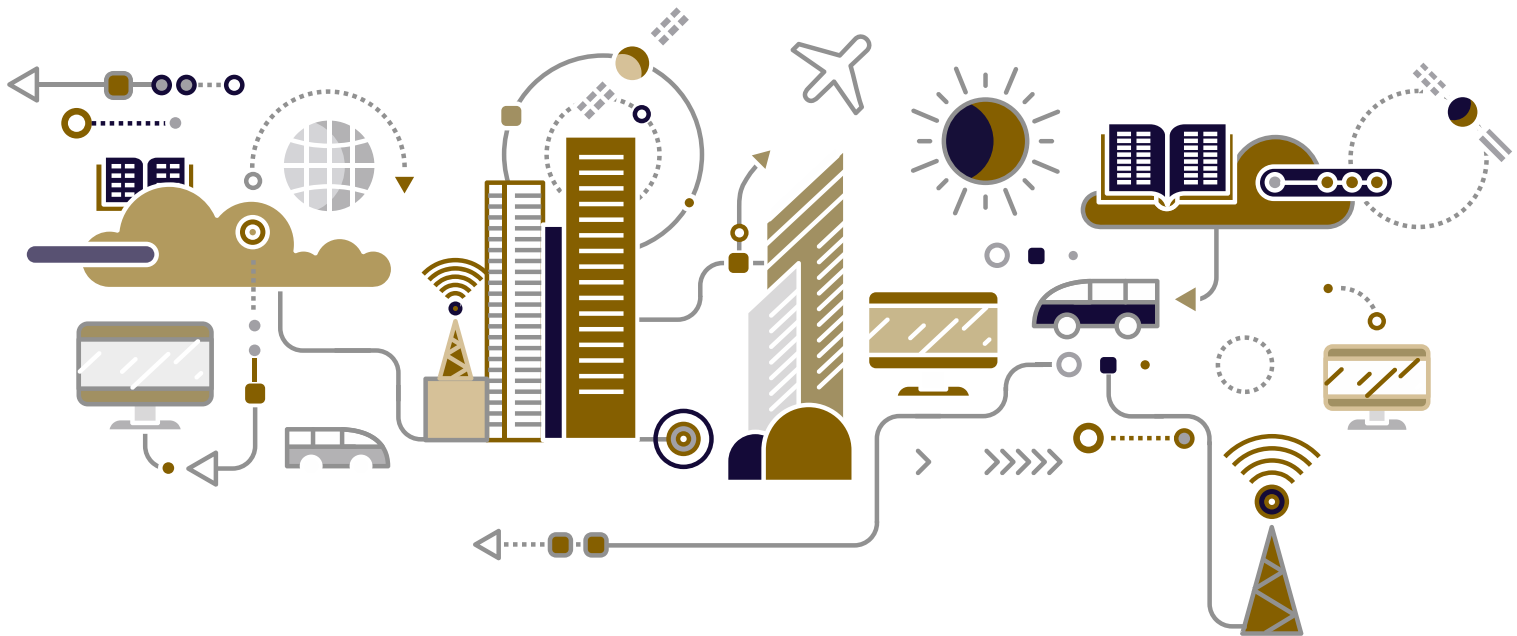# European
SME Expertise
in 5G and Beyond

USEFUL LINKS

Find the SME you need
www.networld2020.eu/find-the-sme-you-need/

NetWorld2020 SME support
www.networld2020.eu/sme-support

NetWorld2020 European Technology Platform
www.networld2020.eu

5G Public-Private Partnership
www.5g-ppp.eu

EDITORIAL

JACQUES MAGEN
interinnov
Chair of the SME
Working Group

I am very happy to welcome you to the 3rd edition of the "SME brochure". Now that the 5G Public-Private Partnership (5G PPP) is reaching the large-scale trials phase, with on the one hand the objective of targeting vertical sectors, and on the other hand of looking beyond 5G, SMEs are faced with new challenges. This version considers those new challenges, and I expect the participation of SMEs to thrive beyond the 20% share originally targeted as one of the 5G PPP Key Performance Indicator (KPIs) by the European Commission and the 5G Association. This brochure also includes, for the first time, an introduction from the Chair of NetWorld2020 and Chair of the 5G IA Board, supporting more involvement from SMEs of course!

With this 3rd edition, I also want to show the key role that SMEs have already been playing in developing, piloting and deploying 5G technologies, by providing examples of results and success stories from European SMEs involved in 5G PPP projects and otherwise. Of course, those examples are illustrations of what SMEs have achieved in the 5G PPP and more generally in the 5G landscape, and do not represent an exhaustive list of results from all SMEs involved. The SMEs included here are a subset of all the European SMEs working in 5G and other related communications-related topics. Therefore, this year we are adding at the end of the brochure the list of SMEs who are members of the NetWorld2020 European Technology Platform and of the 5G Infrastructure Association.

Some of those examples are already listed below, and further information may be found in this brochure along with the description of each SME.

The CHARISMA 5G PPP project allowed the SME InnoRoute from Munich, Germany, to optimise the platform for ultralow latency, while the SELFNET project helped them optimise the platform to support SDN (Software Defined Networking) modularity and extension. Thanks to those features, InnoRoute was able to enter the Industry 4.0 business by adding TSN (Time Sensitive Networking) functionality to their TrustNode router platform.

IS-Wireless from Warsaw, Poland, benefited from their participation in the 5G Essence project to demonstrate the benefits of 5G mission critical applications in coexistence with centralised RAN (Radio Access Network). This has allowed the company to seriously contribute to the delivery of a complete Software Defined (SD) RAN solution, that should be showcased in 2020.

Visiona Ingeniería de Proyectos from Madrid, Spain, has been contributing to the 5G-Crosshaul and the NRG5 projects. Thanks to 5G features, Visiona has implemented Virtualised Network Functions (VNFs) to deliver computer vision services through the network by deploying them in the edge of the network, to increase drone autopilot reaction. Visiona is now looking at new features around using artificial intelligence to find environmental changes in areas close to key infrastructures.

Through its participation to the 5G PPP projects Matilda and Pg-Phos, Incelligent, a Greek SME located in Athens, was enabled to mature its technology around its AI-powered products for proactive network resource and customer experience (CX) management, as well as its AI-powered products for the fintech and public sectors, and to conduct showcases, by interacting with verticals entities involved in areas like malls, venues, stadiums, and with large ICT companies.

Nomor Research from Munich, Germany, took advantage of their involvement in the 5G MoNArch and in the 5G XCast projects to strengthen their position as number one among the independent providers of simulation results for mobile communication networks. This has happened thanks to their contribution to system-level simulation results in the 5G IA IMT-2020 Evaluation Group, where they are evaluating the 3GPP proposal for 5G ("New Radio") against the IMT-2020 requirements.

Through its participation in One5G, WINGS ICT Solutions from Athens, Greece, enhanced its utility solutions, developing mechanisms for enabling a utility-operator to interact with the network (slice) management systems of a 5G network operator. These technologies were demonstrated at the Mobile World Congress 2019 and were parts of the project booth that received the "best booth award" at the EuCNC 2018 conference.

In the context of its activities across several 5G PPP projects (SelfNet, 5G-Crosshaul, 5G-TRANSFORMER, blueSPACE, 5G-MEDIA, 5GCity, SliceNet, 5G-EVE, and 5GCroCo), the Italian SME Nextworks, from Pisa, has developed a strong asset of software prototypes for an advanced NFV MANO framework targeting 5G infrastructures and integrating innovative features for 5G telcos, service providers and vertical industries. Nextworks performed demonstration activities at major events, which have become key references and success stories to present the company expertise to potential customers, thus increasing competitiveness and differentiation with competitors.

SMEs are benefiting from the 5G PPP not only to innovate and enhance their products and broaden their market share, but also to grow. WINGS, mentioned above, has enhanced its headcount, as well its competence. Although the 5G EVE project has only recently started, the SMEs involved can already see the benefit in participating in the project. Telcaria from Madrid, Spain, has motivated current employees to develop their professional careers to pursue Ph.D. and has been able to hire new employees. ares2t from Rome, Italy, has hired one new employee and plans to hire a second one; they have increased their overall budget by 20% and already extended their network of potential customers thanks to the connection with top companies participating in the consortium.

The SME Working Group (WG) is gathering about 150 members including 110+ SMEs. More than 350 SMEs are members of NetWorld2020, the European Technology Platform for telecommunications and related services and applications. The SME WG is jointly supported by NetWorld2020 and the 5G IA. The current SME representatives in the 5G IA Board are Nicola Ciulli from Nextworks and Jacques Magen from interinnov. There are five SME representatives in the NetWorld2020 Steering Board: Integrasys, interinnov, Montimage, Nextworks, and Quobis Networks. The SME WG is supported by the To-Euro-5G Coordination and Support Action and is chaired by Jacques Magen from interinnov. Nicola Ciulli from Nextworks is the Vice-Chair. More information is available at www.networld2020. eu/sme-support/. If you wish to join the SME Working Group, please send a request to sme-wg-contact@networld2020.eu.

RUI L. AGUIAR
Networld2020 Steering
Board Chair

The dynamism of SMEs is an essential feature for a competitive European society. The flexibility, eagerness and drive for innovation, that so many European SMEs possess, are essential for the development of our lives. Networld2020, the European Technology Platform that collects the efforts of all entities interested in telecommunications and associated technologies, is proud to count about 350 SMEs inside its constituency. These SMEs have made large contributions to the overall research in Europe and have shown many success examples on how to bring these innovations into commercial exploitation.

SMEs have been an essential part on, and a key contributor to, the work performed inside Networld2020. The SME working group has been key in intertwining the realities of innovation in European context and the constrains of SMEs, actively working to facilitate this two-way street, improving the interest of SMEs for European research, and promoting the advantages of collaborating with SMEs inside the research and innovation communities. With the upcoming Horizon Europe, novel opportunities will exist for SMEs. At a time when we will be discussing funding priorities for the next years, a renewed engagement of multiple SMEs may smooth the path for future joint successes!

It would be extremely rewarding for all of us if we continue to see an increase of the collaboration of SMEs inside European-funded research, and we see an increase in the SME participation inside Networld2020.

Best of luck to all SMEs!

COLIN WILLCOCK
Chairman of
the Board, 5G IA

On behalf of the 5G Infrastructure Association (5G-IA) I welcome the opportunity to write an introduction for this SME brochure. SMEs are one of the most important participants in our industry, they have the ability to bring new ideas to market and they represent the seeds that will hopefully grow into major industrial players in the future.

The 5G-IA is committed to the advancement of 5G in Europe. To this aim, the Association brings together a global community of telecoms & digital actors. Within this Association community, SMEs play a vital part, providing the motor for innovation and future growth.

Within the 5G Public Private Partnership (5G PPP), a 700 Million Euro joint initiative between the European Commission and European ICT industry, where the 5G IA represents the "private" side, we have focused on trying to ensure a high SME participation. This has enabled the projects to combine the unique SME aspects of innovative thinking, flexibility and agility with the requirements and reach of the large industrial players. This ability to combine both groups in a set of common projects has been one of the key factors driving the overall success of the 5G PPP programme.

COMPANY PROFILES

Accelleran

YEAR ESTABLISHED
2013

NUMBER OF EMPLOYEES
20

MORE INFORMATION
www.accelleran.com

CONTACT
info@accelleran.com

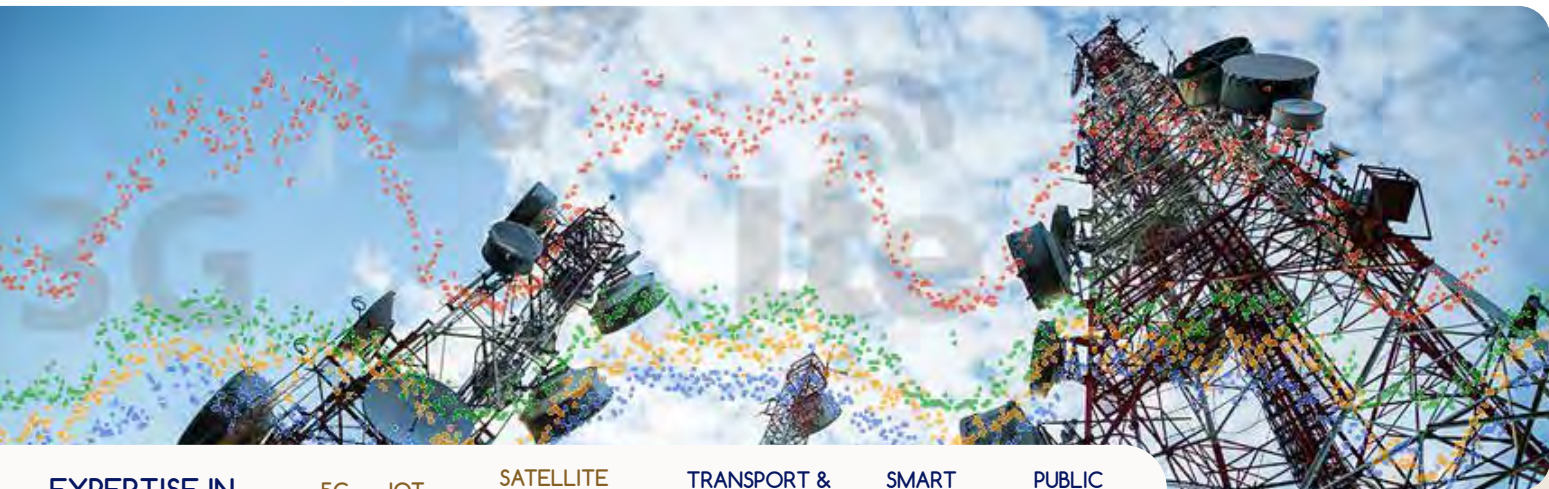| EXPERTISE IN	5G	IOT	NGI	SATELLITE COMMUNICATIONS	MEDIA & CONTENT	TRANSPORT & LOGISTICS	MFG.	ENERGY	SMART CITIES	PUBLIC SAFETY

BACKGROUND, EXPERTISE & SKILLS

Accelleran provides Mobile RAN/vRAN software and 4G/5G Small Cell product solutions addressing the real-world challenges of increasing data volumes and 5G applications, calling for hyperdense networks. Accelleran's unique software architecture is genuinely independent from any hardware platform. Operators can leverage one software solution for integrated small cells and for disaggregated and virtualised RAN networks with slicing and edge capabilities. With a global Cellular Industry's leading design team, Accelleran is the technology choice for carrier grade, reliable, performant Small Cells and Radio Access Network software solutions for Fixed Wireless Access, Public Mobile, Private Network, Neutral Host or IoT/Vertical solution providers. Accelleran four core service activities are Consulting & Design, SW Engineering, Test & Integration and Research (7 H2020 5G related projects).

ACHIEVEMENTS & SUCCESS STORIES

Accelleran delivers across the globe carrier grade RAN/vRAN Software and Small Cell products in different architectures. From the versatile, robust, small, lightweight and outdoor integrated E1000 Series Small Cell in different band variants including CBRS, to the ORAN-aligned Cloud Native Virtualised dRAX Open Interface RAN Intelligence enabling AI/ML xApps in an open, scalable and interoperable RAN platform. Accelleran won the 2017 TechTour TOP EVC Final, the 2018 Small Cell Forum Award in the category Outstanding Innovation in Small Cell Technology/Architecture and the 2018 TEAC (TIP Ecosystem Acceleration Centre) UK Wave 2 program. Accelleran has successfully participated in Belgian 5GUARDS and UK 5GRuralFirst projects and currently participates in 5GCity, 5G-Enhance, UNICORE, 5G-CLARITY and 5G-COMPLETE European and joint EU/Japan projects.

INTEREST FOR FUTURE R&D&I COOPERATION

Accelleran seeks European and International RIA, IA, FTI, MSCA... actions and in general any Research, Development and Innovation cooperation projects to underpin the future of mobile RAN/vRAN solutions enabling hyperconnected, ubiquitous, efficient and dense networks. 5G, IoT, Satellite Communications and Next Generation Internet are some of the areas we focus on to enable different vertical sectors such as Transport & Logistics, Manufacturing, Energy, Smart Cities and Public Safety with the networks of the future.

ACTA LTD
Advanced Communications Testing Applications

YEAR ESTABLISHED
2002

NUMBER OF EMPLOYEES
8

MORE INFORMATION
www.acta.com.gr

CONTACT
info@acta.com.gr

EXPERTISE IN 5G IOT SATELLITE COMMUNICATIONS TRANSPORT & LOGISTICS SMART CITIES PUBLIC SAFETY

BACKGROUND, EXPERTISE & SKILLS

Advanced Communications Testing Applications Ltd. (ACTA Ltd) is an SME founded in October 2002 in Athens Greece. It is a provider and integrator of Test & Measurement solutions, mainly focused on Telecoms, IT, Electronics and EMF & EMC technologies. It is present in the area of South East Europe. Especially in Greece, Cyprus, Albania, FYROM.

ACTA Ltd has focused its attention towards Ethernet testing technologies, both in terms of ad-hoc approaches by providing state-of-the-art measurement and testing instruments from the world's leading manufacturers, as well as long-term monitoring and testing solutions for performance analysis of a variety of production network environments, both wired and wireless.

ACHIEVEMENTS & SUCCESS STORIES

Typical customers of ACTA Ltd are Telecom Operators, Integrators and Manufacturers, Utility companies, Universities, Research Laboratories and Enterprises providing test and measurement solutions for a wide range of technologies with greater focus on optical, mobile, radio and access networks. ACTA is a member in two Horizon2020 European union funded projects, 5G TOURS and 5G HEART in partnership with SMEs, universities and telecom providers from France, Norway, Italy, UK and Greece. During these projects ACTA Ltd will measure using cutting edge telecom equipment the Key Performance Indicators of 5G network infrastructures while aiming to expand its operations to software & hardware design for providing tailored solutions according to the requirements of network performance monitoring and IoT applications.

INTEREST FOR FUTURE R&D&I COOPERATION

ACTA is interested in cooperating with SMEs that develop optical, mobile, radio and access networks and SMEs that operate in the domain of 5G - IoT that develop machine learning software, edge computing, monitoring sensors, blockchain and defence-oriented applications.

AETHERIC ENGINEERING

📅 YEAR ESTABLISHED
1989

👥 NUMBER OF EMPLOYEES
2

ℹ️ MORE INFORMATION
www.aetheric.co.uk

✉️ CONTACT
enquiries@aetheric.co.uk

EXPERTISE IN   SATELLITE COMMUNICATIONS

BACKGROUND, EXPERTISE & SKILLS

As an independent consultancy, specialising in Satellite Communications, we support R&D, design, procurement and implementation of space segment and ground segment systems. We have an in-depth understanding of satellite communications networks and their relevance to commercial applications. Our expertise includes design; procurement; project management; and supervision of manufacture, test, installation and commissioning. Our experience includes working for clients on a world-wide basis.

ACHIEVEMENTS & SUCCESS STORIES

We have performed feasibility studies for satellite communication systems, for example the provision of telecommunication service throughout Africa, and the augmentation of a terrestrial banking network. We have supported the design and the procurement of telecommunications satellites, including GNSS augmentation, broadband connectivity, television distribution and delivery, and data networks as supported applications. We designed and built a prototype transportable VSAT terminal. We also managed studies into the design standards for the user terminals of a broadband satellite communications network.

INTEREST FOR FUTURE R&D&I COOPERATION

We are interested in applying our expertise and experience in support of R&D&I in all aspects of satellite communications. In particular, we would welcome opportunities to support researchers with little expertise, themselves, in satellite communications but with technology or IP that they wish to introduce into the satcom sphere.
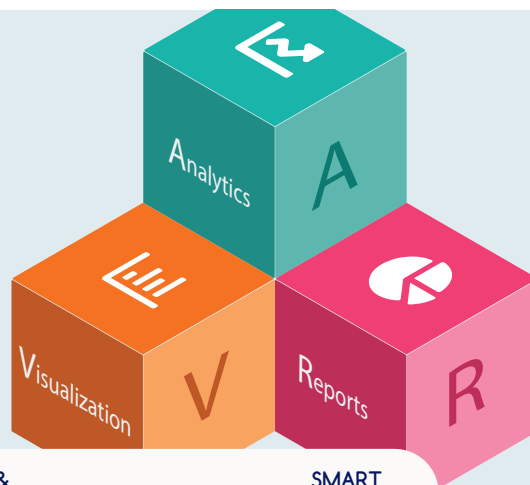
App Art

EXPERTISE IN   5G   IOT   MEDIA & CONTENT   HEALTH   ENERGY   SMART CITIES

BACKGROUND, EXPERTISE & SKILLS

AppArt is a software development company, located in Athens, Greece, with activities focusing mainly in the design and development of Software Applications and Solutions targeted for Telecom Operators, Financial Organizations, Health and Energy Industry.

AppArt delivers both custom, as well as its own solutions. AppArt provides solutions in the areas of Big Data Analytics (Customer Experience presentation, Network Performance Management, Digital Network Analytics, Customer Value Management, Enterprise Reporting etc.) and in the areas of Mobile Applications creation and Web Development. AppArt provides its own platforms for Business Intelligence, Real Time Campaigns' Management and Next Generation Messaging business functions. AppArt team includes professionals with long market experience and technical expertise, providing the company with the advantage of being able to address business requirements in the most innovative ways.

ACHIEVEMENTS & SUCCESS STORIES

In the area of 5G, AppArt is a member of the consortium of the 5G-SOLUTIONS project (https://www.5gsolutionsproject. eu/home). With its participation in 5G-SOLUTIONS, AppArt will leverage its capabilities even further as it is going to apply its skills and experience in Analytics area for the design and implementation of the real-time KPI visualization system. More specifically, AppArt will contribute in a) the detailed design of the KPI visualization system, b) the design and implementation of all the integration points of the KPI visualization system with the ICT-17-2018 E2E facilities and c) the development and deployment of all the necessary components comprising the KPI visualization system, in order to meet the required specifications.

AppArt has already received the first stage of approval, participating in a national funding program in the area, among others, of 5G, under the title "5G Traffic".

INTEREST FOR FUTURE R&D&I COOPERATION

AppArt has already experience in participating in H2020 actions, in partnership with companies, operators and academic institutions, and is currently seeking for new, potential collaborations with other companies/enterprises and/or academic institutions within the frames of European projects, in order to expand further its activities in research and development within the 5G ecosystem.

We are mainly interested in activities related to design (logical and physical) of software solutions and software development in that area, however we are ready to welcome any other idea or proposal within, but not limited only to, 5G area, always related to our experience and mainly related to Analytics sector

ARCTOS LABS

YEAR ESTABLISHED	**MORE INFORMATION**
2008	www.arctoslabs.com
NUMBER OF EMPLOYEES	**CONTACT**
10	mats.eriksson@arctoslabs.com
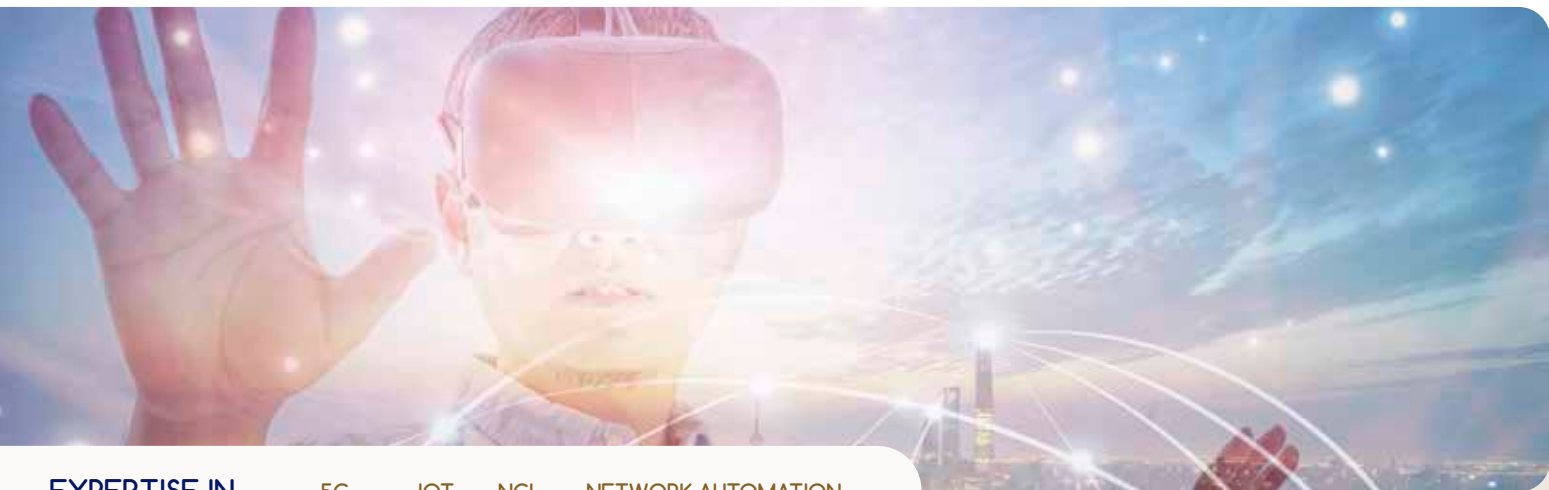
EXPERTISE IN   5G   IOT   NGI   NETWORK AUTOMATION

BACKGROUND, EXPERTISE & SKILLS

The team consists of very senior consultants with a wealth of experience from the leading global telecom companies. Our experience covers mobile and core systems, software technology, services development, as well as business management.

We are currently active in 5G R&D, edge optimization & automation etc.

ACHIEVEMENTS & SUCCESS STORIES

We provide unique technology for edge workload optimization and similar scenarios that has been showcased in PoC's and in major international conferences (such as MWC)

INTEREST FOR FUTURE R&D&I COOPERATION

Arctos Labs is interested in collaboration projects that moves industry further when it comes to enable emerging edge compute applications and technology

Beia
CONSULT INTERNATIONAL

YEAR ESTABLISHED
1991

NUMBER OF EMPLOYEES
50

MORE INFORMATION
www.beia.eu

CONTACT
george@beia.ro

EXPERTISE IN 5G IOT NGI SATELLITE COMMUNICATIONS TELECOMMUNICATIONS EQUIPMENT MEDIA & CONTENT TRANSPORT & LOGISTICS HEALTH ENERGY +

BACKGROUND, EXPERTISE & SKILLS

BEIA Consult International is a SME performing research, design, production, distribution, sales, installation and service.

BEIA is one of the leading providers of telecommunications equipment and solutions in Romania and offers consultancy services for carrier grade infrastructure, communication solutions for PABX, voice mail, IVR, call centre, VoIP services.

BEIA has R&D expertise in Cloud and embedded M2M telemonitoring applications, developing IoT based platforms such as agriculture monitoring platform for monitoring ecological parameters, and systems for irrigation management.

BEIA provides managed services & system integration, IP-Wireless-SCADA, GPRS/CDMA communications with TCP/IP embedded, GPS applications, μ-controller programming, software development.

BEIA is certified ISO 9001, 14001, 18001 and 27001 and is a member of various professional organizations such as ARIES, PMI, IEEE, AHK, IPMA.

ACHIEVEMENTS & SUCCESS STORIES

The company's references include over 5,000 national and EU projects for IT and communications solutions, enterprise cloud communications and telemetry, energy, smart cities, public safety, radio networks, etc.

CitiSim - Smart City 3D Simulation and Monitoring Platform

COSIBAS – Cognitive services for IoT-based scenarios in the industrial domain

ESTABLISH – Environmental Sensing To Act for a Better quality of LIfe: Smart Health

Mobiway – Mobility Beyond Individualism: an Integrated Platform for Intelligent Transportation Systems of Tomorrow ProSe – Proximity Services Framework

Power2SME - Aims to create a cloud system that will change SMEs' way of consuming energy

SWAM - Smart WAter Management system for better environmental sustainability

Other projects (finished and ongoing H2020, ECSEL, MSCA, Eureka/Eurostars, ITEA, Celtic, Erasmus, ERA-Net, AAL, BBI, COST, etc.) can be found on BEIA sites.

INTEREST FOR FUTURE R&D&I COOPERATION

BEIA is interested for future R&D&I cooperation in the following research areas (not exclusive): IoT, Cloud and embedded M2M applications, agriculture, environment, smart cities, smart mobility, health and well-being, energy, digital industry, digital life, etc.

To develop our projects or to cooperate within other projects, we need partners to build a comprehensive "ecosystem", interdependent on one another.

1. Horizontal partners: to provide the unified, standards-based network infrastructure and contribute with technologies and experiences to create a complete solution.

2. Vertical Partners: to solve market-specific business problems and address particular use cases, to have the knowledge of specific business operational.

3. Geographic, from Europe and other continents: to understand local environments, laws (such as data privacy regulations), and to facilitate project deployments.

Cumucore

EXPERTISE IN   5G   IOT   SDN, MEC, EMBMS   MEDIA & CONTENT   SMART CITIES   PUBLIC SAFETY

BACKGROUND, EXPERTISE & SKILLS

Cumucore is a spin off from Aalto University which products include results of several research projects in cooperation with industry partners such as Nokia, Ericsson, Huawei and Coriant/Infinera.

Ultra-reliable 5G packet core enhanced with SDN mobile backhaul orchestrator to manage network slices and Multi Access Edge (MEC) edge computing. The 5GC includes NB-IOT and eMBMS running in dedicated servers or virtualized on the cloud.

Cumucore 5GC has been deployed in several trials and pilots in Italy, South Africa and middle east showing reliable and optimized packet core for private LTE, Industrial environments and small deployments.

ACHIEVEMENTS & SUCCESS STORIES

Active participation in EU-KR project related to usage of UAV for firefighting including network slicing and MEC for URLLC required for emergency use cases.

Participation to 5G-SMART project for ultra-reliable 5G Core and network slicing for Industrial use cases.

Cumucore as part of Primo-5G project in cooperation with project partners have achieved an important milestone. The first deployment world wide of intercontinental 5G mobile network where Cumucore 5G Core is running in Korea at Yonsei University and Cumucore User Plane GW (UPF) is running in Helsinki at Aalto University (https://twitter.com/PriMO5G/ status/1202260945168486400). This open new business models for mobile operators, private and industrial internet 5G networks.

INTEREST FOR FUTURE R&D&I COOPERATION

Cumucore is interested to partner with other SMEs to participate in pilots on NB-IoT, eMBMS, Industrial Internet and private 5G networks. We are looking for partners complementing Cumucore portfolio on RAN including SDR and Cloud-RAN as well as OSS and BSS.

CyberEthicsLab.
Responsible Research and Innovation

YEAR ESTABLISHED
2017

NUMBER OF EMPLOYEES
10

MORE INFORMATION
www.cyberethicslab.com

CONTACT
eu-projects@cyberethicslab.com

EXPERTISE IN   IOT   MEDIA & CONTENT   MFG.   HEALTH   ENERGY   SMART CITIES

BACKGROUND, EXPERTISE & SKILLS

CyberEthics Lab. (CEL) is an Italian SME with a holistic vision of innovation, generated by efficiency, scientific curiosity, and respect for human beings. CEL promotes innovation, ethical awareness and ethical behaviour to build confidence and trust within the society. CEL leverages on the experience and knowledge of its multidisciplinary members (i.e. ICT, Law, Philosophy, Politics, Management, Economy), some of them teaching at University, and who are working in numerous R&D activities in the context of inter-disciplinary EC Research projects (i.e. 5G-SOLUTIONS, PHOENIX, PERSONA, ASSISTANCE, PERSIST). CEL has formulated its own methodology on ethical, societal and legal assessment. This is a relevant aspect and it is applied for the 5G technology solution assessment to ensure its future full acceptance and sustainability.

ACHIEVEMENTS & SUCCESS STORIES

Here below two success stories from international cooperation and solutions for customers.

Societal acceptance analysis in security border solutions and eHealth ecosystems. Security and health are often seen antithetic topics, however CEL – with its own RRI approach (Responsible Research & Innovation) and Ethical Societal and Legal assessment methodology - has provided these two domains with qualitative and quantitative tools and methods to measure the social acceptance not in terms of technological usability, rather for enabling suitable alignments of human values and technological innovation. This experience is extended in 5G-SOLUTIONS.

Innovative engagement of stakeholder: in the context of 5G-PPP and security border solutions, CEL is fruitfully adopting best practices from PMBOK and OpenPM2 methodology for the engagement of community of stakeholders.

INTEREST FOR FUTURE R&D&I COOPERATION

CEL's offering is mainly based on promoting innovation and new opportunities in the market as well as creating ethical awareness and promoting ethical behaviour to build confidence and trust. In particular CEL's actions are also directed to promote the inclusion of legal and ethical concerns in the design and implementation of new technologies, the identification of risks on individual fundamental rights and the issuance of recommendations aimed to make technologies compliant with ethical principles and the relevant legal framework. CEL aims to reach either European and international partners and one of its main strength is its capacity to adapt and target its assistance depending on the concrete needs and situations.

DIGITAL TWIN
T E C H N O L O G Y

YEAR ESTABLISHED
2018

NUMBER OF EMPLOYEES
6

MORE INFORMATION
www.digitaltwin.technology

CONTACT
info@digitaltwin.technology

EXPERTISE IN 5G IOT VR/AR MEDIA & CONTENT TRANSPORT & LOGISTICS SMART CITIES

BACKGROUND, EXPERTISE & SKILLS

DigitalTwin Technology is software solution provider for construction and ICT industry. We create digital twins of construction site and urban cities for real-time monitoring and operations. We generate simulation behaviour of those 3D model to predict any possible accidents to mitigate in advance. 5G technology, with its promises of immersive virtual reality, will be a data hungry generation of wireless communications. Arrival of 5G will mean we can push these capabilities away from the PC and into something called the edge cloud, so we only require the headset. This is our cloud AR/VR technology. Cloud VR/AR technology is set to be a disruptive form of immersive multimedia in a number of different ways.

ACHIEVEMENTS & SUCCESS STORIES

Tunnelware is a VaaS (Virtuality as a Service) for tunnel construction industry to manage the construction process while managing the data generated by various sensors and human interaction. With a focus on reducing cost and waste, and increasing productivity, the system will improve the construction process at every stage, delivering "faster builds to a higher quality with fewer defects and more sustainable tunnels.

Cityware is a digital twin of your city to monitor the infrastructure on real-time, simulate the real situation in the virtual world. Completely under GDPR regulation with no video streaming.

INTEREST FOR FUTURE R&D&I COOPERATION

Engineers have been so preoccupied with designing and building the low-latency networks for these emerging applications that they've neglected the rest of our vast, tangled telecom networks. The result is that there is now a growing gap between the capabilities of the fixed and mobile sides of these networks. A big part of the problem is that the way data moves through our networks has been designed for efficiency on the mobile side. In the process our networks have become redundant and prone to clogging on the fixed side.

We are looking for partners in the area of networking who can help us taking this research to the next step. Partners can be from EU region or globally.

EANTC
EUROPEAN ADVANCED NETWORKING TEST CENTER

YEAR ESTABLISHED
1991

NUMBER OF EMPLOYEES
20

MORE INFORMATION
www.eantc.com

CONTACT
info@eantc.com

EXPERTISE IN 5G IOT NGI MEDIA & CONTENT TRANSPORT & LOGISTICS MANUFACTURING ENERGY SMART CITIES PUBLIC SAFETY

BACKGROUND, EXPERTISE & SKILLS

EANTC (European Advanced Networking Test Center) is internationally recognized as one of the world's leading independent test centers for telecommunication technologies. Based in Berlin, Germany, the company offers vendor-neutral consultancy and realistic, reproducible high-quality testing services since 1991. Customers include leading network equipment manufacturers, tier-1 service providers, large enterprises and governments worldwide. EANTC's performance and scalability, interoperability, proof of concept, acceptance tests and network audits cover established, and next-generation fixed and mobile network technologies.

EANTC develops new test methodologies for 5G networks and applications. We especially focus on end-to-end interoperability, scalability, and performance tests. They cover network infrastructure (SDN transport, slicing, telco cloud/NFV, edge computing) as well as network applications for a range of industry sectors.

ACHIEVEMENTS & SUCCESS STORIES

5G-VINNI: EANTC provides benchmarking methodology and state-of-the-art testing expertise in NFV, SDN and Network Slicing.

IETF/NetSecOPEN: EANTC co-created an independent, multi-vendor, multi-labs, and multi-tool test program for Next-Generation Firewalls, Intrusion detection and prevention systems and unified threat management implementations. The methodology has been prepared as an IETF standard (draft, soon RFC) edited by EANTC. The test suite is used for evaluation and certification of network security products, and to provide guidelines for testing the infrastructure.

F-Interop: The European research project aimed to develop online test tools supporting IoT-related technologies.

ETSI: EANTC is involved with the TST WG in ETSI's NFV Industry Standardization Group. Capabilities include management of descriptors and software images, life-cycle management of network services and virtual network functions.

INTEREST FOR FUTURE R&D&I COOPERATION

EANTC has strong industry experience in interop and performance testing of SDN, NFV, 5G services and applications. Being an independent test lab, EANTC is interested in contributing testing, quality assurance, and lab setup/management expertise to research projects. We would like to contribute our extensive commercial telecoms experience and strong focus on realistic scenarios. We find projects exciting that help Europe to capture markets strongly (in TRL 7-8) or to create a technology leadership position (TRL 5-7).

We have worked in small, 50%-funded EU projects as well as in large consortia, fully funded. H2020 and follow-on projects are great, likewise smaller proposals e.g. in the Eurostars area. We are ok to provide Task and WP leaders if desired.

YEAR ESTABLISHED
2010

NUMBER OF EMPLOYEES
15

MORE INFORMATION
www.eglobalmark.com

CONTACT
philippe.cousin@eglobalmark.com

EXPERTISE IN 5G IOT SATELLITE COMMUNICATIONS SMART CITIES PUBLIC SAFETY

BACKGROUND, EXPERTISE & SKILLS

Easy Global Market (EGM), first, specialises in validation, testing &interoperability today mainly in IoT and 5G areas. EGM stepped in the 5G area to provide NFV V&V methods for 5G within the H2020 5GTango project and IoT related 5G use cases (IoT slicing) in H2020 5GinFIRE project. Second, EGM provides scientific and engineering services for IoT market from sensors (HW) to data analytics using experience from about 24 international research projects. This applies to vertical fields, such as in Smart cities, Smart water Monitoring, Aquaculture and Agriculture where EGM is currently active within 10 running H2020 projects. In these fields EGM is exploring the use of 5G available technologies (e.g. NB-IOT) for developing devices or virtualized services (e.g. VNFs)

ACHIEVEMENTS & SUCCESS STORIES

On testing matters, EGM is working to provide a 5G NFV V&V platform. EGM has developed key devices to the Bioceanor start-up (www.bioceanor.com) that is supporting booming demand in Aquaculture digitalisation and where 5G is demanded. EGM deployed advanced autonomous sea buoys in Polynesia to help monitoring coral bleaching. EGM is now working more actively in agriculture digitalisation, on soil monitoring and is about to deliver a prototype in the beekeeping area to save bees depopulation. After a first successful product, EGM plans to deliver a low-cost water quality sensor. EGM is also working on virtualized services for smart cities thanks to the EU-Japan project fed4IoT

INTEREST FOR FUTURE R&D&I COOPERATION

We are looking for stakeholders in verticals which need key 5G devices or services exploiting our advanced expertise in IoT and virtualisation. We can work with a broad range of verticals with can be smart cities, automotive, agriculture, aquaculture, water networks, environment, public safety.

We can also develop for 5G-enabled verticals, solution to check KPI and to validate solutions with our V&V platform.

epitomicel ®

EXPERTISE IN   5G   IOT   SATELLITE COMMUNICATIONS   NGI   TRANSPORT & LOGISTICS   MANUFACTURING   SMART CITIES

BACKGROUND, EXPERTISE & SKILLS

Epitomical is UK based design & engineering company targeting the Transport & Smart Infrastructure Sectors. The company has a headcount of 20 full-time and part-time employees based across Western Europe, India and Japan.

The company has experience in Electrical & Electronic Systems, Embedded & Cloud software, Industrial Design and the planning and creation of Services. Our focus is on building Connected & Autonomous Systems for Air, Marine and Surface Transport Vehicles and associated Infrastructure. Over the past six years, Epitomical has designed and manufactured more than twenty different products for our own brand in addition to product development work for other parties.

ACHIEVEMENTS & SUCCESS STORIES

The company has been successful in the design and launch of numerous products as well as in collaborating with numerous companies including Google, Sony and Jacobs.

Epitomical recently led and delivered Project Alloyed (an Innovate UK funded project) together with sixteen consortium partners. The project delivered a number of positive outcomes in the area of Connected & Autonomous Vehicles including a flexible architecture for connecting Vehicles, Infrastructure & Cloud services. Project details can be found at https://alloyed.epitomical.com/.

In 2019, the company was awarded Horizon 2020 funding for the 5G-HEART project led by the Finnish technical research organisation, VTT. 5G-HEART will trial 5G use-cases across multiple vertical markets including Transport, Healthcare & Aquaculture. Project details can be found at https://5gheart.org/.

INTEREST FOR FUTURE R&D&I COOPERATION

The company is interested in collaborating with technology providers, local & regional authorities as well as other players within the Transport & Logistics ecosystem. This would include end users of services such as those in Healthcare, Construction and Regional & City operations.

Epitomical is currently delivering trials and development projects in Europe, Japan & India and would be interested in exploring other international markets for Connected & Autonomous Systems. These would include markets for autonomous systems leveraging drones, mass-market transport vehicles, pods as well as submersible and semi-submersible marine vehicles. Other areas of interest include organisations with an interest in Satellite Communications, Cellular telecommunications, HD Mapping & Cloud based services.

FOGUS
INNOVATIONS & SERVICES

YEAR ESTABLISHED
2016

NUMBER OF EMPLOYEES
10

MORE INFORMATION
www.fogus.gr

CONTACT
info@fogus.gr

EXPERTISE IN   5G   IOT   VR/AR   MEDIA & CONTENT   SMART CITIES

BACKGROUND, EXPERTISE & SKILLS

Fogus is a thriving SME in Greece that aims at integrating state-of-the-art technological advancements and cutting-edge research achievements, towards an immersive communication and computing experience. Founded by a group of industrial and academic experts covering a wide range of disciplines in the area of Information and Communication Technologies (ICT), Fogus exhibits strong research record and vast experience in managing and implementing ICT Research & Innovation actions. Holding experience that ranges from the design of mobile communication protocols to the development of custom-made software, Fogus undertakes: i) end-to-end set-up of network simulation and emulation environments for IoT and user-centric services, ii) development of network functions end protocols for access and transport network domains, ii) analysis of big data with expertise on mapping network and service performance parameters to user-experience metrics, iv) MEC-empowered service provisioning and integration for 5G.

ACHIEVEMENTS & SUCCESS STORIES

Fogus has active role in leading consortia and forums for 5G networks. Currently, the company participates in the 5GENESIS (https://5genesis.eu/) project. 5GENESIS is a large-scale 5G experimentation project that aims at validating 5G KPIs for various 5G use cases, in both controlled set-ups and large-scale events. This will be achieved by bringing together results from a considerable number of EU projects as well as the partners' internal R&D activities in order to realise an integrated End-to-end 5G Facility. Moreover, the company develops integrated services for user-centric digital content delivery in 5G mobile data networks that will be founded on the pillars of a) blockchain based wireless network resource sharing, b) QoE-enhanced video content delivery, c) software-defined networking and d) cache-enabled mobile data networks.

INTEREST FOR FUTURE R&D&I COOPERATION

Fogus research and development team has vast experience in participation to many European R&D projects in the past, including FP7 and H2020 actions, ICT, MSCA ITN, IAPP and RISE actions. The company is mainly interested in 5G and beyond research projects. Strategically, the company is looking for academic and industrial partners for potential collaborations in the following directions: i) exploitation of the last advancements in ICT sector to provide complete end-to-end solutions to vertical industries, ii) scientific research on innovative ideas for wireless mobile networking and service provisioning, and ii) participation in training and knowledge sharing activities, as explained in the MSCA work programme.

YEAR ESTABLISHED
2017

NUMBER OF EMPLOYEES
2

MORE INFORMATION
www.hi2.es

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jsesena@hi2.es

EXPERTISE IN 5G SATELLITE COMMUNICATIONS MEDIA & CONTENT SMART CITIES PUBLIC SAFETY

BACKGROUND, EXPERTISE & SKILLS

- Media. New mechanisms to broadcast content and provide personal TV. Assistant to ITU-D on supporting new advanced entertainment systems. Also, research analysis on new preferences of content viewers and comparison of efficiencies of different delivery platforms (satellite, cable, terrestrial over the air, OTT)
- Automotive. Designers and supporters of new solutions for Car2Car communications
- Public Safety. Involvement on the standardization processes for ICT solutions applicable to PPDR.

ACHIEVEMENTS & SUCCESS STORIES

Main areas of work have been the assessment of suitable spectrum for 5G and integration of satellite and terrestrial networks. HI has conducted studies on the use of current available spectrum and future opportunities for 5G.

INTEREST FOR FUTURE R&D&I COOPERATION

Widely involved in activities in Europe, Latin America and Africa. Assistance is regularly provided to Governments of Mexico, Colombia, Paraguay as well as ongoing activities in Africa.. HI interest in Morocco, Algeria, Tunisia, Egypt, Lebanon, Argentina, Chile, Brazil, Ecuador, Perú, Venezuela, Colombia, Panamá, Costa Rica, Honduras, Mexico.

Main technology areas are related to spectrum management and efficiency on the use of the spectrum through intelligent terminals capable to share the spectrum.

Incelligent
Machine learning – powered Networks
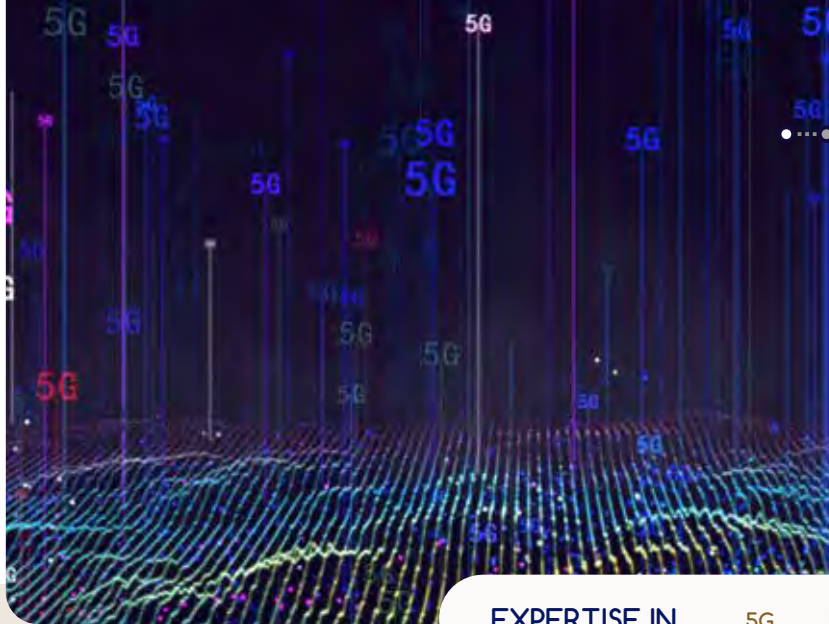
YEAR ESTABLISHED
2014

NUMBER OF EMPLOYEES
12

MORE INFORMATION
www.incelligent.net

CONTACT
info@incelligent.net

EXPERTISE IN	5G	IOT	MEDIA & CONTENT	SMART CITIES	PUBLIC SAFETY	FINTECH, PUBLIC SECTOR

BACKGROUND, EXPERTISE & SKILLS

Incelligent delivers tailored, out-of-the-box Predictive and Prescriptive Analytics solutions for proactive network resource and customer experience (CX) management, as well as products for fintech and public sector applications. Its expertise lie in its advanced analytics and state-of-the-art methodologies based on Machine Learning (ML) and Artificial Intelligence (AI), as well as its versatile and easy deployment of tailor-made solutions. Whether for proactive network and CX management or for the aforementioned verticals, Incelligent has developed and patented relevant technologies, processing heterogeneous Big Data with advanced ML/AI approaches and offering in-depth insights, predictions as well as actionable solutions.

Validation activities have been performed and/or are under way in the context of various PoCs, including use cases involving smart venues (e.g. stadiums, malls, etc.).

ACHIEVEMENTS & SUCCESS STORIES

Through its participation to the 5G PPP projects, MATILDA and 5G-PHOS, Incelligent was enabled to mature its technology (in terms of functionality, positioning in standards, etc.), to conduct showcases and enhance its expertise with respect to the 5G ecosystem technologies, by interacting with verticals entities involved in areas like malls, venues, stadiums, and also by working together by large ICT companies. In parallel, Incelligent is proud to deliver contributions that help to the overall shaping of the 5G world and to the maintenance of a prominent European role in the field.

INTEREST FOR FUTURE R&D&I COOPERATION

Incelligent is interested in creating future collaborations in the areas FinTech and public sector services, retail, smart venue as well as in telecommunication networks management. Of course, we remain open and will be happy to receive new proposals and ideas for collaboration for R&D or product development at a European and international level relevant to our expertise in ML/AI in the context of the 5G ecosystem.

INFOLYSIS

EXPERTISE IN   5G   IOT   CHATBOT APPS   TRANSPORT & LOGISTICS   HEALTH   ENERGY   SMART CITIES

BACKGROUND, EXPERTISE & SKILLS

INFOLYSIS P.C. is an innovative SME company, established in Athens, Greece, specialising on the design and development of chatbots, either as custom-made standalone applications or as subscribed-based services (Chatbot as a Service) via the privately owned chatbot platform. Chatbots are applications that simulate human conversation, based primarily on conversational flows, enriched with DL/NLP technologies for more sophisticated solutions.

INFOLYSIS is committed to driving research results forward in order to expand chatbot applicability in novel ICT use-cases by experimenting with novel technologies, such as 5G, SDN/NFV at the network edge and container-based virtualization in IoT domains. An indicative example includes the INFOLYSIS IoT Virtual GW, which offers the provision of agile interoperability over heterogeneous IoT domains, along with a user friendly chatbot interface.

ACHIEVEMENTS & SUCCESS STORIES

In 2017, INFOLYSIS achieved to commercialise the first chatbot business solution over Viber in Greece, enabling food ordering via chatting. This pioneering solution created strong business cooperation with Viber, granting to INFOLYSIS the title of Viber Preferred Enabling Partner.

Since then, INFOLYSIS demonstrated its solutions to many events organised by Viber. Two events are standing out, the "Viber for Business Innovation Day" at SNFCC and the "Viber Chatbot event" at INNOVATHENS, where both the CEO of Viber Mr. Djamel Agaoua and the VP of Global Partnerships Mrs. Cristina Constandache were present, together with key-players from the Greek market.

Concerning R&D, INFOLYSIS successfully participates in two 5G-PPP/H2020 projects, 5GENESIS (www.5genesis.eu) and 5G!Drones (www.5gdrones.eu), which validate 5G applicability in real life use-cases.

INTEREST FOR FUTURE R&D&I COOPERATION

INFOLYSIS plans to further enhance chatbot characteristics and functionalities with DL/NLP technologies for providing AI-driven chatbots to the Greek market and therefore there is a strong interest for building a cooperation with AI specialised companies.

Moreover, INFOLYSIS is looking for expanding chatbot applicability to new use-cases, such as improving citizen engagement in smart cities and to smart agriculture use-cases for simplifying continuous monitoring process.

Finally, INFOLYSIS also aims to expand its target market for the privately owned chatbot platform beyond the boundaries of Greece, targeting at popular Viber international chatbot markets in Europe, Russia and Asia, but also extending chatbot development over additional messaging platforms that are popular in specific countries, targeting at niche markets.
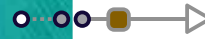
interinnov

YEAR ESTABLISHED
2009

NUMBER OF EMPLOYEES
5

MORE INFORMATION
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CONTACT
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EXPERTISE IN   5G   IOT   NGI   MEDIA & CONTENT   SMART CITIES   AGRIFOOD

BACKGROUND, EXPERTISE & SKILLS

In 2009 interinnov started with one specific challenge in mind: bridge the gap between innovation and the real world. We want to transform the breakthroughs achieved by brilliant minds in Science and Technology into actual benefits to target communities and the society. We believe in a positive and colourful vision for the future.

After 10 years, interinnov is a proficient partner in the European and international Research and Innovation context, with a prominent role in several ICT initiatives including the 5G PPP, NGI, FIWARE, and FIRE. Interinnov is a Steering Board member of the NetWorld2020 European Technology Platform and a Board member of the 5G IA. We are involved in several 5G PPP projects with a strong focus on vertical sectors such as media & content, smart cities, and agrifood.

ACHIEVEMENTS & SUCCESS STORIES

In the framework of the 5G PPP, interinnov coordinates key activities on community building and marketing communication since the initiative started in 2013, including the management of the YouTube channel and design of official printed material. interinnov is leading the impact, promotion and exploitation activities of 5G-MEDIA, one of the first European projects addressing the impact of 5G over the vertical industry of media. In addition, we are chairing the cross-project SME Working Group, responsible for empowering Small-Medium Enterprises.

Besides 5G, interinnov has become a pivotal partner in the new NGI flagship initiative from the European Commission. We are responsible for leading the strategy and activities to create synergies between Europe and the USA, via the NGI Explorers Programme and the Think NEXUS project.

INTEREST FOR FUTURE R&D&I COOPERATION

interinnov is constantly looking for new partners and projects to strengthen its knowledge of the world of innovation. Our worldwide network of partners will give you access to top-level institutions from the Academia, Industry and Public Administration. Europe is our core centre of operations, strengthened with partners in the Americas, Africa and Asia.

We facilitate a professional framework to create interest-based networks, rapidly identifying and bringing in the key organizations that will strengthen the success of your endeavour. We make your innovation attractive, by giving it an outstanding visibility and market position to deliver your value proposition to the right target audiences. We increase the competitiveness and capacity of your innovation to access the market.

YEAR ESTABLISHED
2014

NUMBER OF EMPLOYEES
4 + 8 associates

MORE INFORMATION
www.iinstitute.eu

CONTACT
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EXPERTISE IN   5G   IOT   NGI   CYBERSECURITY   SMART CITIES   PUBLIC SAFETY   CRITICAL COMMUNICATIONS   TELECOMS

BACKGROUND, EXPERTISE & SKILLS

INTERNET INSTITUTE Ltd. (ININ) is an innovation intensive SME, specialized in 5G performance and quality metrics development and validation, 5G testing, benchmarking and end-to-end validation, and quality monitoring and SLA assurance for orchestrated 5G infrastructures and services. Also, we are experienced in design, deployment and operation of reliable and resilient 5G infrastructures for public safety and critical communications sectors.

We address telco, corporate and vertical industrial sectors with our quality MONitoring (gMON) portfolio for performance monitoring and SLA assurance, benchmarking and end-to-end validation of communication infrastructures and services. In addition, we specialise in on-site critical communications, smart sensing and intervention monitoring services with our intervention MONitoring (iMON) and remote MONitoring (rMON) portfolios, customised for public safety and critical infrastructures.

ACHIEVEMENTS & SUCCESS STORIES

We are proud of our continuous cooperation with a number of notable telco players, utility owners and public safety organisations, who help us in creating a realistic hands-on ecosystem for both innovative R&D pilots and actual deployments in practice. We are currently part of the 5G PPP Phase 2 program as part of the MATILDA project (www.matilda-5g.eu) where our primary focus is on quality and performance monitoring capabilities for 5G-orchestrated domains, as well as real-world 5G vertical use cases for emergency response domain. In addition, we've recently launched PPDR One, a one-of-a-kind 5G and NFV ready experimentation facility that facilitates hands-on experimenting with stationary and portable 5G deployments for public safety and critical communications sectors (https://5ginfire.eu/ppdr-one-facility/).

INTEREST FOR FUTURE R&D&I COOPERATION

Our interests for the upcoming R&D&I cooperation are geared towards further advancements in 5G performance and quality monitoring and verification systems and intelligent network orchestration. In particular: quality assurance of mobile, fixed and cloud systems, including 5G related quality metrics development and validation, 5G testing, benchmarking and end-to-end KPIs validation; cybersecurity monitoring, quality monitoring and SLA assurance for 5G infrastructures and services; R&I and piloting of resilient real-time 5G critical infrastructures, and specialised 5G deployments for public safety, automotive, intelligent transport, and utility verticals.

YEAR ESTABLISHED
1997

NUMBER OF EMPLOYEES
21

MORE INFORMATION
www.iquadrat.com/research-and-development

CONTACT
pm@iquadrat.com

EXPERTISE IN

5G   IOT   NGI   MEDIA & CONTENT   SMART CITIES   ENERGY

BACKGROUND, EXPERTISE & SKILLS

IQUADRAT has a focused business plan specifically intended on delivering a "new generation of research tools for system level evaluation of wireless integrated communication systems". The company is involved in projects with large corporate clients, mobile operators and public authorities. Our R&D department is involved in many National and EU-funded research projects, and has extensive know-how in 5G Networks, IoT, simulation methodologies for Radio Access Networks, Software Defined Networking (SDN) and Demand Response algorithms for Smart Grids. Our key products include a suite of System Level Simulators (SLS) that 802.11, 802.15.4, and 4G LTE networks, an SLS for Smart Grids that implements Demand Response algorithms, an IoT platform for Smart Building automation, and a new SDN/5G platform, with an SD-RAN.

ACHIEVEMENTS & SUCCESS STORIES

Iquadrat is participating in a number of 5G-network related projects, such as the 5GPPP project 5G-PHOS, H2020-IoT SEMIOTICS, MSCA-ITN 5G STEPFWD, MSCA-ITN SPOTLIGHT, and MSCA-RISE DECADE & CASPER. Iquadrat has gained extensive know-how in radio access technologies, network platforms, SDN, IoT and energy management methodologies for smart-grids. Key outcomes are i) our IoT platform for Smart Building automation that supports sensing of comfort related parameters (CO_2, humidity, lux, etc.) via our own custom battery operated IoT nodes and transmit data over BLE or 802.15.4, and multi- IoT gateway setups with cloud-based control via a centralized controller; ii) our SDN/5G platform that decouples the RAN Control & Data Plane, and consolidates the control plane into a single centralized controller, enabling easier coordination among base stations and offering real-time control.

INTEREST FOR FUTURE R&D&I COOPERATION

Iquadrat is interested in international cooperation in H2020 projects in ICT-related research and innovation, such as networking research for 5G and beyond, smart anything everywhere initiatives, tools for smart content in creative industries, etc.

YEAR ESTABLISHED
2006

NUMBER OF EMPLOYEES
35

MORE INFORMATION
www.is-wireless.com

CONTACT
info@is-wireless.com

Implementing 5G

EXPERTISE IN 5G IOT NGI ENERGY SMART CITIES PUBLIC SAFETY

BACKGROUND, EXPERTISE & SKILLS

IS-Wireless develops algorithms, protocols, and tools for 4G and 5G mobile networks. We provide licensable software in the two following areas: i) Software-Defined RAN (SD-RAN) – a NFV-compatible, standard-compliant RAN protocols ready for 4G/5G, it allows mobile networks to support more users with better performance at lower cost ii) the 5GToolset - experimentation solutions for mobile networks supporting research and education on 4G and 5G (5G NR). Our ambition is to bring 4G and 5G innovation for every university and research lab worldwide at affordable prices.

ACHIEVEMENTS & SUCCESS STORIES

IS-Wireless has designed and develops innovative solutions for RAN virtualization like: the software-defined RAN (SD-RAN) – funded by the Public Authority in Poland; we have also developed the 5G Toolset – experimentation software for 4G/5G link and system level testing, and the unique solution called VNF Composition Framework (VCF) to support virtual RAN operation. Our radio resource management (RRM) solutions include among all 4G scheduler that has been integrated with the Eurecom OpenAirInterface to support carrier aggregation under the umbrella of FP7 Solder. It has been upgraded to also support 5G and multi-RAT scheduling (based on LWA, LWIP coextistence protocols). IS-Wireless is proud member of the two industry fora: O-RAN Alliance (O-RAN) and the Telecom Infra Project (TIP).

INTEREST FOR FUTURE R&D&I COOPERATION

We are looking for partners willing to collaborate in: (i) development of 5G small cell protocols and radio resource management solutions for 4G/5G and cloud-RAN (ii) delivering cyber security solutions for 4G/5G small cells. We look forward to cooperate with different verticals (IoT/automotive, public safety, media) as we have our proprietary solutions for virtualized RAN that can be tailored and further adjusted per use-case (e.g. to complement existing products or solutions).

iTTi

YEAR ESTABLISHED
1996

NUMBER OF EMPLOYEES
70

MORE INFORMATION
www.itti.com.pl

CONTACT
piotr.tyczka@itti.com.pl

EXPERTISE IN　5G　IOT　NGI　SATELLITE COMMUNICATIONS　MANUFACTURING　HEALTH　SMART CITIES　PUBLIC SAFETY

BACKGROUND, EXPERTISE & SKILLS

The main competences of ITTI related to 5G are in PHY layer (channel coding, modulation, signal processing, synchronisation) and MAC layer (admission control, congestion control optimization), cognitive resource control and service adaptation (cross-layer, context driven, machine learning based, QoE/QoS), network and cybersecurity, test campaigns (e.g. video systems, mobile data services) and validation by means of system/link level simulators (LTE, WIMAX).

Our expertise covers eHealth, energy, and public safety vertical sectors. We developed Medstar.co solution that offers telecare support for remote patients. In the energy sector, we worked on optimal control for smart cities (e.g. light control, energy management). We also have extensive expertise in economic evaluation of PPDR networks and social media usage in crisis management within the public safety sector.

ACHIEVEMENTS & SUCCESS STORIES

ITTI has contributed to over 50 international R&D projects in the EC Framework Programmes (5FP, 6FP, 7FP, H2020), EDA programmes and ESA programmes.

In recent H2020 CAVICO (Context-Aware Video Controller for autonomous transport and security monitoring) project ITTI successfully tested in the 5GinFire testbed the developed system that is able to control the video streaming on the basis of measured QoS and QoE parameters. In another H2020 project – QoEST4CM (QoE SupporT for improved Crisis Management) we provided video streaming system, integrated with UAV in the RAWFIE testbed, enabling for adaptive change of video parameters depending on network conditions, and user requirements.

INTEREST FOR FUTURE R&D&I COOPERATION

Having a competent and experienced team of telecommunication engineers and software developers, ITTI is interested in collaboration with partners on development of innovative solutions for vertical sectors in the 5G ecosystem. In particular, we are interested in integrating novel technologies to our eHealth Medstar. co solution to enhance its functionality leveraging 5G capabilities. We are also seeking partners for collaboration on security solutions for 5G networks.

JCP Connect
EDGE CLOUD COMPUTING

EXPERTISE IN 5G IOT SATELLITE COMMUNICATIONS MEDIA & CONTENT TRANSPORT & LOGISTICS

BACKGROUND, EXPERTISE & SKILLS

JCP-Connect is a French SME with expertise in caching and edge computing for verticals as events, transport and smart cities. We provide portfolio of HW and SW edge computing solutions as well as caching as NFV for content delivery in virtualised environments.

ACHIEVEMENTS & SUCCESS STORIES

Our involvement in numerous H2020 projects (including Beyond 5G and FTI calls) has helped us develop our edge computing and content delivery portfolio. Our gateway MoBCache, mounted on vehicles such as bus, trains, or drones, can collect and process sensor data from the surrounding environment in a secure manner. Our content delivery is currently implementing enhanced security features.

INTEREST FOR FUTURE R&D&I COOPERATION

We are interested to collaborate with telecoms, satellite operators, content and media providers, companies developing AI, etc. We are naturally open to European partners, but we would be happy to collaborate with partners from Africa, Latin America and Oceania as well.

We are interest in R&D collaborations in the following domains: Edge computing, MEC, caching, content security, intrusion detection, mobile IoT.

LioniX INTERNATIONAL
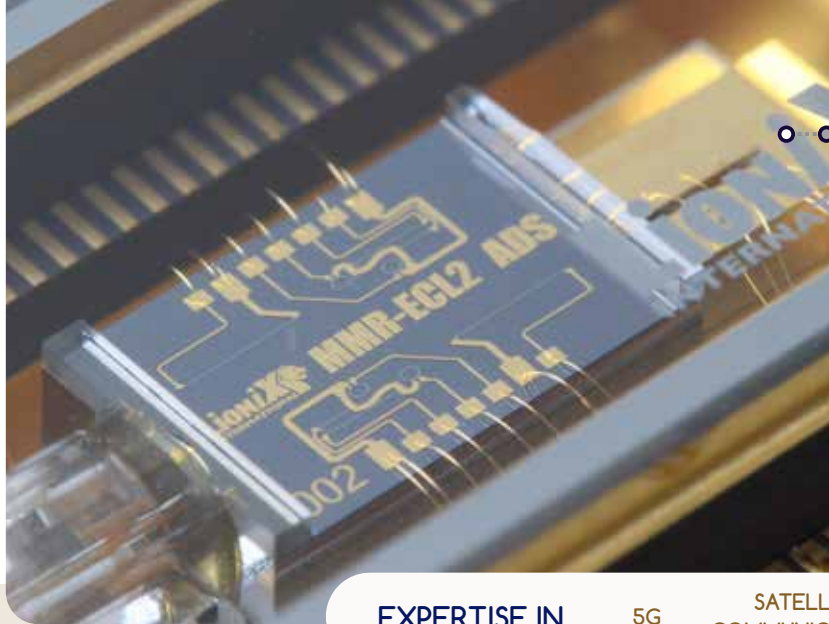
📅 **YEAR ESTABLISHED**
2016

👥 **NUMBER OF EMPLOYEES**
50

ℹ️ **MORE INFORMATION**
www.lionix-international.com

✉️ **CONTACT**
info@lionix-int.com

EXPERTISE IN 5G SATELLITE COMMUNICATIONS OCT MANUFACTURING HEALTH

BACKGROUND, EXPERTISE & SKILLS

LioniX International is a leading global provider of customized microsystem solutions, in particular integrated photonics-based, in scalable production volumes. We provide customized solutions for OEM's and System Integrators, from design to device, by vertical integration in scalable production volumes and maintaining technology leadership secured by strong IP position. As LioniX International we focus on Photonic Integrated Circuits (PIC) enabled modules based on our proprietary waveguide technology (TriPleX™), in addition to our other core competences micro-fluidics, opto-fluidics and MEMS. As vertically integrated company we deliver a complete solution to our OEM customers: from initial design through volume manufacturing of products.

LioniX is manufacturing partner for integrated microwave photonics optical beamforming networks in 5G-PHOS and blueSPACE. Our chips drive your business.

ACHIEVEMENTS & SUCCESS STORIES

LioniX International secured a seven-figure contract for the development and fabrication of integrated photonic modules that enable ultra-high capacity broadband satellite communications from flatpanel aeronautical antennas. This contract with ViaSat Antenna Systems S.A. is part of the ESA project AIDAN

and follows the years of intensive research and development of broadband solutions using microwave

photonics (MWP) beamformers on the proprietary TriPleX™ platform.

Lionix International obtained the prestigious PIC Award 2018 for "Advanced in PIC manufacturing" at the PIC International Conference in Brussels.

Magic Micro, a Kosdaq-listed South Korean electronic component company, acquired a majority share of 75% in LioniX International. This acquisition strengthens the position of both and clearly shows the Photonic Integrated Circuit (PIC) ecosystem is further maturing.

INTEREST FOR FUTURE R&D&I COOPERATION

LioniX International has a strong R&D focus where more than 50 % of the employees have a PhD degree. The focus on integrated photonics, utilizing the benefits of the low-loss high contrast TriPleX™ microprocessors provide numerous solutions for a suite of applications in telecommunication/data communication , sat com, sensing health tech and health care.

The hybrid integration of InP and TriPleX PICs enables small and compact integrated modules with improved stability and performance.

Main topics of interest are: [1] implementation of microwave photonics (MWP) processing and analog photonic links (APL) and its application in mmWave beamforming for terrestrial and satcom networks, [2] hybrid tunable lasers for telecom and sensor applications [3] low-power actuation of complex processors through stress-optic tuning.

LiveU

YEAR ESTABLISHED
2006

NUMBER OF EMPLOYEES
250

MORE INFORMATION
www.liveu.tv

CONTACT
baruch@liveu.tv

EXPERTISE IN	5G	IOT	SATELLITE COMMUNICATIONS	MEDIA & CONTENT	TRANSPORT & LOGISTICS	PUBLIC SAFETY

BACKGROUND, EXPERTISE & SKILLS

LiveU is driving the live video revolution, providing live video streaming for TV, mobile, online and social media. Since the company invented cellular bonding, LiveU's portable live video transmission solutions have replaced traditional SNG trucks, offering far greater mobility and cost-effectiveness for global newsgathering, sports and events coverage. From backpacks to smartphones, and satellite/cellular hybrid to external antenna solutions, LiveU offers a complete range of devices for high-quality live video coverage, together with cloud-based management and video distribution. All LiveU products are 5G ready, designed to transmit effectively from the field over 5G networks. With 3,000+ customers in 130+ countries, LiveU's technology is used by global broadcasters, online media, sports organizations, public safety and autonomous vehicle manufacturers with teleoperation/remote-assisted driving.

ACHIEVEMENTS & SUCCESS STORIES

LiveU offers creative HEVC live video streaming solutions for global newsgathering and every type of sporting event, including the FIFA World Cup™, Winter and Summer Olympic Games, Super Bowl, US Collegiate Championships, IRONMAN and Absa Cape Epic mountain bike race (South Africa).

LiveU has been involved in a series of 5G tests worldwide, for example, teaming up with AT&T to trial 5G with its portable HEVC units for live news and sports broadcasts, and taking part in Vodafone's 5G Experience Day, delivering 4K feeds from the 4K camera and over the 5G network to test 5G potential.

LiveU is an active partner in successful EU collaboration projects, including: the 5GPPP research project, 5G-Xcast; 5G-Solutions (2019); 5G-Tour (2019); PrEstoCloud and others.

INTEREST FOR FUTURE R&D&I COOPERATION

LiveU is looking for EU Horizon 2020 and international collaboration projects in: autonomous vehicles and connected cars, media and broadcasting, 5G, trials, public safety, telemedicine, video compression and video delivery over low cost public internet and any other area that requires reliable high-quality real-time video from the field for monitoring and/or control. LiveU contributes real-time video and data delivery over multiple cellular networks, high quality video over the public internet, remote teleoperation of SAE L3, L4, L5 vehicles and more.
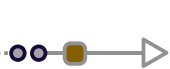
YEAR ESTABLISHED
2005

NUMBER OF EMPLOYEES
28

MORE INFORMATION
www.magister.fi

CONTACT
info@magister.fi

EXPERTISE IN

5G   IOT   SATELLITE COMMUNICATIONS   TRANSPORT & LOGISTICS   MANUFACTURING   ENERGY   SMART CITIES

BACKGROUND, EXPERTISE & SKILLS

Magister Solutions is specialist in communication network simulation and emulation tools and services for modelling real world telecom (satellite and terrestrial) in detail. Services for telecommunication include network simulation environments, concept, algorithm and software development, machine learning expertise, testing and PoC development.

ACHIEVEMENTS & SUCCESS STORIES

Magister Solutions has developed several simulators modelling terrestrial and satellite networks in details. One of the latest developments is a novel simulation framework called Self-Organizing Simulator 3 (SonS3) that makes use of real network data to enable an accurate performance analysis of mobility related SON use cases. In addition to simulator development, we also developed an MRO algorithm which adapts dynamically the Cell Individual Offset (CIO), and a performance analysis within a realistic urban scenario. The proposed MRO algorithm leads to an overall reduction of more than 30% in mobility problems without causing a significant increase in the number of HOs.

INTEREST FOR FUTURE R&D&I COOPERATION

We are working as a R&D&I partner with companies that are developing wireless systems, providing telecom services or looking for expertise in telecommunications. These companies include Satcom vendors and operators, Telecom vendors and operators and companies in defence and aerospace sector.

MARTEL

YEAR ESTABLISHED
1996

NUMBER OF EMPLOYEES
16

MORE INFORMATION
www.martel-innovate.com

CONTACT
info@martel-innovate.com

EXPERTISE IN   5G   IOT   NGI   SATELLITE COMMUNICATIONS   MEDIA & CONTENT   TRANSPORT & LOGISTICS   SMART CITIES   PUBLIC SAFETY

BACKGROUND, EXPERTISE & SKILLS

Martel is a dynamic Swiss-based company with more than 20 years' experience managing digital research and innovation projects across Europe and worldwide. After more than 100 projects, Martel has grown from its origins as a small consulting agency into a thriving organisation with employees located in offices in Zurich, Lugano and Lausanne. In the past five years, Martel's business has diversified to include research and development activities in the area of next generation internet technologies, such as 5G, IoT and Cloud. Our R&D department is specialised in virtualisation and orchestration of virtual resources, including IoT functions and Virtual Network Functions. Martel is an active member of key organisations including 5GIA, Networld2020, FIWARE Foundation, BDV, AIOTI, IoT Forum, and NEM.

ACHIEVEMENTS & SUCCESS STORIES

The proliferation of IoT and the rise of 5G are unleashing the potential to transform public services, transportation, safety, sustainability and infrastructures across many smart city scenarios. Orchestra Cities (orchestracities.com) is a data and IoT-driven solution allowing cities to collaboratively develop and share smart services using Open Source software, APIs and Data Models. It offers easy plug-and-play on top of 5G. Orchestra Cities was developed with the European cities of Antwerp and Helsinki and is now being trialled in Wolfsburg, Germany. It is modular and scalable, satisfying the needs of cities of different sizes. It allows cities to manage data access in a flexible way and in compliance with GDPR. Orchestra Cities supports different data formats and enables the creation of visual dashboards, which present a realtime view of city services.

INTEREST FOR FUTURE R&D&I COOPERATION

Martel is interested in further developing Orchestra Cities and in trialling it in a variety of scenarios. These trials will complement and extend the platform's current smart cities focus and explore its development and deployment in other verticals, such as smart mobility, automotive, smart energy, sustainability and multi-media content scenarios. We are also looking to explore the behaviour of the Orchestra Cities platform combined with 5G technologies. In turn, this will allow the incorporation of 5G infrastructures and solutions in combination with advanced IoT, Cloud and AI. Our interest is in the convergence between IoT management solutions and 5G, including the usage of micro-services architectures. We are also looking to bring usage scenarios in the context of Electric Vehicle Charging Station Management, Parking Management, Air Quality Management and Waste Management.

YEAR ESTABLISHED
2001

NUMBER OF EMPLOYEES
38

MORE INFORMATION
www.mbigroup.it

CONTACT
info@mbigroup.it

EXPERTISE IN   5G   IOT   SATELLITE COMMUNICATIONS   MEDIA & CONTENT   TRANSPORT & LOGISTICS   ENERGY   SMART CITIES   PUBLIC SAFETY

BACKGROUND, EXPERTISE & SKILLS

MBI has experience and interests in Business Analytics and Optimization, where MBI provides customized solutions for Risk Management, Business Intelligence and Optimization to mainly the Telco, Energy, Gas, Water companies and Satellite Communications and applications, where MBI closely collaborates with the satellite operators and SatCom ecosystem in a wide variety of innovative solutions in the area of hybrid satellite/terrestrial networks, entertainment, applications for mobile or automotive devices.

MBI Research and Development activities are mainly focused on advanced networking, optimization, signal processing, network planning and software defined radio technologies.

MBI has acquired a deep know-how on Software-Defined Radio and GPU technologies and more generally on software-based approach for the development of ground telecom components, both at hub and terminal side.

ACHIEVEMENTS & SUCCESS STORIES

MBI solution for seamless vertical handover has been adopted by some leading European enterprises.

MBI provides solutions for IoT networks via satellite used in multiple domains (agriculture, energy, public safety, etc).

MBI works with the main European satellite operators and the European Space Agency in the standardization, development and testing of highly efficient, energy saving and green communications protocols.

MBI realized the first software implementation of a complete testbed for the ETSI S-MIM protocol.

MBI is patenting its solution to measure rain fields using satellite receivers.

MBI is founding member of the 5G-MAG (Media Action Group) in which needs of the broadcast and media domains are analysed in order to provide 5G standardization bodies with requirements and specifications.

INTEREST FOR FUTURE R&D&I COOPERATION

MBI is willing to explore collaborations with partners whose intent is to to integrate satellite communications in the 5G world, by applying virtualization and orchestration concepts to hybrid networks to be used for fixed and mobility applications.

MBI is also interested in bringing its large expertise on IoT via satellite in 5G networks.

Collaborations with satellite terminals manufacturers should be welcome.
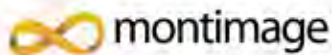
montimage

YEAR ESTABLISHED
2004

NUMBER OF EMPLOYEES
10

MORE INFORMATION
www.montimage.com

CONTACT
contact@montimage.com

EXPERTISE IN   5G   IOT   NGI   CYBERSECURITY   **ALL VERTICALS**
(MONITORING AND SECURITY MANAGEMENT
SOLUTION APPLICABLE IN ALL VERTICAL SECTORS)

BACKGROUND, EXPERTISE & SKILLS

Montimage specialises in the development of techniques and tools for security and performance analysis and management of 4G/5G/IoT networks using real-time monitoring and cyberprotection techniques. It provides flexible Security and Monitoring as a Service adapted for SDN/NFV-based dynamic environments. Montimage's expertise covers the detection, prevention and mitigation of cyber-security incidents in both the data and control planes. Its security management solution allows deploying and configuring monitoring agents to analyse network behaviour using DPI and AI techniques.

Montimage has deep knowledge of network and application protocols and behaviour; and, its products are completely build in-house. In consequence, they are trustworthy, adaptable, reliable, robust and can deal with high throughputs and complex systems. Montimage can rapidly provide proofs-of-concepts adapted to specific needs.

ACHIEVEMENTS & SUCCESS STORIES

Montimage's solutions have been applied to improve the resiliency and trustworthiness of complex systems and adapted to different domains, including: automotive/transport, manufacturing/industry, health, telecommunications, critical infrastructures. The solutions can be extended to deal with proprietary protocols and analyse the behaviour and business activities of the different sectors.

Montimage has successfully deployed its solution in the SoftFire platform (Software Defined Networks and Network Function Virtualization Testbed within FIRE+, www.softfire.eu) to improve the security-awareness of the operators; and its IoT solution in Fed4Fire platforms.

Montimage commercialises advanced solutions for creating instant 4G/5G mobile networks for emergency situations, events requiring extra bandwidth, and improving coverage in white/gray zones. It has an ongoing collaboration with Cumucore to commercialise 4G/5G mobile solutions in a box.

INTEREST FOR FUTURE R&D&I COOPERATION

Montimage participates in many collaborative research projects that allow introducing innovative techniques into its products. For instance:

SISSDEN H2020 project where it analyses darknet and honeypot network traffic to detect low-intensity attacks and evasion techniques.

SENDATE CelticPlus project where it defines and implements new techniques for managing the security of SDN/NFV-based 5G networks.

ANASTACIA H2020 project where it implements new solutions for IoT network security.

Montimage is actively searching for new partnerships and collaborations. It can bring its technical knowhow and tools, its fast exploitation strategy, as well as its experience in the participation and management of projects in different research programs.

Nemergent Solutions

YEAR ESTABLISHED
2017

NUMBER OF EMPLOYEES
15

MORE INFORMATION
www.nemergent-solutions.com

CONTACT
info@nemergent-solutions.com

EXPERTISE IN   5G   MISSION CRITICAL COMMUNICATIONS   PUBLIC SAFETY

BACKGROUND, EXPERTISE & SKILLS

Pioneers in the industry, Nemergent leads the way towards more open Mission Critical Communications. Nemergent Solutions SL has significant expertise in designing and prototyping novel Public Safety solutions over mobile broadband technologies, with an agile development team with vast experience in Internet technologies. Nemergent's portfolio includes a complete and fully 3GPP standard MCPTT ecosystem made up of early implementations concerning MCPTT/MCS Application Servers (AS) and MCPTT/MCS management servers. The server-side components are designed as NFV components, fostering agile and flexible deployments in 5G-alike setups. The innovation-driven nature of the company promotes the establishment of commercial links with different UE, IMS and EPC leading companies.

ACHIEVEMENTS & SUCCESS STORIES

Nemergent Solutions is involved in international R&D projects oriented to PPDR where it takes advantage of its best-of-breed products such as the MCS servers, MCS client, OAM, control room, etc. The company is engaged in 5GPPP 5GENESIS project bringing the first real-world mission critical integration and use-cases over 5G. It has also finalized a OC2 project in Fed4FIRE+ and OC1 in INTER-IoT and it has also been involved in US NIST/PSCR PSIAP achieving end-to-end mission critical communications according to 3GPP specifications together with Sonim and their XP8 ruggedized devices. Nemergent Solutions is a regular company showcasing its technology in different events (e.g. MWC, CCW, IWCE, BAPCO, CCE, Innotrans, EENA conference, PSCE conference, ...) and counts with a network of well-established partners.

INTEREST FOR FUTURE R&D&I COOPERATION

The R&D background shows the clear advocacy of the Nemergent Solutions to improve and adapt future MCS communications and the importance of first responders and public protection together with verticals such as railways, ports, fleets management, airports and mining among others. The firm is devoted to adapt and adjust the current mission critical products towards 5G technology and operations and therefore, aims at collaborating with partners providing orchestrators, MEC solutions, 5G Cores, gNodeBs, 5G UEs, deployables, drones, PPDR-related IoT products, and finally other 3GPP MCS compliant vendors and companies for interoperability purposes. These international collaborations are intended not only to serve as an early adoption of 5G operations, but also to assess the service-level KPIs of standardized mission critical products.

NEXTWORKS
ENGINEERING FORWARD

YEAR ESTABLISHED
2002

NUMBER OF EMPLOYEES
45

MORE INFORMATION
www.nextworks.it

CONTACT
info@nextworks.it

EXPERTISE IN   5G   IOT   NGI   SMART FACTORIES   MEDIA & CONTENT   MANUFACTURING   ENERGY   SMART CITIES   PUBLIC SAFETY

BACKGROUND, EXPERTISE & SKILLS

Nextworks has long-term experience in 5G control and orchestration technologies, built on top of solid know-how of ETSI NFV and MEC specifications and architectures. We have deep hands-on expertise with various NFV MANO software tools (ETSI OSM, OpenBaton, Cloudify), SDN controllers (OpenDaylight, ONOS), VIMs (OpenStack), cloud native orchestration (Kubernetes). We developed various solutions for control and orchestration of Network Slices, Network Services and Service Chains made of Virtual network Functions in 5G environments, both proprietary and open-source. We also have strong involvement in SDOs, particularly at ETSI NFV and MEC, where we have been working in various specialist task forces and NFV Plugtests.

Our R&D and products target domains closely related to Media, Smart Cities, Smart Homes and Smart Factories.

ACHIEVEMENTS & SUCCESS STORIES

Our mission is to provide cutting-edge solutions and consultancy services tailored to customers' needs.

Through the participation in 5G PPP projects, Nextworks is developing a strong asset of software prototypes for 5G, NFV, SDN and MEC; this includes: 5G Apps & Service Catalogue, TIMEO (Transport Infrastructure and MEC Enabled Orchestrator), SEBASTIAN (Service Based Slice Translation, Integration and Automation), Plug & Play control of 5G VNFs, 5GCity Service Development Kit.

Our prototypes are demonstrated at various international events, such as ECOC, EuCNC, ICT, OFC, MWC.

Our background translates into consultancy services: i) Specialized Training on NFV/MEC technologies and software tools; ii) Technical Project Management for 5G trial experimentation; iii) Standards Development Support in ETSI Specialist Task Forces and NFV Interoperability and API conformance Plugtests.

INTEREST FOR FUTURE R&D&I COOPERATION

Despite the solid R&D in Software Networks of these years, work is still needed to realize the vision of Smart Networks for any Vertical service on top. Key challenges to address include aspects of control over multiple distributed network control operating systems; use of powerful abstractions for resources and services; new naming schemes for virtualised resources for automated discovery; intent-based APIs and highly configurable policies to control resource and service lifecycles; high degree of automation to enable cognitive (at first) and intuitive (then) network behaviours.

To properly address these challenges, we seek for teaming with international experts on virtualization and control technologies (Networking Industry), service operation (Telcos), vertical business service offering (above all [Industrial-]IoT domain top players for our target products), and top-tier research centers and universities.

YEAR ESTABLISHED
2014

NUMBER OF EMPLOYEES
5-10

MORE INFORMATION
www.nouveaucomm.com

CONTACT
navnit.goel@nouveaucomm.com

EXPERTISE IN   5G   IOT   AI   WEBSITE DEVELOPMENT   CLOUD   TRANSPORT & LOGISTICS   SMART CITIES   PUBLIC SAFETY

BACKGROUND, EXPERTISE & SKILLS

We develop customized Data communication solutions helping customers to realize potential of existing Network, while providing innovative solutions in the field of unprecedented business and technological changes.

We Provide

• Innovations and products in wireless, IP and cloud networking, IoT, NFV and SDN

• R&D Consultancy and Test Services

• Customized solutions for Tactical Communication, public safety and other vertical markets

ACHIEVEMENTS & SUCCESS STORIES

1. Design and Development of Remote Environ Monitoring System

2. IoT Gateway with GPRS connectivity to cloud with optional Wi-Fi and 4G interface to cloud for remote solar power monitoring application

3. Prototype Trial in a small vineyard in Houston USA for LoRA based system for Smart Agriculture

4. Setup Website Design and Hosting Business

INTEREST FOR FUTURE R&D&I COOPERATION

We are looking for projects in Wireless 5G, IoT, Test Beds, R&D Services including Architecture, Software and Hardware Design and Testing. We are also looking for Business Development partners.

ONE2MANY

EXPERTISE IN

5G   IOT   SATELLITE COMMUNICATIONS   MEDIA & CONTENT   TRANSPORT & LOGISTICS   SMART CITIES   PUBLIC SAFETY

BACKGROUND, EXPERTISE & SKILLS

One2many is the leading global vendor of broadcast and public warning solutions for the broadcasting, governmental and the telecom industry.

Established in 2007, one2many is headquartered in the Netherlands, with support offices on 4 continents.

One2many enjoys many of world first deployments and has experience in high profile projects with 85 installations, at 55 customers in 32 countries.

One2many's geo-targeting and geo-fencing broadcasting and dissemination channel product portfolio is the most extensive in the market and includes amongst others: Cell Broadcast System, evolved Multimedia Broadcast Multicast Service Centre, Public Warning Portal with CAP (Common Alerting Protocol), SMS, Voice, Social Media and Mobile App gateways.

One2many is an award-winning member of standardization bodies significantly contributing to 5G standardization of broadcast and public warning worldwide.

ACHIEVEMENTS & SUCCESS STORIES

One2many is the only company in the world that has been capable to deliver full end-2-end nationwide public safety system in The United States, The Netherlands, Taiwan, Philippines, Chile, UAE, Oman, Saudi-Arabia, Greece, Mauritius and New Zealand by providing the necessary infrastructure towards Government and Telecom and enabling one2many's own state-of-the-art software products.

One2many is recognized as the global innovator in the 4G/5G Broadcast solutions and actively involved with PoCs in the Netherlands, Canada and USA.

One2many provides solutions to the US NIST/PSCR programme achieving 4G and 5G end-to-end mission critical communications. One2many is a successful member of the 5G-Xcast Horizon-2020 project. One2many has the most innovative eMBMS, BM-SC and MooD server in the world and the most proven and mature public safety products in the world.

One2many is a main contributor to the latest 3GPP TS 23.041 specifications containing the CBCF 5G specification including the latest 4G and 5G Device Based Geo Fencing feature.

INTEREST FOR FUTURE R&D&I COOPERATION

One2many has strong industry experience in public safety and broadcast industry consequently all innovative projects in this domain have our highest attention.

We are interested in national and international partnerships to enlarge one2many multi-channel approach for public safety early warning system. Consequently, we are looking for partners to enhance our capabilities in IOT and sensor networks, connected-cars and C-V2X communication, Satellite communication, Next generation Television (ATSC 3.0) and Radio (DAB).

Quobis

YEAR ESTABLISHED
2006

NUMBER OF EMPLOYEES
43

MORE INFORMATION
www.quobis.com

CONTACT
Yudani.riobo@quobis.com

EXPERTISE IN 5G   IOT   NGI   MEDIA & CONTENT   TRANSPORT & LOGISTICS   HEALTH   SMART CITIES

BACKGROUND, EXPERTISE & SKILLS

Since its foundation, Quobis has accumulated extensive experience in the implementation and deployment of real time solutions based on core technologies for corporations, service providers and telcos. Quobis has gained extensive knowledge of mobile networks, interconnection and WebRTC technology from partnerships with the primary equipment vendors.

Quobis is well-known as one of the leaders in the deployment of WebRTC technology after being involved in the release of the industry-first application server, called Sippo WebRTC Application Controller. Today, this element is part of the core network of different telcos worldwide. In addition, Sippo is helping enterprises to defeat the challenges behind digital transformation processes using real-time communications.

ACHIEVEMENTS & SUCCESS STORIES

Quobis is one of the partners involved in 5GTANGO project, a 5GPPP Phase2 Innovation Action that enables the flexible programmability of 5G networks with:

a) an NFV-enabled Service Development Kit (SDK);

b) a Store platform with advanced validation and verification mechanisms for VNFs/ Network Services qualification (including 3rd party contributions);

c) a modular Service Platform with an innovative orchestrator in order to bridge the gap between business needs and network operational management systems.

The main role of Quobis in this project consists of the development and implementation of the communication suit pilot, that enables real-time videoconferences using media VNFs, application VNFs and platform VNFs for the 5GTANGO platform.

INTEREST FOR FUTURE R&D&I COOPERATION

Quobis has broad experience working on international projects not funded by public agencies as is a key partner for some of the larger network integrators and service providers that see Quobis as the reference partner for projects with special needs in UC.

Quobis is already cooperating in R&D&I projects with partners in Europe and Brasil. We are looking at strengthening those partnerships as well as opening up to new countries and new projects.

YEAR ESTABLISHED
2002

NUMBER OF EMPLOYEES
1-5

MORE INFORMATION
www.quotientassociates.com

CONTACT
requests@quotientassociates.com

Quotient Associates

EXPERTISE IN   5G   IOT   NGI   SATELLITE COMMUNICATIONS   MEDIA & CONTENT   TRANSPORT & LOGISTICS   SMART CITIES   MFG.   HEALTH   PUBLIC SAFETY

BACKGROUND, EXPERTISE & SKILLS

Quotient is an international strategy, technology, security and economics consultancy to the communications industry. The company specialises in all aspects of fixed and wireless communications, broadcasting, security, and spectrum regulation and management.

ACHIEVEMENTS & SUCCESS STORIES

We are used to both leading and participating in multidisciplinary projects. Our skills lie in 5G new technologies in both core and RAN, 5G network security and project management. We are currently serving as part of the technical design authority for UK Government (DCMS) testbeds and trials, which include the vertical sectors of Industrial Internet of Things, Smart Tourism, Connected and Autonomous Vehicles, Healthcare and Agriculture Technology. We also have an overarching security role across all projects, which are now all up and working.

INTEREST FOR FUTURE R&D&I COOPERATION

We are looking to be involved in any of the above in a technology; strategy; testbeds and trials; network or application security; and / or project management role.

redmill
marketing associates

YEAR ESTABLISHED
2007

NUMBER OF EMPLOYEES
7

MORE INFORMATION
www.redmillcommunications.com

CONTACT
guy@redmillcommunications.com

EXPERTISE IN 5G IOT SATELLITE COMMUNICATIONS MEDIA & CONTENT TRANSPORT & LOGISTICS SMART CITIES ENERGY HEALTH PUBLIC SAFETY

BACKGROUND, EXPERTISE & SKILLS

Redmill Marketing Associates (RMA) is a UK-based full-service B2B marketing agency, founded in 2007, that is dedicated to providing telecoms and technology companies with the support and strategic input they need to meet their growth objectives.

We have deep experience and expertise of mobile communications and networks and, in particular, 5G evolution and market development. Our expertise spans infrastructure, applications and services, backed by a clear understanding of market context and trends.

Our customer portfolio covers: smart technology, IoT, SaaS, mobile networks, 5G evolution, network planning / analysis, AI and ML, as well as OSS and BSS. We provide our customers with a focused and responsive service that acts as a seamless extension of their own marketing resources.

ACHIEVEMENTS & SUCCESS STORIES

We work with leaders and innovators from our industry, including Tambora Systems, Telecom26, CROSS Network Intelligence, InfoVista, Polystar, Digitalk, Spirent / Mobilethink, Gintel, 5G Briefing, and others.

We are proud of our continuous support for customers over more than a decade, providing strategic input and marketing services to reach growth targets, M&A goals, market penetration and expansion targets, and to plan new sales and lead generation channels.

Tambora Systems: transforming an innovative startup into a fast-growing and relevant entrant offering orchestration of dynamic network slicing to control latency and QoS for LTE / 5G applications.

Polystar: supporting an established provider of Service Assurance, CEM, Data Monetisation, and 5G Network Load Testing tools with strategic marketing input and content creation.

INTEREST FOR FUTURE R&D&I COOPERATION

RMA is dedicated to fostering new partnerships with SMEs in order to help them reach new markets, define successful market strategies, and to provide market analysis to identify growth opportunities.

In particular, we are interested in delivering marketing projects in the following areas: 5G, IoT, Smart Technologies, AI and ML, B2B and VAS solutions for operators, NGN OSS / BSS, Core Network functions, EPC, IMS and more.

📅 **YEAR ESTABLISHED** **2011 (UK) and 2018 (Ireland)**	ℹ️ **MORE INFORMATION** **www.rfsat.com**
👥 **NUMBER OF EMPLOYEES** **10**	✉️ **CONTACT** **general@rfsat.com**

EXPERTISE IN 5G   IOT   NGI   **SATELLITE COMMUNICATIONS**   **MEDIA & CONTENT**   **TRANSPORT & LOGISTICS**   **SMART CITIES**   MFG.   HEALTH   **PUBLIC SAFETY**

BACKGROUND, EXPERTISE & SKILLS

RFSAT has been in the forefront of mobile communications technology development since over 20 years, starting with the first 3G basestation built in FP5 project back in 1999. Since then it has contributed to developing successor technologies constituting current 4G (LTE and LTE+) and has been involved in developing core technologies as well as value-added services for the future 5G communications. Its employees have been supporting launch of various PPP projects including 5G-PPP or Cyber-PPP. Its main relevant technical competencies relate to hardware efficient transceiver design and implementation, network virtualisation, low-latency networking, network/client-assisted positioning/localisation and security-sensitive services, as well as applying future 5G mobile communication in diverse vertical sectors, including, Health, Security, Environment, Cultural Heritage, Transport, Smart Grids and Precision Agriculture.

ACHIEVEMENTS & SUCCESS STORIES

Since over 8 years RFSAT has been focussing its research and technological developments on such vertical sectors as communication, e-Health, environment, transportation, smart cities, smart energy and utility grids and public safety including crisis management. Services are generally focussed on distributed sensing and control (involving sparse Big Data management and IoT technologies) over variety of communication and networking transports for providing added value to mobile users and geographically dispersed enterprises. With its real-time technologies RFSAT has targeted also media virtualisation, such as Mixed-Reality Immersion, demonstrated for real-life e Health and crisis management applications. It has applied new mobile services in both recent and ongoing funded EU projects in areas such as large-scale Crisis Management, Environmental Monitoring and Climate Change, and Cultural Heritage protection. They are expected to be deployed and evaluated in the near future on an operational 5G test infrastructures.

INTEREST FOR FUTURE R&D&I COOPERATION

RFSAT considers research consultancy and development as core business, actively taking part in European and international funded research projects since its incorporation. It has participated in over six (6) projects as core partner and over ten (10) as associated and/or as SME group member. Funding programs include FP6, FP7, Horizon 2020 and COST Actions. It has been operating several industrial consultancy contracts for both academia and industries in UK and across Europe. Its developed technologies are diverse and seamlessly applicable across multiple sectors. Examples include sensing & control as well as Mixed-Reality technologies used successfully in e-Health, Smart Grids and Security applications, certainly with certain adaptations.

SEVEN Solutions

YEAR ESTABLISHED
2006

NUMBER OF EMPLOYEES
41

MORE INFORMATION
www.sevensols.com

CONTACT
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EXPERTISE IN   IOT   ENERGY   SMART CITIES   FINANCIAL

BACKGROUND, EXPERTISE & SKILLS

Seven Solutions, worldwide leaders in the White Rabbit (IEEE 1588 high-accuracy profile) timing technology. It is a private held leading company in accurate sub-nanosecond time transfer and frequency distribution for reliable industrial and scientific applications. Our timing solutions have been validated during the last 9 years and we offer currently the best interoperable, dependable and ultra-accurate time transfer and synchronization approach in the market (nanosecond accuracy, deterministic, dependable and scalable).

Seven Solutions provides solutions capable of distributing time and frequency over metro and long-haul 5G links in both back-haul and front-haul:

-   Ultra-accurate Time and Frequency Transfer (phase transfer using IEEE 1588 High-Accuracy Profile)

-   Reliable GNSS Timing Solution with integrated accurate Time Transfer capability over optical fiber (backup system)

-   High bandwidth & latency bounded Ethernet communications

-   Deterministic data delivery based for Time-Aware Applications

ACHIEVEMENTS & SUCCESS STORIES

Currently collaborating with Tier 1 technology partners towards the standard eCPRI. Validating our solution with Deutsche Telekom for the visibility network.

INTEREST FOR FUTURE R&D&I COOPERATION

We are interested in collaborating in ICT-related H2020 calls related to telecom, satellite services, 5G, IoT, smart cities and energy. Cooperation with international partners from different sectors to setup pilots and PoCs.

Siklu

EXPERTISE IN   5G   IOT   NGI   MANUFACTURING   SMART CITIES   PUBLIC SAFETY

BACKGROUND, EXPERTISE & SKILLS

Siklu is a provider of wireless connectivity solutions based on mmWave technology. Siklu's products include both point-to point solutions with data rates as high as 10Gbps for backhaul/fronthaul applications and point-to-multi-point solutions that may be used for broadband fixed access applications or small-cell backhaul applications. Siklu has intellectual property in the RFIC and mmWave beam-steering antenna. This allows Siklu to design mmWave remote radio heads compatible with 5G standards. In addition to our hardware portfolio Siklu leads the mmWave industry with a suite of SaaS applications including automated complex network design tools, ROI calculators and management systems

ACHIEVEMENTS & SUCCESS STORIES

Siklu focuses on Gigabit Wireless Access (GWA) and Smart Cities as well as cellular front haul and backhaul. By the end of 2018 we had networks deployed in over 150 Smart Cities around the world. Currently the largest mmWave market is the US, where Siklu has roughly 60% market share for 60, 70/80GHz systems. From a product perspective in 2018 we launched our 10Gbps product with the longest range in the market, a new small size Terminal Unit for outdoor deployment hat is just slightly bigger than a typical smart phone, and our automated network design tool WiNDE.

INTEREST FOR FUTURE R&D&I COOPERATION

Siklu has been intensively involved in R&D and innovation cooperation projects. It has participated in FP-7 projects BunGee and IPHOBAC-NG, as well as in H2020 projects RAPID, and currently participates in the projects 5G-PHOS and THoR. Siklu is also involved with other research consortia and collaborates on research with partners from both industry and academy. Siklu cooperation interests include mmWave radio and antenna technology, high-speed modem technology, mmWave beamsteering antennas, 5G RRH, mmWave/fiber integration and other ideas that may be exploited in our target markets.

SDN/5G next security challenges (partia...

I. TRUSTABLE IA/ML-based supervisi...
II. Disruptive workflow to deploy VULNE... TELCOS.
III. VM Introspection Easy Remediation...

SOLIDSHIELD

📅 YEAR ESTABLISHED
2003

👥 NUMBER OF EMPLOYEES
3

ℹ️ MORE INFORMATION
www.solidshield.com

✉️ CONTACT
vincent@solidshield.com

EXPERTISE IN | 5G | IOT | MEDIA & CONTENT | DEFENSE SECTOR

BACKGROUND, EXPERTISE & SKILLS

We protect software against confidentiality (reverse engineering) and integrity (tampering) attacks. We are active in the field of entertainment (DRM), the defence sector and more recently with the telecom industry. Our core expertise is transverse to the whole ICT but we bring tailored turnkey solutions to each sector. We operate with both Java and compiled languages (C, C++, Go, ...).

In the telecom industry, our solution can be automatically applied, without any programming required and does not drop the performance of the protected network function. We have our own software-based security solution and we are also capable of leveraging and coupling with hardware-based trusted execution environment (e.g., Intel SGX).

Our automated workflow is a key value. It is linked to our ability to process binary-level ready-to-deploy software, with no changes from the software vendor. Henceforth, our solution can be applied on 3rd party code.

We have been selected in two SDN collaborative projects (Sendate Tandem and Inspire 5G).

ACHIEVEMENTS & SUCCESS STORIES

In one collaborative project (Sendate Tandem), we had demonstrated how a Security NF (malware probe) can be itself secured in order to prevent an Introspection attack. Without protection the malware probe detection can be "inversed" by the attacker. Reversely, with our protection, the operation is far more complex. The demonstration also covered the setup workflow, done in one click.

INTEREST FOR FUTURE R&D&I COOPERATION

We see these CHALLENGES for the Telecom Industry, for which we are looking forward to participating to a consortium:
A. Bringing trust to AI/ML that will be managing un-supervised autonomic SDNs?
B. Bringing to TELCOs self-efficiency to check the safety of VNFs (known vulnerability-free) before their deployment as well as enforcing their integrity when they are operated of-premises.
C. Designing a fully secured network function integrity chain made of detection, transfer of alarm and reaction.
D. Bringing TEE (namely Intel SGX) to VNFs, by designing a fluid and simpler workflow to leverage this low use technology.
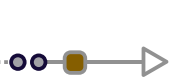
YEAR ESTABLISHED
2012

NUMBER OF EMPLOYEES
10

MORE INFORMATION
www.softwareradiosystems.com

CONTACT
info@softwareradiosystems.com

EXPERTISE IN   5G   IOT   NGI   **SATELLITE COMMUNICATIONS**   **MEDIA & CONTENT**   **TRANSPORT & LOGISTICS**   **SMART CITIES**   **PUBLIC SAFETY**

BACKGROUND, EXPERTISE & SKILLS

Software Radio Systems (SRS) is the team behind the popular srsLTE project (www.srslte.com). Providing a complete open-source end-to-end mobile network implementation, srsLTE is used by leading mobile wireless researchers around the world and is the enabling SDR platform behind 5 of the 6 most recent coordinated vulnerability disclosures listed on the GMSA mobile security hall of fame.

Commercially, SRS builds upon the proven srsLTE platform to provide customized, high-performance 4G and 5G mobile network solutions including IoT and V2X. Customer successes include operational air-to-ground broadband networks, launched and active LEO satellite systems, advanced 5G field-test solutions and deployed mobile wireless sensor and analytic networks.

ACHIEVEMENTS & SUCCESS STORIES

SRS is involved in international R&D projects which focus on novel applications of mobile wireless technology. The company is engaged in the 5GPPP 5GVINNI project where it contributes SDR components for 5G, building upon its proven srsLTE platform. In the US, the company has successfully completed a 2-year project with NIST/PSCR under the Department of Commerce. The OpenFirst project provides an end-to-end reference network implementation for research, prototyping, test and validation of LTE technologies for public safety communication. SRS works with the European Space Agency on projects related to multimedia delivery over hybrid satellite/terrestrial networks and efficient satellite backhaul of IoT traffic. The company is a regular MWC exhibitor and works globally with Tier 1 mobile operators and OEMs.

INTEREST FOR FUTURE R&D&I COOPERATION

SRS is looking for international partners focused on RDI cooperation in the areas of emerging 5G technologies, cyber-security, V2X and IoT. We have extensive experience in working directly with RDI partners to accelerate proof-of-concept and shrink time-to-market and we regularly engage in projects under NIST, ESA, H2020 and others.

Suite5
We Deliver Intelligence

📅 YEAR ESTABLISHED
2017

👥 NUMBER OF EMPLOYEES
20

ℹ MORE INFORMATION
www.suite5.eu

✉ CONTACT
contact@suite5.eu

EXPERTISE IN 5G IOT DATA ANALYTICS MEDIA & CONTENT MFG. ENERGY SMART CITIES PUBLIC SAFETY

BACKGROUND, EXPERTISE & SKILLS

Suite5 Data Intelligence Solutions is a data analytics and software house with a strong focus on R&D and Innovation projects. Suite5 participates in such activities as an analytics and intelligence provider, working on topics such as big data, data management and insights generation, in various verticals. In more detail, the company works on analytics solutions that are able to provide descriptive and prescriptive analytics, which are based both on structured and unstructured data and are coming out of hardware and software sensors. The company participates in such attempts in the 5G sector (MATILDA project), as well as in other sectors such as Aviation (ICARUS project), Manufacturing (EOSC-hub project, UPTIME project), Cybersecurity (FutureTPM project) and Energy (FLEXCoop project).

ACHIEVEMENTS & SUCCESS STORIES

In MATILDA Suite5 worked on the development of policy models for applications that run on top of SDNs, and in the area of Analytics that are able to the behaviour of systems in 5G ecosystems. Those two combined are in a position assist decision making towards network placement, deployment and reconfiguration and could help to generate new insights about 5G applications and new policies for optimum utilisation of resources.

INTEREST FOR FUTURE R&D&I COOPERATION

Suite5 is highly interested in joint ventures which have R&D and Innovation interest in any vertical that either is in need of advanced data insights and analytics, or expects to benefit from the application of data technologies to traditional functions towards using data intelligence and softwarisation to explore value that is not exploited yet.

Telcaria

YEAR ESTABLISHED 2014	**MORE INFORMATION** www.telcaria.com
NUMBER OF EMPLOYEES 10	**CONTACT** info@telcaria.com
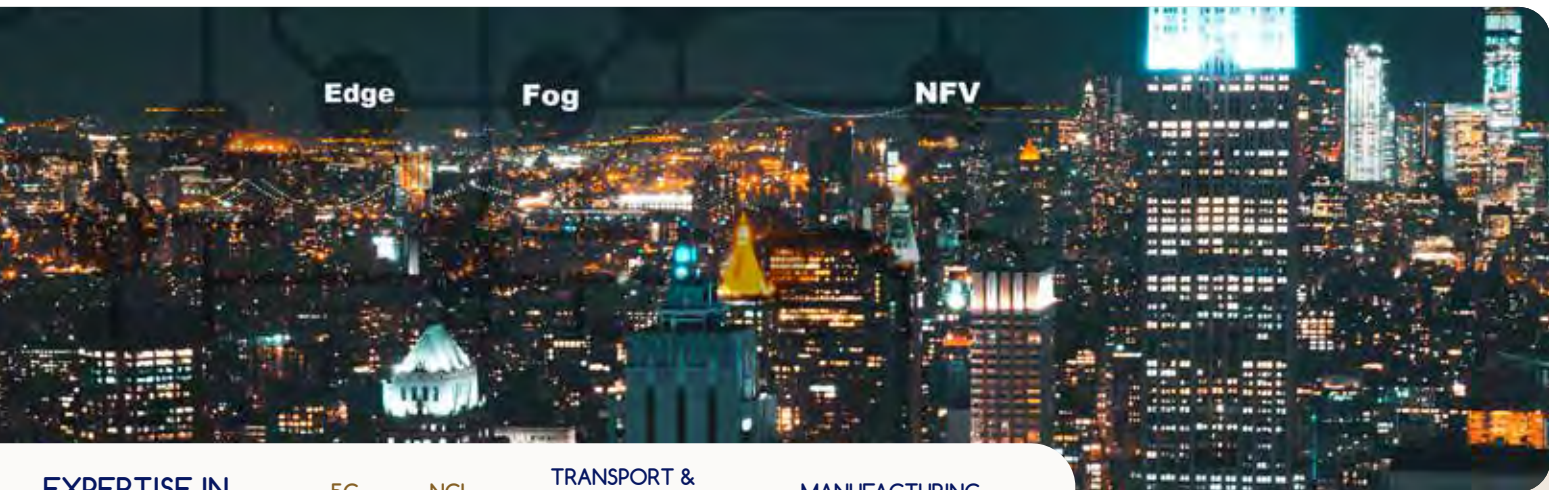
EXPERTISE IN 5G   NGI   TRANSPORT & LOGISTICS   MANUFACTURING

BACKGROUND, EXPERTISE & SKILLS

Telcaria is an SME providing advanced services to network operators and equipment manufacturers worldwide. We partner with network operators to redesign their products towards NFV/SDN based network infrastructure and cloud-computing applications.

Telcaria is headquartered in Madrid, Spain, and has collaborations with the IMDEA Networks and top Universities in the area: UC3M, UPM and UAH. This critical mass of networking expertise located in very close proximity creates many synergies, having the members of these institutions a history of fruitful collaboration between them. The company is currently working in three H2020 EU (5GEVE, 5GROWTH and 5G-DIVE), collaborates as an expert in the Master of SDN&NFV technologies offered by UC3M and is currently actively developing and commercially distributing Alviu, its SD-WAN solution.

ACHIEVEMENTS & SUCCESS STORIES

Telcaria has participated in EU/FP7 NetIDE and two 5G-network-related projects: EU/H2020 SUPERFLUIDITY and 5G-CORAL (shortlisted in the Glotel Award for 'Best 5G innovation' and CSI Award for 'Best 5G project and innovation' in collaboration with Taiwanese partners), and is an active partner in 5GEVE, 5GROWTH and 5G-DIVE.

As an advanced network service virtualization SME, Telcaria has benefited from the technology advances generated from the previously mentioned projects acquiring the know-how for applying technologic achievements for rapid prototyping, design, validation, and direct deployment of Edge and Fog distributed computing platforms, advanced multi-domain monitoring platforms, innovations in orchestration mechanisms to assist offloading and roaming scenarios among others. Additionally, Telcaria has disseminated its results in mayor events and public demonstrations such as EuCNC.

INTEREST FOR FUTURE R&D&I COOPERATION

Telcaria research and development team has experience in participation in multiple European R&D project such as, FP7 and H2020. Telcaria is looking in partnering with vendors, academic and industrial partners, interested in future R&D&I cooperation in beyond 5G, SDN, NFV, edge and fog computing, distributed datacentre platforms, SLA assurance, network slicing, Zero-touch network and service management (and network intelligence platforms). We are actively searching for new partnerships and collaborations which can further enhance Telcaria product line or in the design of third-party enhanced systems, providing solutions for operators and enterprises.

TREE
TECHNOLOGY

YEAR ESTABLISHED
2018

NUMBER OF EMPLOYEES
75

MORE INFORMATION
www.treetk.com

CONTACT
contact.treetechnology@
treetk.com

EXPERTISE IN IOT NGI TRANSPORT & LOGISTICS SMART CITIES MANUFACTURING HEALTH PUBLIC SAFETY

BACKGROUND, EXPERTISE & SKILLS

Tree Technology is an R&D-performing company providing information and communication technology solutions based on Big Data and Artificial Intelligence. Tree helps optimizing processes and business operations in several sectors using advanced ICT, integrating emerging technologies as part of the Smart Data ecosystem. In particular in 5G, Tree Technology is active in accompanying industrial partners such as telecommunication operators in their digital transformation, contributing with our knowledge in advanced AI and Big Data technologies. In addition to that, Artificial Intelligence-based solutions for cybersecurity in the 5G telco infrastructure are also offered by the company.

ACHIEVEMENTS & SUCCESS STORIES

Tree Technology operates in several vertical sectors, such as Telecommunications, Health, Transport, Finance, Insurance, Industry, Public Safety, or Security. Tree Technology accompanies industrial partners in their digital transformation and business optimisation, contributing with expert knowledge in advanced smart data technologies such as Big Data, Data Science and Computer Vision. In particular, Tree Technology helps to exploit data to add value to business, with the aid of real time data processing, data mining and automated and deep learning strategies (artificial intelligence).

INTEREST FOR FUTURE R&D&I COOPERATION

Our R&D activity provides us with knowledge and differential capabilities, based on advanced technologies aligned with worldwide innovation priorities, allowing us to develop competitive advantages. Tree Technology is very active in cooperative R&D initiatives, both publicly and privately funded. In example, Tree Technology actively participates in international R&D projects, strongly performing in the European R&D programme Horizon 2020 in different areas, both as a partner and as a leader. We are open and interested in collaboration in R&D wherever our expertise can add value. Our core activity is in the area of Artificial Intelligence and Big Data, so we are interested to collaborate with partners and initiatives demanding these competencies.

TST

YEAR ESTABLISHED
2007

NUMBER OF EMPLOYEES
17

MORE INFORMATION
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CONTACT
amedela@tst-sistemas.es
asanz@tst-sistemas.es

EXPERTISE IN	5G	IOT	TRANSPORT & LOGISTICS	ENERGY	SMART CITIES	PUBLIC SAFETY

BACKGROUND, EXPERTISE & SKILLS

TST participated in the Flex5Gware project (http://www.flex5gware.eu/), focused on flexible and efficient HW and SW platforms for 5G network elements and devices, addressing increased capacity, reduced energy footprint, as well as scalability, modularity and reconfigurability. Research was demonstrated on proof-of-concept implementations. TST participated on a PoC for testing the reconfiguration of the radio behaviour according to different optimization criteria, allowing for instance multi-cell dynamic resource allocations and switching across different radio access technologies according to the link quality.

ACHIEVEMENTS & SUCCESS STORIES

TST provides IoT custom solutions on the smart cities, industry and precision farming domains. Some examples are environmental sensing, level sensors for urban waste management, water control for precision farming and real time location systems.

TST has a broad experience in R&D projects, it has been involved in 18 EU-funded research projects related to IoT, smart services and future networks (4 ICT-FP7, 2 ICT-CIP, 3 ICT-H2020, 1 EUJ-H2020, 3 ECSEL, 2 CELTIC, 1 EUROSTARS, 1 PENTA). Its research activity has been recognized by the Spanish Ministry of Economy and Competitiveness, which awarded TST the official "Innovative SME" seal.

INTEREST FOR FUTURE R&D&I COOPERATION

TST looks forward to continue working with other potential partners in R&D and innovation activities, offering it´s experience in IoT hardware design and development, smart sensing and system integration.

UBITECH
ubiquitous solutions

	YEAR ESTABLISHED		MORE INFORMATION
	2005		www.ubitech.eu
	NUMBER OF EMPLOYEES		CONTACT
	30		azafeiropoulos@ubitech.eu

EXPERTISE IN   5G   IOT   AI   SECURITY   MEDIA & CONTENT   MANUFACTURING   SMART CITIES   ENERGY   HEALTH   PUBLIC SAFETY

BACKGROUND, EXPERTISE & SKILLS

UBITECH is active in a series of 5G PPP projects, focusing mainly on the design and development of software development kits and intelligent orchestration mechanisms for network applications. UBITECH is the technical coordinator of the MATILDA H2020 5G PPP project targeting at the provision of a novel holistic framework for enabling vertical industries to take advantage of a 5G ecosystem. UBITECH has developed various application and network services orchestration mechanisms, taking into account the separation of concerns among vertical application and NFV orchestrators, as well as end to end slice management mechanisms. UBITECH has also invested on the design and development of a 5G analytics engine exploiting novel AI technologies, providing resource and elasticity efficiency profiling of 5G services.

ACHIEVEMENTS & SUCCESS STORIES

UBITECH has developed a set of intelligent orchestration mechanisms (e.g. rules-based policy management framework for NFVOs as well as vertical application orchestrators, big data analytics techniques for network services and applications profiling) and introduced them in existing orchestrators, such as the SONATA NFVO as well as the inhouse developed orchestrator, known as Maestro (https://themaestro.ubitech.eu/). UBITECH has also significantly contributed towards the design and implementation of OSS northbound APIs, targeting at interconnection of vertical application orchestrators with telecom operators' network management systems.

INTEREST FOR FUTURE R&D&I COOPERATION

UBITECH is highly interested in establishing R&D and Innovation cooperation in the framework of research and development projects regarding the evolution of intelligent orchestration and slice management mechanisms, as well as collaborations with telecom operators and vendors towards the design of OSS-oriented functions and APIs, as well as the development of targeted AI mechanisms for resource and elasticity efficiency profiling of network services and apllications.

ubiwhere
SUITING THE FUTURE

YEAR ESTABLISHED
2007

NUMBER OF EMPLOYEES
60

MORE INFORMATION
www.ubiwhere.com

CONTACT
rdi@ubiwhere.com

EXPERTISE IN 5G IOT NGI SMART CITIES ENERGY

BACKGROUND, EXPERTISE & SKILLS

Ubiwhere is a Portuguese high-tech SME, focused on research and development of innovative, user-centred software solutions to address the challenges of Smart Cities and Telecommunications.

We've developed and commercialized a wide variety of products tackling the future network area benefiting from our extensive experience on blockchain, cyber-security, artificial intelligence and 5G services and orchestration, while also contributing to major standardization entities such as ETSI. Our involvement in European projects of the same scope has driven us to prime on network security and data protection in all of our telco solutions as well on its user experience.

ACHIEVEMENTS & SUCCESS STORIES

We've been successfully involved in numerous RDI projects, extending our expertise on IoT systems architecture, 5G technologies, cyber-security, EC and AI among other Telecom-related topics. Such projects drove our involvement in remarkable joint initiatives carried out by the EU, tackling challenges of the Europe of the future, namely 5G-PPP, 5G-IA, BDVA, AIOTI and ERTICO.

Our highly qualified team has built software solutions priming on innovation and interoperability addressing the future of mobile networks. Smartlamppost product considerably benefited from 5G-PPP Phase 1, 2 and 3 projects (SELFNET, SONATA, 5GCITY, 5GZORRO), which leverages on urban furniture to provide 5G networks, EV-charging stations and edge computing capabilities, holding a platform for innovative solutions, fostering a rich ecosystem of partnerships across diverse verticals.

INTEREST FOR FUTURE R&D&I COOPERATION

Ubiwhere is always actively searching for both R&I partnerships and commercial joint ventures. The company's team includes different Telecommunications Engineers and highly-qualified Software Developers. Ubiwhere positions itself both as a 5G enabler and 5G vertical service provider (by providing services benefitting from the 5G KPIs and infrastructure).

Most recently, and aligned with Smartlamppost's web marketplace roadmap, the company has been focused on DLTs (Distributed Ledger Technologies) and Smart Contracts, designing innovative solutions which brings value to the new multi-stakeholder environment brought forth by 5G networks. Companies whose expertise is on virtualized RAN and other 3GPP-standard technologies are of great interest, as Ubiwhere intends to bridge these 5G networks with public or private blockchains, in the scope of its Smartlamppost product.

visiona

YEAR ESTABLISHED
2006

NUMBER OF EMPLOYEES
7

MORE INFORMATION
www.visiona-ip.es

CONTACT
info@visiona-ip.es

EXPERTISE IN   5G   IOT   NGI   AI   **MEDIA & CONTENT**   HEALTH   ENERGY   **SMART CITIES**   **PUBLIC SAFETY**

BACKGROUND, EXPERTISE & SKILLS

VISIONA is a cutting-edge Information Technology SME that has actively participated in several open calls from the research and innovation EU programmes, like the H2020 5G-PPP Phase-1 5G-Crosshaul and Phase-2 NRG5 projects. VISIONA team counts on with expertise in designing big systems and managing projects of big magnitude, in designing network elements and network services for NFV and SDN, planning and operation of networks based on these technologies. Strong background in virtualization of functions that lead to 5G-ready innovative and smart environments.

VISIONA is specialized in groundbreaking media and artificial intelligence technologies as machine vision and deep learning. This makes of VISIONA a suitable partner for any vertical demanding such expertise (from media to smart cities and energy related contexts, among others).

ACHIEVEMENTS & SUCCESS STORIES

Artificial intelligence for machine vision is the core of all the solutions developed by VISIONA which aim to address the needs of different verticals.

For instance, VISIONA's approach to the preventive maintenance of critical energy infrastructures is able to detect, from an autopilot drone, different changes in the target zones in order to predict possible dangerous conditions on the environment or in the structures.Image processing and deep learning techniques are exploited by VISIONA for: (1) people and vehicle detection system in critical locations, (2) change recognition system on UAV imagery and (3) abnormal hot points through thermal image.

VISIONA also counts on with a portfolio of innovative solutions for parking monitoring and management, advanced surveillance of public and crowded spaces, and QoE/QoS tools for video quality assessment among other.

INTEREST FOR FUTURE R&D&I COOPERATION

VISIONA is seeking EU partners interested in collaborating with our SME to identify synergies so that we could work together on the creation of innovative solutions and the design strategies for exploitation of cooperation results in order to achieve maximum impact of 5G-related technologies after experimentation. VISIONA is open to start any kind of project related to artificial intelligence in any vertical as the technology has a wide range of applications.

![WEST Aquila logo]

YEAR ESTABLISHED	**MORE INFORMATION**
2004	www.westaquila.com
NUMBER OF EMPLOYEES	**CONTACT**
10	info@westaquila.com

EXPERTISE IN   5G   IOT   HEALTH   ENERGY   SMART CITIES

BACKGROUND, EXPERTISE & SKILLS

The company has already gained more than a decade-long experience by participating as a key technological partner in several national and European projects, with emphasis on integration of heterogeneous wireless interfaces and IoT.

Furthermore, the company is in one of the five Italian cities selected by the Italian Ministry of Economic Development for pre-commercial 5G trials. It is now surrounded by a 5G eco-system composed of network operators, chip makers, telecom manufacturers and vertical sector integrators that refer to healthcare, mobility, energy, safety and emergency management.

ACHIEVEMENTS & SUCCESS STORIES

WEST has a record of participations in several EU projects, including two ITN Marie Curie projects (Greenet and Aquasense) focused on the analysis, design, and optimisation of energy efficient wireless networks, and three IAPP Marie Curie projects, WSN4QoL (a healthcare-oriented project proposing Wireless Sensor Networks for Quality of Life), SmartNRG (dealing with new solutions for energy distribution and management for smart cities) and CASPER (dealing with improvement of the Quality of Experience perceived by End Users in mobile wireless networks).

WEST has also participated to a national project on Structural Health Monitoring, where a WSN is used to monitor historical buildings after the earthquake of 2009 in L'Aquila, and UbiCare and CASA+, two projects aimed at remote monitoring aged people and patients who have Down syndrome.

INTEREST FOR FUTURE R&D&I COOPERATION

WEST is a highly dynamic and innovative company, which aims at bridging the gap between the academic and industry sectors. In this perspective, the company envisions the possibility to exploit cutting-edge technologies in multiple application domains. As an R&D company, there is always a strong interest in fostering new cooperations devoted to study, analyse and prototype solutions in the field of networked embedded systems and cyber-physical systems.

WEST has a history of collaborations with EU partners from both academia and industry sectors but is inherently open to new opportunities for collaborations with interested partners from all around the world.

WINGS ICT SOLUTIONS

YEAR ESTABLISHED
2012

NUMBER OF EMPLOYEES
85

MORE INFORMATION
wings-ict-solutions.eu

CONTACT
info@wings-ict-solutions.eu

EXPERTISE IN   5G   IOT   NGI   MEDIA & CONTENT   TRANSPORT & LOGISTICS   SMART CITIES   HEALTH   ENERGY   PUBLIC SAFETY

BACKGROUND, EXPERTISE & SKILLS

WINGS ICT Solutions develops solutions (hardware and software) for verticals. Vertical areas covered are utilities (water, gas, energy), smart city applications (e.g., air quality, parking, assisted living, safety), food security/safety, logistics/transportation.

The solutions rely on Artificial Intelligence (AI), big data platforms, IoT and advanced wireless connectivity (namely, 5G, NB-IoT and other).

In the light of the above, WINGS has developed and constantly updates its "Artificial intelligence & Internet of Things powered solution for verticals" (working name ATHENA), as well as "WINGS system level simulation" platforms (working name NESTOR).

WINGS is proud to have already collaborated with top companies such as IBM (primary footprint in Greece and Cyprus), Intrasoft (aims at EU and MENA) and Pole Star Global (UK, maritime), and many other companies, also in the context of R&D projects.

Furthermore, we are building collaborations with further companies in EU and internationally.

ACHIEVEMENTS & SUCCESS STORIES

The following results can be highlighted:

Through the Phase 2 project One5G, WINGS enhanced its utility solutions by developing mechanisms for enabling a utility-operator to interact with the network (slice) management systems of a 5G network operator. Through the WINGS mechanisms there can be management of a critical-utility-infrastructure.

Through the Phase 2 Clear5G project, WINGS works in the development of industry-oriented robotics solutions. Eventually, the technologies will be trialled in factories in Taiwan.

Moreover, through the phase-3 5G-EVE project, WINGS works and will enable further development and testing with actual 5G testbeds and smart city solutions.

In the context of the Phase 3 projects 5G Carmen and 5G Mobix, WINGS works on 5G based CCAM systems with focus on environment sustainability (rural and city areas) and cross boarder security/safety.

In 5G Heart and 5G TOURS phase-3 projects, WINGS will integrate the 5G technologies with the food and the smart city/venue worlds. The target will be to stimulate respective business opportunities.

Moreover, WINGS is enabled to contribute to the shaping of 5G technologies, in coordination with its partners, and to assist Europe in maintaining a leading role in the respective 5G developments, also through engaging high-level personnel in positions such as Technical Manager, Work Package leader, Task Leader, or by leading consortia (in the future).

INTEREST FOR FUTURE R&D&I COOPERATION

WINGS aims at further developing its Research & Development and Innovation activities through cooperation with industrial and academic partners in 5G and vertical sectors, such as utilities (energy, water, gas), CCAM, aquaculture/agriculture and food safety and security, Factories of the Future, logistics and media, in the context of R&D or product development activities at a European and international level.

WINGS also aims at developing novel concepts for serving URLLC and mMTC, enabling and experimenting with novel concepts such as the Internet of Skills, as well as realising a new generation of wireless technologies (6G) through the exploitation of Artificial Intelligence.

Of course, WINGS also welcomes any idea and proposal for new areas of collaboration.

SME MEMBERS

4GCelleX	Israel	aspien GmbH	Germany
Abeeway	France	Astius Technology	United Kingdom
Accelleran	Belgium	ATC	Greece
ACORDE Technologies S.A.	Spain	Ateknea Solutions Europe	Spain
ADVANTIC SISTEMAS Y SERVICIOS S.L.	Spain	Athonet	Italy
AICO EDV-Beratung GmbH	Austria	ATiT	Belgium
AITIA International, Inc.	Hungary	Atlantic Wireless Telecommunications	Ireland
Albatronics	Israel	Atlantis Consulting S.A.	Greece
Almouroltec, Lda	Portugal	Atlascom Ltd.	Bulgaria
Alpineon d.o.o.	Slovenia	Avanti Communications plc	United Kingdom
AMBEENT WiRELESS	Turkey	AWE Communications GmbH	Germany
Amledo & Co	Sweden	Aykan Teknoloji S.T.A.S.	Turkey
Amphinicy Technologies	Croatia	BALKANPLAN Ltd.	Bulgaria
AMVG	Turkey	b-com	France
Ansur Technologies	Norway	Beacon Tech Ltd. Yoram Bar-Zeev	Israel
Antares S.c.ar.l.	Italy	Beia Consult International	Romania
Antycip Simulation	United Kingdom	Bianor Services EOOD	Bulgaria
AnySolution S.L.	Spain	BitWise D Eadie	United Kingdom
APFUTURA	Spain	Blu Wireless Technology Ltd	United Kingdom
apocope	France	Bluegiga Technologies Oy	Finland
Applied RESearch to Technologies s.r.l. (ARES2T)	Italy	Bluetab	Spain
Aradiom	Turkey	BUMA Ltd.	Israel
Aratos Technologies	Greece	Business Integration and Business Intelligence	Montenegro
Arctos Labs Scandinavia AB	Sweden	C Tech Bilisim	Turkey
ARDIC APPLIED RESEARCH DEVELOPMENT INNOVATION CENTER	Turkey	CARD4B SYSTEMS S.A.	Portugal
Ariadna Servicios Informáticos S.L.	Spain	Cellusys	Ireland
ArtHaus DOO Skopje	Macedonia	CEVA-DSP Ltd	Israel
Artklikk Ltd.	Hungary	Citypassenger	France
ASC, Antenna Systems Consulting ApS	Denmark	COMBALSAT ltd.	Bulgaria
Ascora GmbH	Germany	COMSIS	France
		Consultancy & Management Services	Belgium

European SME Expertise in 5G and Beyond

Consultora de Telecomunicaciones Optiva Media SL	Spain
Content Group Austria	Austria
Core Network Dynamics	Germany
Corporate Fiber Technologies AB	Sweden
CREALAB SRL	Italy
Creativ-IT	Spain
Creativity Software	United Kingdom
Cumucore Oy	Finland
CyRIC (Cyprus Research and Innovation Center Ltd.)	Cyprus
Das Photonics	Spain
Dataport Information Technology Services	Turkey
Delektre Oy	Finland
Diamond Age GmbH	Austria
Digital Dispatch	Finland
DigitalTwin Technology GmbH	Germany
Domos AS	Norway
Douglas Connect GmbH	Switzerland
EANTC AG	Germany
Easy Global Market	France
EBNER electronic GmbH	Austria
eBOS Technologies Ltd	Cyprus
eCom Scotland Ltd	U.K
Edosoft Factory, S.L.	Spain
EFP Consulting Ltd	Israel
Ege Sistem Bilisim Hiz. San. ve Tic. Ltd. Sti. (egesys)	Turkey
ELSIS	Lithuania
Emisfera Societa Cooperativa	Italy
Energy Sistem Soyntec SA	Spain
EPIDOTE CONSULTING	Belgium
Esempla Systems SRL	Moldova
ESPACI	Spain
ETA2U	Romania
Eureva	France
EUROB CREATIVE	Spain
Euroma	United Kingdom
EUROPEAN DYNAMICS S.A.	Greece

European Media Laboratory GmbH	Germany
Euroreporter	Italy
Evolution-net	France
Exagate	Turkey
Excellis Business Consulting	U.K
Exelixisnet	Greece
EXENTE	Spain
Eyeled GmbH	Germany
Feron Technologies P.C.	Greece
FGFactory	Ukraine
FIDO Intelligence	Poland
Filtronic Broadband Ltd	United Kingdom
Florella Ltd	Hungary
Fogus Innovations & Services	Greece
Foreca Consulting Ltd	Finland
FTI Communication Systems Ltd	United Kingdom
Future Intelligence	Greece
GARD	Israel
GENERUM OY	Finland
Globema Sp. z o.o.	Poland
Grado Zero Espace Srl	Italy
Gradus Bilisim Teknolojileri Ltd Sti	Turkey
Grant Thornton Advisory	Czech Republic
GTD GmbH	Germany
gutura GmbH	Germany
GWT-Tud	Germany
Hedz Hungary,Ltd.	Hungary
Hendrik Berndt Consulting	Germany
hi2	Spain
HI-IBERIA	Spain
Hiro-microdatacenters	Netherlands
Hisbim IT Co.	Turkey
Hringidan / Vortex Inc	Iceland
HW Communications	United Kingdom
Hyperborea SRL	Italy
I.C.A. (Informática y Comunicaciones Avanzadas)	Spain
Ictech	Portugal

IDATE	France
IDESIO s.r.l.	Italy
IDS Ingegneria dei Sistemi Spa	Italy
IIMC International Information Management Corporation Ltd	Ireland
Il Village	Italy
ILS Technologies	France
Incelligent	Greece
INCITES CONSULTING SARL	Luxembourg
Infocom S.R.L.	Italy
InfoGraph Ltd.	Greece
INFOLYSIS P.C.	Greece
Ingenieria y Soluciones Informaticas	Spain
inno group	Germany
Innomine Group	Hungary
InnoRoute GmbH	Germany
Innovaciones Sociosanitarias	Spain
INNOVAS	France
Innovati Networks S.L.	Spain
Innovators S.A.	Greece
iNOK	Portugal
INTEGRASYS	Spain
Intelekti Ltd.	Bulgaria
INTERFUSION SERVICES LTD	Cyprus
INTERINNOV	France
INTERNET INSTITUTE, communications solutions and consulting, Ltd.	Slovenia
Intron ltd	Ukraine
INXITION	Italy
ip.access Ltd	United Kingdom
IPCom GmbH & Co. KG	Germany
IPLUSF	Belgium
IQUADRAT INFORMATICA	Spain
ISED SpA	Italy
IS-WIRELESS	Poland
IT ware Kft.	Hungary
ItoM	Netherlands
ITTI Sp. Z o.o.	Poland

Janmedia Interactive Sp. z o.o.	Poland
JCP-Consult SAS	France
K.-D. Kohrt	Germany
Kahdeksas Kanava Oy	Finland
Kiwok Nordic AB	Sweden
kleos r&d	France
Klubverband-ITA Ltd.	Bulgaria
KOHS	Austria
Kontor46	Italy
LABRIS NETWORKS	Turkey
Larkhill Consultancy Limited	United Kingdom
Lattanzio e Associati	Italy
LEO	France
Level7 S.r.l.u.	Italy
LGI Consulting	France
Link Consulting SA	Portugal
LioniX International	Netherlands
LiquidEdge Ltd	Ireland
LiveU Inc.	Israel
Load Interactive lda	Portugal
LUDMATEC	Germany
M.B.I.	Italy
Made In Mind	United Kingdom
Magister Solutions Ltd	Finland
MÁNTICA Solutions S.L.	Spain
Martel GmbH	Switzerland
Maseng AS	Norway
Mavigex s.r.l.	Italy
Meteorological and Environmental Earth Observation (MEEO)	Italy
milestone management gmbh	Austria
MiSONE	Turkey
MOBICS SA	Greece
Mobintec Ltd	United Kingdom
MOBIQUANT SAS	France
Modio Computing PC	Greece
moltosenso s.r.l.	Italy
Montimage	France

MostlyTek LTD	Israel
Movation AS	Norway
Mr. NeC	Netherlands
MSWEB Cooperativa Valenciana	Spain
Multicell	France
Naevatec	Spain
Nemergent Solutions SL	Spain
Neogames	Sweden
Neos	Italy
Neoscopio	Portugal
Net Surfing S.r.l.	Italy
Net Technologies	Finland
Netfort Technologies	Ireland
NETvisor Ltd.	Hungary
New Venture	Belgium
Nextworks s.r.l.	Italy
Nine Tiles	United Kingdom
Norcontel (Ireland) Ltd	Ireland
NOVATEX SOLUTIONS LTD	Cyprus
Oledcomm	France
one2tribe sp. z o.o.	Poland
Open Cells Project	France
Opentix S.L.	Spain
Optare Solutions	Spain
OPTRONICS Technologies SA	Greece
ORGA Systems enabling services GmbH	Germany
ORION INNOVATIONS PRIVATE COMPANY	Greece
PARAGON Europe	Malta
PARAGON LTD	Greece
Parhelion Global Communications Advisors	Netherlands
Particula Group d.o.o.	Croatia
Piran Partners LLP	United Kingdom
Plasma Antennas Ltd	United Kingdom
Pluribus One S.r.l.	Italy
Polatis Ltd	United Kingdom
Postron Engineering S.r.l.	Italy
Power Operations Limited	United Kingdom
Pozitron	Turkey
PragmaDev	France
Primetel Ltd	Cyprus
PRISMA Telecom Testing	Italy
Qamcom Research & Technology AB	Sweden
QUOBIS NETWORKS	Spain
R2M Solution s.r.l.	Italy
Ranplan Wireless Network Design Ltd	United Kingdom
Real Wireless	United Kingdom
Régens IT Plc.	Hungary
Research for Science, Art and Technology (RFSAT) Ltd.	U.K
Ridgeback sas	Italy
Rinicom	United Kingdom
RS-techMarketing	Israel
RTC North Ltd	United Kingdom
RunEL NGMT	Israel
SAE - Automation,s.r.o.	Slovak Republic
Sagax Communications	Hungary
Saliwell Ltd.	Israel
Sapienza Sl	Spain
Seavus	Sweden
SemiBlocks	Netherlands
Senception	Portugal
Seprotronic GmbH	Germany
Sequans communications	France
SETCCE	Slovenia
Seven Solutions S.L.	Spain
Sigma Orionis	France
Siklu Communication	Israel
SK Consulting e.U.	Austria
Skaitmeninio Sertifikavimo Centras	Lithuania
Softeco Sismat SpA	Italy
Software Radio Systems Limited	Ireland
Solaiemes S.L.	Spain
Space Engineering S.p.A.	Italy
SPACE HELLAS S.A.	Greece

Spectrum Insight Ltd	United Kingdom
SQS,S.A	Spain
Starhome GmbH	Israel
Steininger Consulting	Austria
STMi	Norway
Strosek Design GmbH & CO.KG	Germany
SUITE5 DATA INTELLIGENCE SOLUTIONS	Ireland
SUNTECH LTD.	Poland
Super Radio AS	Norway
SWAPCOM	France
SwissMedia - Swiss IT & Multimedia Association	Switzerland
Synelixis Ltd.	Greece
Synergetics	Belgium
SYNYO GmbH	Austria
SystAG Systemhaus GmbH	Germany
TAGES	France
Tamum Consulting	France
TARGET SISTEMI srl	Italy
Targeting Innovation Ltd	United Kingdom
T-CONNECT SRL	Italy
TEAMCAST TECHNOLOGY	France
Tekever	Portugal
Telcaria Ideas SL	Spain
Telebid Ltd.	Bulgaria
Telecompare S.A.	Greece
Telemetry Associates Limited	United Kingdom
Telenity	Turkey
TELETEL SA	Greece
Telscom AG	Switzerland
The National Microelectronics Applications Centre Ltd	Ireland
The Quality Group it vision GmbH	Germany
Thema TV	France
Think Light	Sweden
TIGA TECHNOLOGIES SARL	France
Time Critical Networks	Sweden
time.lex	Belgium
TISSAT	Spain

Torque Wind Turbine	Netherlands
Tout Le Contenu SÃ RL	Switzerland
Treelogic	Spain
TRON ELEKTRONIK SISTEMLER AS	Turkey
Trust-IT Services Ltd	United Kingdom
TST	Spain
TTG Int.LTD	Turkey
TTI	Spain
UAB Telesoftas	Lithuania
UBITECH	Greece
Ubiwhere	Portugal
UNIVERSAL K Ltd.	Bulgaria
V.A.S. Telekom	Turkey
Value Grid	Germany
Vanillatech GmbH	Germany
VATP	Latvia
Verhaert	Belgium
VERTICAL M2M	France
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VISIONA INGENIERÍA DE PROYECTOS	Spain
VOCS	Belgium
WAVECOMM S.r.l.	Italy
Wellness Telecom S.L	Spain
WEST Aquila Srl	Italy
WIBU-SYSTEMS AG	Germany
Widian Ltd	Finland
WINGS ICT Solutions	Greece
Wireless Innovation	Greece
WIT-Software Lda	Portugal
Wiz consultancy	Spain
WIZI	Portugal
WOM - While on the Move	Finland
Worldadcom - Universaldynamic Technologies, SA	Portugal
Xenia Network Solutions	Italy
Ydreams	Portugal
Yonga Technology Microelectronics R&D	Turkey
YOUMOVE LDA	Portugal
Zeetta Networks Limited	United Kingdom

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5G IA SME MEMBERS

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Nextworks s.r.l.	Italy
Oledcomm	France
QUOBIS NETWORKS	Spain
Seven Solutions S.L.	Spain

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