its projects have been implemented in various industries: automotive, aeronautics, metal processing (CNC assistance, presses, bending machines, welding), porcelain processing industry, etc. The expertise developed over time is mainly in robotic automated welding processes, machine tending and palletizing of various products.

Company offers to the customer the complet autotomated solution for the industrial production process that needs to be automatized by offering, together with the products, services as: defining the technical solution, making mechanical and electrical design, manufacturing the parts needed for the robotic cell, developing the software for robot and PLC, providing the installation of the robotic cell, testing and validation, training for the operators, technical support after sale, warranty and post-warranty services.

The main advantage that INNO Robotics has is the wide know-how in robotic automation domain and in-house manufacturing workshop where at least 90% of the components of an automated cell that requires mechanical processing are produced, thus allowing to have a real control over the product quality and the execution deadlines.

EXPERTISE PROVIDED IN THE FURNITURE SECTOR:

INNO Robotics has experience in automation of production processes in wood manufacturing. One of the most complex projects was handling and palletizing of hanger coats.

KNOWLEDGE AND EXPERTISE RELATED TO ADVANCED TECHNOLOGIES AND DIGITAL SOLUTIONS

Technology/Solution	Expertise
Robotics	<p>We have already developed a series of automated welding solution with incredible performance and succes on Romanian market. WeldPro can be easily adapted to the changing type of manufactured parts. From small series production to high volume production. We have designed this product to provide flexibility for production changes and it can be easily reprogrammed for new production parts if necessary.</p> <p>For material handling we also have experience in palletizing solutions in various industries and also CNC or presses tending. CNC tending cells can serve up to eight machine tools. They can easily handle small batches of parts and combinations of batches within the same machining process.</p>

TESAGON INTERNATIONAL



Technology provider name	TESAGON INTERNATIONAL (code 006)
Location	PAULESTII NOI, Romania
Company typology	Tech-savvy company
Expertise sector	Furniture
Contact person	IULIA MATEI Email: iulia.matei@tesagon.com Phone number: +40 786 393 801
Website	about.tesagon.com
Speaking languages	Romanian, English, Spanish, French, Hungarian

PROFILE

Tesagon International was founded in 2015 to fulfill the need for quality, custom-made, quickly implemented cloud systems. Our team successfully designed and developed custom-made ERP solutions for clients in various industries. We've gained experience implementing solutions for vending machine operations, custom furniture manufacturers, map-based tracking of alerts and assets.

We provide the following services:

- ❖ Systems design
- ❖ Custom made software
- ❖ Engineering
- ❖ Consulting
- ❖ Web development

Products developed by us:

3DAII - Presentation, design, and production management solution for custom furniture manufacturers, developed on imos software platform, the world leader in the field. <https://3dall.ro/>

IWerp - ERP tool, created and developed on the specific of the furniture production industry - an integrated management system of all the processes and operations of the company. <https://iwerp.ro/>

Digital Dynamic – Sales and marketing tool for presenting spaces or products through professional virtual architectural solutions (dynamic rendering). <https://digitaldynamic.eu/>

Research, innovation and development are very important to us. Therefore, we were part of several R&D projects with public funding that you can find more about at <https://about.tesagon.com/>

We are passionate about open source technologies and use them to deliver the best technical solutions at the best price. Using agile development methodologies, we can adapt very fast to changing needs in this fast-paced world we live in.

EXPERTISE PROVIDED IN THE FURNITURE SECTOR:

We have over 10 years of experience in the furniture industry. We are constantly on an active search to find the best solutions to specific problems, as well as optimal ways of working that provide overall efficiency and lead to minimizing the resources used and therefore costs.

We develop proven integrated solutions that offer a fast and efficient way of working and that work for both small and very large companies. In addition to custom developments for this industry, we have our own products (3D ALL and iWERP) that we have created for furniture manufacturers.

KNOWLEDGE AND EXPERTISE RELATED TO ADVANCED TECHNOLOGIES AND DIGITAL SOLUTIONS

Technology/Solution	Expertise
Augmented and Virtual Reality	We create immersive VR presentations for spaces and products using real time renderings. https://digitaldynamic.eu/
Big Data & Analytics	We created and developed an integrated management system for all processes and operations of the company, customized for furniture manufacturing industry. https://iwerp.ro/
Digitalisation of marketing and online trading	https://www.dressing.ro/ - online furniture configurator for dressings. Based on the final configurations, furniture can be directly sent to production without further investment of time and resources. 3dall.ro

Technology Uptake Facilitators in Spain

Acondicionamiento Tarrasense (Leitat)



Technology provider name	Acondicionamiento Tarrasense (Leitat) (code 016)
Location	Terrassa, Spain
Company typology	Digital Innovation Hub - Digital Industry
Expertise sector	Lighting/Furniture
Contact person	Vincent Jamier Email: vjamier@leitat.org Phone number: +34 93 788 23 00
Website	www.leitat.org
Speaking languages	Catalan, Spanish, English, German, French

PROFILE

Founded in 1906, Leitat is one of the reference entities at national and European level in technology management. It has a team of more than 500 professionals, experts in applied research, technical services and management of technological and innovation initiatives. Leitat provides social, industrial, economic and sustainable value, offering comprehensive solutions in multiple sectors and areas: development of new materials, eco-sustainable production, occupational health prevention systems, revaluation of waste and use of natural resources, interconnectivity and digitization of industry, green energy and maximization of energy efficiency. Leitat is recognized by the Ministry of Economy, Industry and Competitiveness and is one of the main entities participating in Horizon 2020 and Horizon Europe.

Digital Industry department improves industrial competitiveness through access of state-of-the-art facility ([DFactory](#)) and knowledge transfer in the field of additive manufacturing and 3D printing (Leitat is member and manager of the International Advanced Manufacturing 3D Hub [IAM3DHUB](#)), robotics and automation, 5G & IoT, vision & photonics and artificial intelligence under open innovation models for the development of research and innovation projects, with a tech transfer and industrial adoption vision for a positive impact and return to the society.

EXPERTISE PROVIDED IN THE LIGHTING SECTOR:

AM3DP: Design and development of components and new disruptive solutions in AM3DP, inner & outer components (structural/shape/aesthetics), electrical connectors and heat dissipators, obtention of complex geometries, special series, on demand manufacturing, customized designs, prototyping. ROBOTICS: Associated robotics processes: Assembly, union, cabling, machining, machine tending, vision, force control. P&V: optical modelling and development of prototypes, including light sources, mirrors, diffusors, etc.

EXPERTISE PROVIDED IN THE FURNITURE SECTOR:

Design and development of components and new disruptive solutions in AM3DP, structural elements, solutions for seatings and cushions with lattice structures, obtention of complex geometries, special series, on demand manufacturing, customized designs, prototyping. ROBOTICS: Associated robotics processes: assembly, union, machining, cutting, machine tending, palletizing, packing, vision, force control. P&V: integration of photonic materials for decoration, and optoelectronic devices such as solar cells, LSC, etc.

KNOWLEDGE AND EXPERTISE RELATED TO ADVANCED TECHNOLOGIES AND DIGITAL SOLUTIONS

Technology/Solution	Expertise
Additive Manufacturing (3D printing)	Technology consulting & adoption journeys; Design, redesign, optimisation of parts and development of new advanced industrial applications (solidworks, rhino, grasshopper, altair suite, magics...); customized trainings; parameter development of new AM materials; 3D printing with various materials (polymers in filament, powder, resins; metals -stainless and tool steels, nickel alloys, aluminium, titanium, copper-; sands for moulds) and different AM technologies (VAT -SLA, DLP, LCD-, FFF, MJF, SLS, SLM, BJ, GDP); development of new strategies and systems for post processing of AM parts (sandblasting, tumbling, shoot peening, electrochemical polishing, coatings, surface treatments, heat treatments); AM process digitalization and predictive models.
Big Data & Analytics	System architecture. Design of data pipelines and implementation of AI systems, both knowledge and information bases systems.
Cybersecurity	Implementation of different technologies, such as hardware secure elements integration or single sign on methodologies.
Industrial IoT (IIoT) & sensors	<p>Leitat has been involve on three main areas: data generation, connectivity, edge computing and hardware security. On data generation for indoor and outdoor applications the parameters to be monitoring are analysed in order to design and /or select the transduction strategy to data capture and digitalization.</p> <p>On connectivity, channel bandwidth and data-rate are also analysed before to select the most appropriate band for interconnect sensors with dataloggers, PLC, mobile phone, servers or cloud. Design of privative and secure networks. Apply strategies against cyberattacks. Hardware is hardened and secured by design and also using cryptography at hardware & software levels.</p> <p>Low power sensor networks and depending data topology, design battery-less sensors.</p> <p>Design and develop, Node sensors with EDGE computing with the aim to use artificial intelligence to analyse, categorize al data reported by deployed sensors.</p> <p>Sensors' design and integration of commercial ones. Data connectivity layers, MQTT, OPC-UA, Rest interfaces, JSON, non-relational data bases.</p>

Robotics	<p>Expertise in industrial robotics processes (welding, painting, machine tending, assembly...). Robotics lab for development, testing and validation of new robotic abilities, processes, and functionalities, based on enabling technologies such as artificial vision, navigation, force control, light manipulators, and sensors. Logistics processes with autonomous mobile robots.</p> <p>Leitat manages and operates the space and equipment available in the shared laboratory (including ATEX robotics area), offering different technological services, capabilities, expertise in robotics and automation according to the different levels of process complexity. The lab includes industrial and collaborative robots, AMR, 2D and 3D vision systems, robot end effectors and peripherals.</p> <p>Expertise in different enabling technologies such industrial control and communications, AI enabled robotics, digital twins, ROS modelling, vision, and sensors.</p>
Artificial Intelligence	<p>Development of pre-processing methodologies and analytics for data cleaning purposes, to support creation of good data training sets. Image and data-based systems.</p>
Machine learning	<p>Use of different algorithms to support regressions, classifications and clustering problems.</p>
Photonics & Vision (P&V)	<p>Expertise in five productive sectors: Industry, Energy, Health, Agri-Food and Environment.</p> <p>Since 2017, working under private contracts, developing solution at different grade of maturity. Some examples are: 1) design illumination system for sorting machinery for use hyperspectral camera in plastic sorting lines. 2) design and develop different sunlight management system for energy field, for example for the integration of solar cells in urban furniture. 3) development of photoluminescent materials for decorative applications and for energy harvesting.</p>

Enlighting Technologies SL (KUMUX)



Technology provider name	KUMUX (code 018)
Location	Barcelona, Spain
Company typology	Software
Expertise sector	Lighting
Contact person	Adrià Huguet-Ferran Email: adria.huguet@kumux.io Phone number: 690044863
Website	www.kumux.io
Speaking languages	Catalan, Spanish, English, Italian, Portuguese

PROFILE

KUMUX is a spin-off of the Faculty of Physics of the University of Barcelona that was born in 2017. The company currently has 7 highly qualified employees within the world of software, control and lighting.

Due to its strong links with academia, KUMUX has a high level of experience in technology transfer. In addition to holding a patent protecting its core technology, KUMUX has participated in numerous scientific studies related to algorithms applied to lighting, including a collaboration with the Barcelona Supercomputing Center.

KUMUX offers software in the form of an API capable of being integrated into any lighting control system that allows to simulate natural light cycles autonomously based on geolocation, datetime or activity (office, hospitals, nursing homes, schools...). This has a high impact on people's health and well-being and positively affects cognitive performance and patient recovery. In addition, we have a spectral design platform to apply complex simulation algorithms to multichannel luminaires.

Our service is fully user-centric, so the software makes decisions to provide the best light without the user having to take any action beyond turning the lights on and off, just as they would in a traditional lighting system.

EXPERTISE PROVIDED IN THE LIGHTING SECTOR:

The founding team of KUMUX has been working for more than 10 years in the lighting sector from a scientific point of view. After 6 years developing technology, KUMUX has managed to make a niche for itself among large companies in the sector, managing to partner with control companies such as Casambi, Tuya or KNX, among others, and certification companies such as UL. In these years KUMUX has participated in circadian lighting projects applied to offices, hospitals, nursing homes, universities or outdoor public lighting as a technology supplier. In addition, it has also provided software solutions to some of its technology partners that include technologies related to artificial intelligence, machine learning or software development, as well as consulting services.

KNOWLEDGE AND EXPERTISE RELATED TO ADVANCED TECHNOLOGIES AND DIGITAL SOLUTIONS

Technology/Solution	Expertise
Artificial Intelligence	Ability to apply algorithms related to the field of artificial intelligence, such as computer vision or machine learning. As an example, we developed software that was able to automatically digitize thousands of images of LED spectra from datasheets, something that would have taken thousands of hours of dedication if done manually.
Machine learning	Ability to apply machine learning algorithms to improve product features. As an example, we applied a neural network to a colorimetric sensor to increase its resolution and be able to calculate colorimetric parameters such as CRI, which would otherwise have been impossible.

Sterna Innovation Projects, SL



Technology provider name	Sterna Innovation Projects, SL (code 020)
Location	Girona, Spain
Company typology	Technology Development SME
Expertise sector	Lighting
Contact person	Marc Torrent Email: mtorrent@sterna.es Phone number: +34 605243956
Website	https://www.sternainnovation.com
Speaking languages	Catalan, Spanish, English

PROFILE

STERNA Innovation Projects SL is a Spanish SME founded in 2013 and specialized in Technology Development and Innovation Strategy.

Our key fields of knowledge lie in sensor design and development, electronics design, Internet of Things, product design and prototyping. Our main fields of expertise are in industrial systems, medical devices, agritech and logistics.

Our Services portfolio includes:

- Technology advisory: We provide our knowledge in technology, sensors, and product design, and analyse the state of the art and our customers chain value to propose new product concepts that best fits our clients' ideas.
- Prototyping: We create new functional prototypes from materials engineering to electronics development and smart features design. We provide manufacturing of concepts and mock-ups with rapid fabrication technologies to obtain early milestones.
- Product Validation: Our testing and validation methods follow the highest set standards to ensure product quality and compliance. We work closely with certified body parties to ensure certification and compliance. We are experts in code analysis and debugging to develop secure and failproof devices.
- Manufacturing Advisory: We manage product manufacturing from the first testing series to mass production. We design the best quality assurance strategies and manage them during production cycle. We design the tooling and the capabilities needed to fulfil your production objectives.
- Innovation Strategy: We help our client organization in the elaboration of Strategic Plans and implementation, Business Model Innovation, Business and Exploitation Plans and innovation portfolio management. Sterna helps to define a roadmap of key actions and support on the strategy follow-up and surveillance plan.

EXPERTISE PROVIDED IN THE LIGHTING SECTOR:

Design and development of a IoT distributed system for lighting applications control and maintenance.

KNOWLEDGE AND EXPERTISE RELATED TO ADVANCED TECHNOLOGIES AND DIGITAL SOLUTIONS

Technology/Solution	Expertise
Additive Manufacturing (3D printing)	We are experts in the design and optimisation of parts for additive manufacturing techniques, using all market available materials and technologies. We are experts in low volume series product manufacturing taking advantage of these technologies.
Industrial IoT (IIoT) & sensors	We are experts in the design and development of customized IoT devices and platforms. We can design custom solutions with sensors, actuators, embedded processing and cloud communications for a broad selection of use cases including outdoors and dangerous ambients.