Vlaamse Ruimtevaartindustrie
Flemish Space Industry

VRI

Our Members

antwerpspace
An OHB Company

Berkenrodelei 33
2660 Antwerpen
Belgium

T +32 3 829 50 50
F +32 3 829 50 02
info@antwerpspace.be
www.antwerpspace.be

Antwerp Space, more than 50 years excellence in the Space Business

Antwerp Space, member of the OHB AG Group, is a Belgian leading company active in satellite communications. Since its repositioning in 2010, the company expands at a rapid pace, doubling its size over the last 3 years. The company revenues in 2013 amount to 10 MEUR, and was realized with a staff of 65 persons, mainly with a PhD in engineering.

The company activities span from studies for future advanced communications, engineering of ground and space borne communication equipment engineering, integration and test of satellite telecommunication payloads, delivery of life-critical & secured communication networks. Along with the supply of equipment, the company also delivers testing equipment for satellite integrators.

SPACE COMMUNICATION
Communication subsystems
Communication equipment
Payload technology

GROUND COMMUNICATIONS
Ground stations & equipment
Secured communication networks
Satellite test systems

Our solutions are deployed both on the ground and on-board of satellites. Our main customers are European Agencies, commercial satellite operators as well as ground station operators.

ASA SURVEYS

ASA nv is a company that executes surveys all over the world, in coordination with the assurance companies.

We offer our services 24/7. Our services include damage prevention, draught surveys, CMR claims, cargo care and stevedore civil liability matters (CLM).

H.F. Orbanlaan 679
B-9000 Ghent
Belgium

T +32 9 231 80 00
F +32 9 225 02 10
info@asa.be
www.asa.be

BRACQUENÉ
LEGAL CONSULTING

Bracquené Legal Consulting was founded in 1991 as a legal consulting firm assisting companies and research institutes with their technology development programmes and with the exploitation of the results achieved. Its offices are in Leuven, Belgium

Hans Bracquené is the managing Director

The main aspects of the company's services are the negotiation and the drafting of licensing and transfer agreements, agreements with financial partners, agreements for collaborative research agreements and the start-up of spin-off companies. Technology development and technology transfer are Bracquené's principal activity domains, with a strong emphasis on the space sector.

In the space sector Bracquené Legal Consulting is assisting its clients in both the public and private space programs.

The company has further special expertise in the field of the R & D Programmes and with international organizations in particular the Framework Programme of the European Union, the EUREKA Initiative and of course ESA.

Hans Bracquené BVBA is the counsel of several major research institutes for their IP exploitation policy such as IMEC and VITO in Belgium, the Joint Research Centre of the EU and ESA.

Bondgenotenlaan 93/5
3000 Leuven
Belgium

T +32 16 239 549
F +32 16 200 621
hans.bracquene@bracquene.be
www.bracquene.be

Generaal Capiaumontstraat 11/5
2600 Berchem
Belgium

T +32 498 90 66 30
patrick@caeleste.be
www.caeleste.be

Caeleste (°2006) solves image sensor challenges by custom design and subsequent supply. Its team of 17 engineers accumulates 100+ years of image sensor experience and as such created important breakthrough in image sensors for space, scientific and medical applications. It holds unique IP related to low noise and high S/N, photon counting, X-ray, time gating pixels, HDR, proton and SE hard pixels.
Caeleste key persons have extensive history in space projects and realize(d) and/or qualified FM image sensors and circuits since 1989, designing many advanced and first-off image sensors.

- Deep cryogenic readout electronic for the ISO/ISOPHOT far infrared telescope
- Radiation tolerant STAR250/1000 and HAS image sensor families
- Electron detecting front-end arrays in the mass spectrometer of Rosetta
- Housekeeping camera's in the Mars Express, XMM based on Fuga & IBIS-IRIS series.
- Very large monolithic, stitched arrays and hybrid arrays
- APD 3D ranging array for planetary lander
- Design of many ADCs including a space qualified 8bit and 10bit Flash ADC, a 14bits Pipelined ADC for IR image sensors and column-wise high-speed 10bit ADC.
- Designs for CMOS backside illuminated Hyperspectral space imager and large area ultra-parallelized CMOS imager for astronomy
- Development of the ROIC for Large format NIR/SWIR MCT detector

Caeleste is in process of being ISO certified.

Coveliersstraat 15
2600 Antwerpen
Belgium

T +32 3 260 17 30
F +32 3 260 17 79
info@cmosis.com
www.cmosis.com

CMOSIS is a turn key supplier of advanced off-the-shelf; customized and full custom CMOS image sensors, developed by a seasoned, multi-disciplinary team of image sensor experts, totaling more than 100 man-years of experience.

CMOSIS understands that CMOS image sensors are often at the heart of the customers and system. Therefore fast and adequate logistic and technical support is available directly form our product specialists. They handle any issue in a professional, direct and pragmatic manner. Our team members have contributed to image sensor technology over the last 20 years with many scientific publications and patent applications. The team covers all skills required to design, manufacture, test and supply image sensors.
CMOSIS supplies a growing range of custom developed and standard off-the- shelf CMOS image sensor products optimized for specific applications and continuously develops new image sensor technology improving the performance of its image sensors. These products feature high-performance pixel architectures, high frame rates, on-chip ADC, high dynamic range operation modes and high-speed digital interfaces.
In order to offer a turn-key solution, from development to qualified production, CMOSIS manages the complete supply chain from wafer manufacturing to final packaged testing.

Diestsestraat 133/3
3000 Leuven
Belgium

T +32 16 22 58 60
DHConsultancy@skynet.be

DH Consultancy BVBA is a one-man company based in Leuven, Belgium. The company was founded by Dr. Daniel Heynderickx in June 2007.

DH Consultancy offers expertise in the following domains:

- radiation environment modelling
- space environment effects on spacecraft and components
- processing, storing and accessing spacecraft and ground based data
- space weather models and predictions
- tailored services combining data, models and custom built processing tools

DH Consultancy is currently involved with a number of ESA projects:

- Radiation Effects on Advanced Technologies: Models and Software (REAT-MS)
- Martian Radiation Environment Models (MarsREM)
- Validation of Computational Tools

Toekomstlaan 9
B-3600 Genk
Belgium

T +32 89 20 18 90
F +32 89 20 18 99
info@estooling.eu
www.estooling.eu

E.S. Tooling is a production company for fine mechanical parts in the following areas: Automotive, Mould & Die, Medical, Aerospace, space and Optical. The company works with tolerances under 5 micron accuracy, reliable deliveries and an open communication to customer and shareholders. We are working with a modern production facility with air conditioned production and high-end technological machines. Our production is based on single piece production like prototypes to small series with high accurate parts, this makes ES Tooling in Europa a state-of-the-art company in his area. After the start in 1996 E.S. Tooling wins several prices for example the in 2004 KMO-laureaat of Flanders. Searching for new areas in 2007 E.S. Healthcare was grounded for implant superstructures in the Dental industry. This business model was not invisible in the market and in 2008 Dentsply (U.S.A.) bought E.S. Tooling and E.S. Healthcare. In 2013 the existing management bought ES Tooling from Dentsply to continue the success story of E.S. Tooling. E.S. Tooling is an innovative driven company. The philosophy here is that you can only survive in Western Europe if you are always up front with the latest technology in the metal cutting market. Only then you can offer your costumer the added value that is needed. All employees are well educated and this will keep them motivated, thanks to an open communication and leadership based on a long term relation with employee and customer. E.S. Tooling is one of the first companies with fully automated 5 axis milling machines for single piece production. With the latest generation robots and software the machines are running 24 hours a day, 7 days a week.

Nervierslaan 54
1780 Wemmel
Belgium

T +32 2 460 70 00
F +32 2 460 49 58
frank.de.boeck@eurosense.com
www.eurosense.com

For more than 50 years now, EUROSENSE is your partner in all services related to geographical information. From data collection, treatment and provision to value-added applications, EUROSENSE offers a broad variety of geographical information made according to your specific requirements and needs. Our company is known to provide high-quality end products created on the latest technologies on the market.

EUROSENSE was founded in 1964 in Belgium. In a short period of time, the company became one of the most prominent commercial remote sensing organizations in Europe. It has branches in Belgium, The Netherlands, Germany, France, Hungary, Slovakia, Poland, Bulgaria and Romania.

All services offered by the EUROSENSE Group are fully integrated within the group: aerial photography, aerial LIDAR (aerial laser scanning for height measurements), aerial multi/hyper-spectral scanning, photo interpretation, processing and interpretation of aerial and satellite images, (photogrammetric) geodata processing, GIS- consultancy, aerial thermography, inventory of forests and natural resources, digital orthophotography, cartography, hydrography and lots of other activities. EUROSENSE offers highly accurate and technological solutions in all these disciplines.

Luchthavenstraat 1 bus 6
8560 Wevelgem
Belgium

T +32 478 84 76 51
info@flag.be
www.flag.be

The Flemish Aerospace Group (FLAG) is an association of companies located in Flanders/Belgium and active in the aerospace markets. The organisation has approximately 70 members, who are active in most of the aeronautical sectors. The member's capabilities range from concept, design, and certification to manufacturing and customer support. FLAG members are also involved in aerospace training and exploitation.

Several members are major world industrial players like ASCO, BARCO, LMS, Sabca Limburg, Sabena Technics and Acrosoma. Our suppliers deliver to all aeronautical industries in the world.

FLAG can help anybody find his way in our country, be introduced to our members, as well as to all the Government agencies, Regional (Flanders), Federal (Belgium), and European. The Flemish Government actively supports our aerospace sector throught the IWT and FIT govermental agencies. Most of the production of our member companies is for export.

gim
geographic information management

Researchpark Haasrode
Interleuvenlaan 5 - B-3001 Heverlee
Belgium

T +32 16 40 30 39
F +32 16 40 30 39
info@gim.be
www.gim.be

TURNING IMAGERY INTO ACTIONABLE INSIGHT

GIM is a Value-Adding Service Provider deriving geoinformation from EO data. Backed by regular research activity, GIM leverages its image processing expertise to support public and private customers to better manage our changing environment. Starting from in-depth requirements analyses, GIM designs, implements and delivers solutions across the environmental, agricultural and urban sectors specializing in high and very high resolution satellite imagery and OBIA.

GIM is at the forefront of developments in image processing with a particular focus on advanced processing chain automation. Time series of images are analyzed in near real time to derive geoinformation supporting the business and decision making of our clients. Complex spatial analyses are applied. Information services are hence delivered in the precision farming, agro-forestry or eHealth application areas. GIM is serving international and industrial organizations and is also processing large volumes of VHRSI.

GIM is an official distributor of imagery from most of the high resolution sensors available to date like GeoEye, WorldView, SPOT 1 to 7, Pléiades, RapidEye, Cosmo-Skymed, Terra-SAR X, etc. GIM also offers standard data pre-processing services.

GIM capitalizes on its geo-ICT expertise to design and deploy IT applications and SDI's based on Open Standards for the management and visualization of Earth Observation data and metadata.

GIM is an ISO 9001 certified company.

ICsense
THE IC DESIGN COMPANY

Gaston Geenslaan 9
3001 Leuven
Belgium

T +32 16 589 721
F +32 16 589 720
www.icsense.com

ICsense is one of Europe's top analog IC design companies. Our core business is custom IC design services and ASIC design and supply for the automotive, aerospace, medical, industrial and consumer market. ICsense's expertise is in analog, mixed-signal and high-voltage IC design focused on:

- High-performance and low-power
- Power and battery management
- Sensor, actuator and MEMS interfacing/acquisition
- High-voltage IC design

ICsense performs radiation-hard mixed-signal building block and ASIC design for space applications. Several radiation-hard IP blocks are available through imec's DARE library in UMC and XFAB 180nm technology, such as ADCs, DACs, voltage references, DCDC converters, regulators, PLLs, clocks, … These blocks are integrated in the Digital Programmable Controller ASIC of Thales Alenia Space ETCA that has been developed in cooperation with Thales, ESA, imec and ICsense.

ICsense has incorporated state-of-the-art simulation methodologies for radiation hard IC design in its unique design environment. It takes into account effects like TID (Total Ionisation Dose), SEE (Single Event Effects), such as SET (Single Event Transients). ICsense's structured analog/mixed-signal design environment is extended with a unique method to simulate radiation effects and quantify counter measures for SETs and SEEs.

imec

Kapeldreef 75
3001 Leuven
Belgium

T +32 16 281 880
F +32 16 281 637
Ozlem.Cangar@imec.be
www.imec.be

Imec, founded in 1984, is a world-leading independent Research Institute in nanoelectronics and nanotechnology. Its research focuses on the next generations of chips and systems, and on the enabling technologies for ambient intelligence. Imec's research bridges the gap between fundamental research at universities and technology development in industry. Its staff of around 2100 people includes more than 600 industrial residents, visiting & PhD students. Also, imec has ongoing collaboration with over 600 companies and over 200 universities. In 2012, its estimated revenue (P&L) was around of 320M€, a growth of 7% from 2011. In the same year, imec has 161 patents awarded,133 patents submitted. And over 1,064 peer-reviewed articles were published.

- Image Sensor Technologies
- CMOS based or embedded CCD based
- Backside Illuminated sensors
- HyperSpectral filters
- (E)UV detectors
- GaN Technologies
- RF power amplifiers
- Power invertors
- Motion Sensing Technologies
- MEMS based, mm wave based
- Wearable body sensors for astronaut monitoring
- Radiation hard design techniques in commercial ASIC technologies
- "Space qualified" turnkey manufacturing solutions with wafer supply, packaging, testing, characterization, qualification & radiation testing, up to certified flight models
- Excellent track record in ESA (60 ESA projects during 1998-2012) and EU Space Projects

Renaissancelaan 30
1000 Brussel
Belgium

T +32 2 742 63 40
F +32 2 742 66 22
alain.muls@rma.ac.be
www.rma.ac.be

The Royal Military Academy is a military institution of university education responsible for the basic academic, military and physical training of future officers, and for the continuing advanced training of officers during their active career in the Defence department.

The officers graduated from the Academy are leaders capable of performing efficiently in diverse, complex and exceptional circumstances, at the service of the national and the international community.

The training at the Academy is tailored to the needs of the Belgian Defence (army, air force, navy, medical service). The values of society are integrated into the formation.

KATHOLIEKE UNIVERSITEIT
LEUVEN

Kasteelpark Arenberg 41, bus 2449
3001 Leuven
Belgium

T +32 16 32 86 05
F +32 16 32 29 87
dirk.vandepitte@mech.kuleuven.be
www.kuleuven.be

KU Leuven brings together fundamental and applied research activities in its LASA centre (Leuven research centre for Aero- & space Science, technology & Applications).
Research topics in the field of **astronomy** include asteroseismology, the study of stellar evolution and cosmology. Instruments are the 1.2m Mercator telescope (La Palma), and the Herschel, ISO and CoRoT science satellites. In plasma astrophysics, magnetohydrodynamics models are being developed for application in space weather research.
The environment of **microgravity** is also used to study physical processes in liquid and solid phase, and in the development of new materials. The effect of microgravity on the cardiovascular system of astronauts and their autonomous control is being studied.

Pictures taken by **earth observation** satellites are used to support the validation and refinement of numerical analysis models for vegetation systems, agricultural development and forest evolution.
Space **technology** is a main driver for innovation in the engineering faculty: systems engineering, structural vibrations, lightweight materials, antenna design and telecommunication, robotics, precision engineering, drive systems, production technology, ...
In **education**, KU Leuven offers postgraduate Master programmes in Space Studies, and initial Master programmes in astronomy, space technology and earth observation. Ph.D. programmes are also available.

LMS®
ENGINEERING INNOVATION

Interleuvenlaan 68
3001 Leuven
Belgium

T +32 16 384 200
F +32 16 384 350
thierry.olbrechts@lmsintl.com
www.lmsintl.com

LMS International provides testing systems, virtual prototyping software and advanced engineering services that help engineers to optimize their design for motion, structural integrity, vibration, acoustic, and durability attributes.

Newtec

Laarstraat 5
9100 Sint-Niklaas
Belgium

T +32 3 780 65 00
F +32 3 780 65 49
DB@newtec.eu
www.newtec.eu

Newtec is specialized in designing, developing and manufacturing equipment and technologies for satellite communication. As a pioneer in the industry, Newtec is dedicated to creating new possibilities for the broadcast, IP trunking and backhauling, consumer and enterprise VSAT and government and defense markets.

Our products and technologies can be applied in a wide range of single and multi-service applications from DTH broadcasting, video contribution and distribution and disaster recovery and backbones for cellular backhauling, to small and medium enterprises, SCADA networks, manned and unmanned aircrafts, border control and Morale, Welfare and Recreation (MWR).

For over 29 years, our dedicated team of specialists has set industry standards with the most efficient, scalable and economical technology solutions. New challenges and customer needs offer opportunities to explore new boundaries. This empowers us to work even harder, helping customers to perform their best so that, together, we can make the world a safer, more informed and connected place. As a result, more than 3 billion people watch TV every day thanks to Newtec technology.

Newtec is a European company founded in 1985, with commercial offices in Belgium, UAE, Singapore, China, Brazil and USA, as well as an extensive network of over 80 certified partners.

OIP Sensor Systems

Westerring 21
B-9700 Oudenaarde
Belgium

T +32 55 333 811
F +32 55 333 858
ldv@oip.be
www.oip.be

OIP Sensor Systems is the trade name of OIP NV (Optronic Instruments and Products), located in Oudenaarde, Belgium and it employs about 100 persons. Since July 2003, OIP Sensor Systems is part of the ELBIT holding, as a subsidiary of ELOP.
OIP nv specializes in design, development and production of high-end electro-optical systems. Principal target areas for the company include the defence and space markets. In addition to its wide range of products and systems, OIP nv works closely together with customers to design, develop and manufacture customised products. As a major manufacturer of specialised systems, OIP nv is fully equipped to handle every aspect of design, manufacture, testing and qualification, thereby ensuring that all products exactly match specifications and provide complete customer satisfaction.
OIP has been involved for many years in the design, development and manufacture of opto-mechanical instruments for space applications. A highly experienced team of specialists in optics, mechanics and electronics has successfully developed hardware for several flight missions.
OIP has established and maintains a quality control/quality assurance system compliant to the requirements of the BS EN ISO 9001:2000 quality level, including the application ECSS-Q-ST-20A for space projects.

The core activity of the OIP space department is the design and development of optical instruments.

OMP
ORBANMICROWAVE
PRODUCTS

Remylaan 4c/6
3018 Leuven
Belgium

Tel.: +32 16 29 49 53
Fax: +32 16 22 75 72
ingrid.smeyers@orbanmicrowave.com
www.orbanmicrowave.com

OMP designs and manufactures RF & Microwave Subsystems and Antennas in the 0.5 to 25 GHz frequency range targeting a wide range of markets including SATCOM, GNSS, Avionics, Satcom, Test & Measurement, Medical and Space.

Unlike traditional companies, OMP has no standard products. Our strategy is to develop application specific products when no catalog products are available in the marketplace. We maintain a large library of designs and use state of the art design tools including 3D electromagnetic and non-linear simulation engines. Our strategic alliance with highly experienced manufacturing partners allows us to convert designs into production products quickly.

Our agility in being able to quickly and cost effectively develop products has earned us a very favorable reputation in the industry.

Our typical customer is one that is unable to locate a standard product that meets their requirements or does not have an in house design and build capability. OMP is an economic, complete and quick answer to this need. It is our strategy to design at cost, manufacture and support the product throughout its entire lifecycle.

Our product portfolio includes antennas for WAAS, GNSS, Radio Altimeters and UAV applications, and RF designs like low noise and power amplifiers, transponders and repeaters.

ON Semiconductor®

Schaliënhoevedreef 20b
2800 Mechelen
Belgium

T +32 15 446 354
F +32 15 446 344
Dirk.VanAken@OnSemi.com
www.onsemi.com

ON Semiconductor offers advanced semiconductor custom and standard product solutions for avionics and aerospace applications which include digital ASICs, FPGA-to –ASIC and ASIC –to –ASIC conversion services, mixed-signal ASICs, Foundry Services and high resolution Industrial and Space Grade CMOS/CCD Image Sensors :

- o DO-254 Certification Support: Digital ASIC design flow methodology that fully supports the stringent requirements of commercial aircraft manufacturers that need to obtain DO-254 certification
- o Unwavering commitment to world-class quality and continuous improvement
- o Meets the stringent quality standards historically required of ASIC vendors for military and aerospace applications
- o Robust silicon technologies, characterized over extended temperature range from cryogenic to 150° C
- o Portfolio of plastic and hermetic packaging suitable for high reliability end applications
- o Comprehensive intellectual property offering: high-speed serial I/O (SerDes); external high performance memory interfaces including OTP; ARM microprocessors; a variety of other hard and soft IP
- o Extended process lifetimes, meeting the market need for secure, long life-cycle processes
- o Flexible EOL process enables adequate transition or EOL planning

More information on www.onsemi.com

QinetiQ Space nv

Hogenakkerhoekstraat 9
9150 Kruibeke
Belgium

T +32 3 250 14 14
F +32 3 253 14 64
frank.preudhomme@QinetiQ.be
www.QinetiQ.be

QinetiQ Space Belgium (formerly known as Verhaert Space) has been the country's leading space systems integrator for more than 40 years.

We design, build, launch and operate complex space infrastructure and satellites. Our main customers are currently the European Space Agency (ESA) and the larger European space integrators (Astrium, Thales and OHB).

The PROBA remote sensing satellites were designed and built at our facilities near Antwerp, where today we deliver entire satellites and major satellite equipment including payload computers, remote terminal units and mass memories.

We are also a major contributor to the infrastructure of the International Space Station – developing and building the sophisticated instruments that allow scientists to:

- Work in microgravity conditions
- Conduct medical, physical and biological research
- Create new materials, and
- Carryout technological trials.

QinetiQ Space Belgium employs around 110 people with extensive experience in space systems engineering, architectural design, mission design and satellite operations.

Avenue Pasteur 23
1300 Wavre
Belgium

www.rheagroup.com

Headquartered in Wavre, Belgium, RHEA is the fastest growing Belgian space company, building its success on the passion and exceptional talent of its employees. Leveraging from its extensive knowledge base and applying an end-to-end approach, RHEA has proven successes in projects across a wide range of space missions in science, Earth observation, human space flight, meteorology, navigation and communication.

Since its creation in 1992, RHEA has acquired a first-class reputation offering knowledge-based services and innovative engineering and software solutions to leading agencies, organisations, and private sector clients across the global space and security sectors.

A member of an international strategic alliance, RHEA works with the ADGA Group of Companies, a leading Canadian system engineering firm. With more than 700 specialists, ADGA RHEA provides services to our growing client base in the aerospace, defence, utilities and transportation industries.

See more at: http://www.rheagroup.com/about-rhea/#sthash.84GceHEN.dpuf

SABCA LIMBURG N.V.

Dellestraat 32
3560 Lummen
Belgium

T +32 13 530 122
F +32 13 522 784
sabca.limburg@sabca-limburg.com
www.sabca.com

SABCA is a leading Belgian Aerospace company for more than 90 years, employing 1000+ highly trained persons. SABCA is active in civil aircraft design and manufacturing (Airbus, Dassault, Gulfstream), military aircraft overhaul and upgrades (F16, Mirage F1, Alphajet, helicopters, etc…) as well as in space programs (Ariane, Vega). These activities cover structural work as well as thrust vectoring systems and systems integration. SABCA has plants in Brussels and Charleroi, a fully owned subsidiary SABCA Limburg nv, specialized in aerospace composites, as well as ASM Aero, a new assembly plant in Morocco.

SABCA's activities are focused on three markets :

- Civil and Transport aircraft
- Space Launchers
- Defence

Maintaining a subtle balance between these three markets has been the key for the success of SABCA over the years, allowing the company to safely surf above the cyclical up and downs of each individual market, and promoting a technical cross-fertilization between these three sometimes very different worlds.

spaceapplications SERVICES

Leuvensesteenweg 325
B-1932 Zaventem
Belgium

T +32 2 721 54 84
F +32 2 721 54 44
info@spaceapplications.com
www.spaceapplications.com

An independent Belgian company founded in 1987, with a subsidiary in Houston, USA. Staff at 80+. We research and develop innovative systems, solutions and products for the aerospace and security markets and related industries. Our activities cover manned and unmanned spacecraft, launch/re-entry vehicles, robotics and a wide range of information systems.
Our experience includes:

- Control and Data Centers: complete ground segment and control centre solutions.
- development and operation, for satellites and ISS payloads.
- Earth Observation (EO) Systems: semantic access to distributed EO data.
- Knowledge Management (KM): enterprise and scientific KM solutions, Long-Term Data Preservation, visual analytics.
- Engineering services. • Embedded, Safety Critical & On-Board Software: spacecraft, cockpit and air traffic management solutions.
- Virtual Environments & HMI: wearable computing and computer aided medical diagnostic systems incl. 3D, Augmented Reality audio and haptic applications.
- Robotic Systems: complete systems incl. exoskeleton and rover control systems, robot navigation, task and path planning.
- Operations and Training: end-to-end planning, preparation, implementation and execution of spacecraft and facility operations and training, incl. astronaut training.
- Future Projects: space and ground segment system studies.

SCK•CEN

STUDIECENTRUM VOOR KERNENERGIE
CENTRE D'ETUDE DE L'ENERGIE NUCLEAIRE

Boeretang 200
2400 Mol
Belgium

T +32 14 33 27 26
F +32 14 33 35 31
dceuteri@sckcen.be
fhardema@sckcen.be
www.sckcen.be

The Belgian Nuclear Research Centre, SCK•CEN is one of the largest research facilities in Belgium with laboratories in Mol and registered office in Brussels. Over 600 employees work on the research of peaceful industrial and medical applications of ionising radiation. Our purpose: to maintain and expand a centre of excellence for nuclear research. The research activities of SCK•CEN are focussed on:

- The safety of nuclear installations;
- Safe treatment and disposal of radioactive waste
- Protection of man and environment against ionising radiation
- Management of fissile and other strategic materials.

This knowledge and experience are spread through education and communication. SCK•CEN takes into account the societal implications of its research in pursuit of sustainable development. The Nuclear Research Centre also employs its know-how and infrastructure for service provision to the government, the industrial and the medical sector. Furthermore SCK•CEN is partner in several international research programmes.

Greenhill Campus
Interleuvenlaan 15G
3001 Leuven
Belgium

T +32 16 300 800
F +32 16 221 640
info@septentrio.com
Website: www.septentrio.com

Septentrio Satellite Navigation NV, designs, manufactures, markets and supports high-end dual-frequency GNSS receivers with the best possible performance at a very competitive price. Targeted at original equipment manufacturers (OEMs), Septentrio's core technology is being applied in precise positioning, timing and attitude determination applications.
Septentrio Satellite Navigation NV is a young dynamic company founded to commercialize the Satellite Navigation know-how developed at the InterUniversity Micro Electronics Centre (IMEC), the largest independent microelectronics R&D lab. Septentrio's headquarters are located in Leuven, close to Brussels, capital of Belgium and of the European Union.

Septentrio's technology is inherently multi-system, dealing with all available satellite navigation signals available today and actively promoting and developing the technology of tomorrow. We actively support customers with customization, prototyping, field-testing and assistance in application integration.
Septentrio has an international team of experts covering all fields of Satellite Navigation design and applications: design of both analogue front-end and digital base band ASICs and modules, development of embedded software, development and implementation of unique high-performance navigation algorithms and expertise in satellite navigation applications from various fields.

Watertorenstraat 33
2250 Olen
Belgium

T +32 14 245 700
F +32 14 245 735
carl.quaeyhaegens@am.umicore.com
www.umicore.com

Umicore Electro-Optic Materials is a business unit of Umicore, an international materials technology group. Electro-Optic Materials is the world leader in germanium based products with operation plants in Belgium, United Kingdom, France and the USA. These products are used in fibre optics, infrared thermal imaging systems for commercial and security applications, radiation detectors, solar cells for space and terrestrial applications, LED's and microelectronics.

Boeretang 200
2400 Mol
Belgium

T +32 14 33 68 10
F +32 14 32 27 95
M +32 479 97 76 38
dirk.vanspeybroeck@vito.be
www.vito.be

VITO (Flemish Institute for Technological Research) is a leading European independent research and consultancy organisation in the areas of cleantech and sustainable development. VITO's main goal is to execute innovative research and provide a comprehensive range of scientific services in order to stimulate sustainable development.

VITO's Remote Sensing Research Unit contributes to VITO's main research topic 'Sustainable Land Use'.
The Research Unit is active in optical remote sensing activities. Besides developing innovative remote sensing systems, sensors and platforms, VITO also develops and operates entire user segments for spaceborne and airborne data products.

VITO also designs local, hyperspectral and global applications for end-users worldwide and this in the areas of expertise such as Environment, Agriculture, Food Security, Water Quality, Security, …
VITO has gained regional, national and international recognition in several remote sensing topics:

- daily global monitoring
- SPOT VEGETATION production entity
- PROBA-V user segment
- user and system requirements,
- radiometric and geometric calibration/validation,
- image processing,
- EO application development and services,
- high resolution imaging spectroscopy
- …

VON KARMAN INSTITUTE

Waterloosesteenweg 72
1640 Sint-Genesius-Rode
Belgium

T +32 2 359 96 18
F +32 2 359 96 00
Deconinck@vki.ac.be
www.vki.ac.be

Aero-thermodynamics of space vehicle re-entry, safety of nuclear reactors, noise and pollution reduction, design of aircraft engines and renewable energy systems define to a large extent the research performed at the von Karman Institute for Fluid Dynamics (VKI). These and many other topics gather young engineers and scientists from all over the world at the VKI to study, improve their skills and perform their research. Located in Sint-Genesius-Rode, near Brussels, this non-profit international educational and scientific organization is specialized in fluid dynamics (anything which flows) in the areas of Aeronautics and Aerospace, Environmental and Applied Fluid Dynamics, and Turbomachinery and Propulsion. The von Karman Institute prides itself in providing "advanced training in research through research".

The VKI operates more than fifty different facilities and wind tunnels, some of them being world-unique. These facilities are widely renowned and the VKI is recognized as a world-class research center of excellence by its peers. As an example, VKI and the European Space Agency (ESA) have signed a Memorandum of Understanding (MOU) under which VKI acts as a reference laboratory for ESA. This agreement involves 10 research staff and more than 20 PhD students in a continuous effort devoted to the present space transportation missions and the challenges of the future space explorations. The Safran group, gathering the French and Belgian aero-engine manufacturers, recognizes the VKI as one of its main partners of research.

voxdale

Lange Winkelhaakstraat 26
2060 Antwerpen
Belgium

T +32 3 226 83 10
F +32 3 226 81 20
vri@voxdale.be
www.voxdale.be

VOXDALE is a Belgian design and engineering agency that offers high end mechanical solutions to a wide range of industrial clients. Voxdale is specialized in CFD (Computational Fluid Dynamics), FEA (Finite Element Analysis), and DEM (Discrete Element Methods) optimizations for space industry, geo engineering, etc.

Xenics
Infrared Solutions

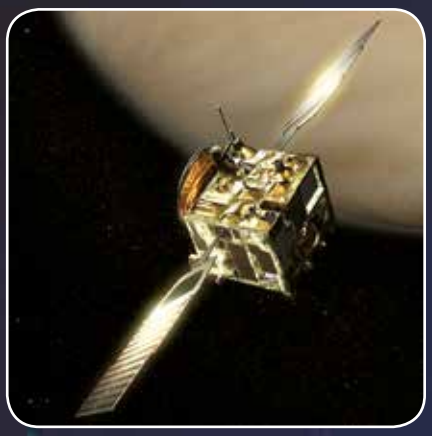
Ambachtenlaan 44
B-3001 Leuven
Belgium

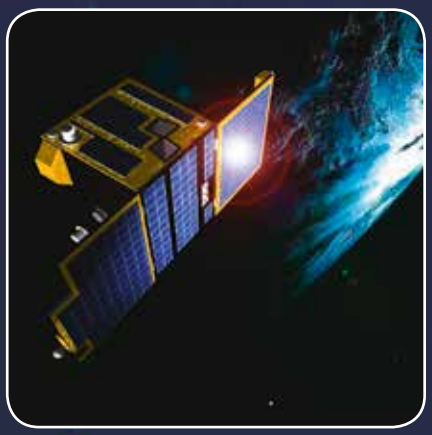
T +32 16 38 99 00
F +32 16 38 99 01
sales@xenics.com
www.xenics.com

Xenics is a well-established and innovative partner in the (aero)space (optical) remote sensing field. Xenics designs in-house SWIR imaging Focal planes and small, versatile camera modules in all infrared wavelengths ranges for remote sensing and increased situational awareness.

Xenics is involved in infrared sensors for (aero)space applications since its inception in 2000 as a spin-off of imec, the largest independent micro-electronics research institute in Europe. As an independent supplier, Xenics is capable to discuss your sensing needs in an open minded and collaborative way.

Due to its Western European location and a worldwide sales and service network, Xenics is able to support its customers with simplified export procedures.





Contact

Vlaamse Ruimtevaartindustrie
Afgevaardigd bestuurder Dhr. Hans Bracquené
Projectmedewerker Mevr. Alexandra Bàbi
Technologielaan 9
3001 Leuven
België

E-mail: vri@newtec.eu
Website: www.vrind.be
Tel.: +32-16-23 95 49
Fax: +32-16-20 06 21
BTW BE 455.534.170
Bank: 068-2324116-23

V.U. Hans Bracquené bvba/ VRI vzw
Technologielaan 9 - B – 3001 LEUVEN
Tel: 016/23 95 49 - Fax: 016/20 06 21 - www.bracquene.be