Belgian Aerospace

Skywin
Aerospace cluster of Wallonia

TAKING ON A **NEW DIMENSION**

Directory 2025-2026

AERO SPACE DRONE DEFENCE

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Skywin in a Nutshell

For the sectors of the Skywin cluster, and in particular aeronautics, last years will have confirmed the post-Covid recovery, with high growth rates compared to previous years sometimes leading to some operational difficulties, both in terms of available personnel and production resources.

New potential geopolitics evolution and customs tax are of course important to survey and anticipate

For the Skywin cluster, the following points are important :

- The continuity of the strategy around:
  - 4 economic sectors (Aero, Space, Drone and Defense),
  - 5 technological areas (DAS for "Domaines d'Actions Stratégiques")
  - 5 missions defined in the Objectives and Means contract with the Walloon government
- The presentation during various federal and international meetings of the 4 strategic and technological roadmaps produced by Skywin (Aero, Space, Drone and Defense), allowing to present strong Walloon ambitions for the sectors involved, in particular for low-carbon aviation and the defense sector;
- The support for Wallonia's Smart Specialization Strategy (S3);
- The set-up and the labeling of new collaborative innovation projects
- The continued support of the cluster with the Walloon administration in monitoring the WINGS program dedicated to future low-carbon aviation;
- The participation with AWEX to several international major events such as the Le Bourget, Farnborough, Singapour Airshow, Space Tech Expo Breme, Aeromart Toulouse or specific missions related to Defense and Dual Use applications.

This directory presents the Walloon ecosystem including Skywin members.
End 2024 Skywin has **144 members** among which:

- 14 Large Entreprises
- 101 SME
- 9 Universities or Colleges
- 15 Research centers
- 2 Competence centers
- 3 Others

Since 2007, Skywin labelled **103 projects** over 43 calls for a global budget 320M€:

- 73 R&D Projects
- 20 Investment Projects
- 10 Training Projects

Turnover of the Walloon aerospace sector: **€2billion**

Employment figures: **10,000** direct jobs

Chairman's message

As we step into 2025, I am honored to address you as the President of Skywin,

This year, our industry faces significant challenges, notably due to the current tariff crisis that continues to hinder global trade. The aerospace sector, which we represent, is particularly affected by these developments, emphasizing the need for resilience and innovation.

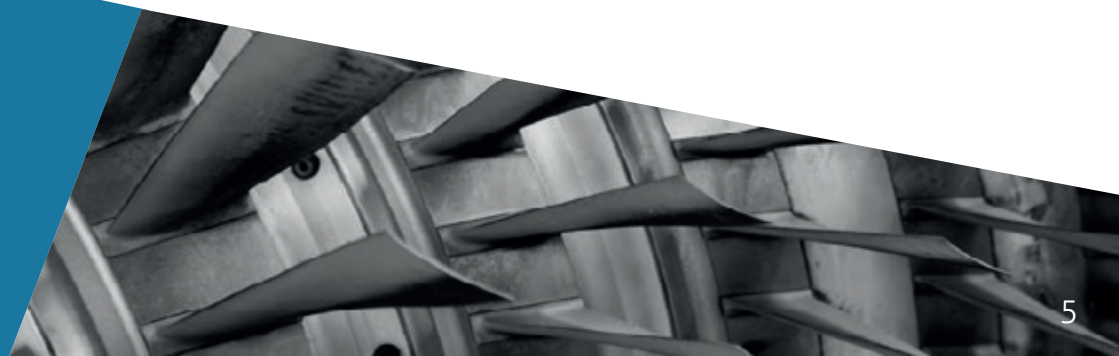
In addition, the ongoing war in Ukraine and the shifting dynamics of American support have compelled nations to reassess their defense budgets. This situation presents a unique opportunity for our sector to step up, not only to bolster national security but also to ensure that we contribute to the protection of our communities. The increasing importance of access to space and airspace underpins our strategic relevance.

Amidst this unstable environment, it is crucial that we do not lose sight of our commitment to decarbonization. Our sector plays a pivotal role in driving sustainable practices and reducing emissions, and we must maintain our efforts to lead the way in this essential transformation.

These trials call for enhanced solidarity, coordination, and support within our industry. It is essential that we unite our efforts to navigate these turbulent times successfully. Our collective expertise and commitment to excellence will pave the way for transformative solutions that uphold our values and safeguard our future.

Let us embrace this year with determination and a collaborative spirit, as we strive to overcome obstacles and seize opportunities for the betterment of our industry and society at large.

François Lepot
Chairman



4 SECTORS IN WALLONIA

AERONAUTICS

The Walloon sector dedicated to Civil Aviation is a historical sector resulting from the metallurgical and mechanical skills acquired in the 20th century and is still growing in Wallonia. It brings together more than 70% of the Belgian activity and supplies alone more than 5% of the equipment in the Airbus range, while also being present in most major aircraft manufacturers such as Boeing or Embraer for example. The Walloon aeronautical industry employs more than 10,000 people (direct employment), with a turnover of over 1,5 billion euros.

The activity is concentrated around the following areas:

- Structures (metal and composite);
- Aircraft engines and propulsion systems;
- Engine test benches;
- Embedded systems;
- Maintenance and repair (MRO);
- Assisted simulation and design;
- Airport services;
- R&D;
- Training.

This sector brings together large companies recognized worldwide such as:

- Sonaca, world leader for wing leading edges;
- Safran Aero Boosters, world leader in low pressure compressors;
- Sabca (Orizio Group) for structures and maintenance.

It also includes an extremely dynamic network of SMEs that integrate into the global supply chain, sometimes as Tier 1.

The sector's progress is supported by an unprecedented research and development effort based on the roadmap for the Walloon aeronautics sector established by the cluster at the request of the Walloon government in 2023 and regularly updated, in line with the complete decarbonization of the sector by 2050. As another consequence of this dynamic, the cluster has extended its collaborations with the Walloon regional airports, which are expected to play a very important role in the sector's energy transition.

SPACE

The Walloon sector is an important part of the Belgian sector, which ranks 5th in Europe in terms of investment in research and space industry (~350 MEuros/y). The Walloon ecosystem includes 50 players generating a turnover of 500 million € and provides more than 2000 direct jobs.

Their activities cover the 7 traditional segments:

- Preparation for space;
- Space Transportation;
- Earth Observation;
- Satcoms and Navigation;
- Cybersecurity;
- Exploration;
- Space Education.

In 2022, our cluster has developed a roadmap to actively support two major space value chains:

- The Earth Observation industrial chain (more than 25 actors) including the Upstream, the Downstream and cybersecurity;
- The space Transportation (reusable launchers) with more than 15 actors.

Regional support and funding are provided since 2023 to complement industrial investments in these two segments. Research Centers and Universities are now structured through the Joint Research Institute for Space (JRI4Space) to jointly develop these fields by pooling equipment and supporting more than 30 theses. The results of these industrial and scientific projects are expected by 2025 to place our region among the most active European Regions in the field of New Space.

DRONES

The skies are clearing up in Wallonia.

The UAV value chain in Wallonia covers:

- Embedded electronics;
- Optics;
- Image generation and analysis;
- Simulation;
- Flight control;
- Structure (material and shape);
- ...

Diversified testing facilities.

With applications including Earth-observation, energy, security, entertainment and C-UAV industries.

After several years of understaffing, the Belgian administration has geared up and started to address the major backlog regarding operational requests. The operators are looking forward to a response time converging to par-level with respect to the neighboring countries, including enhanced digitalization of the process.

Europe and Belgium have announced increases in Defence budgets, including a focus on UAVs and C-UAV systems, addressed as well in the EDF (European Defense Fund) and Belgium's own DEFRA (DEFence-related Research Action) calls.

DEFENCE

The current geopolitical context demonstrates the importance of strengthening the European Union's defense policy. Belgium, like its European partners, therefore, plans to accelerate its military spending to ensure Europe's defense and security.

The Walloon sector devoted to Defence and Security is a historical sector resulting from the metallurgical and mechanical skills acquired in the 20th century. This sector constitutes a strong industrial activity in Wallonia, with several large companies (Belgian and international) developing, producing and marketing their own products (complete control of the value chain) and a significant local supply chain based on SMEs that are constantly developing new skills.

The Defence and Security activity in Wallonia focuses on the following areas:

- Unmanned Intelligent Autonomous Systems (UIAS);
- Information Processing/Data management, Communication & Embedded intelligent systems;
- Ammunition Systems/Effectors and integration;
- Structures, materials (including energetic) and protection elements;
- Life cycle support & services;
- Advanced Air Vehicles, Control Systems and Propulsion;
- Space-based capabilities for defence.

Wallonia is therefore well positioned to face this new challenge.

Industries

ADVANCED COATING

Rue de l'Avouerie 7 - 4000 Liège | BE
T. +32 (0)4 254 50 11 | F. +32 (0)4 254 50 10
info@advco.be
http://www.advanced-coating.com

AERO SPACE

Advanced Coating is a reference in thermal spray coating technology, as well as in flat and cylindrical grinding, super finishing and balancing of technical parts of any dimensions. Advanced Coating is an optimally sized, customer-oriented company with the skills to provide its customers high added value. Quality, reliability and flexibility are the watchwords of our family company who can meet the tightest design, development and manufacturing deadlines on the market.

Products
Advanced thermal sprayed coatings (metals, alloys, abradables, ceramics and carbides) onto mechanical components up to Ø2000x6000 mm

Main properties:
- wear resistance (abrasion, erosion, fretting)
- abradable
- thermal barrier
- high temperature corrosion resistance
- electric insulation
- power conductivity...

Capabilities
- Automated sandblasting up to Ø2000x5700 mm
- Cylindrical grinding up to Ø1524x5700 mm
- Modern thermal spraying processes including Plasma, HVOF and HVAF
- CN cylindrical grinding up to Ø350x1000 mm
- Super finishing up to 0,01 µm Ra
- Flat grinding up to Ø1000xH400 mm
- Balancing up to Ø1500x6000 mm and 5 T

Certifications
- EN 9100
- NADCAP Coatings
- Qualified as test laboratory for Safran Group (Metallography)
- ISO 14001

Main References
- References of intermediate and final customers: SAFRAN Group (SAFRAN AIRCRAFT ENGINES, SAFRAN AERO BOOSTERS) – GENERAL ELECTRIC - AVIO
- Working of following programs: LEAP - ARIANE 6 - GE90 - TP400

AERODROME DE NAMUR

Rue du Capitaine Aviateur Jacquet 44 - 5020 Namur | BE
T. +32 (0)81 55 93 55
info@aerodromedenamur.be
http://www.aerodromedenamur.be

AERO DRONE

The aerodrome of Namur is located in the heart of Belgium. With its new asphalt track of 690m by 25 it can now operate all year round. The site continues to develop by building office spaces to create an aeronautical hub. The plane, drones, gliders and helicopters coexist for 70 years at the Aérodrome de Namur.

The Aerodrome of Namur, with the contribution of its new owners, undergoes important modifications.

The grass track has been replaced by an asphalt track. New gas pumps have arrived and real estate is growing.

The Aerodrome of Namur has also recently rehabilitated its main building including meeting & conference rooms, as well as a bar, a restaurant, catering service and options for private areas and corporate events.

AEROFLEET

Chaussée de Wégimont 25 - 4630 Soumagne | BE
T. +32 (0)4 377 50 50 | F. +32 (0)4 377 38 49
info@aerofleet.be
http://www.aerofleet.be

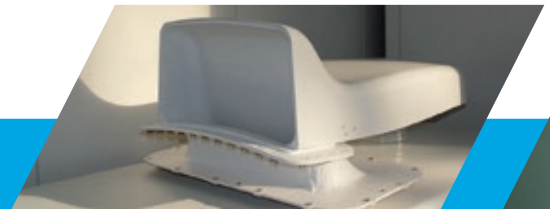
AERO

Aerofleet is specialized in High-Tech composites.

Nowadays we produce all kinds of high technical quality prepreg parts under vacuum and in autoclave.

Composite materials, using prepreg materials offer technical and environmental qualities.

Among other realizations, our company has built the domes for the Very Large Telescope, developed for ESO on the site of Cerra Paranal (Chile), the nozzles and the fairings for the A380 Airbus, weapon protection for the "FN"...



AEROSPACELAB

Rue André Dumont 14b - 1435 Mont-Saint-Guibert | BE
info@aerospacelab.com
http://aerospacelab.com

SPACE DEFENCE

Manufacturing satellites for Earth Observation, Telecommunications and Technology Demonstrations, from 50 kg to 1000 kg. Proudly TRL9 since 2021.
#BuildingOnHeritage

Aerospacelab, founded in 2018 by Benoît Deper, is a dynamic and innovative player in the aerospace industry, specializing in the design and manufacturing of satellites for Earth Observation, Telecommunications, and Technology Demonstrations. With a proven track record of eight satellites successfully deployed in orbit in less than 3 years, Aerospacelab has established itself as a trusted partner for cutting-edge space solutions.

Key Strengths

- Vertical Integration: Aerospacelab employs a vertically integrated approach, ensuring superior quality control and rapid delivery of turnkey solutions, satellite platforms and/or payloads.
- Versatile Satellite Platforms: Offering modular and adaptable satellite platforms, Aerospacelab supports a wide range of missions, including optical imagery, radio frequency detection, and telecom services.
- Earth Observation Expertise: Aerospacelab excels in delivering high-resolution and multispectral imaging capabilities, enabling actionable insights for commercial, institutional, and governmental applications.
- Telecommunications Innovation: By leveraging advanced payloads, Aerospacelab enhances global connectivity and communication infrastructure.
- Technology Demonstrations: Aerospacelab provides tailored solutions for in-orbit demonstrations, showcasing the versatility and reliability of its satellite platforms.

Products & Solutions

- Satellite Platforms: Aerospacelab offers a range of satellite platforms, including the VSP-50, VSP-150, and VSP-300, designed to accommodate diverse payloads and mission requirements.
- Earth Observation Payloads: Multispectral, Very High Resolution, and Radio Frequency Sensing payloads for comprehensive data collection and analysis.
- Telecommunications Payloads: Advanced systems for seamless global communication and connectivity.
- Turnkey Satellite Solutions: End-to-end satellite solutions tailored to meet specific customer needs, from design to operation.

Global Collaborations

- Customers & Partners: Aerospacelab collaborates with leading organizations across various sectors, including commercial enterprises such as MDA Space, Albedo, Xona Space Systems, research institutions, space agencies and government agencies.
- International Reach: With operations in Belgium, the US, Switzerland, and France, Aerospacelab serves a diverse and global customer base.

ALKAR TECHNOLOGY

Rue Albert 1er 46 B 23 - 7134 Leval - Trahegnies | BE
T. +32 (0)64 65 20 82
alki@alkartechnology.com
http://www.alkartechnology.com/


AERO


DRONE


DEFENCE

ALKAR TECHNOLOGY srl was founded in 2002 based on a 15 year personal wide experience (by that time).
We are proud to specialize in High Performance composites, always trying to be one step ahead with a continuous improvement strategy.
Future is built on innovation. We participate in several regional and international R&D projects.

Services available at Alkar Technology:

- Engineering: parts design and Finite Element Analysis of composite laminates, optimisation.
- Training (in-house or in partnership with WAN) focused on manufacturing, engineering and repair.
- Technology transfer

Production:

- From models, moulds and toolings to prototypes and small run production.
- CNC machining: 3 axis gantry and 6 axis robot
- All processes: autoclaved prepregs, RTM (capacity upto 850x1500x850 WxLxH), vacuum infusion (mainly double bag Airbus process VAP).

Our specialty:

- Development and production of NDT references for delamination, porosity, foreign objects, dry patch, ply waviness (in-plane / out of plane), using any material / any process.
- Machining of samples for destructive testing, complete with quality / measurement report.

AMOS - Advanced Mechanical and Optical Systems

Rue des Chasseurs ardennais 2 - 4031 Angleur | BE
T. +32 (0)4 361 40 40 | F. +32 (0)4 367 20 07
info@amos.be
http://www.amos.be

SPACE DRONE DEFENCE

AMOS - Advanced Mechanical and Optical Systems: Pioneering Precision in Astronomy and for the Space Industry

For over 40 years, AMOS has been at the forefront of designing and manufacturing high-precision optical and mechanical systems, solidifying its reputation as a global leader in the space and professional astronomy sectors. As a Belgian SME, AMOS has consistently delivered cutting-edge solutions that combine innovation with meticulous craftsmanship, earning the trust of an international clientele across Europe, the United States, India, and emerging markets like China and Turkey.

Core Areas of Expertise:

Space Systems:

High-performance optical assemblies, hyperspectral instruments, and mirrors for Earth observation satellites, deep-space probes, and space telescopes.

Test Systems for Space Applications:

Specialized equipment such as optical ground support tools, thermal-vacuum chambers, and thermal panels replicating space conditions.

Professional Astronomy:

World-class telescopes and optical components installed in leading observatories worldwide.

High-Precision Mechanical Equipment for Industry:

Custom solutions for industries, including coating chambers, lifting devices, and precise metrology services.

Building on its legacy, AMOS recently embarked on an exciting new chapter by joining forces with **Aerospacelab**, a leader in satellite design and manufacturing. Aerospacelab's vertically integrated approach complements AMOS's precision expertise, enabling both entities to deliver holistic, cost-efficient solutions that span the entire space mission value chain—from satellite conception to operation.

This collaboration underscores AMOS's commitment to innovation and excellence, further cementing its role as a key player in the global space industry.

ANTICIP CONSULT

Chaply 1 - 4130 Sprimont | BE
T. +32 (0)4 380 55 67
info@anticipconsult.eu
http://www.anticipconsult.eu

AERO

SPACE

DEFENCE

At Anticip Consult, we help aerospace companies optimize their processes, improve quality, and enhance performance. With a team of expert consultants and engineers, we provide tailor-made solutions to meet the industry's highest standards.

Anticip Consult is a private consulting firm specializing in performance improvement, supplier management, and quality assurance for the aerospace, space, drone, and defense industries. Our multi-disciplinary team of consultants (IAQG certified EN 9100 auditors) and engineers brings extensive experience in aerospace supply chains, having supported over 400 companies in optimizing their processes, securing certifications, and achieving operational excellence.

We offer **coaching, training, and auditing services** to help businesses implement and maintain **quality management systems (EN 9100 series, ISO 9001:2015)**, enhance supplier performance, and ensure compliance with industry standards. Our expertise extends to **health, safety, and environmental regulations**, ensuring sustainable and efficient business operations.

With a proven track record of supporting major players in the aerospace sector, we provide **long-term, flexible, and efficient solutions** to help businesses meet the most demanding customer expectations. Whether you need to improve **on-time delivery, process efficiency, or certification readiness**, Anticip Consult is your trusted partner for success.

Among our trusted clients: BeCover, Coexpair, Euro Heat Pipes, John Cockerill Defense, Lambda-X, Mecasoft, Mockel, Saint-Gobain, Sobelcomp, Technical Airborne Componements.

ANY-SHAPE

Rue des Technologies 1 - 4530 Villers-le-Bouillet | BE
T. +32 (0)4 223 00 95
info@any-shape.com
http://www.any-shape.com

AERO SPACE DRONE DEFENCE

Any-Shape is a leading company dedicated to Additive Manufacturing (3D Printing) for Industry with state-of-the-art equipments for the production of plastic, composites and metal functional parts. Any-Shape provides its customers with services in the whole Additive Manufacturing (AM) value chain, with a specific focus on Engineering for AM, high standard & state-of-the-art production machines and strong capabilities in control, test & quality assessment.
Any-Shape is your ISO 9001 / EN9100 and ISO 13485 accredited AM production partner (Design + Manufacture). We print, monitor, measure, test, validate and certify - all in one location.

Any-Shape competitive assets are based on three main pillars:

Engineering, co-conception & design for additive manufacturing:

Any-Shape provides its customers with a professional support to exploit the full possibilities of industrial 3D printing while properly accounting for manufacturing constraints from the concept to the detailed design phase.

Metal, plastic and composites parts serial production:

Any-Shape manufactures high value parts in both plastic & metal for highly competitive industries. Consistent state-of-the-art technologies are available: Selective Laser Melting (SLM) for metal powders, Selective Laser Sintering (SLS) for polyamide powders, Multi-Jet Printing (MJP) for high-definition ABS-like plastic production and Fused Deposition Modeling (FDM) for high performance polymers and continuous fiber reinforced composites.

Control, Test and Quality assessment:

Providing our customers with the best quality standards is our main concern as a way to favor the rapid introduction of 3D printed parts in highly demanding industrial applications. Any-Shape is fully equipped with metallography, mechanical testing and metrology labs aiming at qualifying the mechanical properties of the parts produced or developing the process parameters for new materials. Detailed on-line and a posteriori process control is performed in parallel to rigorous part quality assessment.

APO-GEE

Liege Science Park - Rue du Baois Saint Jean 15/01 - 4102 Seraing | BE
contact@apo-gee.tech
https://www.apo-gee.tech/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APO-GEE: The Deep-Tech Startup That Solved a 50-Year-Old Aerospace Engineering Challenge!

APO-GEE is a Liège-based startup specializing in ball bearing engineering and solutions for the aerospace & defense industry. Founded in early 2022, it builds on more than a decade of in-depth research into bearing physics to develop innovative solutions. Most notably, it has completely resolved the ball bearing cage instability problem, which has plagued numerous space missions for over 50 years. APO-GEE has also developed new high-speed low-vibrations bearings.

The company collaborates with key players in the aerospace industry (space agencies, prime contractors, and New Space companies) as well as the defense sector to enhance the performance and reliability of mechanical systems.

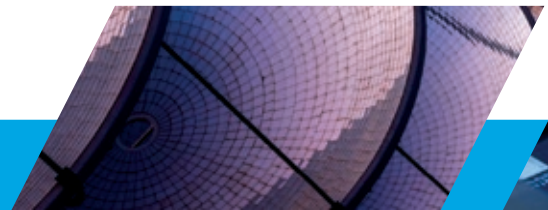
AWA BENELUX

Tour & Taxis - Royal Depot box: 216 - Avenue du Port 86c - 1000 Brussels | BE
T. + 32 (0)2 426 38 10
brussels@awa.com
https://www.awa.com

AERO

Towards sustainable competitive advantage...
We are an international group of law firms specialised in the field of Intellectual Property. We offer a full range of high-quality services in Intellectual Property matters, including patents, trademarks, designs, copyright, IP licensing and acquisition, IP dispute resolution and valuation of IP Rights.
AWA BENELUX® built up the necessary competence to help you implement available assessment and management methods for Intellectual Property Rights.

We work for international companies, SMEs and individuals with a service adapted to the size and demand of the entity. Passionate about Intellectual Property matters, we combine our legal expertise and individual engineering or scientific skills in various fields of technology: Mechanical Engineering, Electrical Engineering, Microelectronics, Material Sciences, Computer-implemented inventions, Coatings, Ranging technology, Satellite Navigation Systems, Nuclear technologies, Robotics, Telecom, Acoustics, Optics, Control systems...



BALTEAU NDT

Rue Voie de Liège 12 - 4681 Hermalle Sous Argenteau | BE
T. +32 (0)4 374 75 75 | F. +32 (0)4 374 75 85
sales@balteau-ndt.com
https://www.balteau-ndt.com

AERO SPACE DEFENCE

BALTEAU NDT is an NDT manufacturer specialized in X-Ray solutions designed for the quality control of industrial products since 1932. Balteau NDT is involved in various industries and has been deeply involved in the aeronautic industry for decades, with portable equipment and Real Time System.

Understanding new requirements is very important for Balteau as we are always looking to answer your needs with the best solutions. Balteau has evolved into digital applications and developed products such as software suite, calibration tools,... that are specifically designed for the aeronautic industry.

Balteau is involved is most industries by having portable units, stationary & mobile equipment, real time systems (standard and customized), NDT software, digital imaging,...

Balteau is one of the most experienced and complete x-ray solutions manufacturer and we are delivering high quality and highly reliable x-ray equipment since 1932. After sales service is very important and this is why we worked hard to offer one of the best service possible. Thanks to a worldwide network, we are able to be responsive, offer a fast delivery and allow every user to have fast maintenance and / or repairs in case the equipment needs it.

Highly qualified engineers, a customer orientated staff and an extensive network is one of the main reasons to the success of our brand and to your possibility of always getting service, maintenance and a qualified and professional support.

BEBLUE CRYOTECH

Bâtiment B17b, rue Grande traverse, Quartier des Urbanistes 2 - 4000 Liège | BE
T. +32 (0)72 86 26 39
jerome.dagruma@beblue-cryotech.eu
http://www.beblue-cryotech.eu/

AERO SPACE DRONE DEFENCE

Beblue is proposing testing capabilities with cryogenic fluids, namelly Hydrogen, Oxygen and Nitrogen both liquid or gazeous.
Beblue has a great expertise based on more than 3 decades in cryo tests.
We support our customer along their development from engineering support, material characterization to complex tests including test rig design.
Beblue is one of the 3 recognized ESA test centers.

MATERIAL CHARACTERIZATION

- Pin-on-disk tests in gaseous and liquid environments (N_2, O_2, H_2, He)
- Impact tests for material compatibility (LOx)
- Auto-ignition tests in Gox (120 bars , up to 500°C)
- Adiabatic compression test up to 1000 bars
- High cycling fatigue under cryogenic conditions (update for 2022)
- Cryogenic compatibility

COMPONENTS AND SYSTEM TESTING

Fully operational benches for tests in real dynamic conditions for space engine components

- Dynamic seals
- Bearings
- Valves
- Liquid or gaseous nitrogen and oxygen.
- Gaseous hydrogen
  700+ sensors and measurement lines

Focus on H_2 based systems testing

- Fuel cells with ULiege
- H_2 distribution & storage (composite)

OUR EXPERTISE to support your business

- Engineering office with strong expertise in testing:
- Cryotribology
- Expertise support
- Design capabilities for specific test rigs
- Test rigs integration & design
- Project managementTest management & reporting
- 30+ years experience in cryotechnic technologies

BeCOVER

Rue du Fond des Fourches 23A - 4041 Vottem | BE
T. +32 (0)494 44 85 65
olivier.servais@becover.eu
https://becover.eu/

AERO DEFENCE

BeCOVER, located near Liège in Belgium, is an independent compressor test centre designed to test both civil and military applications. The specifications met by the test bench have been defined for both current and future engine architectures.
The test centre has state-of-the-art technology and aims to support engine development for the next 40 years. Its configuration, performance and infrastructure are designed to keep pace with future developments in the aeronautical industry.

The wide range of performances (power, pressure, temperatures,...), coupled with the test bed's ability to carry out **altitude tests** for all engine operating conditions, makes **BeCOVER a unique centre in Europe**, if not the world.

From a technical point of view, the mechanical shaft power available at **BeCOVER** (up to 30MW) **means that the tests can be carried out at scale 1** and under representative pressure and temperature. This capacity makes that the compressor can be tested under optimum conditions from an aerodynamic point of view, enabling aeromechanical characterisation to be carried out at a very early stage in the development process.

The facility is equipped with **state-of-the-art** instrumentation, measurement and data acquisition resources that combine precision, reliability and representativeness of the physical phenomena observed.

Finally, **information security is an absolute priority** for BeCOVER, and the organisation, processes and resources implemented guarantee **the confidentiality of data** from the initial stages of preparing the test campaign through to the delivery of the final results and reports. Customers are invited to attend and, if necessary, take part in the tests, and appropriate logistics are provided to accompany them.

BELGIAN DRONE FEDERATION

Rue des Pères Blancs 4 - 1040 Bruxelles | BE
petra@belgiandronefederation.be
https://belgiandronefederation.be/fr

DRONE

The Belgian Drone Federation forms a network for more than 350 members, including universities and colleges, companies, pilots -operators and institutions. It represents their interests in the unmanned aviation sector. The federation is active in both Belgium and abroad to promote the sector and the integration into the airspace.

The Belgian Drone Federation represents the interests of her members and the drone sector locally, regionally and federally. The lobby for a new European legislation and an accurate Belgian implementation is a priority. The sector is on the eve of a rapid evolution. It's the goal of the organization to create an ideal environment in Belgium so that no opportunities are missed and Belgium remains one of the leaders in Europe. The federation is based on the dedication of a team of board members who volunteer to share their passion for drones and look after the interests of the sector. A good mix of knowledge and expertise is deployed daily in working groups and advisory boards such as those of the Belgium Civil Aviation Authority and in contacts with foreign sister organizations. The 4 main objectives are:

- Maximum safety and true airmanship
- A pursuit of a uniform position in terms of regulations within the sector
- Fair competition and a viable sector
- A positive image for the drone sector in Belgium.

BIT AND BYTE

Rue du Colombier 16 - 1435 Mont-Saint-Guibert | BE
T. +32 (0)499 22 98 06
gm@bitandbyte.io
http://www.bitandbyte.io

AERO SPACE DRONE

Bit and Byte is an electronic system design company that offers its services to companies that build or integrate electronic products. Our mission is to help companies bring innovative products to the market thanks to our expertise, know-how and work force.

We do project management, architecture and coding of micro-electronic design (FPGA) and embedded software (µcontroller, SoC).

Our areas of expertise include image and video (sensor integration, image processing, compression and transport), cryptography and signal processing for radio communication (software defined radio). Our customers are active in the broadcast, pro AV, telecommunication, defense, transport and aerospace domains.

We are located in the Axis parc, close to Louvain-la-Neuve, Belgium.

Our drive is to be recognized as tech guru in our fields of expertise and be the reference partner for design of digital electronic projects.

BOYD NIVELLES

Rue du Commerce 14 - 1400 Nivelles | BE
T. +32 (0)67 89 48 48 | F. +32 (0)67 89 48 45
info.nivelles@boydcorp.com
https://www.boydcorp.com


AERO


SPACE


DRONE


DEFENCE

The BOYD group, of which BOYD Nivelles (ex-GRANDO) has been a part for three years, is a global group ($1.5 B, 45 sites worldwide, 8,500 employees including 700 engineers, > 300 patents) specializing in the development of solutions for thermal management and in engineering materials. The group is very active in the field of aeronautics and aerospace, but also in the medical, e-mobility, semiconductors and electronics, defense and the technical industry in general.

In terms of thermal management, the group offers numerous solutions for cooling by air or conduction (vacuum brazed heat sinks or graphite encapsulated heat diffusers), by liquids (liquid cold plate, high temperature heat exchangers), by two-phase cooling systems (thermally integrated housings and chassis, heat pipe assemblies, two-phase cooling systems, integrated cooling circuits).

In the field of engineering materials, BOYD offers :

- insulation and shielding solutions (noise, vibration, electrical insulation, shock protection, EMI/RFI shielding)
- sealing materials (all types of gaskets or profiles for airtightness, light, vapors, for high-temperature applications)
- bonding solutions (all-purpose adhesives, transparent or high temperature)
- solutions for displays of Human-Machine interfaces (films improving the display, branded nameplates, etc.).

The group has many design and development centers that will be able to provide optimized solutions that meet the most specific demands in A&D.

BOYD Nivelles specializes in the custom transformation of engineering materials and, in particular, cellular materials, rubbers, plastics, composites and felts, all shapes, all dimensions.

As such, BOYD Nivelles is the European center for the transformation of SOLIMIDE, a polyimide foam produced by the BOYD group, which is a unique material developed by NASA for the Apollo program. This material is widely used in aeronautics and aerospace.

BRIDGESTONE AIRCRAFT TIRE EUROPE

BRIDGESTONE
Solutions for your journey

Route de Bavay 2 - 7080 Frameries | BE
T. +32 (0)65 61 11 00 | F. +32 (0)65 61 11 09
sales@bridgestone-bae.com
http://www.bridgestone.aero

AERO

Bridgestone Corporation, headquartered in Tokyo, is the world's largest tire and rubber company. With a passion for excellence and creative pioneering, Bridgestone Aircraft Tire Europe serves the commercial aviation industry with the highest quality aircraft tires and solutions, providing our customers and their worldwide passengers with superior safety and reliability.

Our outstanding tires are sourced exclusively from our factories in Japan and state-of-the-art retreading facility located in Belgium, the largest aircraft tire retreading plant in the world.

Bridgestone Aircraft Tire Europe supplies solutions, new and retread tires in the EMEA Region to more than 160 airlines and wheelshops.

Aircraft tires work under extreme conditions, carrying up to 35 tons per tire and accelerating up to 380km/hour at takeoff, in addition to enduring varied environmental stress when in flight and taxiing.

With more than 80 years of experience and insistence on quality in aircraft tire manufacturing, Bridgestone ensures that its aircraft tires remain one of the most trusted brands in the aviation industry.

References and/or Certifications

- Federal Aviation Administration (FAA)
- European Aviation Safety Agency (EASA)
- Certified EN 9110, ISO 9001, OHSAS 18001, ISO 14001

Around the world, over 2,000 aircraft equipped with Bridgestone aircraft tires land safely every hour.

BRUSSELS SOUTH CHARLEROI AIRPORT

Rue des Frères Wright 8 - 6041 Gosselies | BE
T. +32 (0)71 25 12 11
bsca@charleroi-airport.com
https://www.brussels-charleroi-airport.com

AERO

Brussels South Charleroi Airport is Belgium's second international airport, situated in Gosselies. The airport is situated at approximately 40-minutes-drive from Brussels. The operations at Charleroi Airport started in 1919 but grew significantly in the 90's. By the end of the 90's and with the arrival of the Irih low-cost carrier, Ryanair, the expansion of the airport started and keeps on going currently. Today, the airport welcomes the passengers of five airlines, i.e. Wizz Air, Pegasus Airlines, Ryanair, Air Corsica and Volotea.

More than 9 Mio passengers travel every year through Brussels South Charleroi Airport for its accessibility and low-fares.

Brussels South Charleroi Airport is committed and involved in sustainable development with the implementation of agreements with partners to reduce global CO_2 emissions, the continuous improvement of environmental impact management at all levels with IOS 14.001 and the consideration of the 17 SDGs defined by the UN in 2015.

Brussels South Charleroi Airport offers a wide range of destinations worldwide. Passengers can choose among more than 190 destinations in Europe, North Africa and the Middle-East. It offers the most European destinations from Belgium.

In addition to its destinations, BSCA also offers tailor-made services to make every passenger's journey more enjoyable such as: Fast-Track at the security, premium passes...

CALYOS

Quatrième rue 20 - 6040 Charleroi | BE
T. +32 (0)71 18 23 40
info@calyos-tm.com
https://www.calyos-tm.com

AERO

DRONE

DEFENCE

Experts in loop heat pipes, a form of passive liquid cooling.

We are market leaders in the design, development and manufacturing of passive loop heat pipes.

Our solutions give you the freedom to design without thermal limitations, unlocking the best performance from your components and enabling your products to be the most competitive.

Calyos is a leading expert in the design and manufacture of two-phase thermal management systems.

We are technical experts in the following domains :

- loop heat pipes,
- micro-channel heat pipes,
- pulsating heat pipes.

Calyos has developed several solutions for three specific cooling applications :

- power electronics,
- processors,
- batteries.

Calyos also develops custom solutions beyond those applications for example, engine oil heat recovery.

Our company primarily targets the E-Mobility and Computing markets, where electrification and data processing are creating ever-rising demand for new, disruptive thermal solutions.

Our mission is to solve the greatest thermal challenges by enabling the adoption of the best, passive two-phase cooling solutions, and ensuring and delivering a sustainable approach to thermal management in the data-driven and electrified world we are creating.

CAPAUL

Industriestraße 39 - 4700 Eupen | BE
T. +32 (0)87 59 55 60 | F. +32 (0)87 74 04 68
inquiry@capaul.be
http://www.capaul.be

AERO SPACE DRONE DEFENCE

Precision is our passion. For more than 150 years, CAPAUL has been keeping its promises.
We manufacture high-precision serial parts and assemble complex sub-assemblies.
Our highly qualified staff control and certify the required quality according to ISO EN 9100 and NADCAP.
We also have extensive experience in the assembly of sub-assemblies for the aerospace, defense, and medical industries. We invest €1.5 million annually in our production facilities.
A fully air-conditioned production hall (20°C) is available. We are specialized in the manufacturing and assembling of high complex mechanical parts.

Our guidline: We keep our promises.

Our modern plant can offer the following capabilities:

- 5-axis milling and turning from 10 x 10 x 10 mm up to Ø 2000 x 1800mm in a fully air-conditioned 2000m² hall.
- High precision 3D control - 3000 x 2000 x 1000 mm
- Penetrating inspection, deburring, balancing, sandblasting
- Hard turning in an air-conditioned environment up to Ø420mm - Complete integration of sub-assemblies (SUMP LEAP, BOOSTER LEAP and CFM56)

Main References:

Certified: EN 9100 and NADCAP for penetrant inspection

- **References of intermediate and final customers:**
- Airbus
- Boeing
- General Electric
- Safran Group
- Snecma Motors
- Sonaca
- Technical Airborne Components
- Asco Industries
- John Cockerill GROUP
- FN Herstal
- OTTO FUCHS
- Thales

Working of following programs:

- CFM56
- Leap
- CF34
- A330/340
- A400M
- A380
- Embraer E2
- F7XC GE90
- GP7000
- TP400
- GE9X
- PP20
- Silvercrest

CASTINGPAR

Parc Industriel Chaussée de Mons 89 - 7180 Seneffe | BE
T. +32 (0)64 52 20 00
info@castingpar.com
http://www.castingpar.com

AERO SPACE DRONE DEFENCE

Investment casting (lost wax process) and sand casting: titanium & steel technical parts for aerospace and defense.

Civil and military aeronautics: steel, stainless steel, copper and cobalt alloys technical parts:

- For aircraft and helicopters aerostructures and engines, door locking systems, wheels and brakes,...
- Components for pumps like impellers and complex pipes for fluid transport and control
- Seat fasteners and other level 2 and 3 parts.
- Machined and coated parts ready for the assembly on production line.

Other sectors:

- Besides the aeronautical and defense sector, CASTINGPAR supplies the oil & gas industry, nuclear and petrochemical markets, general engineering, food production equipments, fluids processing, defense, building, railway and automotive...

Rapid prototyping:

- Fast casting of steel prototypes based on 3D files and STL/SLA models

Technical data:

- Investment casting process (lost wax) and sand casting
- Parts from 1g to 500 kg
- All titanium, steel and stainless steel grades, nickel, cobalt and copper alloys
- Machining and surface treatments; ready-to-use parts
- Non destructive testing facilities (RX, FPI)

Certifications:

- EN 9100 / AS 9100
- ISO 9001
- NADCAP certified (NDT, welding)

References:

COLLINS AEROSPACE, DASSAULT AVIATION, FN BROWNING, JOHNSON CONTROLS, NAVAL GROUP, THALES, JOHN COCKERILL, NEXTER, SAFRAN, AIRBUS, Ti FAB

Investment casting strengths:

- Dimensional accuracy and surface quality
- Complex shapes, thin walls, design freedom
- Lower weight
- Reduced machining, welding and assembly

CEGELEC INFRA TECHNICS

Rue Santos-Dumont 3 - 6041 Charleroi | BE
T. +32 (0)46 82 03 23
raphael.vandenbogaert@cegelec.com
http://www.cegelec.be

AERO SPACE

Cegelec IMCS develops tailored solutions for multi-technical projects. We have developed advanced skills in the area of aerospace, rail and public transport infrastructures, Bagage Handling System... All safety critical projects are SIL2 certified.

We are specialized, among other things, in the design and realization of different types of real-time test benches, with hardware-in-the-loop capability. Our test system is known for its reliability and efficiency and has already been used in major projects. Our test system has been used, among others, for European space launchers for Ariane 5, 6 and Vega (to test the Vulcain engine, actuators...).

The success is due to a scalable Measurement and Control system that we have developed. This system can be interfaced with both laboratory test benches and large test installation systems. The software developed is based on RTX operating system. Following the concept "from measurement to knowledge", our Measurement and Control system offers a wide range of functions such as test and measurement parameter high speed acquisition (up to 1µs), real-time processing, storage, archiving... All this while ensuring the safety of the bench and equipment under test. The system can also interfaced with a broad range of standard and customized subsystems trough a wide range of interface protocols.

More than a supplier of technical services, Cegelec is a partner who anticipates and thinks along with its customers. Transparency combined with a personal approach and an expertise of more than 50 years will guarantee you an excellent realization of your project. We can rely on our employees who give every day their utmost. Thanks to their expertise and knowhow we can offer innovative solutions, taking into account the life cycle cost of your installation.

CEVA Logistics

Bedrijvenzone Machelen Cargo 829E - 1830 Machelen | BE
T. +32 (0)27 52 22 11
thierry.contzen@bollore.com
https://www.cevalogistics.com/fr/nous-contacter

AERO

Founded in 1995 in Antwerp Ceva Logistics (Bolloré Logistics Belgium) currently employs over 150 members of staff at 3 locations. Belgian offices and warehouses are strategically located, offering our customers a unique link to all air and seaports, via inland waterways, rail and highways. Belgium is the perfect gateway in the heart of Europe, serving all Europe's main markets.

The company demonstrates expertise in Aerospace, Healthcare and benefits from an unrivaled network into any African destinations.

CILYX

Liège Science Park - Rue Louis Plescia 7 - 4102 Seraing | BE
T. +32 (0)4 240 14 25
info@cilyx.eu
http://www.cilyx.eu

AERO SPACE DEFENCE

CILYX (former CITIUS Engineering and CISEO) is an engineering company specializing in design and realization of turnkey solutions for industrial facilities in production and testing. Its engineering office offers key competences in mechatronics, mechanical and electrical engineering as well as in automation.

CILYX operates along three axes:

- Advanced production systems, robots and vision. CILYX develops and integrates 'turnkey' production means, from defining the need to final implementation. CILYX also sets up complete solutions for handling industrial processes, thanks to its skills in automation, robotics, electricity, industrial computing and instrumentation.
- Testing solutions. CILYX develops specific solutions for testing equipment, provides its customers with own integrated testing facilities and proposes complete solutions of testing means based on its specialized skills in the instrumentation sector.
- Engineering and consultancy based on recognized competences in the field of mechanical design, piping and structures, energies and technical project management.
- CILYX ensures the development of complete systems, from the early beginning by defining concepts, to the full development of the solution, as well as the commissioning and start-up of dedicated applications. Its works cover all aspects of a project.
- Founded in 2009 under the name of CITIUS Engineering, CILYX brings now together, under the same legal entity, the activities of the industrial sector of CITIUS Engineering and of the pharmaceutical and life sciences sector of CISEO.
- CILYX is based on a strong team of 85 specialists representing a buoyant healthiness for this cutting-edge expertise.
- CILYX enjoys a growing number of customers in different sectors: aeronautic & spatial, defense & security, automotive & transport, energy, agro-food, pharmaceutics and life sciences.

CLOVER GROUP EUROPE

Rue du Berlaimont 35 - 6220 Fleurus | BE
T. +32 (0)71 40 41 96
eu@clover.group
https://clover.group/


AERO


SPACE


DRONE


DEFENCE

Clover Group, a vision for supply chain compliance

Clover Group is a global logistics and compliance expert, specializing in highly regulated Industries, with a strong focus on the Aerospace, Space and Defence sector. Headquartered in London, with key hubs in Belgium-Wallonia, Florida, and Ohio, Clover Group operates globally, offering end-to-end supply chain solutions that ensure full regulatory compliance.

With expertise in ITAR, EU 2021/821 (dual-use regulations), customs compliance, and export controls, Clover Group supports companies in navigating complex international trade requirements. The company's logistics solutions are designed for efficiency, security, and sustainability, integrating CBAM-compliant strategies and carbon-conscious freight options to help clients align with evolving ESG goals.

Clover Group's tailored approach provides secure, transparent, and fully compliant logistics services, ensuring seamless global movement of goods in an era of increasing trade regulations.

By combining deep industry expertise, global reach, and cutting-edge compliance solutions, Clover Group delivers peace of mind to businesses operating in high-stakes environments.

COEXPAIR

Rue des Entrepreneurs 10 - 5020 Namur | BE
T. +32 (0)81 566 200
public@coexpair.com
http://www.coexpair.com

AERO

Coexpair is a Belgian company active in the aeronautical sector since 2006.
Our strategy is based on an original business model. It offers services to support its customers in the development of new applications in composite materials. This includes the manufacture of first part prototypes (no serial production). Once the research is complete, Coexpair extends its offer to the assembly of production equipment needed for RTM industrialization. On a general way, Coexpair is supporting its customers from the idea that sprouts in their design office up to the installation of their workshop.

Today Coexpair is a recognized partner of the largest OEM and Tier-1 suppliers in the sector. Several European companies have become regular customers, including Airbus and Safran groups. Our company is a unique place in Europe to develop and to transfer advanced composite manufacturing technologies.

Workstation

Coexpair designs and builds RTM workstations including clamping & heating systems, injection systems and tool handling devices. Automation of High Performance RTM process for aerospace is our job. The partnership with Radius Engineering ensures our Customers the same high quality & reliable equipment worldwide.

Mold & Tools

RTM mold quality is critical for part production success. Customers can count on a team of specialized engineers to design and to machine their molds. FEA allows study of thermal transfer, mold deformation and tool closure kinematics.

Part & Process Development

Net-shape composites are an opportunity to improve performance: lower weight, lower cost, shorter manufacturing cycle. Coexpair supports you by engineering for optimal performance. The position of the office inside the workshop gives the designer a great opportunity to combine 3D models and hands-on trials.

CONSOLIDATED PRECISION PRODUCTS BELGIUM

Parc Industriel des Hauts-Sarts - 4040 Herstal | BE
T. +32 (0)4 248 50 50
xavier.delandshere@cppcorp.com
http://www.cppcorp.com

AERO

Consolidated Precision Products Belgium is an investment casting facility using vacuum cas- ting techniques to produce structural castings, rotating blades and nozzle guide vanes for aeronautical gas turbines.

Consolidated Precision Products Belgium is a major supplier for the aerospace market including helicopter, missile and airplane engines.

Consolidated Precision Products Belgium has a subsidiary company named CPP-Slovakia in Slovakia Republic for low cost manufacturing and is part of CPP Corporation including 14 casting facilities in the USA and in Mexico pouring Aluminium, Magnesium and Superalloys.

Consolidated Precision Products Belgium has the strength and agility to exceed customers' demanding expectations in a continuously changing business environment and is specialized in challenging products that require exotic alloys and complex geometries.

Consolidated Precision Products Belgium keeps aircraft flying by providing a wide array of critical components to the aerospace and defense industries. CPP produces the entire line of hot gas path (HGP) components including Directionally Solidified (DS), Single Crystal (SC) and Equiaxed blades, nozzles guide vanes and structural castings. CPP also provides and manages such post-cast processes as machining, grinding and stem drilling. Product quality, technical capability, customer service, delivery response and cost effectiveness are key factors when choosing a casting vendor. With state-of-the-art facilities on two continents as well as superior expertise and service CPP Corporation is a recognized and major supplier of sand casting, investment cast products and services for the aerospace.

Consolidated Precision Products Belgium is certified NADCAP for special processes and the European aeronautical standard EN 9100:2009.

constellr Belgium

Rue des Chasseurs Ardennais 6 - 4031 Angleur | BE
T. +32 (0)456 65 31 67
sales@constellr.com
https://constellr.com/

SPACE

The World's Most Accurate Thermal Intelligence

The World's Most Accurate Thermal Intelligence

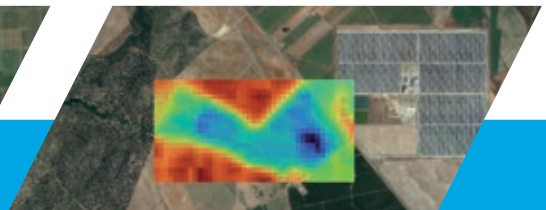
constellr is a European leader in satellite technology & data services deploying proprietary thermal-imaging satellites to deliver unparalleled insights into Earth's resources

Driving planetary resilience with thermal intelligence

At constellr, we harness our proprietary space-based infrared technology to deliver unparalleled insights into Earth's resources and land use, with surface temperature as its foundation. Our satellites support and refine biophysical and AI-driven models that enhance data accessibility and shape predictive insights for reliable, on-demand streams of high-quality environmental data. constellr's temperature insights empower individuals, businesses, and governments to make informed, data-driven decisions for resource management, driving a future where human and natural systems thrive together. Our vision is to redefine sustainable management practices for land, water, and infrastructure through a real-time global thermal intelligence atlas reflecting the chemical and bio-physical realities of our world.

HiVE microsatellites deliver insights never seen before

Our state-of-the-art microsatellite constellation, the High-Precision Versatile Ecosphere (HiVE) monitoring mission, measures absolute surface temperature with unprecedented accuracy at 30m native resolution, providing near-real-time temperature mapping across the planet. If it's visible from space – be it snow, crops, rooftops, or forest canopies – we can track its temperature. The comprehensive thermal intelligence we record acts as both a real-time data source and a continuously updated input for calibrating broader data environments. **Constellr Belgium** is a leading provider of high-resolution **thermal infrared (TIR) and visible-near infrared (VNIR) data**, specialising in **land surface temperature (LST) monitoring** for critical applications. The company focuses on **near-real-time data processing and dissemination**, delivering highly accurate thermal insights for agriculture, water management, infrastructure monitoring and civil security.



D-CARBONIZE

Rue des Francs 79 - 1040 Bruxelles | BE
T. +32 (0)499 11 28 32
info@d-carbonize.eu
https://d-carbonize.eu/

AERO

The carbon accounting software tailored to your needs.

Driven by the climate emergency, D-Carbonize is positioned as a Climate-Tech, offering companies cutting-edge technology and personalized support to measure and reduce their carbon footprint.

At the heart of our offering is the Carbon Cockpit, a Saas platform that enables companies to take full responsibility for managing their carbon reduction strategy. The solution is available in two versions: Scan, ideal for beginners and SMEs looking to quickly assess their carbon footprint, and the advanced version, designed to meet the needs of large companies seeking certification.

At the same time, our team of expert carbon consultants provides tailor-made support throughout the decarbonization process. Their services include awareness-raising workshops, assistance with data collection and calculation, active participation in reporting, and the proposal of reduction solutions tailored to each context.

At D-Carbonize, we are committed to being your trusted partner in your transition to a reduced carbon footprint and a more sustainable business.

DARDENNE

Prolongement de l'Abbaye 60 - 4040 Herstal | BE
T. +32 (0)4 295 57 00
info@dardenne-meca.com
http://www.dardenne-meca.com

AERO SPACE DEFENCE

High-precision mechanics combined with the agility of a SME.

Since 1978, DARDENNE has a recognized technical expertise for the manufacturing of mechanical parts of the highest accuracy. Active mainly in Aeronautics and Space Industries, the company is EN9100 and ISO9001 Certified.

Our workshop is equipped with up-to-date CNC equipment for Turning, Milling, Wire Cut EDM, Die Sinking EDM and Flat & Cylindrical Grinding. The combination of all these technologies with our highly qualified technicians allows us to master the manufacturing of any mechanical part from the beginning to the end. Every part produced is Quality Controlled in an air-conditioned metrology lab fitted with 3 three-dimensional measuring machine.

Dardenne is providing a complete service from single prototypes to large-sized series production and is active on most of the major engines programs: LEAP, TP400, GTF, CFM56, Passport, Silvercrest...

DEDECKER PRECISION MECHANICS

Boulevard Industriel 104 - 7700 Mouscron | BE
T. +32 (0)56 85 75 26 | F. +32 (0)56 85 75 27
dedecker@dedecker.com
https://www.dedecker.com

AERO SPACE DRONE DEFENCE

Founded in 1969, Dedecker Precision Mechanics (DPM) is a leading specialist in the manufacturing of high-precision metal parts. It excels in bar turning and super-finishing of mechanical components, delivering top-tier quality and precision to demanding industries. DPM is a trusted expert in aluminum (Al), stainless steel (SS), and titanium (Ti) components, meeting the industry's highest standards.
In 2012, the company became affiliated with three other companies to create Sub-Alliance, a family-owned cluster specializing in advanced manufacturing and high-precision technologies. This strategic alliance creates a unique synergy across key areas, combining expertise in the development and production of polymers, composites, metals, and transmissions.

Scope of activities

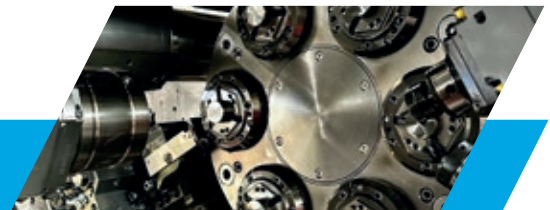
- Bar Turning
- Milling
- Grinding & Honing
- Surface & heat treatment (QPQ)
- Thermal deburring
- Superfinishing

Certification

- ISO 9001

Highlights

- Equipped with multi-spindles
- Small, medium and large series
- High-precision processes
- Precision parts



DELTATEC

Rue Gilles Magnée 92/6 - 4430 Ans | BE
T. +32 (0)4 239 78 80 | F. +32 (0)4 239 78 89
contact@deltatec.be
http://www.deltatec.be

AERO SPACE DRONE

With a team of more than 50 high-level designers, DELTATEC, a high-tech design company, is specialized in advanced hardware and software technologies with a strong focus on digital imaging applications, also embracing the recent Deep Learning/AI trend.

DELTATEC is a high-tech design company, specialized in advanced hardware and software technologies with a strong focus on digital imaging applications.

The company is active in the industry sector (embedded systems, quality control projects), in the TV broadcast market (design of boards, automation of live shows), in the industrial vision (development of specific cameras) and in aerospace (on-board imaging subsystems, on-board computers, EGSE...).

Space started as a strategic activity in 2005 with the development of flight systems performing image acquisition and/or processing. In the space segment, DELTATEC's role consists in designing data processing subsystems, with a focus on the electronics of cameras used in earth or sun observation satellites. Another major activity is the design of payload and on-board computers.

Taking profit from its experience in both space and industry worlds, DELTATEC is also focusing on the NewSpace and supports the development of onboard equipment for aeronautics and drones sector.

As a design services company, DELTATEC role is systematically adapted to its customer needs: from pure hardware design, to the development of a dedicated software and to the full design (hardware, software and mechanics) of a product including its manufacturing management.

With a team of more than 80 high-level designers, DELTATEC has developed a broad range of competence centers to create competitive advantages for its clients: deep learning/AI, streaming, cloud, image processing, embedded systems, mechanics, electronics, thermics, FPGA and PCB.

DGTECH

Rue Obecq 40 - 1410 Waterloo | BE
T. +32 (0)470 02 42 31
contact@dgtech.be
https://www.dgtech.be/

AERO

dGTech a la volonté de réaliser de la recherche et développement pour les PME et entrepreneurs Belges, activité qu'elle réalise depuis 2019 en Wallonie.
Nous travaillons actuellement entre autres à l'amélioration du processus de production de certaines entreprises en Wallonie et en Flandre, mais aussi au développement de nouveaux produits pour d'autres entreprises Wallonnes.

Nous avons également développé pour certains de nos clients des solutions pour lesquels ces clients nous ont laissés la liberté de les commercialiser à notre avantage, après les avoir développés pour eux. Un bel exemple en est l'ascenseur pour théâtre. Vous pouvez trouver ces produits sur notre site web: https://www.dgtech.be/Nos-Produits/

dGTech développe également des solutions trouvées en interne, et en particulier une solution de vol battu, dont la démonstration publique est prévue cette décennie.

Plus d'informations sont à trouver sur notre site www.dgtech.be

DUMOULIN AERO

Rue Al Trappe 110 - 4432 Alleur | BE
T. +32 (0)4 228 89 60 | F. +32 (0)4 228 89 69
gcammermans@dumoulin-aero.com
http://www.dumoulin-aero.com

AERO

In 2003, Dumoulin Aero, specialized in the manufacturing of Fine Hunting Guns, has operated a significant diversification by launching a program to manufacture titanium and other allied steel parts for aircrafts.

For 20 years now, Dumoulin Aero has successfully implemented the quality requirements, the organizational, strict control and production aspects needed for the manufacturing of high precision parts for AIRBUS, EMBRAER or BOMBARDIER Aircrafts.

Today, Dumoulin Aero employs 50 people specifically trained to operate modern machines and equipment and has the capacity to perform a broad range of operations from turning-milling and milling mostly for connection parts in Wing moveables. We have also a strong partnership with La Nitruration Moderne (Nadcap and required qualifications against specs) which allows us to deliver complete treated parts (NDT, Passivation, Zn Ni, Cadmium Plating, Painting and Ink Identification...).

The light structure of the Company and its geographical location enables a quick and efficient response to customer needs always in accordance with strict quality criteria and allocated deadlines.

DUMOULIN AERO is positioning itself as a key partner for aerospace companies willing to establish a close and fruitful relationship based on know-how, reliability, flexibility and cost-effectiveness.

DYNALI HELICOPTER COMPANY

Avenue Thomas Edison 101 - 1402 Thines | BE
T. +32 (0)67 55 29 98
info@dynali.com
http://www.dynali.com/

AERO DRONE DEFENCE

Ultra light helicopters.

Ultralight helicopters have opened up the market to make helicopter flying accessible to many more people than the general aviation class for which both the purchase price and the operating costs are prohibitive to the general public.

The Dynali H3 Sport is an ultralight helicopter authorised in certain European countries under the ultralight helicopter category (MTOW 500 – 600 kg). The Dynali is certified for 500 kg and retains a comfortable reserve of power.

Incorporating a number of safety features generally found only on far more expensive aircraft in the general aviation class, the Dynali H3 Sport has been designed to meet the latest standards in the light aviation industry while retaining the simplicity of the airframe design and structural components.

E-S-TEL

allée des plantains 4 - 5650 Walcourt | BE
quentin.bolle@e-s-tel.com
https://www.e-s-tel.com/

AERO SPACE DEFENCE

Bringing Optical Transceiver Manufacturing Back to Europe. For a more resilient and competitive industry.

We push the boundaries of optical communication to provide you with cutting-edge solutions in optical transceivers. As an industry leader, we take pride in designing, manufacturing, and delivering top-quality products entirely in **Europe**, ensuring the highest standards of quality and performance as well as providing a local technical support for different application as Telecom / Datacom/ Space / Defence and industrial.

EHP

Rue de La Science 9 - 1400 Nivelles | BE
T. +32 (0)67 88 94 94
info@ehp.space
http://www.ehp.space/

AERO SPACE

EHP (Euro Heat Pipes SA) develops, qualifies and manufactures thermal & mechanical components/ systems for spacecraft based on two-phase heat transfer technology (such as heat pipes and loop heat pipes) and deployable equipment.

From Space to Earth

Created in 2001, EHP know-how is based on more than 40 years of Space heritage. Developed for Space, now available on Earth, this 100% European technology is leading the European cooling market for Space applications and is developing on Aeronautical markets. EHP proposes its two-phase cooling devices that enable equipment manufacturers to increase their equipment reliability with the management of high power densities, low temperature excursion, compact / miniaturized packaging and remote cold sources. Over the years, EHP products have acquired a large space heritage: they are embarked on a wide variety of European, North American & Asian spacecraft. Our products have more than 65.000.000 spaceflight hours demonstrated heritage with no in-orbit failure.

Full in-house capabilities

Based on a highly qualified staff of 100 people, EHP, an EN9100 certified Company, offers full in-house capabilities (10.000 m² of facilities) including 2.000m² ISO 8 to ISO 5 clean rooms, small to large vacuum chambers and mechanical / vibrations shakers to be used for small to large production projects.

A worldwide customer base

Main customers are Airbus, Thales Alenia Space, BeyondGravity, ESA, CNES, Arianespace, OneWeb Satellites, OHB, APCO...

ESIX SURFACE TECHNOLOGIES

Avenue des Artisans 36 - 7822 Ghislenghien | BE
T. +32 (0)68 84 24 59
frederic.groulard@esix.be
http://www.esix.be

AERO DEFENCE

Smart coating solutions.

COATIX is a portfolio of smart coating solutions offering easy-to-clean, anti-fouling, hydrophobic, super hydrophobic and anti-corrosion properties as well as coloration from transparent to gold while keeping the look and feel of the substrate.

COATIX is produced by **ESIX Surface Technologies**, a company with assets from Technochim SA, a world leader in surface treatment for the pharmaceutical industry and Materia Nova, a world-class research and development center entirely focused on future materials supporting the industry.

EUROPEAN METROLOGY SYSTEMS

Rue de l'Eperonnerie 2 - 4041 Milmort | BE
T. +32 (0)4 228 04 07 | F. +32 (0)4 228 07 05
info@ems.be
http://www.ems-benelux.be

AERO

DEFENCE

Active in the metrology for more than 20 years, the company EMS proposes the maintenance/ calibration, and reparation of measure machines, the parts scanning, the implementation of measures, training on the different softwares and systems, moving and retrofit of the machines.

Constitued of executives, sales managers, technicians, engineers, makes from us, one of the largest in innovative metrology solutions in the Benelux. EMS can contribute to your projects by supplying you a wide range of solutions. EMS is at the service of the customer. Our expertise does not stop selling metrology solution, but we want to profile ourselves as true experts in Metrology. Our group has built up an exceptional sales program made up of brands and first-class solutions over the years and acquired experience. The combination of our many years of experience & our knowhow means that for each of your applications we are able to offer you a tailor-made solution. Our services can accompany you throughout the life of your investment. Through this & our approach centered on your needs, we want to make a difference! We offer you: Calibration of your measuring instruments, via our accredited laboratory, maintenance & repair, & the possibility to let us realize your measurements/controls or to carry out your parts scan, the dispensation of training for all the systems and softwares, we also have the expertise to move your machines to measure safely or realize the retrofit of your old machine or other measuring device.

FERONYL

SUB ALLIANCE | FERONYL
POLYMERS & COMPOSITES

Boulevard Industriel 101 - 7700 Mouscron | BE
T. +32 (0)56 85 75 30 | F. +32 (0)56 85 75 38
feronyl@feronyl.com
http://www.feronyl.com

AERO SPACE DRONE DEFENCE

Established since 1950, Feronyl is a leading specialist in high-precision molding of polymers, composites, and metals, offering development, prototyping, and manufacturing of advanced technical components. Feronyl focuses on lightweight structures, advanced material properties, and cost optimization. With in-house tool design and production, we ensure the highest standards of quality and innovation.
In 2012, the company became affiliated with three other companies to create Sub-Alliance, a family-owned cluster specializing in advanced manufacturing and high-precision technologies. This strategic alliance creates a unique synergy across key areas, combining expertise in the development and production of polymers, composites, metals, and transmissions.

Scope of activities

- Injection moulding of technical parts in polymers, metal and composites
- Research and design of lightweight structures/advanced properties
- Assembly of sub-systems
- MIM & CIM

Certifications

- ISO 9001
- EN 9100

Highlights

- In-house engineering.
- More than 60 years of experience in the injection moulding of technical plastics and in the manufacturing of injection tools
- Dynamic, flexible and reactive team which enables a mastery of complete projects from A to Z
- Partnership with research centers or organisations specialised in complementary services(material choice, tests, design, rapid prototyping, painting, surface treatment...)
- Wide variety of injection machines between 10 tons and 1300 tons of closing force, which allows us to inject volumes till 6 kg
- Clean room ISO 7: Synthesis, chemistry & in-house material development; Metal & Ceramics Sintering high temperature; UHTC – CMC

FLYING-CAM

Rue du Passage d'Eau 1a - 4680 Oupeye | BE
T. +32 (0)4 227 31 03
info@flying-cam.com
http://www.flying-cam.com

DRONE

Flying-Cam has been the world leader in providing 25 Kg-150 Kg UAS VTOL system for the civil industry since 1988. We are now expanding to several markets: Industry, Military, Academic, Govern- ment, Entertainment. The vertical competence are the best asset for developing and selling breakthrough unmanned helicopter solutions.

Founded in 1988 by Emmanuel Previnaire in Liege, the company Flying-Cam SA is an Award-Winning company and world leader in developing high fidelity Unmanned Airborne Solutions with proprietary Flying-Cam Airborne Robotic Engineering Technologies.

Well-known firstly in the niche film industry, Flying-Cam had worked for blockbusters such as James Bond, Mission Impossible, Harry Potter, Oblivion, Prisoners, Da Vinci Code, Transformer, Game of Thrones...

Strictly adhering to aviation standards, embracing with 30 years field experience for over 1000 projects in more than 75 countries, FLYING-CAM is now offering its "Super Drones", named SARAH and DISCOVERY, fully integrated with the state-of-arts sensors carefully chosen to match the supreme platform quality for a variety of applications ranging from Entertainment Industry, Homeland Security, Earth Monitoring to High Precision Remote Sensing.

Flying-Cam is dedicated to develop, manufacture and sell the high-end "SARAH" system, Special Aerial Response Automatic Helicopter. This is an unrivaled cutting-edge "Unmanned Aerial Intelligence" solution and only possible by mastering all the technologies and skills involved: helicopter platform, centimeter precision guidance, navigation and proprietary control system (autopilot), payload integration, human-machine interface design, training, maintenance and field operations.

FN HERSTAL

Voie de Liège 33 - 4040 Herstal | BE
T. +32 (0)4 240 81 11
info@fnherstal.com
http://www.fnherstal.com

AERO DRONE DEFENCE

FN Herstal is the Defence and Security Division of FN Browning Group.
Headquartered in Belgium, FN Herstal designs and manufactures a complete range of state-of-the-art solutions developed around small calibre firearms and associated ammunition to meet and support its customer base's missions worldwide.

FN Herstal is a partner of choice for both users and OEMs who are looking for a reliable and safe way to arm new or in-service aircraft. Proof of this is the 5,200 systems fitted, and the wide range of aircraft on which they have been certified. Current users include the US and several other NATO and allied armed forces.

Armed forces can be deployed for a wide variety of missions, and aircraft are an important investment.

The FN® airborne weapon systems are designed around FN® machine guns (FN MAG® and world exclusive FN® M3) to guarantee full mission capability while ensuring protection for the carrier and maximum safety for the crew. They can be mounted and dismounted to allow easy reconfiguration of the aircraft to suit mission requirements.

The FN® airborne weapon systems are divided into two categories: fixed axial systems and crew served systems.

Fixed axial systems are forward firing pods with FN® guns and/or rockets operated by the pilot. FN Herstal can also provide a complete package of equipment including control and aiming systems, and equipment for testing and maintenance.

Crew served weapon systems feature an FN® machine gun fitted on a buffered mounting adapted to both the carrier and the position (door, window, ramp or external) on the carrier.

In addition to the design and production of these reliable airborne solutions, FN Herstal provides full support and management of the product integration onto the platform, full operator training, and the highest quality after-sales service.

The company is ISO 9001, AS /EN 9100, ISO 14001 and Nadcap (National Aerospace and Defense Contractors Accreditation Program) certified.

GDTech

Avenue de l'Expansion 7 - 4432 Alleur | BE
T. +32 (0)4 367 87 11 | F. +32 (0)4 376 68 22
info@gdtech.eu
http://www.gdtech.eu

AERO SPACE DRONE DEFENCE

- Engineering project management, customer innovation coordination
- Integrated multidisciplinary system simulation, simulation-based digital twin
- Advanced numerical simulation
- Structures, fluid dynamics, process, thermal, acoustics, multiphysics, and manufacturing processes (additive, welding, forming)
- Prototyping and tooling
- Design and drafting, manufacturing and testing: components and assemblies, manufacturing tools, industrial equipment and CE certification
- Approved Software Partner for fluid dynamics, manufacturing processes and system simulation
- Training and consulting

The Complete Engineering Solution:Design, Simulation, Manufacturing and Testing

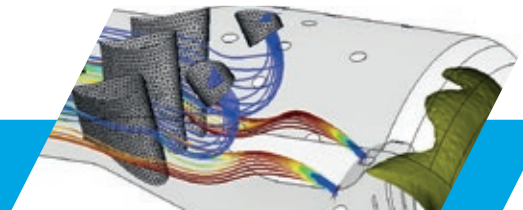
GDTech is an engineering company with offices in Europe and North America.

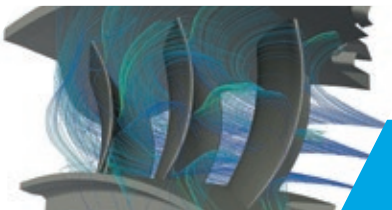
For over 30 years, GDTech has developed **integrated services covering every aspect of the design and industrialization of your project, leveraging world-class expertise in numerical simulations**.

Our commitment to innovation through significant R&D programs combined with the most advanced technologies and software enables us to bring **tailored solutions to your challenges**. Our assets: our expertise, our skills, and our full suite of CAE services.

To facilitate project execution and collaboration, we also provide strategic resource placement.

GDTECH videos on YouTube





GENERAL COMPOSITES DIFFUSION

Rue Arthur Pouplier 111 - 7190 ECAUSSINNES | BE
T. +32 (0)475 69 40 91
info@lazzerini.be
https://idea.be/entreprise/plasturgie-lazzerini-sa/

AERO

PLASTURGIE LAZZERINI sa

Study, design, mould model and manufacture of all parts in composite materials - polyester and polyurethane - Fields of application: industrie automobile, capotage, agricultural machinery, sanitary, decorations, bodywork, advertising, park...

GENITEK ENGINEERING

Rue du Bosquet 8 - 1435 Mont-Saint-Guibert | BE
T. +32 (0)10 460 250
info@genitek.be
https://www.genitek.be/

AERO

DEFENCE

Genitek Engineering is a consultancy company specialized in research and development for electronic design.
Since 2010, we count on our technical expertise to provide functional solutions for the medical, railway, automotive, avionics and defense sectors.

Active on cutting-edge applied technologies, our technical team counts with more than 15 years of experience in the design of embedded electronic systems, integrated solutions and high-tech electronics.

Committed and dynamic, we work with our clients to provide them with the highest quality services, through a close dialogue, respecting the technological requirements for each component, and looking forward to advance on new ways of electronic development.

Consultancy

Focused in embedded electronics, we propose tailor-made solutions fitting our partner's needs.

Developpement

We design technical alternatives for electronic systems based on the latest technologies, through great electronic performance, technical capacities and deep research.

Manufacturing

We consider testing as a key for electronic success. We supply the final product at the highest quality standards, assuring their good functioning.

Support & Integration

We provide integral solutions for new products (mechanical, packaging, etc) and offer follow-up services (support, upgrading, etc).

GIM WALLONIE

Rue Camille Hubert 13C - 5032 Gembloux | BE
T. +32 (0)81 71 34 20 | F. +32 (0)81 71 34 29
info_w@gim.be
http://www.gim.be

SPACE

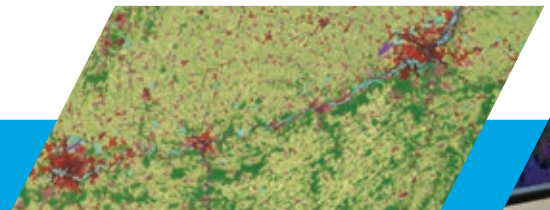
From satellite images to actionable insights
GIM helps public and private customers understanding and better managing our changing environment. GIM is able to build on over 20 years' experience in integrated solutions for processing and analyzing countless types of satellite, aerial, mobile mapping and drone images, from optical to radar. We deliver solutions across the environmental, urban, renewable energy and infrastructure sectors specializing in high and very high resolution imagery, automated feature extraction, customized land use & land cover mapping and change detection using Artificial Intelligence technologies.

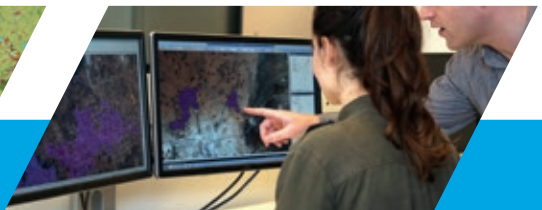
OPERATIONAL SERVICES

GIM is at the forefront of developments in image processing with a particular focus on advanced processing chain automation using Deep Learning technologies. Time series of images are analyzed in near real time to derive geoinformation supporting the business and decision making of our clients. Not only maps are produced but also complex geostatistical and spatial analyses are applied to deliver specific information that can be directly integrated in the business processes of our clients. GIM delivers information services in application areas such urban planning, energy, environment and natural resources management, infrastructure development and follow-up of Sustainable Development Goals. GIM is serving large international infrastructure & utility network operators and multi-lateral organizations, has a long track record in working with ESA and public authorities and has the ability to process large volumes of very high resolution imagery as for instance for the prestigious Gates Foundation in the context of the Global Polio Eradication Initiative.

Using Deep Learning techniques applied on EO imagery, GIM builds Belmap, a Geo Digital Twin of the Benelux containing 3D Building models and information on solar panels, roof windows, roof material, detailed land cover, building age,...

GIM is an official distributor of imagery from most of the high resolution sensor operators like Airbus, Maxar, HEAD, Planet,... GIM also offers a wide range of topographical data such as DEMs.





GLOBAL MOBILE LAB - GML

Rue Redouté 27 - 6870 Saint-Hubert | BE
info@globalmobilelab.com
https://globalmobilelab.com/

SPACE

Global Mobile Lab (GML) is a BioTech company dedicated to commercialize products and services related to mobile biological and medical laboratories.

GRIMONPREZ TRANSMISSIONS GEARS

Rue Theodor Klüber 7 - 7711 Dottignies | BE
T. +32 (0)56 33 30 32
grimonprez@grimonprez.com
https://www.grimonprez.com

AERO SPACE DEFENCE

Founded in 1877, Grimonprez Transmission Gears is a renowned specialist in the design and manufacturing of high-performance gears and gearboxes. With over a century of expertise, it delivers precision-engineered transmission solutions tailored to the most demanding applications.
Grimonprez Transmission Gears manufactures all types of gears, from spur/helical gears to straight bevel gears as well as transmission elements in small and medium series.
In 2012, the company became affiliated with three other companies to create Sub-Alliance, a family-owned cluster specializing in advanced manufacturing and high-precision technologies. This strategic alliance creates a unique synergy across key areas, combining expertise in the development and production of polymers, composites, metals, and transmissions.

Scope of activities

- Cutting, hobbing, broaching, grindingIn-ternal/external splines
- Straight and helical gears
- CNC milling & turning
- Heat and surface treatment

Certifications

- ISO 9001
- AS 9100

Highlights

- Research department
- High-precision processes: manufacture of gears from 50 to 500mm, inter/exter, straight or helical
- State-of-the-art CNC machines
- Small and medium series
- Rank 1 Airbus Helicopters

GROUPEMECA | B-SPRING-CEVEMA-MECASPRING-VANHULEN

Zoning Industriel des Hauts Sarts Zone II Rue Haute Claire 3 - 4040 Herstal | BE
T. +32 (0)4 289 99 99 | F. +32 (0)4 289 00 09
info@vanhulen.be
http://www.groupemeca.com

AERO SPACE DRONE DEFENCE

Compression, extension, torsion, double torsion springs. Bended wire. Induction coils. Leaf springs and stamped parts. Fragmentation body for grenade, mortar and rockets. Assembly of metal parts and plastic parts. Welding TIG-MIG-Laser. Surface treatments.

B-SPRING has been operating in Bosnia since 2013 and offers winding, cutting - bending - forming, machining and assembly services from its new site, which was inaugurated in 2019. It can deliver directly throughout Eastern Europe.

CEVEMA is dedicated to surface treatments such as passivation, anodizing, galvanizing, phosphating, dye penetration, nickel plating or hard chrome plating since more than 25 years.

MECASPRING, a spring specialist since 1935, is active in the fields of winding, cutting - bending - forming and machining. It specializes in the manufacturing of assembled spring parts.

VANHULEN, founded in 1907, specializes in the wire industry and more specifically in the manufacturing of induction coils which it supplies to the main players in the electrotechnical industry.

HEXCEL COMPOSITES

Rue Trois Bourdons 54 - 4840 Welkenraedt| BE
T. +32 (0)87 30 74 08
jean-francois.bertrand@hexcel.com
http://www.hexcel.com


AERO


SPACE


DEFENCE

Hexcel's plant was established in Welkenraedt in 1967. It is Hexcel's European center of excellence for Engineered Core (HexWeb® EC), the name we give to our processed honeycomb parts that are machined and finished in any number of ways and then supplied as ready to fit parts to customers. Key applications for products made at Hexcel's Welkenraedt plant are aerospace structures for civil and defense aircraft, helicopters and aero-engines. Our facility is ISO 9001, AS/EN9100 Rev. D and NADCAP certified for composites processing.

HexWeb® EC encompasses a wide range of unique processing technologies used to add value to blocks or slices of HexWeb® honeycomb, also known as flat core. With advanced computer-aided design and manufacturing techniques, flat core is formed, shaped, machined and/or bonded to create high quality core details and assemblies to precise customer specifications. With over 70 years of honeycomb manufacturing experience, Hexcel is the leading supplier of Engineered Core used in commercial and military aircraft including engine and nacelle applications. The expertise of our manufacturing and engineering staff, combined with extensive research and unique core processing technologies, results in precise complex shapes and core assemblies that allow our customers to streamline their production process and eliminate capital investment through the purchase of ready-to-use honeycomb components.

HexWeb® EC provides the following advantages for your serial production program:

- High quality components
- Tight dimensional tolerances on dimensions and shapes
- Fewer manufacturing stages and processes
- Dedicated technical support from HexWeb® EC experts

Hexcel Composites sprl (Belgium) is part of Hexcel Corporation.

Hexcel Corporation is a leading advanced composites company. It develops, manufactures and markets lightweight, high-performance structural materials, including carbon fibers, specialty reinforcements, prepregs and other fiber-reinforced matrix materials, honeycomb, adhesives, engineered core and composite structures, used in commercial aerospace, space and defense and industrial applications.

HEXAGON MANUFACTURING INTELLIGENCE (MSC Software)

Rue Emile Francqui 9 - 1435 Mont-Saint-Guibert | BE
T. +32 (0)10 68 07 52 | F. +32 (0)10 84 07 67
guillaume.boisot@hexagon.com
https://hexagon.com/company/divisions/manufacturing-intelligence/what-we-do/design-engineering

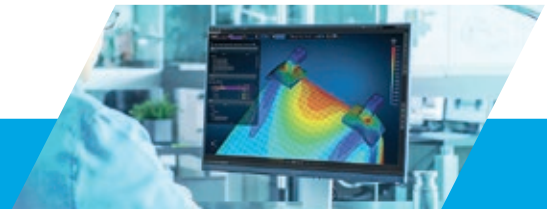
AERO SPACE DRONE DEFENCE

Hexagon Design & Engineering
Empowering innovators with the technology to lift ideas and turn imagination into reality

Dream the impossible with Hexagon. We empower the innovators of the world to redefine what's real by giving you the technology to create better products in new innovative ways. We passionately believe that if it can be imagined, it can be made, so we develop our solutions to remove all barriers to possibility. By harnessing the power of data and technology our tools unlock new avenues for exploration and provide extra lift to the creative process. It all starts with an idea, and in the world of manufacturing, an idea is a design.

Putting that first concept sketch down on paper, iterating, perfecting the look and functionality – this is where the blue-sky thinking happens. But product designers and engineers are responsible for a huge number of variables that have major consequences in downstream manufacturing processes. That design might look amazing, but how much will it cost to make? What material is best to make it out of? Can it even be made successfully to the required standards? Hexagon software sits at the leading edge of production innovation making it possible to produce things that were previously unthinkable by entirely rethinking both products and production through design, materials, manufacturing and process innovation.

Before leaving the virtual world, designs are optimised for user experience, operating efficiency, longevity, manufacturability, cost-efficiency and manufacturing process productivity. This changes the entire game for designers and engineers, leaving you free to entirely rethink or reinvent products, liberated from pre-conceived norms. Our simulation software lets users quickly explore many different scenarios to find the best design, without making expensive and time-consuming physical prototypes.



I-MAGE CONSULT

Rue de Gembloux 122 - 5002 Saint-Servais | BE
T. +32 (0)81 47 02 84 | F. +32 (0)81 47 02 85
info@i-mage.be
http://www.i-mage.be

SPACE

I-MAGE Consult is a private company founded in 1994, run by a multi-disciplinary team of engineers, geographers and computer scientists. The company has acquired a great number of experiences in the mapping of renewable natural resources in land management and in the field of Geomatics (GIS and satellite image processing). The company has acquired a strong experience thanks to the numerous project conducted throughout the world.

I-MAGE Consult provides services and consultancies in the following areas:

- The development of GIS and EIS, data archiving, management and dissemination of information (Web Mapping and decision making tools);
- The collection (field surveys) and processing of remote sensing data;
- Earth observation derived data production and diffusion;
- IT developments and implementation of software packages;
- Environmental studies, land management;
- Spatial analyses, land-use mapping;
- Capacity building and training.

I-MAGE is delivering solutions (data and software products/services) in Earth Observation, Geographic Information Systems and Geo-informatics, R&D to private/public organizations. The company has acquired a great deal of experience in the mapping of natural resources and the management and dissemination of information. Our expertise can be summarized through a workflow process that goes from the processing of satellite images through GIS implementation and data integration, thematic analysis and applications, technology transfer.

This leads to the development of dedicated applications and decision making tools eventually correlated to Web mapping interfaces. Free Open Source software are often favoured using standards solutions, although proprietary solutions are also developed when required. While a majority of the projects are referring to Africa (French speaking as well as English speaking), important projects have been achieved in Europe, Asia, the Caribbean and Oceania.

ID2MOVE

Rue de l'industrie 20 - 1400 Nivelles | BE
T. +32 (0)472 88 02 91
info@id2move.eu
http://www.id2move.eu

DRONE DEFENCE

ID2Move is a center of excellence for Autonomous Systems with the best equipped et most diversified indoor and outdoor test zones in Europe.

ID2Move supports the development of aerial, ground and maritime autonomous systems (with a specialization in drones) and the innovative technologies around (AI, IoT, sensors,...).

The indoor zone measures 670 sq. m. and is 8 m high. The floor is fully removable and can be fitted with sensors. Inside this room, a 10x10x6 m block is equipped with motion capture cameras.

The outdoor area consists of 4 ha of tarmac, to which a 2 ha automobile circuit managed by the RACB (Royal Automobile Club Belgium) can be added.

The outdoor fly area is a fully-managed restricted zone of 606 ha (EBR 67). It covers an industrial area, urban district, agricultural fields and highways. Flying over railway, forest and quarry is also possible and in the near future, over a wind turbine.

A warehouse with cold rooms is available for logistic tests.

The underwater test zone is twofold: artificial in an indoor 3m-deep pool and natural in a former red marble quarry.

Offices, a coworking space and meeting rooms are available for hire.

Our Maker Space includes 3D printers, CNC machines, 3D scanner.

In-house coaches for technical support and business advice are available.

Highly-skilled PhDs from Brussels University (ULB) are on the spot if needed.

Networking events and high-level seminars are frequently organised.

The ID2Move international network is shared with our customers.

INCIZE

Chemin du Cyclotron 6 - 1348 Louvain-la-Neuve | BE
T. +32 (0)10 39 22 60 | F. +32 (0)10 39 20 01
info@incize.com
http://www.incize.com

SPACE

Incize provides measurement, characterization and other services for radiation hardened devices and circuits as well as services for RF applications. Incize is a spin-off from Université catholique de Louvain (Belgium) where the know-how in RF and radiation hardness was accumulated. The know-how and the access to the state-of-the-art university labs enables innovation and optimization of our clients' products and processes.

Located only a few steps away from one of the best cyclotrons in Europe, Incize provides radiation hardness characterization and modelling services. The ability to characterize devices immediately after irradiation can be crucial in some experiments. Therefore, proximity of our labs to the cyclotron is an important added value.

Our experts provide the following services:

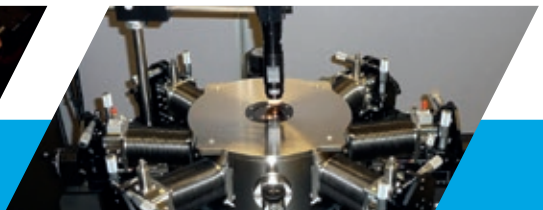
- Numerical simulations of devices and materials using TCAD and Geant4 tools
- Design and fabrication of PCBs for radiation tests
- Definition of radiation test plans and related characterization methodology
- Execution of the tests in the cyclotron
- Electrical characterization before and after irradiation

Data analysis

Incize addresses the needs of research centres, semiconductor foundries, design houses and suppliers of electronic components for space applications through its finely chosen state-of-the-art services. We have an excellent track record with our clients that include substrate suppliers, RF product suppliers, system houses and leading companies in the space and medical fields.

At the Cyclotron Resource Centre (CRC) in Louvain-la-Neuve we have access to the following irradiation facilities:

- Heavy ion
- Proton beam line
- Neutron
- Gamma



INDUSTRIE ET DEVELOPPEMENT

Rue de Fontenelle 18a - 6240 Farciennes | BE
T. +32 (0)71 81 18 59
Info@inddev.be
http://www.inddev.be

AERO SPACE DEFENCE

I.D. is an engineering and R&D private company, specialized in the conception and design of innovative automated machines. Our scope can cover the whole production chain, including NDT automation.

ID works together with its affiliate Desimone to offer a wide range of services to our industrial customers. We have a vast experience in R&D and innovation programs, that allow us to support you at a very early stage of the conception of an automated production system, including most industry 4.0 technologies.

One of our key specialties is the full automation of Quality Control and NDT processes, mastering techniques such as Eddy Current, industrial vision, contactless metrology, etc and integrating them in custom made machines.

Another specialty to mention is the automation of tending process, compatible with a lot of CNC process machines.

This know how represents a large part of our turnover within aerospace and defense industry.

Beyond concept and design, we can also take care of the construction and commissioning of these special machines via our sister company Desimone. We follow our customers and are ready to install machines anywhere in the World.

Our global team counts more than 40 specialists in mechanics, electricity, automation, pneumatics, hydraulics, robotics and IT. We can also rely on a local network of specialized partners to offer a global integrated offer.

IONICS Surface Technologies

Rue des Alouettes 1 - 4042 Liers | BE
T. +32 (0)4 278 91 60
info@ionics-group.com
http://ionics-group.com/en

AERO SPACE DEFENCE

IONICS develops and supplies surface treatment technologies and processes: plasma sputtering, ion implantation and electroplating. Our customers capitalize on our innovative approach and premium services as equipment supplier and as job coater.

IONICS has a large equipment park available to lease for demonstration, feasibilities and production. Our engineering team can advise you. Co-development and projects with the Materia Nova R&D center to fine-tune your industrial solution is also possible.

IONICS holds around thirty patents in the fields of metals, glass and polymers/elastomers, protecting its technology and know-how. Our domains of application are the automotive connectors, powders, architectural glass, biomedical devices, machining tools, household appliances, telecommunication, electronics, life science, luxury industry,...

Our vision is to be a leading company in functionalized surface treatments, enabling our customers to explore new product applications by using our smart surface solutions and technologies. Our values are integrity, cultural diversity and respect for the environment. We are committed to excellence, innovation, service and delivering tomorrow's answers today.

For more information, please contact Aida NASIRI, COO at IONICS: info@ionics-group.com.

ISOMATEX

Scientific Park CREALYS Rue Camille Hubert 29 - 5032 Gembloux | BE
T. +32 (0)81 72 86 86 | F. +32 (0)81 72 86 89
info@isomatex.com
http://www.isomatex.com

AERO DRONE DEFENCE

ISOMATEX is the global leading producer of enhanced volcanic rock filaments distributed under the trademark FILAVA ™. The production of FILAVA ™ is unique thanks to a genuine and innovative treatment of the raw material, basalt, which is enriched with various mineral additives to increase and guarantee its original mechanical and chemical properties.

Thanks to its innovative approach, its leading edge technological process and its tight quality control, the company ISOMATEX is known in the exclusive segment of high thermo-mechanical performance fibres as the only and therefore leading firm. ISOMATEX is keen to find the best solutions for each specific application and develops today tailored made fibres with an adapted sizing for the most prestigious companies in the segment of high-performance composite materials and technical textiles. ISOMATEX proposes you different formats of FILAVA™:

- Single –End Direct roving from 68 TEX up to 100 TEX
- Conventional assembly Multi-end Direct roving from 136 TEX up to 2400 TEX
- Twisted yarns
- Chopped strands as from 4 mm
- Woven fabrics as from 200 g/m²
- Unidirectional tapes, Bi and Multiaxial fabrics
- Non-Woven Fabrics
- Geotextiles
- Prepreg
- Knitting for engineering composites

IT-OPTICS (XEOLIS)

Boulevard Initialis 28 - 7000 Mons | BE
T. + 32 (0)65 32 85 81
sales@xeolis.com
http://www.xeolis.com

AERO DEFENCE

With 15 years of experience in the OpenSource field, we provide multiple IT services and business solutions. We take care of the design, implementation, support, and maintenance of your systems. We also provide on demand development, for a solution that will meet all your expectations.

Transport , logistics, field service, interventions management: We provide various solutions to optimize your supply chain visibility and boost your competitivity on the market with our panel of solutions: XEOLIS.

XEOLIS is a collaborative platform and the heart of our solutions dedicated to industrial processes, logistics and traceability management. XEOLIS is adaptive and configurable. It fits many sectors, relying on a panel of bricks specialized in product traceability, field operation tracking, logistics operation management and process optimization (specific workflows, deliveries, tours, interventions,...). It has to be focused that, as a GS1 partner, the solution relies on its International Standards, including coding, electronic exchange of EDI information, collection and sharing of Supply Chain traceability events (EPCIS).

Infrastructure: Our experts will analyze your systems and give you the best advices to optimize your infrastructure. We have a variety of solutions that will cover your needs, from virtualization, security, monitoring, back-up, communication, to hardware and more advanced options.

Health and clinical research: We provide solutions to obtain precise clinical data in real time with an efficient data processing. Our SensePRO solution will allow you to collect and share your data, and we will provide you with various supports (tablet, pc...) and hardware (sensors...).

On demand development: For a specific solution that fits all your needs, contact us, and we will work together to achieve your goals.

JD'C

Rue de l'Expansion 29 - 4460 Grâce-Hollogne | BE
T. +32 (0)4 239 80 80 | F. +32 (0)4 239 80 81
SebastienDupont@jean-delcour.be
https://jean-delcour.be/

AERO SPACE DRONE DEFENCE

Jean Del'Cour is a non-profit sheltered workshop with a social integration aim, JD'C develops solutions tailored to each customer's specific needs around four core activities: Connectics, Machining and Mechatronics.
With a focus on Defence and Aerospace, and more commonly, on innovative industrial processes, our competences range from build-to-print manufacturing to complete project management integrating several specialties, including collaborative design/development, prototyping, industrialization, certification/qualification and series production.

Connectics:

- Design and Development of customized connecting devices for power, signal and IT.
- Prototyping, Industrialization
- Development of dedicated test benches and programs.
- Complete production management, including components supply, series production, final testing/control and logistics.

Mechatronics:

Design and Development, Prototyping, Qualification, Industrialization and Series Production of devices integrating electromechanical components, connectics and electronics.

Quality Assurance:

JD'C is EN9100 – ISO 14001 and ISO 45 001 certified.

Social engagement:

Through the development of our activities, our #1 priority at JD'C group is to promote social integration through work, by providing socially disabled people with adapted jobs, completed with education programs and dedicated training.

References:

THALES - JOHN COCKERILL - FN HERSTAL - SONACA AIRCRAFT - THALES ALENIA SPACE - SAFRAN AERO BOOSTERS, OIP...

JOHN COCKERILL INDUSTRY

Avenue Greiner 1 - 4100 Seraing | BE
T. +32 (0)4 330 20 15
industry@johncockerill.com
https://johncockerill.com

AERO DEFENCE

John Cockerill designs, installs, upgrades and services equipment for energy, defense, steel-making, the environment, the transport and industry in general.
Present on all five continents, John Cockerill numbers more than 5 500 employees who combine expertise in engineering, maintenance and the management of technical international projects.

Hydrogen

In this pioneering industry, we have already manufactured electrolysers and storage solutions for nearly 1,000 customers in different industries. Today, John Cockerill Hydrogen offers the most powerful electrolysers on the market, capable of producing up to 1000Nm³ per hour (equivalent to 5 megawatts (MW).

Energy

Our teams develop specific solutions to encourage access to green energy, reduce CO_2 and NOx emissions, recover energy, transform waste, and help you produce more sustainably.

Defense

Technological leader in multifunctional, high-effect turrets in the 25-120mm range for light and medium weight armoured vehicles, and supplier of advanced, high-mobility wheeled Arquus military vehicles.

Industry

With industry always keen to take advantage of the latest technological developments without negatively affecting life on Earth, John Cockerill endeavours to improve the performance of production facilities and infrastructures whilst also making them more resource-efficient and environmentally-friendly.

Environment

Because access to resources and the development of green energy solutions represent crucial stakes for our future generations, John Cockerill makes its historic experience available to you, along with solid technological know-how and the courage to be innovative in the domains of air, water and waste treatment and the preservation of natural resources.

Services

The teams of John Cockerill Services assist industrialists and public infrastructure managers in the mounting, operational management, maintenance and modernization of their installations.

LA NITRURATION MODERNE

Rue Gilles Galler 22/24 - 4000 Liège | BE
T. +32 (0)4 235 47 20 | F. +32 (0)4 235 73 20
info@lanitruration.be
http://www.lanitruration.be

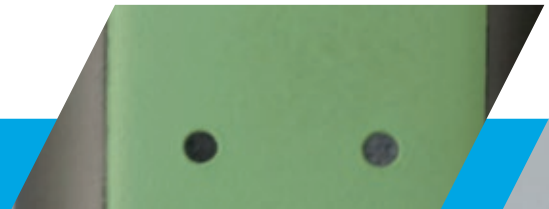
AERO

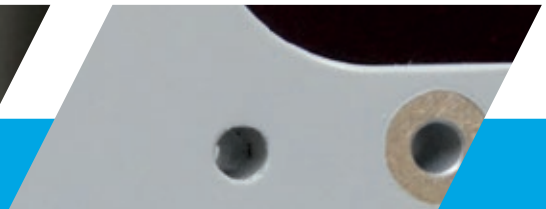
De l'usinage à l'assemblage. La Nitruration Moderne (LNM) réalise les traitements électrochimiques, chimiques et thermochimiques des métaux. Installée depuis 1928 au centre de l'Europe dans le bassin industriel liégeois, LNM exécute une gamme variée de traitements pour l'Aéronautique et l'Armement. Qualifiée pour son système Qualité suivant l'EN 9100, LNM est également certifiée Nadcap en contrôles non destructifs et process chimiques. Les usineurs l'utilisent comme une "one stop shop", LNM réalisant en ses murs et sans sous- traitance l'ensemble des opérations préalable à la mise à disposition des lignes d'assemblage.

- Cadmium plating
- Zinc-Nickel
- TSA
- Chromic Acid Anodizing
- Sulfuric Acid Anodizing
- Passivation
- Chemical Conversion Coating
- Silver coating
- Fluorescent Penetrant Inspection
- Magnetic Particle Inspection
- Identification
- Dry Abrasive Blasting
- Wet Abrasive Blasting (vapor blasting)
- Zinc Phosphating
- Manganese Phosphating
- Painting

Certifications

- EN9100 and Nadcap accredited.
- Qualifications certified by Airbus, Bombardier, Moog and Embraer.





LAMBDA-X HIGH-TECH

Avenue Robert Schuman 102 - 1400 Nivelles | BE
T. +32 (0)67 79 40 80 | F. +32 (0)67 55 27 91
info@lambda-x.com
http://www.lambda-x.com

SPACE DEFENCE

Lambda-X High-Tech designs, develops, and manufactures advanced optical and metrology solutions for Space & Defense. Since 1996, the company has delivered 30+ space instruments and is actively involved in Earth Observation, Microgravity Experiments, Space Exploration, and In-Orbit Services (SSA). In the Defense sector, Lambda-X has three active product lines, delivering high-precision optical systems tailored for extreme environments and mission-critical applications.

Lambda-X High-Tech provides support in optical and metrology solutions, ensuring high performance and reliability in extreme environments.

Concept & Design:

With expertise in a broad range of optical technologies—including deflectometry, microscopy, hyperspectral imaging, light scattering, and tomography—Lambda-X develops innovative solutions tailored to mission constraints. Our systems often integrate multiple technologies into a single instrument while optimizing for volume, mass budget, operational temperature range, delivery time, and cost.

Performance Validation:

Lambda-X's state-of-the-art optical laboratory, equipped with advanced alignment and metrology tools, enables rapid experimental validation of proposed concepts.

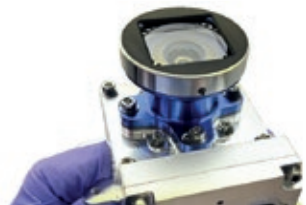
Qualification:

Based on environmental constraints, Lambda-X manages the full product qualification plan, ensuring compliance with space and military standards.

Manufacturing & Production Testing:

With 650 m² of clean room facilities (ISO 7, with local ISO 5 areas), Lambda-X has the infrastructure to manufacture and test hardware to space and defense-grade specifications.

Lambda-X is ISO 9001 & EN 9100 certified, guaranteeing the highest standards in quality management and aerospace-grade reliability, and it is fully integrated within the Verhaert Group.



LASEA

Rue Louis Plescia 31 - 4102 Seraing | BE
T. +32 (0)4 365 02 43
info@lasea.com
https://www.lasea.com

AERO SPACE DEFENCE

Driving innovation in photonics for a better world.

Créée en 1999, LASEA fournit des solutions de micro-usinage laser à des entreprises parmi les plus prestigieuses du monde, dont 2 GAFA, des entreprises des secteurs pharmaceutique et médical (implants intraoculaires, vasculaires et cochléaires), de la défense et de l'aéronautique, du luxe (horlogerie et lunetterie) ainsi que plusieurs grands noms de la Silicon Valley. Ses machines permettent des applications de micro-usinage (marquage, gravure, soudure, texturation, découpe, perçage, tournage...) sur tous les matériaux avec une précision de quelques microns. LASEA emploie environ 200 collaborateurs, et a déjà installé plus de 3000 systèmes (machines manuelles ou lignes de production opérant 24 heures sur 24) dans plus de 30 pays (sur les 5 continents).Outre son siège en Belgique (Liège Science Park), LASEA a des filiales à Mons (Belgique), à Bordeaux et Besançon (France), à Biel (Suisse) et à San Diego (États-Unis).

M3 SYSTEMS

Chemin du Stocquoy 3 - 1300 Wavre | BE
T. +32 (0)2 513 46 73
desenfans@m³systems.eu
https://www.m³systems.eu

SPACE DRONE DEFENCE

SATELLITE NAVIGATION FOR INVENTING THE FUTURE

M3 Systems Belgium provides a unique expertise in engineering services and technical solutions for satellite navigation applications. M3 Systems Belgium brings its expertise in the definition and the assessment of innovative GNSS algorithms and GNSS receiver architectures, in real GNSS data collection, and in the analysis of GNSS performances.

Location-Based Services development

The applications of satellite radio navigation systems (GPS, GLONASS, GALILEO) have increased dramatically in recent years. M3 Systems Belgium has specialized in the development of location-based services that require a high performance level and the capability to provide a measure of the positioning information level of confidence.

Satellite signal processing

Signal spoofing and jamming are amongst the major threats of GNSS systems. M3 Systems Belgium has developed a recognised expertise in the assessment of GNSS systems vulnerability. Based on simulation and/or on real data collection, M3 Systems Belgium is capable of characterising the impact of interference on GNSS performances. The company has also developed competencies in advanced mitigation algorithms.

Performance evaluation

The ongoing GNSS upgrade, and the deployment of augmentation systems (WAAS, EGNOS, differential GPS, pseudolite...) have raised the need for performance evaluation. M3 Systems Belgium has become a renowned partner of institutional actors (such as ESA) for GNSS performance evaluation, including GNSS signal-in-space and receiver performances, data collection and analysis, test bench.

MACHINESIGHT

Zoning de Marloie Rue de la Croix Bande 7 - 6900 Marloie | BE
T. +32 (0)84 45 60 08
info@machinesight.eu
https://www.machinesight.eu

AERO SPACE DEFENCE

Conception et réalisation de machines intégrant de l'inspection automatisée
Conception et intégration d'équipements d'assemblage automatisés équipés de leur propre système de contrôle.

Expert en robotique et en automatisation industrielle 4.0, MachineSight possède également des compétences clés en vision industrielle et en intelligence artificielle. Sa mission est d'aider les entreprises de toutes tailles à intégrer et exploiter des équipements automatisés dotés de leur propre système de contrôle.

En parallèle de ses projets, MachineSight a développé **Occulus™**, un logiciel de vision industrielle configurable qui s'adapte aux besoins spécifiques de chaque client. Il permet d'intégrer des **« opérateurs virtuels »** dédiés à l'inspection visuelle sur les lignes de production, tout en offrant une interface ergonomique et intuitive pour le contrôle qualité. Grâce à une phase d'acquisition, d'annotation et d'apprentissage, nos cellules détectent avec une grande précision les défauts, imperfections et anomalies de votre production, garantissant ainsi un contrôle qualité minutieux et conforme aux standards les plus exigeants de l'industrie.

Forte d'une équipe de 25 experts, MachineSight réalise des projets **clés en main**, en assurant l'ensemble des étapes: études détaillées, conception, fabrication et validation des systèmes développés.

Nos clients évoluent dans des secteurs variés tels que **l'aéronautique** (Safran Group, Howmet, Capaul, Omniseal...), **le pharmaceutique**, **l'industrie lourde** et **l'agroalimentaire**

MATGENIX

A6K - Advanced Engineering Center - Square des Martyrs 1 - 6000 Charleroi | BE
T. +32 (0)479 57 57 08
info@matgenix.be
https://matgenix.com/

AERO

SPACE

DEFENCE

At Matgenix, we accelerate innovation in materials science, advanced chemistry, and process engineering for aerospace and defense by transforming R&D challenges into cutting-edge solutions. Using advanced AI, high-performance simulations, and curated databases, we optimize materials, compounds, and processes to maximize efficiency, performance, and sustainability. Our tailored solutions integrate seamlessly into your decision-making systems, ensuring you maintain a competitive edge in a rapidly evolving industry.

The aerospace and defense sectors demand cutting-edge materials and optimized processes to enhance performance, reliability, and sustainability. At Matgenix, we empower your R&D by combining Artificial Intelligence, high-fidelity simulations, and curated data to unlock new possibilities in material design and manufacturing.

AI-Driven Innovation:

We leverage machine learning and advanced analytics to accelerate the development of materials, coatings, and structural components, reducing time-to-market while ensuring top-tier performance.

Simulations for Precision:

Virtual testing allows us to explore new compounds and processes before physical implementation, de-risking innovation and optimizing efficiency.

Data-Driven Decision Making:

By integrating and curating commercial and open databases, we help you extract valuable insights, enhance digital transformation, and strengthen the link between technical and managerial levels.

End-to-End R&D Support:

From early-stage research to full-scale implementation, we support your innovation projects, ensuring seamless integration into your production and commercialization strategies.

Custom In-House Solutions:

We develop tailored software and AI tools to automate workflows, optimize simulations, and integrate directly into your business systems.

Matgenix bridges the gap between industry and research, offering flexible, high-impact solutions without the constraints of traditional models. Whether you're optimizing advanced composites, developing next-generation propulsion materials, or refining manufacturing processes, we provide the tools and expertise to push your R&D further and faster.

MEBF (ETIENNE BONNE FORTUNE)

Rue Haute Marexhe 176 - 4040 Herstal | BE
T. +32 (0)4 263 34 28
contact@ebf-meca.be
https://www.mebf.be

AERO

DEFENCE

MEBF meca was created by the merging of two reputable Liège companies.
EBF meca (Etienne Bonne Fortune) founded in 1972 following the closure of the "Bonne Fortune" collieries. EBF-meca has developed through opportunities with customers such as FN Herstal, Belgo-nuclear, SONACA, SABCA, CMI, INFRABEL... It specializes in the production of precision-welded mechanical equipment of small and medium series.

Based on nearly a century of mechanical experience, with a dynamic team of around thirty professionals and diverse production means, our new structure guarantees you satisfaction through the control of the quality of our products and our production processes in small and medium series.

We are specialized in the design, design and realization of precision mechanical components and equipment.

Our management system is ISO9001:2015 certified and we also have Aluminium welding certification ISO3834:2005.

MECASOFT

Rue de la Molignée 60 - 5537 Anhée | BE
T. +32 (0)82 61 16 12 | F. +32 (0)82 61 36 35
contact@mecasoft.be
http://www.mecasoft.be

AERO SPACE DEFENCE

Mecasoft is specialized into metal precision machining using on one hand electroerosion and other high precision techniques, and on the other end a specific knowledge on micromechanics and micro-milling machining developed over the years, enabling us to perform precision operations in metals up to 1-2 µm of tolerance and roughness (Ra) of 0.03 for drilling, wire cutting and 3D control.

We manufacture parts for Airbus, Boeing, Safran, Embraer, Sabca, Sonaca, Euro Heat Pipes, Von Karman Institute, for their usual manufacturing programs (machining from 1 to 400mm) but also in their micro developments in order to gain weight and miniaturize metallic space components, like heat pipes, micro tubes for sensors and captors. We are certified EN/AS 9100 Aerospace since 15 years and therefore supply major aerospace manufacturers as well as tier-1 or tier-2 players.

Our other segments of interests are the precision industry - automotive, defence and instruments - as well as medical and pharmaceuticals (eg cryogenic microtubes, microdrops generators, microfluidics static mixers...).

Mecasoft R&D department frequently joins large academic research programs in applied or fundamental fields. We have several fields of interest, specifically machining of silicon carbide, as well as completing the structural weaknesses of metal additive manufacturing (ruggedness and precision) with EDM or other techniques.

References and certifications

- Certified EN 9100-2009 and ISO 9001-2008.
- SAFRAN certification for special processes
- AIRBUS certification for EDM processes
- SABCA certification for EDM processes
- Sonaca certification for EDM processes

METHODES & TECHNIQUES D'USINAGE

Rue du Pont Bleu 21 - 7730 Estaimpuis | BE
T. +32 (0)56 48 02 51
pf@mtusprl.be
http://www.mtusprl.be/

AERO

SPACE

MTU sprl is your partner in the following fields:
- Machining from 2 to 5 axes: single piece, small and medium series
- Design and production of tools
- Repair and modification of tools
- Various assemblies
- Technical consultancy

A multidisciplinary team with complementary skills:
- Complex machining of all materials in FAO
- Heat treatments and surfaces
- CAD design
- Plastic injection

Productivity - Quality - Delay are the basic elements of MTU management. Innovation is at the center of our concerns to increase our competitiveness.

MICROMEGA DYNAMICS

Rue du trou du Sart 10 - 5380 Fernelmont | BE
T. +32 (0)81 24 81 00 | F. +32 (0)81 24 81 01
info@micromega-dynamics.com
https://micromega-dynamics.com

AERO

SPACE

Micromega Dynamics is specialized in the development and manufacturing of vibration monitoring systems, vibration reduction, high-precision mechanisms and structural control mechatronic devices. We mostly offer products or full deployable solutions, but also engineering services related to vibration troubleshooting, the customization of our products and developments based on customers' requirements.

Micromega Dynamics' solutions have been deployed in demanding environments such as on-shore and off-shore wind turbines, railways, quarries, construction works, rotating machinery, outdoor structures and large telescopes where performance and reliability are essential.

In addition to off-the-shelf products, Micromega proposes engineering services in order to help you to design, manufacture and implement dedicated industrial solutions in the field of on-line monitoring, vibration reduction and high-precision mechanisms.

With hundreds of customers all over the world, we have a background of 20 years in the design and production of mechatronic devices for monitoring and reducing structural vibrations.

Rotating Machinery

Vibration Reduction Machines are now being operated at increasing rotational speeds and loads and under increasingly severe operating conditions, leading to excessive machine vibrations, hence the failure of sensitive components. Usually, situations with excessive vibrations can be solved by proper alignment and balancing techniques. But there are cases where structural resonances are excited by the machine operation resulting in a significant increase of the overall vibration level. This high vibration level can bring the machine out of its safe operating area as advised in standards such as ISO 20816 (formerly ISO 10816).

Semiconductor industry

Highly precise and very sensitive equipment, such as microscopes, inspection devices, imaging systems and polishing machines usually use an active or passive isolation platform. In some situations, this is not enough to keep the vibration levels low enough. It may be that local/global resonances are degrading the performance of the isolation system, because it is not stiff enough or because perturbation sources are located on the isolated part.

Astronomy

In order to achieve the very high resolution needed to observe distant astronomical objects, mirrors of large astronomy telescopes must maintain their shape in all circumstances, despite continuously changing orientations and temperatures. To achieve that goal, mirrors are usually very thick making them expensive, heavy and leading to very strong/stiff mechanical structures to support them. Nowadays, telescope manufacturers favor thinner/lightweight mirrors that are equipped with a network of mirror shaping actuators to compensate for their insufficient stiffness, to constantly maintain the reflecting surface of the mirror in as perfect a condition as possible.

MOCKEL

ZI Eupen/Baelen Rue du Développement 9 - 4837 Baelen | BE
T. +32 (0)87 59 39 59
info@mockel-precision.be
http://www.mockel-precision.be

AERO SPACE DRONE DEFENCE

MOCKEL is active in the field of high precision mechanics meeting the complex needs of our customers in the defence, aeronautics and space industries. MOCKEL currently has a workforce of 55: All of our employees are specialists in the manufacture of high precision mechanical parts. The company has the state of the art machinery, the technical know-how and the necessary experience to handle all aspects of production from start to finish.

Whether for small or large parts, simple or complex components, in series of 5 or 10,000 units, we transform our customers' ideas into technical excellence. All our parts are machined with high precision using state-of-the-art turning and milling machines.

Our Industrial Services

- CNC Turning from 2 to 5 axes
- CNC Milling 3, 4, and 5 axes
- Quality Control (two air-conditioned halls)
- Finishing Zone (grinding, thread rolling, marking,...)
- Assembly of sub-assemblies

Co-engineering and Project Management

To support our customers from the design phase, MOCKEL offers a co-engineering service. Thanks to our technical expertise, we work closely with our partners to optimize part design, reduce costs, and improve manufacturability. We also provide project management and supply chain management, ensuring efficient and controlled production.

A Network of Qualified Partners

The company relies on a vast network of internationally approved suppliers for heat and surface treatments, guaranteeing the delivery of high-quality finished products.

MOCKEL is certified ISO 9001, EN 9100, and ISO 14001.

In recent years, we have made significant investments in **automation**, including robotic systems and five-axis combined turning-milling machines...

Come and visit us!

MPP

1ère avenue 66 - 4040 Herstal | BE
T. +32 (0)477 63 42 32
jcm@mpp.be
https://mpp.be/en/home/

AERO SPACE DRONE DEFENCE

Major service provider in the Non-Destructive Testing field and in precision deburring-Polishing

Based on a successful industrial transformation in 2019, MPP is positioned as the preferred solution for both aerospace and industrial companies to support customers in their needs for expertise and non-destructive inspection of their parts as well as precision deburring and polishing.

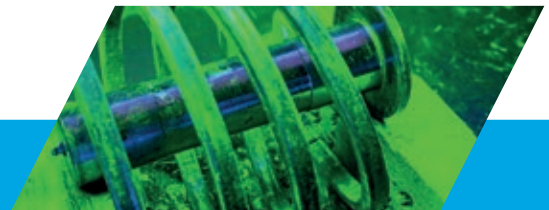
MPP is equipped with the latest NDT technologies whether in digital radiography, in cabins/bunkers (320 KV generator, 0.2 mm micro-focus tube and flat panel resolution from 50 to 200 µm), in digital radiography on customer sites (150 KV mobile generator), in magnetic inspection (latest generation magnetic bench), in Eddy current technics, in electrostatic Fluorescent Penetrant inspection, in ultrasonic inspection (phase array) and in thermography (high thermal sensitivity camera).

At the same time, MPP has structured itself around an efficient and flexible team of level 2 and 3 inspectors as well as a new sales and marketing manager.

MPP has the latest NDT equipment at the Liège site and can also deploy resources (inspectors & portable equipment) for the customer on site, in order to provide temporary support or perform expertise on large or critical parts.

MPP has been awarded numerous certifications such as the international references ISO9001 and EN9001. A major customer and partner, SAFRAN, has also certified MPP, which guarantees full dedication of MPP for its customer and the quality of the work performed by all employees.

Despite the difficult Covid-19 situation, MPP continue its R&D strategy within major Belgium aerospace & industrial projects and its prospect of new national and European markets.



MUBEA SYSTEMS

Rue de l'Abattoir 53 - 7700 Mouscron | BE
T. +32 (0)56 58 52 60
info@mubeasystems.com
http://www.mubeasystems.com

AERO

Mubea Systems: the right machine for each process

Mubea Systems manufactures a complete range of 5-axis CNC machining centers: we offer machinery designed for automatic tooling of exceptionally long aluminum profiles and high speed cutting of solids in aluminum and new materials like titanium. Mubea Systems offers advanced solutions for the aviation industry.

2015: FIRST HIGH SPEED MEGA-FLEX FOR XI'AN AIRCRAFT INSTALLED

Mubea Systems installed the Mega-Flex High Speed machining center for XIAN AIRCRAFT, the biggest aircraft manufacturer and developer of large and medium-sized airplanes in China. The Mega-Flex High Speed will be used to machine Aircraft Structural Frames.

For more information about our machines visit: www.mubeasystems.com

MULTIOS

Rue de Mignault 117 - 7060 Soignies | BE
T. +32 (0)67 21 30 21
l.leroy@multios.be
http://multios.be

AERO SPACE DEFENCE

IsoSpec: Secure and Optimize your Supply Chain exchanges An Innovative and Reliable SaaS Platform

IsoSpec is a SaaS solution designed to simplify, secure, and optimize the management of specifications and exchanges between ordering parties, suppliers, and subcontractors. Labeled by the Walloon Region and Logistic In Wallonia, IsoSpec addresses the challenges of highly regulated industries such as aerospace, aeronautics, chemicals, pharmaceuticals, medical, agronomy, industry, environment, petrochemicals, and SMEs.

IsoSpec enables the continuous qualification of suppliers and subcontractors, ensuring compliance between internal standards and partner requirements. It centralizes and tracks all specification exchanges, providing greater visibility and control over processes. The platform also improves communication with suppliers and subcontractors, reducing misunderstandings and increasing operational efficiency. These features bring immediate competitive advantages, such as time savings through process automation, improved work quality, and enhanced security of assets and personnel. For suppliers and subcontractors, IsoSpec facilitates the rapid verification of raw materials and strengthens the traceability of specifications and production batches. It ensures compliance with client deadlines through QRQC and optimizes communication both internally and with partners.

The platform provides access to standard libraries and material property databases, helping companies maintain consistency in their processes. By improving production efficiency and reducing rejects and errors, IsoSpec enhances profitability. It increases responsiveness and flexibility within the supply chain while reducing the time spent managing specifications. By simplifying and securing compliance with ordering party requirements, the platform also enables companies to access new markets in Wallonia and internationally. IsoSpec is backed by Multios, CETIC, CeREF, Anticip Consult, L2S, and two international use cases.

NANOPYRO

Mont Saint-Roch 45 - 1400 Nivelles | BE
info@nanopyro.be
https://www.nanopyro.be

SPACE

DEFENCE

Development and production of nanotechnology based energetic materials for defence, civil and space industry.

NDT PRO

Le Grand Enclos 18 - 6800 Libramont | BE
T. +32 (0)61 22 55 10
pierreservais@skynet.be

AERO

SPACE

DEFENCE

NDTPRO SRL is a small company born in 2007 to offer Level 3 NDT consultancy to all companies from Aerospace & Defense Sector. Level 3 job is defined into aerospace standard EN4179 (qualification and certification of personnel performing nondestructive testing (NDT), nondestructive inspection (NDI), or nondestructive evaluation (NDE) in the aerospace manufacturing, service, maintenance and overhaul industries.

The activity is done on each of the following industrial methods used to check the quality of the material (usually Steel, Aluminum or Titanium alloy and composite parts)

- Liquid penetrant (PT)
- Magnetic particle (MT)
- Thermography (IRT)
- Shearography (ST)
- Eddy current (ET)
- Ultrasonic (UT)
- Radiography (RT)

For each method, Level 3 from NDTPRO must:

- Have the skills and knowledge to interpret codes, standards, and other contractual documents that control the NDT method(s).
- Be capable of assuming technical responsibility for the NDT facility and staff.
- Be capable of selecting the method and technique for a specific inspection.
- Be capable of preparing and verifying the adequacy of procedures and work instructions.
- Approve NDT procedures and work instructions for technical adequacy.
- Have a general knowledge of other NDT methods and product manufacturing and inspection technologies used by the employer.
- Have a basic knowledge of aircraft or vehicle maintenance.
- Be capable of providing or directing training, examination, and certification of personnel.
- Conduct NDT for the acceptance of parts and document the results.
- Be capable of auditing outside agencies to ensure the technical requirements of NDT are met.
- Assist all companies to take NADCAP accreditation in the field of NDT

NDTPRO makes this job for most of the aerospace companies in Belgium including Sonaca, Sabca, Asco, Sabena Aerospace, Technical Airborne Components, Precimetal, Settas, Mecaspring, Capaul, Britte and MPP, but is also active outside Belgium (in Canada and China for Safran Group).

NDTPRO responsible level 3 is accredited by Airbus, Rolls Royce, Safran, Boeing and ASNT (American Society for Non Destructive Testing), based on PhD in NDT Sciences.

NEMAND

Rue Juste Lipse 19 - 1040 Bruxelles | BE
T. +32 (0)498 22 18 17
info@nemand.be
https://www.nemand.be/

AERO DEFENCE

Making a difference as a trusted consulting company in the aviation industry.

Description

NEMAND Consulting Ltd, based in Brussels, Belgium, provides engineering and consulting services to clients in the aviation, defense, and security sectors.

Key Benefits

- **Expertise:** Extensive international experience in Air Traffic Management (ATM), Satellite-Based Navigation (GNSS), and Aviation Safety.
- **Strategic Location**: In Brussels' European Quarter, near EU institutions and EUROCONTROL.
- **Diverse Team:** Professionals with backgrounds in civil and military aviation.

Services

- **Aviation Consulting and Engineering:Air Traffic Management (ATM)**
  - Aviation Safety and Security
  - Civil-Military Cooperation
  - GNSS
  - Project Management
  - EU Lobbying and Representation

Why Choose NEMAND

- **Dynamic Culture:** Competitive edge and dynamic corporate environment.
- **Strategic Partnerships:** Collaborations with EUROCONTROL, SESAR JU, NATO and the European Commission.
- **Proven Track Record:** Managed high-profile projects and established a strong presence in the aviation sector.

Certifications

ISO 9001:2015: Certified Quality Management System, ensuring high-quality service delivery.

NSILITION

Rue Louis de Geer 6B - 1348 Louvain-la-Neuve | BE
T. +32 (0)10 39 21 40
info@nsilition.com
https://nsilition.com/

AERO SPACE

MAKING your ELECTRONICS smaller, smarter, stronger.
nSilition is a leading analog and mixed-signal ASICs/SoCs and semiconductor IP provider for applications areas like wireline and wireless communication, industrial, automotive, medical and aerospace.

nSilition specializes in the development of industrial quality circuits, with expertise in mixed-signal, high-speed and/or low power analog and full-custom digital circuitry. nSilition's circuits employ various specific enhancements to improve power efficiency, yield and reliability.

The semiconductor IPs are available as ready-to-use design kits for most popular silicon technologies. nSilition's IC and IP design service offers top quality design, customization and support dedicated to your needs and your specifications.

The design team of nSilition has many years of hands-on industrial level design experience on various Analog and Mixed-Signal SoCs electronic systems, as well as their characterization and qualification for production. We will support you through the whole integration and product validation phase of the IC or IP.

ASIC Design

You have a mixed-signal electronic system on a printed circuit board? You are assembling off-the-self components to build up a complex function? Are you considering the development of a custom IC, dedicated to your products and fully tailored to your needs? You want it

- Cheaper (assembly costs, reduced BOM, embedded testing)
- Smaller (in size, in weight)
- More efficient (Higher speed, lesser power, higher yield)
- Smarter (Reconfigurable)
- Stronger (IP protection, data encoding, RFID, radiation tolerant)
- Cleaner (no Pb, consumes less)
- Dedicated (to your needs, to your standards)
- Faster (time to market)

An ASIC (Application Specific Integrated Circuit) designed by nSilition is what you are looking for! Each company and every project is different but nSilition will help you with custom services adapted to your needs from concept evaluation to production.

Design of two accelerometer chips and a power management chip

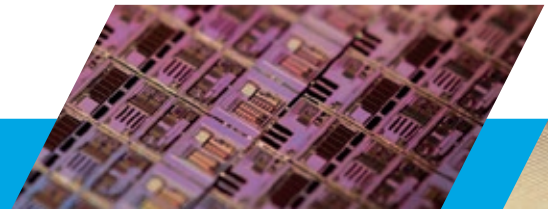
For a main leader company that designs and builds electrical systems for the aerospace, defence, transportation and security markets.

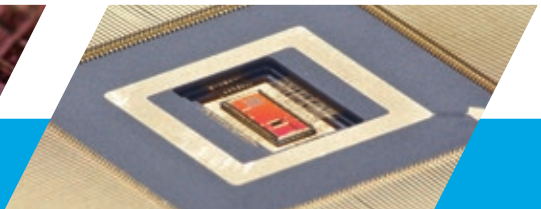
Radiation tolerance characterization of ICs

For a company providing high-performance micro-satellites for Earth observation applications.

Design of high temperature IPs

For a leading company in high temperature semiconductor solutions, delivering standard products and custom solutions for extreme temperature and harsh environments.





NUMFLO

NUMFLO

Boulevard Initialis 7 Boîte 2 - 7000 Mons | BE
T. +32 (0)65 70 92 00
info@numflo.eu
http://www.numflo.eu

AERO SPACE

CAE and CFD simulation software is largely used by industry today. General software tools are available on the market and cover a large variety of applications, but often fail in providing a fast, reliable and cost-effective solution to challenging industrial applications. Reliable simulations rely on understanding a large number of physical properties and models and the manipulation of various software tools. NUMFLO addresses these requirements and accompanies your CAE and CFD workflow. We provide high level consulting services and technology to simulate and optimize complex industrial components and processes.

NUMFLO is an engineering company active in the field of CFD ("Computational Fluid Dynamics") simulations. NUMFLO offers advanced consultancy services for fluid flow analysis, design, and optimization, as well as dedicated technological solutions for fluid/solid multiphysics and heat transfer modeling. NUMFLO is a subsidiary of NUMECA International (www.numeca.com), worldwide leader in industrial CFD software development. Our activities cover a wide range of applications where fluids play an important role: Aerospace & Defense, Architecture engineering & Construction, Automotive, Consumer Goods, Energy, Healthcare and Marine & Offshore.

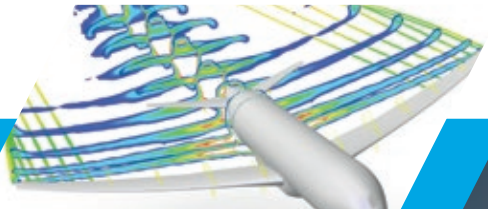
Our main areas of expertise are:

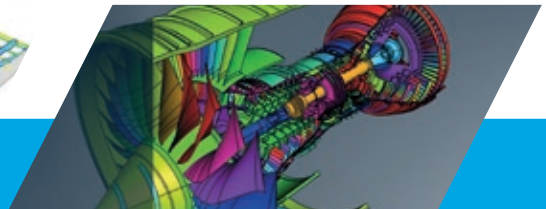
- Simulating complex fluid flows and multiphysics applications;
- Providing innovative technology and models in response to specific requirements;
- Integrating in-house or new technologies in commercial CAE software systems, guaranteeing maintainability and support.

We cover a wide range of industrial applications where fluids play an important role.

NUMFLO is working in close relation with universities and research centers worldwide and is active in several national R&D funded projects.

References and/or Certifications NUMFLO is a certificated company (ISO9001– AS 9100)





OAD

Rue de l'Yser 31 - 5020 Namur | BE
T. +32 (0)497 90 96 96 | F. +32 (0)81 21 26 87
info@oad.aero
http://www.oad.aero

AERO DRONE DEFENCE

For more than 15 years, we have been serving aeronautical companies worldwide, contributing to research and development projects ranging from small drones to mid-range airliners. Our expertise is reflected in our cutting-edge solutions: Aircraft Design Software (ADS) and Aircraft Monitoring System (AMS), shaping the future of aviation.

OAD's three main activities are:

- Development and marketing of ADS software for aircraft conceptual design.
- Development and marketing of the AMS monitoring system for flight performance optimization.
- Consulting services, conducting conceptual and preliminary design studies for clients.

Aircraft Design Software (ADS)

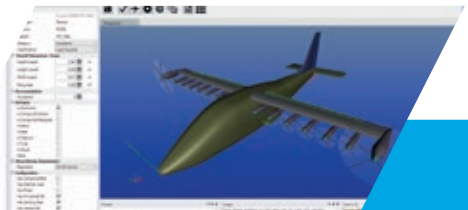
ADS is a comprehensive tool for conceptual aircraft design, applicable to all types of aircraft, from drones to airliners. It covers all key aspects, including mission refinement, configuration layout, aerodynamics, structural design, propulsion systems, performance estimation, stability and control, weight and balance estimation, cost and feasibility analysis, and environmental and regulatory considerations.

Aircraft Monitoring System (AMS)

AMS is designed to optimize UAVs and aircraft by enhancing payload capacity, range, and endurance. The system features a thrust and torque sensor (TNT-Meter) connected to onboard electronics, enabling real-time recording of flight and engine parameters. By quantifying aerodynamic and propulsion efficiency, AMS helps maximize overall aircraft performance. It is compatible with all types of electrically powered aircraft, including UAVs, VTOLs, and airplanes, offering versatile monitoring capabilities for improved operational efficiency.

Consulting and Design Services

OAD provides full or partial conceptual and preliminary design studies for clients who lack the necessary resources or expertise. Using our proprietary software, tailored to the specific needs of aeronautical projects, we deliver fast and efficient solutions, ensuring successful outcomes within short timeframes.



OPEN ENGINEERING

Allée des Noisetiers 2 - 4031 Angleur | BE
T. +32 (0)4 367 89 43 | F. +32 (0)376 68 22
info@open-engineering.com
https://www.open-engineering.com

AERO SPACE DRONE DEFENCE

Multiphysics Simulations to Support your Innovations

Open Engineering is a breakthrough supplier of multiphysics software for the CAE market. Our solutions are based on our OOFELIE::Multiphysics platform, optimized for the analysis of large industrial 3D design work.

Part of the GDTech group, Open Engineering is active in the Computer-Aided Engineering (CAE) market. Open Engineering designs develops and sells OOFELIE: Multiphysics.

Successful technical innovation is based on robust designs. A growing number of high-precision applications have to perform under harsh conditions. Sensitive to multiple physical effects and to their manufacturing process, they might be influenced by their package and their surrounding environment.

The OOFELIE::MULTIPHYSICS solver helps understand and optimise the performances of complex devices to make them more robust.

Our main expertise is in the area of:

- Sensors, actuators, MEMS and microsystems
- Optomechanical systems and MOEMS
- Fluid-Structure Interaction applications
- Small satellites

These simulation capabilities encompass a broad range of products in the aeronautics, space, defence, automotive and electronics markets.

In complement to the development of its own engineering tools, Open Engineering performs different types of services works:

- Training on our multiphysics engineering software tools
- Engineering consulting
- Customized engineering software tools

Cut the number of design cycles and accelerate your innovation capacity by choosing the 3D multiphysics FEA solution from Open Engineering: the OOFELIE::MULTIPHYSICS Suite

OplusR salle blanche

Rue du Pétria 4 - 6140 Fontaine-l'Eveque | BE
T. +32 (0)473 54 39 99
jp.berlengee@oplusr.be
https://oplusr-salle-blanche.com/

AERO SPACE

O+R est une société d'ingénierie et de construction de salles blanches, elle est composée d'un bureau d'études et de monteurs expérimentés en mécanique, électricité, automatisme, aéraulique et hydraulique. L'objectif est de fournir des salles propres dans leur globalité (selon la norme 14 644). Le travail en atmosphère contrôlée dans le domaine aérospatial ou aéronautique requiert généralement des salles blanches répondant aux normes ISO 8 ou ISO 7. Il s'agit en général de grands volumes de salles propres. Des ponts roulants sont fréquemment installés à l'intérieur des halls de production. Des postes de travail peuvent évidemment être équipés ponctuellement de tentes ou flux laminaires pour atteindre des classes plus contraignantes (ISO 4 ou 5). Chaque salle propre est conçue pour répondre à la spécificité du process en termes de température, d'humidité ou de pollution particulaire, il faut limiter tout dégagement de COV conformément à la norme ISO 16000.

Salle propre 4.0

Produire en salle propre suppose un contrôle des paramètres en matière de pressions, d'humidité, de renouvellements d'air,... L'évolution récente montre un besoin accru d'archivage et le développement de logiciels de contrôle et de reporting. Nous avons développé une gestion 4.0 de nos installations, O+R est ainsi informée en temps réel, de plus, chaque jour nos clients reçoivent un fichier imprimable avec l'ensemble des valeurs de la journée. L'ensemble des données étant sécurisé 10 ans sur un serveur infraudable.

Les espaces propres mobiles ultra propres ISO 5

O+R a développé, pour des productions ponctuelles à hautes exigences de qualité, une solution techniquement et financièrement très intéressante: la tente avec plafond ou mur soufflant. Les tentes à flux laminaire avec plafond soufflant permettent à nos clients d'obtenir dans un délai rapide et pour un budget moindre qu'une salle blanche classique un environnement ultra propre. O+R a développé une gamme de produits standardisés disponible sur son site.

Optrion

Avenue du Pré-Aily 25 - 4031 Liège | BE
T. +32 (0)4 287 10 70 | F. +32 (0)4 287 10 71
info@optrion.be
https://www.optrion.be

AERO

Non-Destructive Testing Solution for Composite Materials and Structures

OPTRION, a spin-off of Centre Spatial de Liège and a branch of V2i, is a company specialized in optical metrology and non-destructive testing for composite material and structures, especially Shearography.

PATRIA BELGIUM ENGINE CENTER

Rue du Fonds des Fourches 23 - 4041 Herstal | BE
T. +32 (0)4 270 70 53 | F. +32 (0)4 388 39 56
pbec.reception@patriagroup.com
https://www.patriagroup.com

AERO DEFENCE

Patria Belgium Engine Center (PBEC) is a one-stop shop for Maintenance, Repair and Overhaul (Depot and Intermediate) services, serving both commercial and military fleets around the world.
PBEC has served as an MRO Center of Excellence for the F100-PW for over four decades, currently supporting 15 air forces, including the U.S. Air Force.
Uniquely certified by the OEM as Authorized Overhaul Facility and by US Air Force as Source Approved, PBEC also offers spare parts provisioning and trading – with shorter lead times and off-the-shelf readiness.
Our excellence built over 40yrs of business makes PBEC capable of providing customizable services, repairs and assets management according to our customer's needs.

Versatile and complete MRO solution

Our comprehensive in-house capabilities (NDT/NDI, Item Repairs, Module Overhaul) provide our customers with a complete, single MRO solution resulting in competitive pricing and turn time, eliminating the need to rely on a dispersed repair network.

Extensive choice of Non Destructive Testing & Inspections

PBEC is an ideal partner for NDI/NDT requirements.

Modern portfolio of repair capabilities

PBEC not only restores a wide range of components in-house, but our engineering team offers custom repair processes and services according to customer's needs.

Efficient spare parts provisioning & trading

PBEC can offer shorter lead times in hardware procurement with the ability to offer an attractive off-the-shelf new and serviceable parts.

Smart selection of engineering & logistics services

As a reliable and knowledgeable partner, we provide custom services that aim to lower customers' overhead cost, such as material forecasting, configuration management, technical support and warehouse services.

Liège, a competitive logistics hub

Located in the heart of Europe, only a few miles from a major cargo airport, PBEC leverages this highly industrialized area with an excellent infrastructure to offer more efficient transit time and lower logistics costs for our customers.

PEGARD PRODUCTICS

Avenue Reine Elisabeth 59 - 5300 Andenne | BE
T. +32 (0)85 84 98 11 | F. +32 (0)85 84 99 52
info@pegard.com
http://www.pegard.com

AERO

Pegard is active in the machine-tool business for more than 50 years and became well-known in the whole industrial world for its large and precise horizontal boring and milling machines. Created in 1937 and now a subsidiary company of the group OGEPAR, Pegard engineers and delivers tailored solutions for the flexible machining of large precision parts offered to the customer in a turnkey solution. Pegard also provides services in machining and after-sales services.

Machine tools manufacturer Pegard is specialized in the manufacturing of large horizontal boring and milling machines and machining centers committed to high quality and performance. Our customers are users demanding ultimate levels of precision and automated machining of large mechanical parts, such as turbine rotors, valves, pumps, engine blocks, compressor housings, components for earth moving equipment...

Pegard has also developed its business in manufacturing of vertical turning lathes (Ø12504000mm table) and offers you a large panel of sharpening machines through its brand HARO Technologies.

After-sales service Besides its boring and milling machines and vertical lathes, Pegard offers of course a well-known after-sales service (works on site, spare parts, preventive maintenance...), the retrofit of existing machines as well as an electric department able to realize complex sub-contracting works **Machining subcontracting** Pegard can machine your parts thanks to its large panel of machine tools. Here are our capabilities:

- CNC horizontal machining centers / 3 to 5-axis / up to 9600x3000x700mm
- CNC turning up to Ø5600x2500mm
- Flatbed grinding up to 7200x2200x1350mm
- Quality inspection (Cimcore infinite 2.0 3D arm)
- CAD/CAM softwares

References BOEING (Spirit aero) – AIRBUS (Premium Aerotech) – SONACA – ASCO – SAFRAN – TECHSPACE AERO – FIGEAC AERO– IBA – KENNAMETAL – CMI

PIX COATING

Rue des 3 entités 16 - 4890 Thimister Clermont | BE
T. +32 (0)87 44 74 41
info@piron.be
http://www.pixcoating.com

AERO SPACE DRONE DEFENCE

Thanks to its 40 years of experience in complex paint applications, Pix Coating has been recognised as a key partner for Surface Treatments and Finishing for high added value industries. Its quality culture among with its increased production capacities allows it to be an evident partner for the treatment of your production.

Our company, among with its 35 professionals, is dedicated to realising high quality paintings for demanding industries (aerospace, aeronautics, defence and security, railways,...).

We are used to complex treatments and paint specifications. We can work on every substrate and are able to consult you on the best treatment choices.

We are certified ISO 9001:2015 and EN 9100:2018

We are equipped with a small parts vertical blowing painting line (<250 kg and < 1 cubic meter). Our Flash Off and Curing zones are separated, allowing 4 people to paint at the same time.

Our big parts painting line (<3T and 3.5 x 5 x 16 m) allows 2 people to paint at the same time.

We've got a dedicated line for composites parts treatments (surface finishing). It allows us to complete the production of unperfect surfaces.

We are also equipped with a powder coating line and we take in charge surface treatments prior to paint.

Our capacity allowed us to treat over 400.000 parts in 2024.

POLMANS

ZI. Rue d'Artagnan 14 - 4600 Visé | BE
T. +32 (0)4 379 13 71 | F. +32 (0)4 379 70 00
sa.polmans@polmans.be
http://www.polmans.be

AERO SPACE DRONE DEFENCE

For more than 45 years now, POLMANS has been active in precision mechanics, particularly in the fields of aeronautics, nuclear, weapons, medical, steel. Polmans has also been active in the field of plastic injection for almost 20 years.
The company is specialized in prototypes, unitary parts, in small and medium series.

COMPANY BACKGROUND

Year of establishment: 1973 Number of employees: 50 Export: +/28 % Main Export countries: NL – G – CH – GB – GDL – F

ADDED VALUE

We are specialised in the manufacturing of high precision mechanical parts, from diameter 1 mm to diameter 950 mm. Maximum length: 6000 mm.

In addition to the usual CNC machines, we have several centers lathes allowing 5 axes machining. We also have welding MIG-TIG department for the manufacturing of welded and milled structures.

We are also specialised in the manufacturing of closed circuit systems, where the vacuum must to be created.

We have a specific machine to realise all vacuum tests required.

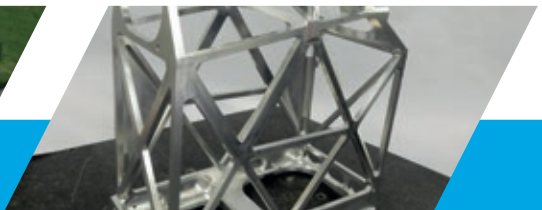
We are able to machine all type of material, like stele, cupper, titanium, stainless steels, nickel,...

We also have injection moulding machines for which we created our own design and moulds.

In addition, we have a drawing office.

RANGE OF PRODUCTS

Turning: diameter 1 mm to 950 mm, length: 10 to 6.000 mm Milling: 3.500 x 1.000 x 1000 mm and 2.000 x 1.200 x 1.500 mm.



PULSAART BY AGC

Rue Louis Blériot 8 - 6041 Gosselies | BE
T. +32 (0)2 409 12 21
pulsaart@agc.com
https://www.pulsaart.com/

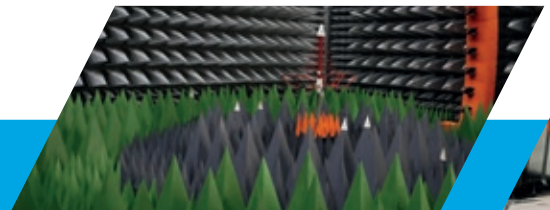
AERO SPACE DRONE

Pulsaart by AGC provides high-precision antenna measurement services for aerospace, space, and UAV applications, offering testing in state-of-the-art anechoic chambers covering 50 MHz to 18 GHz. Our facilities support large-scale aerospace components, satellite systems, and UAV-mounted antennas, delivering fast, accurate, and repeatable antenna measurements. With advanced radiation pattern analysis, multi-frequency and beamforming validation, and post-processing techniques, we help optimize antenna performance. Strategically located in Belgium, next to a major international airport, Pulsaart by AGC ensures seamless access for global clients while providing expert consulting and fast turnaround. Our multiprobe anechoic chamber meets the requirements of the standard EN ISO/IEC 17025:2017.

Pulsaart by AGC offers state-of-the-art anechoic chambers for fast, accurate, and repeatable antenna measurements from 50 MHz to 18 GHz. **The Gantry Anechoic Chamber** is optimized for far-field 3D dual-polarization measurements, accommodating large aerospace components, UAV platforms, and satellite antennas up to 6.0 meters and 3000 kg (470 MHz – 18 GHz). **The Multiprobe Anechoic Chamber** enables high-speed near-field testing across 50 MHz – 6 GHz, supporting 8 measurement ports for precise radiation pattern evaluation. **The StarLab Anechoic Chambe**r provides compact satellite and drone antenna testing, covering 600 MHz – 18 GHz for devices up to 0.45 meters and 10 kg.

Beyond raw measurements, Pulsaart by AGC offers cutting-edge post-processing and diagnostic tools to refine antenna performance, including:

- Emulation of realistic ground conditions.
- Phase center location estimation.
- Equivalent current method (diagnostic, filtering, simulation).
- Truncation errors mitigation techniques



REDU SPACE SERVICES

Redu Space Services
CUSTOMIZING SATELLITE SOLUTIONS

Rue devant les Hêtres 2 - 6890 Transinne | BE
T. +32 (0)61 22 95 18
sales@reduspaceservices.com
http://www.reduspaceservices.com

SPACE

RSS, founded in 2007 by SES & QinetiQ Space nv, operates the ESA Redu Centre including tens of antennas and operational satellite systems.
ESA Redu Centre is considered as EU Critical Infrastructure and hence an ideal place to host space based activities, services and applications for Governments and Institutions with a high level of security and cybersecurity.

What are your needs in satellite communications?

Enabling Satellite Businesses, Innovative solutions

You have in mind services involving satellite communications, navigation and/or earth observation: Our value proposition involves secure communications tailored to customer needs including cybersecurity services to make sure the satellite network is protected to the highest standards.

Case Studies:

- GOVSATCOM-Mission Operations Centre: Redu is the core of the SES ESA GOVSATCOM PRECURSOR PACIS-1 project where the core satellite communications infrastructure such as the Mission Operations Centre, antenna teleport infrastructure is being validated and installed for for governments and institutions in Europe.
- Cybersecurity study and demonstrator: RSS is in charge of a study and first demonstration of key capabilities for ESA to identify the mission priorities and objectives for a future Cybersecurity Operations Centre. We are carrying it this out with the support of Thales and Spacebel.

Satellite Operations

You are interested in efficient satellite operations or a back-up: We can help you by Hosting and Maintaining & Operating your satellite communication infrastructure. We deliver top-quality 24/7 services for satellite communication systems and back-ups.

Case Studies: PROBA OPERATIONS, Earth Observation satellites, Hosting and maintenance: SES BACK-UP CENTRE

Payload IOT Solutions

You are looking for a leading company to carry out your In-Orbit payload tests: We are the European Excellence Centre for IOT with a successful heritage of carrying out more than 50 IOT campaigns.

Case Study: GALILEO Constellation In-Orbit Tests

ROVI-TECH

Rue de Fosses 50 - 6250 Presles | BE
T. +32 (0)71 24 38 80
rovitech@rovitech.com
http://www.rovitech.com

AERO

ROVI-TECH: Industrial Vision Expert
For over 30 years, ROVI-TECH, a family-owned business, has been at the forefront of providing advanced industrial vision solutions, continuously adapting to the ever-evolving demands of the market.
Our services include consulting, auditing, feasibility study in our optical laboratory, prototyping, integration of vision solutions on the production line or realisation of autonomous special machines.

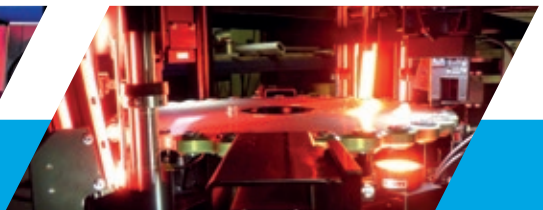
Multidisciplinary Expertise

ROVI-TECH offers extensive expertise across a wide range of fields, including physics, optics, lighting, IT, robotics, mechanics, and electronics. We also integrate cutting-edge AI technologies, such as Deep Learning, into our solutions. This broad and deep knowledge allows us to effectively support manufacturers in automating their processes using advanced optical systems (cameras).

Excellence in Control and Automation

With a multitude of successfully completed projects and ongoing investment in R&D, we achieve excellence in various applications, including:

- Real-time quality control;
- Assembly conformity verification;
- Visual appearance inspection;
- Dimensional control;
- Counting and sorting of parts;
- Foreign object detection;
- Recognition and identification.
- Our innovative solutions are based on our expertise in advanced technologies:
- 1D, 2D, and 3D camera techniques;
- Development of custom algorithms;
- Integration of artificial intelligence;
- Hyperspectral inspection;
- Machine and robot control.



SABCA

Chaussée de Haecht 1470 - 1130 Bruxelles | BE
T. +32 (0)2 729 55 11
sales@sabca.be
http://www.sabca.be

AERO SPACE DRONE DEFENCE

SABCA Group is present in the three Belgian regions (Brussels-Capital, Louvain La Neuve in Wallonia and Lummen in Flanders) and in Casablanca, Morocco.
SABCA offers a full range of services to the civil, military aviation markets and space markets, as well as unmanned aerial solutions.

SABCA offers end-to-end solutions, from design, to manufacturing, integration and testing, with the objective to deliver a ready-to-fly component.

It does so through its wide range of competencies, developed during its more than 100 years of experience in the design, construction, and assembly of integrated metallic and composite aerostructures as well as the development, manufacturing, and supporting of actuators for advanced thrust vector control for space launchers and flight control systems for military and civil aviation.

SABCA is part of Orizio Group, a unique industrial eco-system focusing on the sustainable development of the aerospace industry by uniting agile, forward looking and high-tech companies.

SABCA TECHNOLOGIES

Avenue Jean Monnet 1 - 1348 Ottignies-Louvain-la-Neuve | BE
T. +32 (0)478 45 00 12
marc.dubois@sabca.be
http://www.sabca.be

AERO SPACE DRONE

SABCA Technology is the new subsidiary of the Belgian aerospace flagship SABCA, dedicated to the design and the manufacturing of actuation systems of the future, for aviation, space and drones applications making use of New Space practices.

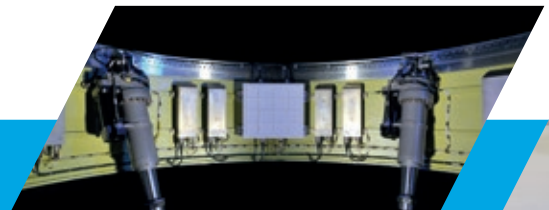
SABCA Technologies is the new subsidiary of SABCA, the Belgian flagship of the aerospace industry, set up at the end of the year 2022 and located Louvain-la-Neuve.

SABCA Technologies is dedicated to the design and the manufacturing of actuation systems for the future, targeting aerospace, drones and defense applications making use of New Space approaches.

SABCA technologies has signed a research and development partnership with the UC Louvain, aiming to strengthen its European leadership in the design and manufacture of electro-mechanical actuation system (including control and power electronics as well as power supply), a critical sub-system used on the launcher thrust vector control as well as on aviation flight control.

SABCA and its subsidiary SABCA Technologies are the European leader and source of supply for the launcher thrust vector actuation systems are preparing an innovative and disruptive generation of products that break with the hydraulic actuation systems produced by SABCA for the F16 program 40 years ago.

Created in 1920, the Sabca group is a major Belgian player in the aeronautics, aerospace and defense industries. Its high-tech component design and manufacturing activities operate in the aviation, space and, more recently, industrial drone markets (surveillance and autonomous hospital-to-hospital transport). In Belgium, the company is located in Lummen (composite structures), in Brussels (metallic aerostructures) and in Louvain-la-Neuve (SABCA Technologies). It is part of the Orizio Group since 2020, along side with Sabena Engineering.



SABENA ENGINEERING

Vliegveld 117 - 1931 Steenokkerzeel | BE
communication@sabena-engineering.com
http://www.sabena-engineering.com

AERO

DEFENCE

Sabena Engineering is a leading independent and international aviation solutions provider for civil and military operators. Our century of experience enabled us to develop an internationally recognized expertise and savoir-faire as well as a responsive internal capability. Our mission is to facilitate and optimize our clients' business by offering highly qualitative, customized and efficient solutions.

Sabena Engineering is a leading international aviation solutions provider, offering a comprehensive range of services to airlines, air forces, and leasing companies. It ensures aircraft availability and support throughout their life cycle, from the introduction of new aircraft into the fleet to their dismantling.

With more than a century of experience, the company has developed internationally recognized expertise and a responsive internal capability. Its mission is to facilitate and optimize clients' operations by offering high-quality, customized, and efficient solutions.

Drawing on the expertise of over 900 employees across 15 airports in Europe, the Middle East, and Africa, Sabena Engineering serves airlines, governments, and air forces worldwide. The commitment to reliability, agility, passion, and continuous aeronautical expertise is encapsulated in the company's promise: "Keep on Flying, We Take Care."

Sabena Engineering is part of the Orizio Group, an innovative industrial ecosystem dedicated to the sustainable development of the aerospace industry, uniting agile, forward-thinking, high-tech companies.

SAFRAN AERO BOOSTERS

Route de Liers 121 - 4041 Herstal | BE
T. +32 (0)4 278 81 11 | F. +32 (0)4 278 52 07
http://www.safran-aero-boosters.com

AERO

SPACE

Safran Aero Boosters designs, develops and produces modules, equipment and test cells for aerospace engines. Thanks to its high-tech products, the company equips the Ariane launcher and most commercial aircraft engines in all thrust ranges. Based in Liège, Safran Aero Boosters has approximately 2000 employees on an integrated 65,000 m² site.

BOOSTERS: Low-pressure compressors and front bearing support

- Responsibility of low-pressure compressors for CF34, CFM56, GE90, GE9X, GEnx, GEPassport, GP7200, LEAP and Silvercrest engines
- Technology for developing more environmentally-friendly engines: light-weight booster and high-speed booster
- Partnerships with Safran Aircraft Engines, General Electric and Pratt & Whitney

OIL SYSTEMS: Lubrication units, oil tanks, heat exchangers, special valves

- Responsibility of lubrication equipment for CF34, CFM56, GE90, GE Passport, LEAP, PW1000G (for MRJ, C-Series, E-jet), TP400, SaM146 and helicopter engines
- A shift towards "more electric" aircraft and thermal management Maintenance, Repair and Overhaul for over 50 customers

TEST CELLS: Turnkey test cells, testing equipment, data acquisition and control systems

- esponsibility of military and civil test cells from A to Z, modernization and adaptation of test cells for all types of engine (turbofan engines, turbojets, turboshaft and engine components)
- Shift towards smart cowlings and more environmentally-friendly test cells (studies to find solutions that cut fuel consumption and recover energy)
- 50 customers: engine manufacturers, maintenance centers and armed forces
- SPACE EQUIPMENT

SPACE EQUIPMENTS: Flow control valves for launcher engines and tanks

- Responsibility of flow regulation valves for the Vulcain 2® and Vinci® engines and stages
- Shift towards electrically actuated valves and boast enhanced features
- Partner of Airbus Safran Launchers for Ariane 5 & 6
- Partner of ArianeGroup for Ariane 6, Safran Aero Boosters is a partner in all major future European propulsion programs (Prométhée, M10/Vega-E, BERTA/Kick-Stage)

SAFRAN BLADES

Marchin - 4570 Marchin | BE
https://www.safran-group.com/fr/societes/safran-blades

AERO

Subsidiary of Safran Aero Boosters
Production plant for compressor blades for aircraft engines

This 10,000 m² centre of excellence has been set up in Marchin, on a former ArcelorMittal site which has been completely refurbished, incorporating Safran's best industrial technologies to meet the world's highest standards.

Combining automation, highly qualified staff and the most advanced digital technologies, the 4.0 factory produces more than 2,000 blades a day, ensuring innovative and autonomous quality control in real time at every critical stage of the manufacturing process.

Safran Blades was created in partnership with the Belgian and Walloon authorities, the Société Fédérale de Participations et d'Investissement (S.F.P.I.M) and Wallonie Entreprendre (WE).

Blades

This new industrial site produces titanium compressor blades, for the LEAP engine among others, and reinforces Safran Aero Boosters' industrial expertise in its flagship product, the low-pressure compressor.

Sustainable development

This site has been designed to meet the highest standards in terms of sustainable development, significantly reducing energy and water consumption and using renewable energies (solar panels, hydraulic turbines, etc.).

SAGITA

Avenue de l'Indépendance 37 - 4020 Liège | BE
T. +32 (0)497 52 89 64
h.antoine@sagita.be
http://www.sagita.be

AERO DRONE

Sagita develops turbines and centrifugal compressor specifically designed to drive contrarotating helicopter rotors.
Aside we also develop and test VTOL drones and Urban Air Mobility solutions using the patented turbine driven rotor.

Aeronautics: we are presently studying a hybrid electric VTOL aircraft for the Urban Air Mobility burgeoning market.

Drones: We develop the S75 drone: this is a 75 kg MTOM VTOL UAV. The S75 prototype presently undergoes test and demo flights. The 15 kW engine and 25 l fuel tank provide autonomy for 6 hours. Payload 20 kg. Intended use: surveillance of extended areas, naval or terrestrial.

Engineering: Aerodynamic and structural design of centrifugal compressors and of contrarotating radial turbines. Design of coaxial helicopter rotors and control system.

SCHAEFFLER AEROSINT

SCHAEFFLER

Rue d'Abhooz 31 - 4040 Herstal | BE
T. +32 (0)4 221 67 30
info@aerosint.com
https://aerosint.com/

AERO SPACE DEFENCE

Schaeffler Aerosint invented a unique Selective Powder Deposition (SPD) recoater enabling multi-metal LPBF 3D printing along some other exciting use cases !

Since its foundation in 2016, Schaeffler Aerosint has been developing a technology called "**Selective Powder Deposition**". This technology selectively deposits **multiple powders** to form a **single layer** containing at least two materials.

It's an alternative to single material roller or blade recoaters traditionally used in powder bed processes.

The technology applies to multiple additive manufacturing techniques like **Laser Powder Bed Fusion (L-PBF)**, **Binder Jetting**, and **Pressure Assisted Sintering**.

SCOUP

Clos de Priesville 40 - 4845 Jalhay | BE
T. +32 (0)471 78 38 40 | F. +32 (0)87 26 97 81
cpromper@chpconsult.be
http://www.chpconsult.be


AERO


SPACE


DEFENCE

SCOUP, prototypes, tests, develops, industrialises and produces components and actuators for aeronautic and space fluid systems.
Most R&D activity is currently focused on Shape Memory Alloy couplings for pipes which are being developed within the frame of three ESA projects and for which an aerospace compatible supply-chain is being set up.
SCOUP is open to new partnerships within the frame of ESA, EU and other projects.

The company develops above mentioned products internally and with the help of strategic partners. Components are validated mainly in own facilities presented below, which are also available for outsourcing.

The laboratory is equipped with

- Helium bench (up to 400 bar) with mass spectrometer leak detector, vacuum chamber (10^-8bar) and climatic control
- ISO5 area with laminar flow with optical cleanliness analysis equipment
- Dynamic test facilities (Shaker for resonance search, Sinus and Random tests)
- Hydraulic test facilities up to 1300 bar, liquid pressure drop bench...
- Specialised metrology (including surface scanner in nanometer range)
- Electronic diagnosis equipment
- Equipment for metallographic analysis.

Processes (for prototyping of small components)

- High precision CNC turning
- Electroplating (Au, Ni)
- High precision polishing/lapping
- Cryogenic thermo-mechanical treatment
- Within ESA projects, the company also conducts numeric simulations in the field of mechanics, flow dynamics and magnetic analysis with own tools/models that are validated by tests.

Currently, a process is underway for customising own space products for ***non-aerospace applications***.

SECO TOOLS BENELUX

Chaussée de Nivelles 28-30 - 1420 Braine-l'Alleud | BE
T. +32 (0)2 389 09 60 | F. +32 (0)2 389 09 89
sales.be@secotools.com
http://www.secotools.com/be

AERO

Seco Tools has an established reputation as a leading manufacturer and supplier of carbide cutting tools and associated equipment.

Seco's range of products includes a complete program of tools and accessories for turning, milling, drilling and reaming and attachment systems of additional tools. With over 25,000 standard products, Seco is a leading provider of complete solutions for metalworking and machine tools.

The company headquarters are located in Fagersta in Sweden. Seco is present in over 50 countries worldwide, with 40 branches, distributors and channel partners.

For more information, visit the website www.secotools.be

SENSY LOAD CELLS

Zoning Industriel de Jumet - Allée Centrale - 6040 Jumet | BE
T. +32 (0)71 25 82 00
srs@sensy.com
http://www.sensy.com/

AERO SPACE DRONE DEFENCE

Established in 1985, SENSY LOAD CELLS is a Belgian manufacturer of both standard and custom-made load cells, load pins, force and torque transducers. These sensors are intended for systems for force, torque and level measurement, load limitation and for all industrial sectors, including the most demanding ones, such as in industry, Oil & Gas and Aerospace.

We are used to working for the aerospace and space sectors. Here are some applications examples of our standard and custom-made force sensors:

- stabilizer propulsion;
- sensors for cylinders;
- fatigue simulations;
- multi-axis measurement of force and torque for wind-tunnel testing;
- dual instrumentation designed for turbulence;
- force and torque actuators measurement;
- testing embedded systems;
- etc.

One of our major achievements is to work for ESA (European Space Agence) and also for some helicopters, airplanes and UAV's manufacturers. Some of our load cells are incorporated in VEGA and ARIANE rockets.

SENSY's quality system is ISO 9001:2015 certified. Our procedures and processes are in accordance with the EN9100 quality standards. We are also ATEX, IECEx and CSA certified in order to produce and sell intrinsic safety transducers all over the world.

SHUR-LOK INTERNATIONAL

Parc Industriel - 4800 Petit-Rechain | BE
T. +32 (0)87 32 07 11 | F. +32 (0)87 32 07 12
sales.sli@shur-lok.com
http://www.pccfasteners.com

AERO SPACE DEFENCE ENGINEERING

Shur-Lok International is a world leader in the design and manufacture of critical performance fasteners which have become industry standards for Aerospace civil and military applications.
Shur-Lok International has also strong expertise in producing hard metal machined parts for Aircraft engine and Helicopter components.

Shur-Lok International is EN 9100 & NADCAP certified and processes all aerospace materials, specifically high-alloyed steels, stainless steels, high-temperature-resistant steels, titanium or aluminium.

SL Fasteners are used in high vibration and load transfer applications to provide superior alignment, load transfer, resistance to wear and movement, and ease of assembly. Our key product lines include bearing locknuts, barrel nuts, expandable diameter fasteners, studs and inserts, lockwireless fittings, and sandwich panel inserts.

Shur-Lok serves its worldwide customers from two design and manufacturing centers: Shur-Lok Company operates a 75,000 sq. ft. facility in California and a 48,000 sq. ft. facility in Belgium.

Shur-Lok International is part of PCC Airframe – Engineered Products Division, Precision Castparts Corp. (PCC) a worldwide, diversified manufacturer of complex metal com- ponents and products. Precision Castparts Corp. is leader in structural investment castings, forged components, and airfoil castings for aircraft engines and industrial gas turbines. Airbus, Boeing, GE, Rolls-Royce, and many other leading manufacturers depend on us for critical airframe, engine, power generation, medical, and general industrial components.

With few exceptions, every aircraft in the sky flies with parts made by PCC. PCC is a wholly-owned subsidiary of Berkshire Hathaway Inc.

SICHEM

Rue du Château 70 - 6183 Trazegnies | BE
T. +32 (0)71 45 00 15
cl@sichemcoatings.com
https://sichemcoatings.com


AERO


SPACE


DRONE


DEFENCE

Sichem is a start-up founded in 2022 (a spin-off from its parent company) specialized in research and development of innovative coatings for various industrial applications such as healthcare (Nobacoat®), energy, hydrogen as well as all areas of sustainability.

Sichem stands out by offering high-quality coatings that meet the specific requirements of its customers in terms of wear resistance, adhesion, and durability. The company invests in research and development of new technologies to stay at the forefront of innovation. Close collaboration with customers enables expert advice to be offered to meet the specific needs of each client.

Sichem offers a range of coating products for the hydrogen, energy, health, and sustainability sectors. These products include corrosion protection coatings, barrier coatings for anti- diffusion of the H2 and hydrogen storage tanks, antibacterial coatings for healthcare equipment, and wear-resistant (mechanical and chemical resistance at high temperature) coatings.

SKYANGELS

Hecq 29 - 7160 Chapelle-Lez-Herlaimont | BE
T. + 32 (0)476 40 11 72
john.pyrgies@gmail.com

DRONE

DEFENCE

SkyAngels is a Walloon "Young Innovative Company" incorporated in 2014. Its mission is the design, the development and the DO178C certification of "intelligent" avionics software embedded in autonomous drones supporting the critical missions of military, police and civil security forces.

SkyAngels current research themes are:

- The design, the development and the DO178C certification of "intelligent" (i.e. based on artificial intelligence) embedded avionics software implementing critical functions (ex senseand-avoid) for enabling the autonomy of Unmanned Aerial Vehicles used to support the critical missions of military, police and civil security forces. This research is led in the scope of a PhD thesis initiated at the Namur University, in collaboration with the Belgian Royal Military Academy and the "Centre d'Excellence Drone" of the French Air Force.
- The threat modelling of terrorist attack scenarios led with commercial micro-drones and the integration of mitigating technologies within systems aimed to detect, classify, track and neutralize, with electronic and kinetic means, a swarm of hostile drones. The research also includes the design of "intelligent" software controlling those Counter-UAVs systems.
- The cybersecurity measures protecting governmental UAVs from cyberattacks.
- The applications of UAVs for Search-And-Rescue and the transport of emergency medical equipment.
- The concept of "UAVs-carrier airship" (Zeppelin like) used for military missions.

SOBELCOMP

Rue de l'Economie 13 - 4431 Loncin | BE
T. +32 (0)4 264 41 21
info@sobelcomp.be
http://www.sobelcomp.be

AERO DRONE DEFENCE

Sobelcomp is a Belgium industrial sub-contractor founded in 2005 who studies and produces parts made from composite materials for clients.
As a compagny active in the Aerospace and defence sectors it has committed to a high-quality approach and has had its quality management system certified according to standard AS/EN/JISQ 9100 (and ISO 9001).
Also convinced that innovation is the driving force behind its activity Sobelcomp has invested for many years in the development of its engineering office.

The services we provides through our engineering office are:

- Study and design of parts, mold and tooling
- Calculation by finite elements
- Qualification of processes and materials

Through our workshop, parts are:

- manufactured using different processes like RTM, RTM Light, Infusion, Pre preg
- Assembled by gluing or riveting
- Painted in our painting booth
- We are able to produce 10 to 5000 parts per year each weighing between 5 and 200 kg.

Concerning quality:

- We are able to do no destructif testing (NDT). In fact we are EN4179 certified to do infrared testing also called thermography.
- We are also able to do dimentional inspection with our 3D faro arm.

Aviation activity:

Safran Aero Booster: Sobelcomp designs the moulds and produces the air intake sleeves and the cowlings for plane engines. These are used when the engines are undergoing maintenance on test cells to simulate the airflow.

In order to satisfy Safran Aero Booster, Sobelcomp had to show inventiveness and competitiveness by offering technical solutions based on its expertise.

Defence activity:

FN Herstal: Sobelcomp has been studying a structural part from a helicopter. Thanks to its innovation, Sobelcomp was able to offer its client a part with a 40% mass gain.

SONACA

Route nationale 5 - 6041 Gosselies | BE
T. +32 (0)71 25 51 11
communication@sonaca.com
http://www.sonaca.com

AERO SPACE DEFENCE

Sonaca is a top 10 Aerostructure player

Sonaca is a global company with headquarters in Belgium active in the development, manufacturing and assembly of structures for civil, defense, and space markets. With revenues over half a billion dollars and 3500 employees, it is a leading Tier-1 player in the aerospace industry.

Through its subsidiaries and production sites near its customers in Europe, North and South America, Sonaca provides fully integrated solutions to challenging problems from concept to detailed engineering and manufacture. All sites are robustly organized for one-stop-shop manufacturing with all necessary qualifications and approvals. Our integrated approach ensures that our customers receive the highest quality products, best customer service, and the most outstanding value in the industry.

Every time you travel by plane anywhere in the world it is likely that Sonaca is helping you on your way.

SOURSE

Rue Capitaine Aviateur Jacquet 44 - 5000 Namur | BE
b.debroqueville@stemme.com
https://www.sourse.eu

AERO

DRONE

Sourse is a new company based in the airfield of Namur specialized in the earth observation.

Stemme Belgium is a subsidiary company of the German company Stemme AG owned since 20 years by Olivier de Spoelberch. Stemme AG represent more than 120 employees in Germany. Since more than 40 years Stemme imagine and build ultra performer gliders with retractable engine. The system of the S12 glider is totally unique with a retractable propeller in the front of the glider. The S12 is a glider capable to flight more than 2.400 kilometers in one day without engine.

Stemme Belgium is based in Wallonia to imagine with Sonaca and Sabena a drone capable to flight in the stratosphere to make some earth obervation. This join venture between those three companies is very ambitious. We expect to flight in the stratosphere at the end of 2020.

SOWAER

Avenue des dessus de Lives 8 - 5101 Loyers | BE
T. +32 (0)81 32 89 50
info@sowaer.be
https://www.sowaer.be/

AERO

The identified growth potential of Liège and Charleroi airports, along with the commitment to a thoughtful and regulated approach to sustainable development, led Wallonia to establish SOWAER in 2001, appointed by the Walloon Government as a strategic, sustainable, and operational tool.

SOWAER invests in infrastructure and major maintenance to support the development of Liège and Charleroi airports. It is also responsible for the development and management of all acquired lands, built or not, within economic activity zones as part of environmental measures. Additionally, SOWAER oversees the environmental program linked to airport expansion. Its mission is to ensure airport growth while preserving the quality of life for local residents.

SPACEBEL

Rue des Chasseurs Ardennais 6 - LIEGE science park - 4031 Angleur | BE
T. +32 (0)4 361 81 11
sales@spacebel.be
https://www.spacebel.com

SPACE DRONE DEFENCE

REACHING INTO SPACE TOGETHER

Established since 1988, SPACEBEL is a Space systems and software engineering company that has grown in the Space market to become a trusted developer of advanced IT solutions and a related service provider.

The company operates in the Space and Earth observation applications sectors, serving Space agencies, government departments, major aerospace companies, European institutions as well as the commercial market.

SPACEBEL is active in several domains including Earth observation, Space flight, science, telecoms, navigation, exploration, launchers, balloons and Space situational awareness.

Our skills range from the design, development, integration, validation of IT systems for the Space industry over geospatial information systems and services to the mission definition and analysis of Earth observation mini satellites.

SPACEBEL delivers on-board control and data handling software for satellites and space vehicles, satellite simulators, control and mission centres as well as EO Web services provisioning infrastructures. So far, SPACEBEL has contributed to the success of more than 50 Space missions aimed at a better understanding of the Earth and the Universe.

SPACEBEL offers Earth observation services for forestry, agriculture, soil movements and natural resources management and contributes to help decision makers worldwide in protecting and improving people's life sphere.

SPACEBEL has the capacity to provide complete Earth observation solutions, including user requirements and system definition.

SPACEBEL offices are located in Belgium (Liège & Hoeilaart) and France (Toulouse).

Associated corporations: N7 Space (Poland) and constellR (Germany-Belgium).

STARION Group

Rue des Etoiles 140 - 6890 Libin | BE
T. 32 (0)10 48 72 70
info@stariongroup.eu
http://www.stariongroup.eu

SPACE DRONE DEFENCE

Starion provides engineering expertise and solutions for space, defence and other critical infrastructures across Europe, pushing the boundaries of innovation. Our teams work on world-leading space projects that deliver our company's vision of 'shaping the future of what's possible'.
Starion employees are located across Europe, close to our clients' offices, enabling us to be responsive and agile when required. Our engineers and researchers are among the most trusted and respected in the industry. By combining space and systems engineering with established and emerging technologies, we also produce innovative solutions that make a fundamental difference for our clients and for society.

Through our heritage, Starion offers over three decades of expertise and investment in the space sector. We provide professional engineering services, developing and operating systems and solutions tailored to our clients' requirements. Our experts work across the complete space mission lifecycle, from spacecraft design, mission operations and data collection to decommissioning at the end of a satellite's life, and data archiving and utilisation.

Starion is also pioneer in the field of cybersecurity for space assets, working closely with major space organisations and SMEs to offer security by design across the entire mission operations value chain. In support of the integrity of European missions, we work closely with the European Space Agency to help model the future space security landscape and develop best practices for European space safety.

Our innovative, cutting-edge approach in system development and engineering services, and our reputation as a trusted partner, are why we are repeatedly chosen to lead and collaborate in projects and programmes that push boundaries and make a difference, not only to public and private organisations, but also to everyday life.

Now, in our fourth decade of serving the needs of the space sector and other critical infrastructure organisations at European and national levels, Starion will always ensure our customers benefit from the utmost professionalism, coupled with unwavering commitment to the highest ethical standards. Starion is ISO 9001 and ISO 27001 certified.

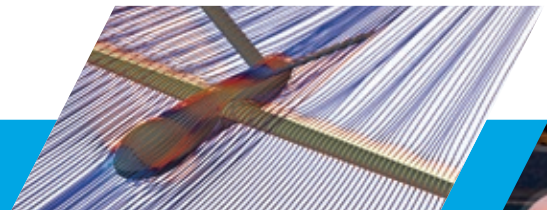
TAURI INDUSTRIES

Altenberger Strasse 34b - 4728 La Calamine | BE
T. +32 (0)87 49 01 48
info@tauri-industries.com
https://www.tauri-industries.com

DRONE DEFENCE

TAURI Industries - The future Roleplayer in the MALE UAV Market !

TAURI Industries is a rising, innovative company with almost 15 years of experience in aircraft design and manufacturing. During the last years historical biplanes have been built and delivered to a wide community of aviation enthusiastic customers and small enterprises. Now, we set the focus on the innovative and globally growing unmanned aviation market to provide fully autonomous UAS designed for multiple missions, including intelligence, surveillance and reconnaissance. The next generation aircraft systems, currently under development, are aimed to make the world more connected, safe and smart for a global networked future. The design is based on the STANAG 4671 and EASA Rules. Whether a MTOM of 25 kg or 900 kg - we make it possible !



TECHNICAL AIRBORNE COMPONENTS INDUSTRIES SPRL

Rue des Alouettes 141 - 4041 Milmort | BE
T. +32 (0)4 289 97 50 | F. +32 (0)4 264 96 70
sales@tecairco.be
http://www.tecairco.be

AERO SPACE DRONE DEFENCE

Technical Airborne Components Industries (TAC), established in 1981, designs and manufactures rods and struts for the aerospace industry. TAC is recognized worldwide as the reference source for high quality, custom engineered control, structural and system rods.
Its expertise in design, development and manufacturing of metallic & composite struts and rods is complemented by related machined parts (e.g. cranks, brackets), special tubular links, telescopic rods, torque shafts and special rod ends.
As one of the leading suppliers in this industry TAC today supplies to its customers all over the world products for all segments in aerospace: commercial aircraft, regional and business jet, helicopter, military and space programs.

Whether your needs are for specific design, innovative solutions, built to print or standard items TAC will provide a tailor-made answer for all requirements of aeronautical struts & rods.

210 employees are working at TAC offering the complete scope of competence from developing solutions to performing qualification testing and hence rapid prototyping and production.

References and/or Certifications

- Certification EN 9100
- NADCAP certification
- ISO 14 001
- Part 21

TECHNOCHIM

Avenue des Artisans 36 - 7822 Ghislenghien | BE
T. +32 (0)68 84 24 59
info@technochim.eu
http://www.technochim.eu

AERO

Technochim, specialist in metal surface treatments.

Technochim is a company specialised in mechanical, chemical and electro-chemical treatments of metal surfaces.

These treatments are carried out on metals in order to modify their surface properties to increase their resistance to corrosion or for decorative purposes. For carbon steel, it may also constitute a base to improve adhesion of subsequent treatments such as painting, etc...

Among the different treatments at which Technochim excels, we mention in particular:

- chemical and electrochemical polishing of titanium alloy parts printed by additive manufacturing: improvement of surface finish by reducing roughness;
- chemical cleaning of aluminum alloy parts printed by additive manufacturing: removal of residual powders (free or sintered) in internal channels by dynamic circulation in a 2-steps process;
- degreasing, pickling, passivation, electro-polishing, mechanical polishing, shot blasting and de-rouging of stainless steel;
- descaling, rust removal and de-silting of HVAC equipment, in which carbon steel, brass, copper,... is found...;
- pickling and anodising of titanium;
- application of nanostructure ceramic coatings on metals which improve functional qualities;
- chemical machining of parts made by additive manufacturing (aluminium, titanium).

These operations are performed either on site at its customers, or in its own workshops located in the industrial zone of Ghislenghien in Belgium not far from the French border.

TECNOLON WORKS

SUB ALLIANCE | TECNOLON
TOOLING & MACHINING

Rue du Forest 5 - 7700 Mouscron | BE
T. +32 (0)56 85 75 48 | F. +32 (0)56 85 75 49
tecnolon@tecnolon.com
https://www.tecnolon.com

AERO SPACE DRONE DEFENCE

Founded in 1950, Tecnolon Works is a leading expert in tooling and CNC machining for complex technical parts. With decades of experience, it specializes in the machining of complex technical parts with high added value, working with premium materials such as plastic, polymers, metals, copper, brass, aluminum, and titanium. Tecnolon Works designs and manufactures high-precision molds for the plastics and food industries.
In 2012, the company became affiliated with three other companies to create Sub-Alliance, a family-owned cluster specializing in advanced manufacturing and high-precision technologies. This strategic alliance creates a unique synergy across key areas, combining expertise in the development and production of polymers, composites, metals, and transmissions.

Scope of activities

- Tooling
- CNC machining
- Electro-erosion by sinking or by wire
- Assembly of mechanical units
- Surface grinding

Certifications

- ISO 9001
- EN 9100

Highlights

- Design office:Realization of tool plans
- 3D design by an industrial mold maker
- CNC milling: 3, 4, 5 axes simultaneously
- High tolerance machining of technical parts (small and medium series)

TELESPAZIO BELGIUM

Rue de La Roche 38G - 6600 Bastogne | BE
T. +32 (0)61 23 00 04 | F. +32 (0)61 23 02 69
info.be@telespazio.com
https://www.telespazio.be

SPACE DRONE DEFENCE

Telespazio Belgium, a subsidiary of Telespazio Group, provides cutting-edge services and applications, engineering services and support in the field of space programs and high technology projects. As part of one of the world's leading operators in the field of satellite solutions and services, Telespazio Belgium is at the forefront of providing advanced and innovative satellite services in navigation, earth observation, satellite communications and space operations.

The company employs about 190 people of 22 different nationalities with an average age of 40, one third being women. Its headquarters are in Transinne, in the Galaxia Space Park, and establishments are present in the Netherlands, in Luxembourg and in the Czech Republic. The activity, initially focused on supporting the maintenance and operations activities of the Redu Space Station, first contract in 1982, is now extended to cover the Integrated Logistic Support of the remote sites of the Galileo ground segment and the provision of high-quality engineering and operational services to Space Agencies and Large System Integrators in the space domain.

Furthermore, being Telespazio Belgium part of a large international group, it offers great opportunities for Belgium to position itself as one of the European leaders in research and development in the space sector, representing a bridge between the local interests and the international dimension, contributing to the maximum achievement of Belgium's ambitions.

Concerning innovation, Telespazio is involved in a large number of projects aimed at improving the use of satellite technology and data for a wide range of domains, ranging from agriculture to maritime traffic and disaster management, from positioning and navigation to telecommunications, quantum technologies, cybersecurity... Our flagship is surely the monitoring of the operations of the Galileo ground stations around the world performed from the Galileo Integrated Logistic Support Centre in Transinne: this is a perfect example of the important role we play on an international level.

So, while Telespazio Belgium has its head in space, it has its feet firmly planted on the ground, working for a future of sustainability and innovation.

THALES ALENIA SPACE IN BELGIUM

Rue Chapelle Beaussart 101 - 6032 Mont-sur-Marchienne | BE
T. +32 (0)71 44 22 11 | F. +32 (0)71 44 22 00
info.belgium@thalesaleniaspace.com
http://www.thalesaleniaspace.com

SPACE

Thales Alenia Space - a joint venture between Thales (67%) and Leonardo (33%) - is present in Belgium with three sites in Charleroi, Hasselt and Leuven. Thales Alenia Space is an expert in several high-technology fields. The company is the Belgian front-runner in space electronics applications for satellites and launchers, a world leader in power conditioning and distribution for satellites, a key supplier of electronics for European launchers and will be the first automated factory of space PhotoVoltaic Assemblies (PVA) in Europe.

Satellites are our core business...

Thales Alenia Space in Belgium is a world leader in satellite power conditioning and distribution. The product portfolio covers needs from micro-satellites up to large satellites addressing earth observation (radar and optical), scientific domain, navigation and telecommunication application, with power requirements from 250 W up to more than 20 kW. The company also enjoys a position at the forefront of flight electronics products: avionics, power supplies for plasmic propulsion thrusters, power supplies for travelling wave tubes, PhotoVoltaic Assembly and other specific power products.

On board of all European launchers

Thales Alenia Space in Belgium is a key supplier for all European Launchers since more than 60 years: ARIANE 4, ARIANE 5, VEGA and now, on board of ARIANE 6 by supplying its safeguard system and the electronic equipment managing the thrust-vectoring nozzles. We are also involved in advanced studies as for Callisto, Themis, Kassav...in order to address the µLauncher market.

Valuable (or, Important? significant, or...) industrial capacity

Thanks to the 9,000 square meters of clean room and the installed test means, Thales Alenia Space in Belgium has the opportunity to offer industrial capacities such as electronic boards assembly, EMC tests, vibration and pyro shock tests...

THALES BELGIUM

Rue en Bois 63 - 4040 Herstal | BE
T. +32 (0)2 391 22 11
http://www.thalesgroup.com

AERO DEFENCE

Thales Belgium has served worldwide and the Belgian defense, security, safety and transportation markets for more than 50 years. Today the Group employs more than 300 people at 4 sites across Belgium, in Brussels, Herstal, Hasselt and Tubize. Thales has developed close ties with Belgian industry over many years, and has worked hand in hand with universities and research institutes to develop innovative products for its customers.

Added value

- Supplier of tactical communication systems & sensors for Air, Land and Naval sectors
- Partner of NATO's program to upgrade its AWACS Airborne Warning and Control System
- Unique company able of offering and mastering the whole air-to-ground rocket system
- Mastering following technologies: propulsion, pyrotechnics, mechanics, electronics, ballistics, guidance
- Unique Cyberlab platform to prepare companies for the most dangerous cyber-attacks

Range of products

- 2.75''/70 mm air-to-ground rockets systems for aircraft & helicopters
- Tactical communication systems and a variety of onboard sensors for all platforms
- Modernising the communications systems as a Tier 1 supplier to aircraft manufacturer as with our Multifunction Airborne Communication System (MACS)
- Cryptographic & cyber security solution to protect on-board data
- Digitalisation of aircraft operations based on Electronic Flight Bag (EFB) solutions

Main references

- Customers & partners: Nato / Napma, Belgian Defense, Luxembourg Army, Boeing, Raytheon, Northrop Grumman, Lockheed Martin, Thales Avionics, Thales Communications & Services, Astrid, Airbus, Stib Brussels, Eurocontrol
- OEM: Airbus Helicopters, Hindustan Aeronautics, Leonardo Helicopters, BAE Systems, Denel, H3 Defense
- Rocket systems have been adopted by 55 countries and 70 armies worldwide

Certification Thales Belgium is certified according to ISO 9001:2015 and qualified supplier by various helicopter and aircraft OEM's

THREEBANDS Consulting

Clos du Nou Pré 3 - 4163 Tavier | BE
T. +32 (0)494 06 81 66
c.graide@3bands.be
http://www.3bands.be

AERO

DEFENCE

The purpose of 3Bands is to provide the experience of its founder, its network of technical experts, its knowledge of commercial processes, evaluation of acquisition opportunities, painting/coating and surface treatment processes, Helping companies make the right choices, to make their processes more reliable and develop in a moving environment that is difficult to control.

3Bands Consulting Belgium and its sister company 3Bands France (located in Toulouse), bring to your company different levels of services:

- Commercial representation for the Aerospace, Defence and Energy Markets
- Offers standard or custom made training session about surface treatment, coatings, trouble shooting, NADCAP organization and system or other process.
- Market study, market survey, market positioning.

V2i

Avenue Pré Aily 25 - 4031 Angleur | BE
T. +32 (0)4 287 10 70 | F. +32 (0)4 287 10 71
info@v2i.be
http://www.v2i.be

AERO SPACE DRONE DEFENCE

V2i Simulates, Experiments and Monitor Industrial Perfomance.
With a full range of customised services in the field of mechanical vibrations, with both theoretical and experimental expertise.
Development of tailor-made solutions for inspection, defect detection, control and specific solutions for the monitoring of machinery.

V2i's know-how is based on internationally renowned research in the field of structural dynamics, and is continually improved and updated through massive R&D programs..

As an engineering company specialized in structural dynamics, our skills cover:

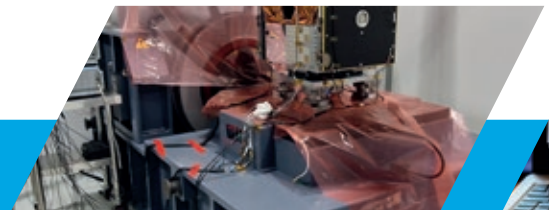
- Numerical simulation of structures and fatigue studies to predict their behaviour under environmental vibrations,
- Vibration testing of equipment under severe environment and data correlation with results from simulation,
- ISO 7 clean room vibration testing,
- A deep knowledge of fatigue phenomena to predict lifetime,
- All associated services: instrumentation, tooling design and verification, specification definition and analysis,
- Expertise in rotordynamics and vibrations of structures to detect and diagnose faulty behaviors,
- Vibration and other physical quantities measurement, data collection and analysis onsite or in laboratories, high-sampling frequency signal analysis, advanced data processing in real-time and database operation.
- In addition to these services, V2i develops tailor-made solutions for inspection, defect detection and specific solutions for the monitoring of machinery and quality control.

Certifications

- ISO 9001:2008 & ISO 17025

Safran

Certified LabView Developers / NI Alliance Partner



VEOWARE SPACE

Rue du Vivier 39 - 1050 Ixelles | BE
info@veowarespace.com
https://www.veoware.space/

SPACE

"VEOWARE SPACE develops and commercializes Attitude Control Systems improving 10X the agility of any spacecraft. VEOWARE's next-gen technologies include high-torque Reaction Wheels and ultra-high-torque Control Moment Gyroscopes (CMG), both made to reduce maneuvering time, therefore improving productivity in space.

Headquartered in Brussels, and founded in 2016, VEOWARE developed a unique scalable-by-design microCMG, miniaturizing technology that has traditionally been adopted for larger satellites, enabling high-agility maneuvering for small satellite applications such as Earth Observation, Communication, Space Situational Awareness and In-Orbit Servicing. The VEOWARE team can also provide mission analysis support, define ACS requirements, simulate required attitude and propose a suitable ACS design to meet mission requirements."

X-RIS

Rue d'Abhooz 25 - 4040 Herstal | BE
T. +32 (0)4 367 07 92
info@xris.eu
http://www.xris.eu

AERO SPACE DRONE DEFENCE

X-RIS ACTIVITIES:

X-RIS's number one priority is to develop portable and stationary digital radiology solutions that are very user-friendly and intuitive for industrial, laboratory and security applications without skimping at any time on the image quality.

The company is located at Liège in Wallonia (Belgium), an aera that benefits from a worldwide reputation for its competences in industrial x-ray.

X-RIS was founded in 2010 and since then has developed its own range of X-ray generators, detectors and its software platform: Maestro. X-RIS also designs and manufactures its own mechanical and electro-mechanical solutions for Dxbox cabinets or for special solutions.

Company philosophy is to provide user-friendly and efficient solutions that fit at best the application needs. To achieve these goals, X-RIS relies on the complementary compe ences of its young, dynamic and highly skilled team.

The company counts today 23 collaborators and is particularly technologically-oriented: more than the two thirds of the team are graduated engineers. We also collaborate with several universities and R&D centers in Belgium and abroad. X-RIS principally works with the Security and NDT department and collaborated with FBI, Safran, Airbus, Pratt & Withney, Dassault, Total, and more.

Universities & Colleges

UNIVERSITÉ LIBRE DE BRUXELLES

Rue des Professeurs Jeneer et Brachet 12 CP 300 - 6041 Gosselies | BE
T. +32 (0)2 650 20 37
kevin.deplus@ulb.be
http://www.ulb.be

The ULB is a leading university located in the heart of Brussels. It is a multi-disciplinary university covering all major fields and study cycles.

Aero-Thermo-Mechanics (ATM)
Pr. Patrick Hendrick

The ULB-ATM department is active fluid mechanic s in propulsion systems for aircraft, rotorcraft, rockets and UAVs (rotor type and fixed wing type) at experimental level and CFD. Simulation of flow for reentry vehicles and alternative fuels such as hydrogen for aircraft and UAVs is also studied.

ATM has develop a strong expertise in the field of gas turbine engine lubrication systems and their specific two-phase flow (EU FP7, H2020 and CS projects) and works very closely with top industry players in Europe, offering them unique test facilities for these systems. Unique hybrid rocket engines (2 kN thrust) test facilities are also available.

Skywin Projects: INHEX, SARAH-LE, 4EQUIP

Materials Engineering, Characterization, Synthesis and Recycling (4MAT)
Pr. Stephane Godet

Research activities of 4MAT cover the entire life-cycle of inorganic materials from their synthesis and processing to the end of life. A special focus is given on optimizing the micro-structures of bulk material and thin films by studying the relationship between process parameters and material properties.

Skywin Projects: AERO+ and FASAMA (limits of Ti alloys in additive manufacturing for the aeronautical industry).

Structural and Material Computational mechanics (BATir-SMC)
Pr. Thierry Jacques Massart

The BATir-SMC research group develops advanced computational modelling methods for mechanical and coupled problems and works with the European Industry in several top EU research initiative.

The field of application covers the modelling of complex composite materials (3D woven, NCFs, Zpinned), the study of microstructural plasticity processes in multi-phase metallic materials, the modelling of lightweight materials (foams, 3D printed lattices), as well as structural health monitoring.

Bio, Electro and Mechanical System (BEAMS-Embedded Electronics)
Pr. Frederic Robert

The BEAMS - Embedded electronics research group activities focus on four major axes

Multi-processor System-on-Chips (MPSoC) with real-time operating systems (RTOS)

Better algorithm/architecture adequation using system-level design flows

3D-chips design and optimization

Control of power electronics devices

Applications ranges from telecommunications to industrial technologies, platform, operating systems and monitoring systems.

Bio, Electro and Mechanical System (BEAMS-Mechatronics) - Pr. Christophe Colette

The BEAMS-Mechatronics team develop (conception and experimental validation) instruments and robust strategies for the active control of structural vibration of equipment such as

- large space telescopes
- Interferometric inertial sensors
- gravitational wave detectors
- Multi-degree-of-freedom nanopositioning systems

Department of System Analysis and Control Engineering (SAAS)
Pr. Michel Kinnaert / Pr. Emanuele Garronne

The SAAS laboratory research team is mainly active in two types of automation and predictive control systems.

Model-based condition monitoring real time systems for electro-mechanical (aircraft lubrication, satellites power, Li-Ion battery...) and industrial application (monitoring and predictive maintenance).

Drone control and mission planning for innovative operations under constraints (sliding, manipulating, towed drones...).

OPERA – Wireless Communications
Pr. Philippe De Doncker / Pr. Francois Horlin

The team at OPERA-WC develops new signal processing solutions for emerging digital communications systems, aiming especially at the system integration and terminal implementation. The research covers satellites (eg. digital compensation for analog front-end impairments), defense and IOT / drones applications. **Microgravity Research Centre**
Pr. Franck Dubois

MRC main research activities concern the physics of fluids and interfaces such as evaporation, condensation, thermos-diffusion and aerosols physics. The second area of expertise of the lab is optical diagnostics, digital holographic microscopy, image processing and non-destructive testing using optical metrology.

The team has access parabolic flight facilities and has been involved in numerous ESA and NASA projects, studies and experiments performed under microgravity conditions.

Transfers, Interfaces and Processes (TIPs)
Pr. Pierre Colinet

The TIPs team research new theoretical, numerical and experimental methods allowing to understand and predict the behavior of multiphase systems, and to design or optimize industrial processes. Some of these research activities involve the development of experiments in microgravity (sounding rockets, Space Station) under ESA or EU projects.

Laboratory of Neurophysiology & Movement Biomechanics (LNMB)
Pr. Guy Cheron

The LNMB is involved in the fields of Human Space Science, BCI and basic Neuroscience. The main study areas are:

- EEG and evoked potential studies during virtual navigation in the ISS
- Neural Networks & Deep Learning on brain derived signals and movement
- Brain to Brain interaction in social contexts

Geospatial Analysis (ANAGEO)
Pr. Eléonore WOLFF

The ANAGEO group at IGEAT-ULB Earth has developed a high level of expertise in extracting information from and interpreting high-resolution remote sensing data (aerial photos and satellite images).

The actual research is mainly oriented on mapping and monitoring human structures (land cover, land use, urban growth, refugee camps,...), demographic evolution, ecological corridors, geographical risks and vulnerability...

Quantum Chemistry and Photophysics (CQP)
Pr. Pierre-François Coheur

The CQP field of research is gaseous atoms and molecules, isolated or in natural atmospheres. Combining ab initio calculations, high resolution spectroscopy and atmospheric remote sensing, CQP has develop pioneering research in infrared remote sensing and contributes to Earth observation satellite missions (eg. IASI (CNES) mission) and current/future space programs (eg. Venus Express).

UNIVERSITÉ DE LIÈGE

ULiege - RISE (Research Innovation Support & Entreprise),
Avenue Pré Aily 4 - 4031 Liège | BE
T. +32 (0)4 349 85 11 | F. +32 (0)4 349 85 20 | o.gillieaux@uliege.be
http://www.uliege.be

The University of Liège has a long tradition in aerospace shared between five departments and one research center: Department of Aerospace and Mechanical Engineering(A&M), Urban & Environmental Engineering (UEE), Electrical Engineering and Computer Science (EEI Montefiore), Chemical Engineering; Space sciences, Technologies and Astrophysics Research unit (STAR) and Centre Spatial de Liège (CSL).

A&M Department The **Aeroelasticity and Experimental Aerodynamics Research Group** conducts cutting edge research in the areas of experimental and theoretical aeroelasticity and aerodynamics, with particular applications aircraft, rotorcraft, drones and wind turbines. The research group collaborates closely with the ULiege's **large multidisciplinary subsonic wind tunnel.**

The **Computational & Multiscale Mechanics of Material** focuses on the development of multi-scale numerical methods for complex non-linear engineered materials, such as composites, foamed materials, and MEMS. The **Metallic Materials Science Unit** studies the manufacturing processes, properties and microstructural characterization of metallic materials. The group has three laboratories, one for microstructure studies, one for the determination of thermal properties and one for damage studies.

The **Computer Aided Geometric Design group** is active in research in CAD/CAM/CAE and the link with novel numerical simulation techniques. Aeronautical applications include X-FEM simulations of composite structures (structural analysis or manufacturing techniques)

The **Non-Linear Computational Mechanics** group specializes in tailored software development and numerical simulation of problems involving large deformations, complex contact situations and multi-physics couplings. The group's finite element software METAFOR can deal with complex material behaviors including damage and fracture propagation for both metallic and composite materials.

The **Mechanical Vibrations Lab** focuses on the theoretical and experimental dynamic analysis of jet engine mechanical components. The main topics on which the lab has developed a strong research expertise are the following: structural design of aircraft engines, turbomachinery rotordynamics, vibration testing and modal analysis.

The **Multibody & Mechatronic Systems Lab** develops computer-aided tools for the mechanical and control design of deployable space structures, large telescopes, robots, machine tools, wind turbines, vehicle suspensions and powertrains. The team is also involved in the Laboratory of **Human Motion Analysis** of ULiège.

The **Multiphysics & Turbulent Flow Computatio**n group is specialized in computations of turbulent flows and complex multiphysics phenomena covering a broad range of applications in aerospace and other fields, ranging from turbulent combustion in scramjet engines to polymer drag reduction in turbulent incompressible flows.

The **Precision Mechatronics Laboratory** (PML) is developing instrumentation and strategies for actively measuring and controlling the vibrations of structures. Over the years, it has developed internationally recognized expertise in high precision control of large instruments dedicated to experimental physics, including gravitational wave detectors, particle colliders, segmented ground and space telescopes, satellites and light sources.

The **Space Structures and Systems Laboratory** research activities include spacecraft structures, nonlinear vibrations, astrodynamics and low-energy spacecraft transfer trajectories, ray tracing methodologies for thermal radiation, system identification, structural health monitoring and vibration mitigation.

The **Design of Turbomachine Lab** (DoT) carries out research in turbomachinery design and aerospace propulsion using numerical methods

and high-performance computing. The lab also runs a number of dedicated test benches.

Urban & Environmental Engineering (UEE) The **Materials and Structures Mechanics** laboratory offers possibilities for aeronautical firms to carry out mechanical tests on different types of aircraft components, such as rods, lubrication groups, bearing supports, flap actuator parts and composite or metallic engine components.

Materials and Solid Mechanics team focuses on materials (steel, Ti, Al...), their characterization, forming processes and behavior modelling. Development and identification of constitutive thermo-mechanical-metallurgical laws rely on macroscopic phenomenological or multi-scale approaches and crystal plasticity models. Implemented within FEM codes, these laws and post processors predict stress, strain, microstructure, rupture during forming processes, static or cyclic loading. Fatigue, creep, corrosion and additive manufacturing are the current topics. Since 1984, MSM team has developed its own non-linear finite element code **Lagamine**.

EEI-Montefiore Department Applied and Computational Electromagnetics (ACE) group: Electromagnetic Compatibility (EMC) tests according to MIL STD 461 (D/E/F) and RTCA DO 160 in reverberating and semi-anechoic chambers. Modeling of electromagnetic systems from statics and quasistatics to wave scattering and optics.

INTELSIG specializes in the acquisition, processing, analysis, and exploitation of a variety of signals and images for a variety of applications. It routinely deals with audio, sound spatialization, biomedical signals, radar signals and images, stereoscopic 3D images, ladar images, video analysis, motion analysis,...

The **Microsys laboratory** carries out exploratory R&D in the fields of microsystems, microelectronics, advanced packaging and energy harvesting. Microsys current activities include the design and integration of ultra-low power wireless sensor microsystems for structural health monitoring and environment sensing in harsh conditions.

Space sciences, Technologies and Astrophysics Research unit (STAR)

More than 100 scientists of STAR unit at ULiège conduct cutting-edge research focussing on:

Plan**etology: de**tection, characterization and direct imaging of exoplanets, study of planets and small bodies of the Solar System, composition and dynamics of Earth's atmosphere;

Stel**lar astrophysics: o**bservational characterization and modelling of stars and their evolution, interaction of stars with their surroundings, high-energy emission;

Cosm**ology, dark energy, extragalactic astrophysics & astro-particles: qu**asars, gravitational lensing, gravitational waves, large-scale structures, dark matter, cosmic rays;

Instrumentation: Earth observation and astronomy payloads and satellites, ground-based instruments, custom-designed instruments dedicated to special applications.

STAR researchers are involved in the development of space missions and ground-based instruments, as well as in the gathering and modelling of data obtained using the largest international observatories and with STAR-owned telescopes (like TRAPPIST). STAR includes a wide interdisciplinary expertise in the field of instrumentation, through the research division of the **Centre Spatial de Liège**, which links the mission definition to the scientific interpretation of data.

UNIVERSITÉ CATHOLIQUE DE LOUVAIN

UCLouvain

Place de l'Université 1 - 1348 Louvain-la-Neuve | BE
T. +32 (0)10 47 25 47
LouvainTransfer@uclouvain.be
http://www.uclouvain.be

With more than 3500 researchers and an annual research budget of 315 M€ (European, national and regional programs), the research is a true driving force behind UCLouvain's activities. The Knowledge and technology transfer office of UCLouvain can advise you to find the most appropriate contact especially for expertise that does not appear hereafter.

UCLouvain puts its expertise at your disposal through its 22 research institutes and 45 technology platforms.

In the fields of aeronautics, aerospace and drones, UCLouvain has many assets covering areas such: materials, mechanics, electronics and embedded systems, artificial intelligence, security, Earth observation, and astrophysics. Find below some examples of main expertise in these fields.

Louvain Transfer, as knowledge transfer office, can help you identify the most relevant research experts to meet your needs, whether for:

- Develop a (tailor-made) collaborative research project
- Meet experts and benefit from their advice
- Access cutting-edge skills, technologies, infrastructure and equipment

Don't hesitate to contact us for more details or help!

Materials

Composites, hybrids and architectured materials - Thomas PARDOEN

Materials (metal) manufacturing -
Aude SIMAR, Pascal JACQUES

Polymers and functional surfaces -
Alain JONAS

Mechanics & engineering

Mechatronic, electrical energy, and dynamic systems -
Bruno DEHEZ, Paul FISETTE

Civil and environmental engineering: drone use in civil engineering -
Pierre LATTEUR, Sandra SOARES FRAZAO

Turbulence and Vortical Flows, Aerodynamics and Control: wake flows, wind turbines, collaborative control of distributed systems -
Philippe CHATELAIN, Grégoire WINCKELMANS

Mathematical Engineering: optimization and control, collaborative / multi-agent / decentralized systems -
Raphaël JUNGERS, Julien HENDRICKX

Fluid mechanics: multi-phase flows, reacting flows -
Miltiadis PAPALEXANDRIS

Signal and communications

Signal Processing for Communications, Estimation (synchronization) and Detection, positioning & localization, radar -
Luc VANDENDORPE

Satellite communications, Antenna arrays, Meta-materials/surfaces, Radar, Computational electromagnetics -
Christophe CRAEYE, Claude OESTGES

Distributed systems, Systems security, Dependability, Blockchains -
Etienne RIVIERE

Lab Internet Protocols, Multipath TCP, Multipath QUIC, Satellite-based internet access -
Olivier BONAVENTURE

Computer vision, Image processing, Lidar, Multi-agent systems, Extended Reality -
Christophe DE VLEESCHOUWER, Benoît MACQ

Electronic and Embedded Systems

Radiation effects and hardening, design & characterization, Sensors, Ultra-low power microsystems, Terahertz -
Dimitri LEDERER, Denis FLANDRE, David BOL

Critical embedded systems, Computer networking, Internet measurements, Security – Cristel PELSSER

Security

Cryptography and information security, Embedded systems, Efficient and secure implementations -
François-Xavier STANDAERT, Olivier PEREIRA, Thomas PETERS, François KOEUNE

Security of communication networks and networked applications, IoT, Anomaly and intrusion detection -
Ramin SADRE

Louvain Verification Lab: functional requirements coverage, autonomous space-bound applications -
Charles PECHEUR

Earth observation and climate

Environmental Sciences, Environmetrics and Geomatics:

optical and SAR remote rensing algorithms agriculture and forest monitoring, UAV systems -
Pierre DEFOURNY, Sébastien LAMBOT, Quentin PONETTE

Sciences

Einstein Telescope:

vibration isolation systems for gravitational wave detectors, design and development of the suspension system, development of ultra-sensitive inertial sensors, control strategies -
Giacomo BRUNO

Neural control of movement:

dexterous manipulation in microgravity -
Philippe LEFEVRE

Human sciences

Legal Sciences:

ech law, ethics and anthropology, Privacy, Intellectual property -
Christophe LAZARO, Alain STROWEL

Technological platforms

Cyclotron Resources:

centre radiation testing, electronics, ESA external test facilities -
Nancy POSTIAU

Micro- and Nano-Fabrication Platform:

electronics, micro- and nano-fabrication, 1000 m² cleanroom -
Christian RENAUX, Sorin MELINTE, Sébastien FANIEL

Wallonia Electronics and Communications Measurements:

Electrical and electromagnetic characterization (DC - 130 GHz), Micro- and nanotechnology, Anechoic chamber -
Pascal SIMON, Valeriya KILCHYTSKA

Lasers & Optics:

laser, optical characterization, spectrometry, spectroscopy -
Clément LAUZIN

UNIVERSITÉ DE MONS

Place du Parc 20 - 7000 Mons | BE
T. +32 (0)65 37 47 92 | F. +32 (0)65 37 47 89
severine.coppee@umons.ac.be
http://www.umons.ac.be

The University of Mons deploys its scientific expertise in areas like materials sciences and engineering, information technology and computer science, biosciences...

Most of the research at UMONS is organized in 10 institutes which cover: New Arts and Media Technologies (NUMEDIART), Biosciences (BIOSCIENCES), Information Technologies and Informatics (INFORTECH), Language Sciences and Engineering (LANGUAGE), Materials Sciences and Engineering (MATERIALS), Risk Management Sciences (RISKS), Complex Systems (COMPLEXYS), Energy (ENERGY), Health Sciences and Technologies (HEALTH), Human and Organizational Research and Development (HUMANORG).

The university maintains many fruitful exchanges with its Multitel, Materia Nova and INISMa research centres and with the spin-offs and startups which gravitate around it.

UMONS is active in many scientific disciplines related to Aeronautics and Space research development: Materials and production technology, Fluids mechanics and thermal engineering, Reliability and maintenance, Surface treatment and last but not least, Information and Communication Technologies.

Materials and production technology

UMONS develops an expertise in the field of manufacturing processes. Specific research projects address design of closed mold composite parts for aircrafts or simulation of high-speed machining.

Other topics to be mentioned are the design of piezoelectric motors to provide a gain in weight and control in space applications, the gained experience in additive manufacturing methods such as EBM, the development of reinforced high temperature thermoplastic and thermoset resins, and the design of power electronic motor drives.

UMONS has some projects related to the manufacturing of composites parts for aircraft applications by a specific process, Resin Transfer Molding, which consists in injecting some resin in a closed mold filled by a fibrous reinforcement.

Keywords: Resin Transfer Molding, piezoelectric actua ors, Virtual Manufacturing, composite materials, Additive Manufacturing, thermoplastic and thermoset resins, dc-dc converter, wide bandgap components, organization of production units and operational maintenance.

Fluids mechanics and thermal engineering

UMONS research efforts concentrate on the study and simulation of any type of flow. Research is mainly carried out with advanced CFD (Computer Fluid Dynamics) software. Numerical simulation methods for radiant transfer in absorbing media are also developed in UMONS as well as combustion gases special properties modeling.

In particular: Modeling, development and simulation in Computation Fluid Dynamics (CFD) for aeronautical, turbomachinery and multiphysical applications. The main development themes concern fluid-structure interactions, advanced preconditioning methods and turbulent transition modeling. Applied studies are focused on design and optimization for flow problems in facilities or engines (optimization of fans, compressors and turbines, design of separator and cyclone chambers...)

Keywords: Design and optimization of fan and turbo-generators blades, modeling and numerical simulation of high temperature systems, turbo-alternators cooling.

Reliability and maintenance

UMONS research activities aim at developing techniques to improve the safety of mechanical equipment and optimize their maintenance strategies. UMONS has significant expertise in structure dynamics, rotating machines, and vibratory solicitations.

Past and current research activities include: experimental modal analysis and finite element model updating, identification of input forces by inverse methods, vibration testing and finite element modeling of electronic boards embarked on spatial vehicles, equivalence criteria between vibration tests, analysis and modeling of pyroshocks, prediction of ground vibrations induced by railway vehicles. *Keywords: Diagnosis of vibration problems, estimation of the residual lifetime of equipment, optimization of maintenance policies, predictive maintenance of electromechanical devices, pyrotechnical shocks on electronic spatial devices, maintenance 4.0, health management.*

Surface treatment

Materials performances depend on the properties of their surface and on the interactions of the latter with the surrounding media. Modifying a surface or introducing surface layers contribute to optimizing materials properties or make new properties appear (self-healing, corrosion resistance, wetting, absorption, friction and wear, optics, viscosity,...). UMONS research activities focus on this.

UMONS is also specialized in the study of surfaces and interfaces: with the structural, electronic, and optical properties (OLEDs and organic solar cells), thin film deposit (plasma technology) and surface analysis (depth profiling and elemental composition).

Keywords: Plasma surface treatments, thin organic coating, surface functionalization, corrosion resistance, surface and interface characterization, chemical sensors, electrochemistry of functional coatings, texturing surface.

Information and Communication Technologies

With the recent deployment of drones and the growing need to process and interact with large multimedia databases, mastering and developing innovative data processing techniques has become a crucial expertise in many areas including aerospace and aeronautics. UMONS has leading-edge expertise in image and speech processing (also in noisy environments) and human-machine interfaces. It has also developed specific skills in positioning and indoor/outdoor geolocalization (in airports/trains) and eye-tracking in virtual spaces (VR) which could be applied to space conditions.

UMONS also benefits from a large group of experts filling the entire data chain, including:

- optical-fiber-based sensors, low-power sensors, GPS/GNSS receivers for nanosats, cubesats, radiation-resistant space systems, ASIC/embedded signal processing and edge computing;
- selection of the appropriate wire and wireless transmission technologies and standards, low-power transmission, indoor/outdoor UWB geolocalization and transmission in adverse conditions;
- cloud storage, parallel and distributed computing;
- cybersecurity;
- data mining, artificial intelligence (AI) and Edge AI.

The CLICK (a UMONS Innovation Center) which benefits from a specific focus on Internet of Things (IoT) brings the research results and experts in this field closer to entrepreneurs and industries to create innovative solutions. It also offers prototyping services in artificial intelligence and extended reality.

Keywords: Artificial intelligence, speech and image processing, AR/VR, (edge) AI, indoor geolocalisation, hyperspectral, RAD-SEE, IoT, GPS/GNSS, HPC, telecommunications, cybersecurity, XR.

https://web.umons.ac.be/fr/instituts-de-recherche/

UNIVERSITÉ DE NAMUR

Rue de Bruxelles 61 - 5000 Namur | BE
T. +32 (0)81 72 50 48
jerome.mallarge@unamur.be
http://www.unamur.be/recherche

The University of Namur research landscape includes 11 transdisciplinary research institutes. Research activities lean on state-of-the-art scientific equipment, technical knowhow and sharp expertise, grouped in 10 technology platforms (http://platforms.unamur.be/). Researchers develop inter- and transdisciplinary projects in fundamental as well as in applied research. They are accessible to the scientific community as well as to industries. The University of Namur maintains the appropriate balance between fundamental and applied research.

Namur Digital Institute - NaDI

Bruno DUMAS/Alexandre DE STREEL
(nadi@unamur.be, +32 (0)81 72 49 75)

Grouping five research centers from various disciplines, ranging from sociology, philosophy, law, management to computer science, the Namur Digital Research Institute offers a unique multi-disciplinary expertise to all areas of informatics, its applications and its social impact.

The conviction that led to the creation of NaDI is the need to cross disciplinary perspectives on the ubiquitous digital technology that changes the lives and behaviours of our administrations, companies and individual citizens. NaDI currently brings together about 215 researchers and works on many research projects related to the digital technology, both at the Regional, Belgian and European levels.

Among the main expertises offered by NaDI are formal methods, man-machine interfaces, requirement engineering, modeling techniques to reason and design complex software systems, testing, quality insurance, software product lines, databases, big data, machine learning and more generally artificial intelligence, security, privacy, ethics by design, technology assessment and legal reasoning.

Namur Institute for Complex Systems - naXys

Anne-Sophie LIBERT
(naxys@unamur.be,+32 (0)81 72 49 46)

From the space debris to the whole universe, in the solar and extrasolar systems, naXys, the Namur Institute for Complex Systems is renowned for its numerical and analytical approaches of space dynamics. The naXys institute has a strong research component in orbital motions, space geodesy and physical cosmology. The researchers are partners of several space missions (BepiColombo, Euclid, Juice, Cheops) where their theoretical approaches are appreciated in the mission analysis and preparation phases; they contribute to the modeling of the dynamical problems and observables, as well as to the building and refining of suitable numerical software and tools (frequency analysis, efficient algorithms, statistical forecasts, chaos detection, stability criteria).

In many industrial and research projects, one attempts to improve a system by modifying its decision variables subject to constraints: this is optimization. naXys focuses on the numerical solution of such problems that is the effective calculation of the best values for the decision variables. It focuses in particular on nonconvex and large scale instances. Both theoretical questions, such as design and convergence properties of the algorithms, and associated software issues are studied.

The Synthesis, Irradiation & Analysis of Materials platform - SIAM

Pierre LOUETTE
(pierre.louette@unamur.be , +32 (0)81 72 45 89)

The Synthesis, Irradiation & Analysis of Materials platform (SIAM) expertise in materials characterization relies on its capacity to use and combine **various spectroscopies** (XPS, ToF-SIMS & IBA). These techniques provide a complete evaluation of almost any kind of sample such as: metals, welds, glass, polymers, powders, liquids, in vivo biological material,...

SIAM has several facilities for functionalizing materials and/or synthesizing thin films by plasma treatments.

Our experience, from several Regional and European Commission funded projects, qualify us for the analysis of complex samples such as: nanoparticles inside complex matrices (food, culture medium, cells from *in vitro* experiments and organs from *in vivo* experiments).

The Synthesis, Irradiation & Analysis of Materials platform (SIAM) is active in both the synthesis and the characterization of materials and nanomaterials. SIAM performs fundamental research in materials sciences, surfaces, interfaces and ion/matter interaction. Different kinds of materials and/or samples, coming from materials sciences, life sciences but not only (materials evaluation inside a biological matrix) can be thoroughly analyzed.

One of SIAM's major assets is a unique set of expertise in different spectroscopies techniques (high and lower energies) which can be coupled to nuclear analysis. This, thanks to a state-of-the-art equipment, a philosophy of constant development and a highly qualified team.

SIAM can provide characterization and/or analysis solution in fields such as: photovoltaic, intelligent coatings, nanomaterials, public health, biomedical applications to name a few. Our client's portfolio covers several industrial sectors, SMEs and academia. Our clients beneficiate of an overall technical approach (one stop shop).

Laboratory of Chemistry and Electrochemistry of Surfaces - CES

Zineb MEKHALIF
(zineb.mekhalif@unamur.be, +32 (0)81 72 52 30)

The CES research focuses on the design of surface and interface materials and their fabrication by chemical processes, in particular electrochemistry, self-assembly and soft chemistry. These surface materials can be thin or ultra-thin organic and / or inorganic film assemblies on metal substrates, metal oxides, and polymeric films. The team's research fits naturally into the general theme of structured surface materials considering micrometric and / or nanometric scales. The studies are carried out with the aim of maximizing the performances (desired properties, durability, reliability, cost and ecological constraints), the chemical selectivity of the compounds to the targets (surfaces, polymer matrices,...) and the control of structure at the molecular level.

ROYAL MILITARY ACADEMY

Avenue de la Renaissance 30 - 1000 Brussels | BE
T. +32 (0)441 44 01 | F. +32 (0)441 41 00
raphael.bequet@mil.be
http://www.rma.ac.be

The Royal Military Academy of Belgium (RMA) is a military institution 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 Belgian Defense department. It is fully recognized as a university, fulfilling the same criteria as civilian universities. The Royal Military Academy is also conducting scientific research at university level on topics of priority for the Belgian Defense.

The research unit Fluid Dynamics is concerned with the numerical and experimental investigation of flow problems. We treat a myriad of topics, such as the dispersion of particles, external and internal aerodynamics and the propagation of acoustic waves. The scope and objectives of the studies can range from the application of existing models and measurement techniques to the development and implementation of custom-built models.

The research unit Structures and Materials primarily deals with the mechanical loading of materials and structures in a general context and more specifically with the vibrational behavior of structures and systems: the dynamic reaction and the endurance of structures and systems, vibration control and simulation and fatigue monitoring.

The research unit Mobility & Propulsion focuses on the performance and stability of mobile platforms. Its members conduct active research in the air domain around propellers (Low-noise Design of Propellers, Tailored High-Altitude propeller), as well as various expert assessments: land vehicles stability and aerodynamics, and ship stability. Unmanned systems are of course a center of interest.

The research unit Robotics & Autonomous Systems focuses on two research domains. On one hand, we aim to enhance the good use of unmanned ground, aerial and marine systems for tough applications by studying the human factors and by developing novel perception, collaborative control, Artificial Intelligence and validation methodologies. On the other hand, we tackle the cyber-physical risks related to these systems by developing novel countermeasures. The lab conducts research in varied domains, ranging from very fundamental aspects to the development of prototype products.

HAUTE ECOLE CONDORCET

Chaussée de Fleurus 179 - 6040 Gosselies | BE
T. +32 (0)71 53 17 52
info.tec.char@condorcet.be
http://www.condorcet.be

The Provincial High School Condorcet offers about fifty courses (bachelor's and masters).

Condorcet High School train graduates in Aero-technics.

Applied research and community services are important activities in the high school. These businesses, in close contact with professional circles, contribute to the scientific quality of the teaching provided and the influence of the high school in society.

HAUTE ECOLE DE LA PROVINCE DE LIEGE

Quai des Carmes 45 - 4101 Jemeppe-sur-Meuse | BE
T. +32 (0)4 279 55 20
hepl@provincedeliege.be
http://www.provincedeliege.be/hauteecole

Welcome to the Higher Education Institution of the Province of Liège !

The Higher Education Institution of the Province of Liège awards a wide range of Master and Bachelor Degrees in many subjects.

Whatever the field of study, our Institution offers trainings combining theoretical and practical aspects as it allows students to carry out field placements and meet the professionals.

From their very first year of studies, students are confronted with the real and professional world and are provided with efficient tools to do so.

Though it remains a «school within the city», our Institution is fully involved in the Bologna Process and aims to open up to the whole of Europe. It has been collaborating, for years now, with other European HEI's and has developed fruitful mobility programmes for students.

Proud to be known as a welcoming institution, the Higher Education Institution of the Province of Liège is fully integrated in the new European Higher Education Area.

HENALLUX - Haute Ecole Namur-Liège-Luxembourg

Rue Saint-Donat 130 - 5002 Namur | BE
T. +32 (0)63 58 89 40
ingenieur.virton@henallux.be
http://www.henallux.be

The Pierrard-Virton School of Engineering trains engineers in the fields of electromechanics and automation.
Engineers possess sound scientific, technical and ethical knowledge that enables them to:

- propose appropriate and innovative solutions to open problems
- design new products and procedures to meet current needs
- use cutting-edge technologies in the field of robotics, machine learning, artificial intelligence, digital design, BIM, sustainable development, etc
- deal with the energy transition, universal digital
- build sustainable engineering with responsible technology
- develop a global, collaborative and societal reflective approach

The research centre of the Pierrard-Virton School of Engineering offers a wide range of Continuing Education, Applied Research and Services to Society (FoRS).

Within this range of expertise, the FoRS research centre has particularly developed its skills in the disciplines of: modelling, automation, mechanics, robotics, production engineering, energy, life cycle analysis (LCA), computer science, the Internet of Things, data intelligence, machine learning and (cyber) security.

The FoRS unit and the students of the Pierrard-Virton School of Engineering are involved in research projects in partnership with local and international companies and universities in various settings:

- at the exploratory stage (tests, calculations,...)
- in technical feasibility (prototyping,...)
- in software feasibility (web and/or mobile applications,...)
- for the development of new products, processes or services

Research Centers

BCRC

Avenue Gouverneur Cornez 4 - 7000 Mons | BE
T. +32 (0)65 40 34 34 | F. +32 (0)65 40 34 60
info@bcrc.be
http://www.bcrc.be

BCRC, the Belgian Ceramic Research Center, has a proven expertise in the field of technical ceramics and metal-ceramic composites.

- In order to provide state of the art support to the industry, our experts rely on 2 technological platforms. The sintering platform proposes several densification techniques (SPS, Gas Pressure Sintering, HIP, HP...) to address all kind of ceramics oxides, nitrides, borides, carbides... The second platform gathers original rapid manufacturing technologies: selective laser melting, laser cladding, inkjet printing, laser and hydrid milling.

CENAERO

Rue des Frères Wright 29 - 6041 Gosselies | BE
T. +32 (0)491 37 10 21
info@cenaero.be
http://www.cenaero.be

Cenaero is a private non-profit applied research center and provides to companies involved in a technology innovation process numerical simulation methods and tools to invent and design more competitive products. Internationally recognized, in particular through its research partnership with Safran, Cenaero is mainly active in the fields of Aerospatial, Energy, Manufacturing, Buildings and Smart Cities.

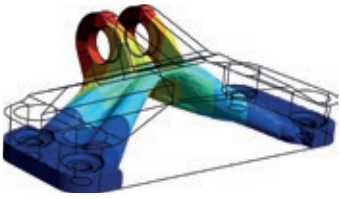
Cenaero provides expertise and engineering services for high performance composites, optimization and uncertainty quantification, multidisciplinary topology optimization, metallic manufacturing processes modeling, high resolution computational fluid dynamics, hypersonic flows and ablative materials, thermo-fluid processes and systems modeling, turbomachinery design, and high performance computing.

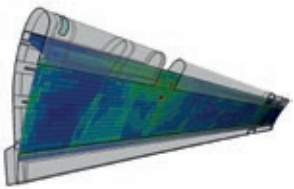
Cenaero also provides software through its massively parallel multi-physics platform Argo, its manufacturing process simulation and crack propagation platform Morfeo and its design space exploration and optimization platform Minamo.

Cenaero operates the Tier-1 Walloon supercomputing infrastructure, named "Lucia", of a capacity close to 4 PFlops on a mixed CPU and GPU architecture.

More information: www.https://tier1.cenaero.be/en

Cenaero is certified against the EN 9100:2018 and ISO 9001:2015 standards.





CENTEXBEL

Rue du travail 5 - 4460 Grâce-Hollogne | BE
T. +32 (0)4 296 82 00
g-h@centexbel.be
https://www.centexbel.be

Centexbel is the acredited research center and scientific and technical center of the belgian textile industry.

Equipment

State-of-the-art lab equipment ISO 17025 accredited labs, specialized in the evaluation of the mechanical, physical, chemical, microbiological properties and burning behaviour of textiles

Functional Thermoplastic Textiles

Formulation of (bio)polymers, polymer blends and recyclates with functional additives compatibilisation recycled polymers and polymer blends further processing including fibre-reinforced composites and 3D printing (additive manufacturing) multiple thermoplastic textile developments for new markets

Textile Functionalisation & Surface Modification

Material development for optimised textile properties matching performance and legislative requirements optimising sustainable textile processing: UV-LED curing, hotmelt, plasma technology biobased additives creating energy harvesting and storing (bio)textiles exploring market opportunities

Health, Safety & Security

Hygiene and barrier functions of medical textiles advanced protection and comfort for enhanced safety equipment biocompatible materials for medical applications

Plastics Characterisation, Processing & Recycling

Material characterisation: identification of properties and processability industrial valorisation of biopolymers eco-friendly functionalisation polymer recycling and compatibilisation

CETIC

Aéropole Avenue Jean Mermoz 28 - 6041 Charleroi | BE
T. +32 (0)71 15 93 62 | F. +32 (0)71 15 93 63
info@cetic.be
http://www.cetic.be

The Centre of Excellence in Information and Communication Technologies (CETIC) helps companies to enhance software-based solutions and to integrate ICT innovations into their products, processes and services. CETIC continually develops its expertise through collaborative research projects involving regional and European actors.

CETIC provides expertise in three complementary axes: software engineering, ICT technologies and embedded systems.

CETIC can support the Aeronautics sector with methods and tools

- for developing high-quality IT solutions;
- for Model Driven software engineering;
- to enhance software reliability, safety or security;
- for compliance with international standards, where software or embedded systems development life-cycle are impacted.

CRA-W

Rue de Liroux 9 - 5030 Gembloux | BE
T. +32 (0)81 87 41 61
v.planchon@cra.wallonie.be
http://www.cra.wallonie.be

Founded in 1872, the Walloon Agricultural Research Centre (CRA-W) is a Public Research Organization (PRO) offering a multidisciplinary scientific expertise in the fields of the agriculture and the agrofood industry

The Agriculture and Natural Environment Department and the Production and Sectors Department cover various activities:

Technico-economic research on GNSS-based systems and TIC (busCAN, ISOBUS) for agricultural machinery (navigation aids, auto-guidance, field operations) to reduce inputs (pesticides, fertilizers, energy) while increasing worker's comfort.

Applications of the Earth Observation to the crop management at field and regional levels (biomass assessment and environmental indicators), models and Decision Support Systems (e.g. crop nitrogen status) using temporal, multi-sensors information and assimilation techniques.

Earth Observation services for crop growth monitoring and crop damage assessment Systems for crop yield estimations and natural risk management.

CENTRE DE RESSOURCES DU CYCLOTRON

Chemin du cyclotron 2 Bte L7.01.05 - 1348 Louvain-la-Neuve | BE
T. +32 (0)10 47 29 98
Carine.Baras@uclouvain.be
https://www.uclouvain.be/crc

Tests of electronic devices
CYCLONE, the cyclotron of Louvain-la-Neuve is able to accelerate different types of ions which may be used for the characterization of electronic components.
Several beam lines are used for these tests: Heavy Ion Facility (HIF), Light Ion Facility (LIF), Neutron Irradiation Facility (NIF).
A Cobalt60 source is also proposed for Gamma Irradiation (GIF)

The beam time planning is defined every six months for the heavy and light ions. If you want to reserve a period, please send us the beam request form on our website. For other types of beams, please contact us.

Beam parameters for Heavy ion Facility (HIF):

The beam flux is variable between a few particles/(sec.cm^2) and 1.5E4 particles/(sec.cm^2). The beam flux can be modified from the user station, this is done with injection grids (for a constant attenuation factor) or by inflector bias variations (for intermediates values). The homogeneity is ± 10 % on a 25 mm diameter.

Light Ion Facility (LIF):

Available energies @ LIF Different available energies have been calculated using SRIM code taking the different beam line items into account (beam diffusion foil, pressure window, air and transmission chamber). With a combination of 5 blocs, 17 different energies are possible at the DUT position.

For the 10MeV beam (produced with 5 degradors from a 65MeV primary beam), the FWHM is 5 MeV. Flux For beam flux, the health physics department sets the maximal limit to 2E8 part/s.cm^2. Lower beam flux can be reached, down to a few thousand part/s.cm^2. Higher beam flux can also be available on special request. Homogeneity A +/- 10% homogeneity has been measured over 80mm in the horizontal direction and over 80mm in the vertical direction.

CRM GROUP

Avenue du Bois Saint-Jean 21/B27 quartier Polytech 4 - 4000 Liège | BE
T. +32 (0)4 254 62 11
bdservices@crmgroup.be
http://www.crmgroup.be

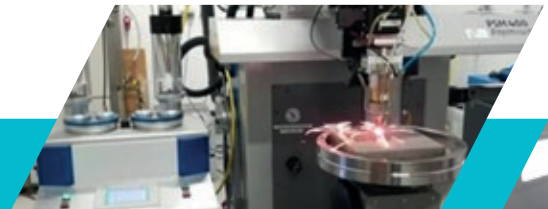
CRM Group is a private, non-profit, applied research & development center. CRM Group has a high level of expertise in metal industry, surface treatment, innovative design, hybrid & additive manufacturing...

Innovation, Industrial solutions and a Vision for the future are the wachtwords of the +290 employees of the **C**entre for **R**esearch in **M**etallurgy spread over 11 sites. Since 1948, CRM Group has been supporting its customers from the creation of ideas to the implementation of innovative solutions by responding to their industrial challenges, whether economic, societal or environmental.

In addition to its historical steel mission, CRM Group has added missions on current challenges, divided into 5 platforms: circular economy, energy transition, digitalisation, advanced manufacturing and construction.

CRM is involved in several projects and programs for AEROSPACE and DEFENCE industries allowing CRM to develop an extensive expertise:

- In the field of hybrid and additive manufacturing:Surface processing of parts made by AM (titanium, aluminium, iron-based alloys,...);
- Development of alloys (aluminium and titanium) for additive manufacturing;
- New additive manufacturing processes (direct energy deposition; laser and arc deposition methods, cold spray);
- New repair processes (direct energy deposition, cold spray,...);
- In the field of functional and printed electronics:Development of integrated sensors on metals;
- Conductive and non-conductive layers for different applications (anti-icing, oleds, wiring,...);
- In the field of coatings:Thermal spray and HVOF coating systems and cold spray;
- Anti-wear or anti-corrosion coatings;
- Phase change materials heat storage devices devoted to electronic thermal stability (for satellites, rockets, drones, missiles, etc).



CENTRE SPATIAL DE LIEGE

Avenue Pré-Aily - 4031 Angleur | BE
T. +32 (0)4 382 46 00
csl@uliege.be
http://www.csl.uliege.be

Created by the ULiège, the Centre spatial de Liège is a research center dedicated to space instrumentation including environmental test facilities and high level laboratories. It works for the European Space Agency (ESA), for the space industry and for regionals firms.

CSL activities are organized in 3 programs:

- Tests: characterization and qualification of space hardware in severe environment.
- Space Systems: definition, design, integration, ground and flight calibration of scientific payloads under the authority of Space Agencies (ESA, NASA, JAXA...).
- Technology: research & development support in the following fields: Optical Design & Metrology, Mechanical & Thermal

Signal Processing
CSL activities on radar imagery processing have resulted in the creation of the "Space Environment and Remote Sensing Group" which has acquired an international reputation in the field of SAR data processing.

Electronics
The lab has a state of the art expertise in micro-controllers, digital electronics, analog circuits, radiation resistance, ITAR,... The team has the ability to join those expertises in order to design, integrate and validate global electronic systems for the space payloads.

Surface Engineering
Our lab mastered surface treatments based on deposit coatings, ion beam figuring, reactive plasma etching, surface micro texturing and related metrology.

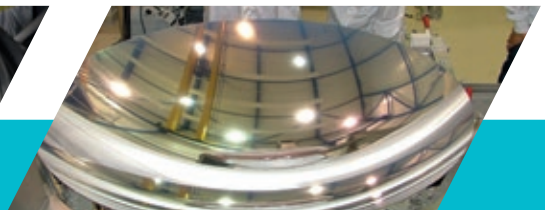
Lasers & NDT
The competences of the group are centered on laser metrology system developments. Typical systems developed are a high resolution holographic camera for non-destructive testing and full-field deformation metrology, laser distance-meter... The group extends its expertise to other techniques: shearography, thermography, laser ultrasounds.

Optical design & Metrology
The Optical design and metrology lab covers different activities: Development of optical ground support equipment, new metrology tools, flight metrology instrumentation, and support to industry in metrology problems.

Mechanics & Thermics
Amongst the wide spectrum of our competences, we want to highlight: Cryogenics, qpace mechanisms for optical instruments, qolar concentration, thermal control.

Test facilities
The CSL performs various qualifications on space instruments or equipments by submitting them to environmental space conditions. The specific CSL assets in the test laboratory are: Hyperclean environment, tailored thermal environment from cryogenics (4°K) to hot cases (160°C), optical oriented design and calibration expertise.

Quality
The lab is especially becoming a reference in organic contamination analyses, performed to verify that the stringent contamination and cleanliness specifications applied to spacecraft materials and associated equipment are met.



ISSEP

Rue du Chéra 200 - 4000 Liège | BE
T. +32 (0)42 29 83 16 | F. +32 (0)42 52 46 65
direction@issep.be
http://www.issep.be

The Scientific Institute for Public Services (ISSeP) is a Public Research Organisation carrying in-situ measurement of environmental data since 1990.

ISSeP has a legacy of over 100 years of research and expertise in environmental monitoring in Wallonia. It is the worthy successor to the Mining Institute (1902-47), the National Institute of Coal Industries (INICHar-1947-67), and the National Institute of Extraction Industries (INUEx-1967-90). The Institute supports administrations and private companies in risk assessment and environmental metrology, with networks for air, waters, soil, waste, sediments, and ionizing radiations.

By characterising the environment through regulatory, normative and technical observations as well as comparing data, ISSeP supports the regional and local authorities in making the right decisions when it comes to environmental policies. ISSeP is also distinguishable for its benchmark laboratory, the only one in its field in Wallonia. ISSeP provides all those involved in the public and private sectors with an independent, transparent, and impartial public service.

Since 2016, a new unit integrates in-situ and Earth Observation data in environmental decision making. Current studies within the Remote Sensing and Geodata Unit focus on land cover/use monitoring, change detection, risk assessment and geodata integration. Earth Observation data processed include satellite, aerial and RPAS data. The unit participates to international project in Europe and Africa. Finally, ISSeP is a member of the Copernicus Relays Wallonia and organizes, with the Spatial Cluster Skywin, the Earth Observation Working Group (GTEO) gathering numerous institutions from the Walloon EO ecosystem.

JRI4Space

Av. du Pré Aily - 4031 Liège | BE
T. +32 (0)2 650 49 89
Bilal.Outirba@ulb.be
https://www.space4relaunch.be/jri4space

JRI4Space (Joint Research Institute 4 Space) is a brand institute acting as the main exchange forum between industry, research bodies, Skywin and the Walloon administration.

JRI4Space brings together all the researchers working in the space sector in the universities of the Wallonia-Brussels Federation and the Approved Research Centres. This interaction is essential to ensure that businesses in Wallonia benefit from the research carried out within the dome and, above all, express and communicate the challenges they face, and coordinates its actions with national and regional stakeholders.

In addition, Walloon industries will benefit from cutting-edge training on the latest research findings. JRI4Space also coordinates with pre-qualifying, full and vocational training providers to train employees and talent for tomorrow's space sector at various skill levels.

A key illustration of how this collaboration takes shape is the Space4ReLaunch project, which is supported by the SPW Economie Emploi Recherche of the Walloon Region, under the grant agreement n°2210181. 30 PhD theses cover the satellite value chain for Earth observation and reusable launchers. The set of technologies developed includes:

- New imaging modalities with high spatial and spectral resolution (thermal IR and UV)
- The exploitation of a constellation of CubeSats to improve the resolution of GNSS-R
- New spectroscopy modalities for targeted species
- Thermally functionalised optical surfaces for decontamination
- Innovative hybrid vibration damping of structures
- Miniaturised, low-power consumption components
- Topological optimisation of structures and EM actuators
- Adaptative optics and quantum key distribution
- Cryogenic valves and actuators for reusable launchers and microlaunchers market

In the long term, JRI4Space aims to establish itself on the areas of cybersecurity, defence applications, space debris mitigation, in-orbit servicing, lunar and martian exploration.

MATERIA NOVA

Avenue Nicolas Copernic 3 - 7000 Mons | BE
T. + 32 (0)65 55 49 02
mireille.poelman@materianova.be
https://www.materianova.be/

Materia Nova, R&D center located in Mons, Belgium, is recognized as a technological accelerator of sustainable innovations in the field of new materials and processes. The approach of Materia Nova is based on an open and collaborative innovation.
The R&D center offers five different services: Materials and Processes conception and innovation, Equipment Design and Process Upscaling , Analysis and Characterization, Life Cycle Thinking , Project Development and Management
From the understanding of the problems and requirements of our customers, we jointly select the best scientific and technical solutions which are then tested on a pilot-scale before industrialization. The development and the service provided are always unique and customized and give effective solutions as well as a major competitive advantage to our customers.

OUR TECHNOLOGIES AND SOLUTIONS

Our expertise in Processes (dry and wet deposition, compounding, bioprocesses, 3D printing, plasma reforming...), Materials (sol-gel, metallic and inorganic coatings, paints and varnishes, (Bio)polymers) and Smart Devices (biosensors, optoelectronic, thermoelectric, electrochromic devices) is a fertile ground for our strategic axes:

- Materials Sciences and Engineering
- Metal materials & industrial processes
- Energy
- Health Sciences and Technologies

OUR BUSINESS AREAS

- Aeronautics
- Space
- Engineering
- Transport
- Materia Nova is present with the big names in the Automotive and Aeronautics, Space and Defence sectors: SONACA, SAFRAN, AIRBUS, VALEO, THALES ALENIA SPACE... have chosen us as an expert partner on key development projects for energy-saving solutions and increased durability: non-stick coatings to reduce friction on the surface of aircraft wings, non-soiling and self-repairing, wear-resistant surfaces,...

OUR STRENGTHS

- A multidisciplinary team of experts
- A wide range of cutting-edge equipment
- An open and collaborative innovation strategy at national and international level
- Innovative projects for and with industrial companies
- Collaborations with R&D centers and universities worldwide
- A strong network of companies, spin offs and start-ups (B-SENS, ESIX, IONICS and NANO4)

MULTITEL

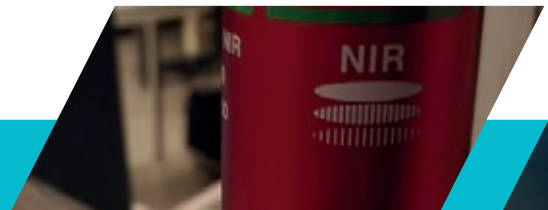
Parc Initialis - Rue Pierre et Marie Curie 2 - 7000 Mons | BE
T. + 32 (0)65 34 27 32
info@multitel.be
http://www.multitel.be

Multitel is an innovation centre, leading applied research and development activities for industry leaders and SMEs.

Multitel's mission is to promote innovation by providing market-driven scientific and technical support for developing, implementing and monitoring new technologies, in a variety of technological domains

More precisely for aerospace sector, activities of Multitel concern:

- prototyping of optical fibre sensors for SHM (Structural Health Monitoring), fibre lasers (for LIDAR applications), material processing (composite materials, surface texturisation) and non-destructive characterization (THz, OCT), custom optoelectronic systems
- (speech oriented) HMI for aeronautics
- GCS/ BVLOS-UAV Radiocoms systems (5G, Wifi-Halow, STANAG 7085, STANAG 4660)
- Cognitive wireless data link on embedded Software Defined Radio (SDR)
- Antenna design & integration in airborne structure (EMC included)
- Electronically steerable antenna design and caracterisation
- certifiable navigation (DO-178, DO-254, certifiable AI)
- satellite based IoT systems
- satellite/drone image processing (visible, IR, hyperspectral...)
- image oriented non-destructive quality control.



SIRRIS

Liège Science Park Rue du Bois Saint Jean 12 - 4102 Seraing | BE
T. +32 (0)493 31 06 55
JeanFrancois.Delaigle@sirris.be
http://www.sirris.be

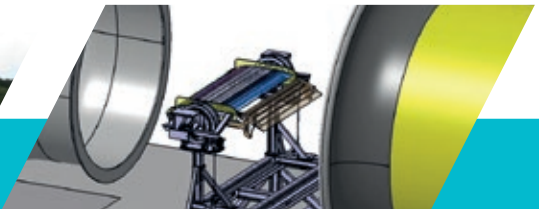
Sirris, the Collective Center for the Belgian technological industry.

Sirris is the collective research center of the technological industry created to strengthen the competitiveness of this sector through technological progress and innovation.

By offering its services, Sirris helps companies in a targeted way to make the transition from technological know-how to marketable innovations. With 70 years of experience, field expertise, practical help and tailor-made information, Sirris helps its members to progress.

We can offer several key assets for industry that want to remain innovative:

- a pool of experts in all relevant disciplines, for example: intelligent, lightweight or miniaturized product design; software engineering; mechatronics; data processing
- many contacts in a solid network with the academic world and industry
- several specialized labs, for a quick assessment of feasibility:Smart Connected Innovation Lab > for products with software components
- Product Development Hub > for intelligent, lightweight, or miniaturized products
- Software Engineering Lab > for products with a high software component
- Data Innovation Lab > for challenges in the field of data analysis
- Mechatronics experts
- a holistic view of value and technology chains
- continuously updated knowledge on key technologies and processes
- a long list of references
- several demonstrators illustrating the challenges and opportunities



VON KARMAN INSTITUTE FOR FLUID DYNAMICS

Chaussée de Waterloo 72 - 1640 Rhode-Saint-Genèse | BE
T. + 32 2 359 96 11 | F. +32 2 359 96 10
peter.simkens@vki.ac.be
http://www.vki.ac.be

The von Karman Institute for Fluid Dynamics (VKI) is at the leading edge of Fluid Dynamic research for aerospace:

- Aeronautics: aero-propulsion and energy conversion by means of rotating machines, performance of aircraft engines, lift performance
- Space: space vehicle re-entry, thermal protection, cryogenic propellant management for spacecraft, electrical propulsion, CubeSat missions

The von Karman Institute for Fluid Dynamics (VKI) is a non-profit international educational and research organisation specialized in Fluid Dynamics, in the areas of Aeronautics & Space, Environmental & Industrial Flows, and Turbomachinery & Propulsion. What started in 1956 with international postgraduate education, has developed into a widely recognized center of excellence in fluid dynamics, combining education and research in a truly international and intercultural environment.

For aeronautical applications, VKI specializes in activities related to aero-propulsion and energy conversion by means of rotating machinery. Advanced aero-thermal research is carried out on the cold fan and compressor side, as well as on the hot turbine side. VKI teams up with the major engine manufacturers: VKI has been recognized a strategic research partner of the Safran group. VKI also performs research on high lift devices and on coatings to improve the lift of aircraft wings.

For space applications, VKI focuses on the modelling, simulation and experimental validation of atmospheric re-entry flows and thermal protection systems. VKI is also active in cryogenic propellant management and is pioneering in electrical propulsion.

VKI operates more than 50 different testing facilities and wind tunnels. This infrastructure is the backbone of VKI's unique position in the world of Fluid Dynamics research; it allows VKI to study complex flows with speeds ranging from a few mm per second up to Mach 14. The infrastructure is also the foundation for the cross-fertilization between experimental testing and numerical simulation. VKI acts as a reference laboratory for ESA.

WEL Research Institute

Avenue Pasteur 6 - 1300 Wavre | BE
info@welri.org
https://welri.org/

The WEL Research Institute is an inter-university research institute subsidized by the Walloon region. We support fundamental research of excellence within our departments and the translation of disruptive innovation into societal and economic impact.

The WEL Research Institute supports strategic research through programmes emanating from the universities of the Wallonia-Brussels Federation. Our departments are:

- **WEL-T:** Engineering, chemistry and physics to promote sustainable transition
- **WELBIO:** Life sciences for an impact in health

The WEL Research Institute provides individualized support to its Investigators, in partnership with KTO representatives, to integrate the valorisation process into the scientific development of the research programmes. Together, we gradually built valorisation opportunities that are taking many forms including projects supported by the competitivity clusters, licensing agreements, industry partnerships, and spin-off creation.

Want to know more? https://welri.org

Training Centers

Euro Space Center

Rue Devant les Hêtres 1 - 6890 Transinne | BE
T. +32 (0)61 65 64 65
info@eurospacecenter.be
http://www.eurospacecenter.be

SPACE

The Euro Space Center is the only theme park in Europe dedicated to space exploration, welcoming all aspiring astronauts for a unique journey into the Universe.
An interactive center, innovative attractions, and a team of passionate educators specializing in aerospace allow schools, families, groups of friends, and businesses to step beyond the boundaries of infinity and reach for the stars.

Euro Space Center:

A Unique Space Exploration Theme Park in Europe

The **Euro Space Center** is the only theme park in Europe dedicated to space exploration, offering a unique immersive experience for astronomy enthusiasts and aspiring astronauts. With its interactive attractions and passionate team, it welcomes families, schools, and businesses for an unforgettable journey to the far reaches of the Universe.

A One-of-a-Kind Experience Center

Founded in 1991 following a partnership with the **Space Camp in Huntsville, Alabama**, the Euro Space Center has evolved thanks to a **€13 million investment in 2019**. The site offers immersive experiences using the latest technologies, making learning fun and accessible to all.

Activities for Everyone

- **Spationaut Day:** A program featuring 10 immersive activities where visitors step into the shoes of an astronaut, testing simulators like the Space Rotor, Moonwalk, and Free Fall Slide.
- **Space Classes & Camps:** Designed for young explorers aged 5 to 18, the Euro Space Center offers space-themed educational programs and specialized camps in robotics, 3D printing, and drones.
- **Missions & Mini-Trips:** Extended experiences with full board accommodation, allowing for total immersion in the world of space exploration.

Corporate Offers & Accommodation

The Euro Space Center provides team-building programs inspired by space missions, as well as private event options. The site also features 24 rooms (each with 10 beds) and a themed restaurant, the Voyageur Café.

WAN

Chaussée de Fleurus 179 - 6041 Gosselies | BE
T. +32 (0)71 34 81 80 | F. +32 (0)71 34 81 81
info@wan.be
http://www.wan.be

AERO

The WAN is an "assembly ground" of training. The WAN relies on different partners, such as centres of competency, aeronautical schools, Belgian Air Force and major players of industry (SONACA, SABCA...). The WAN covers all the needs of the aerotechnical sector.

PRODUCTION

All technologies and methodologies linked to design, manufacture, repair and inspect cells, engines, avionics. Such as: CAD/ CAM (CATIA v5 & v6), analysis and functional dimensioning, operating gamuts, process understanding and assembly techniques (metallic/ composite), non destructive testing, finite element analysis and resolution methods (SAMCEF/ NASTRAN), quality (EN9100/EN4179), Lean Manufacturing, SPC methodologies...

MAINTENANCE

Trainings for jobs in airports or industrial aeroplane workshops, propulsion mechanisms, onboard equipment. Approved as official training centre (EASA BE.147.002), the WAN provides recognised (meets EASA Part-147 requirements) basic training for Part-66 Aircraft Maintenance License A1, A2, B1.1, B1.2, B2 and aircraft type training for Airbus or Boeing ranges for B1.1, B2 and C. Many others tailored courses and exams are possible in French or English. For its training, lectured by highly qualified senior instructors, the WAN owns a functional Boeing 727 and various aircraft parts, engines, avionics.

AUTOMATED FIBER PLACEMENT

An AFP machine manufactures complex shapes using composite material. An Ingersoll AFP is installed at SONACA facilities. The centre is able to conduct research for advanced aerospace applications and industrial process development. The WAN's main target is to train specialised people using AFP technology.

Partners

AWEX

Wallonia.be
EXPORT
INVESTMENT

Place Sainctelette 2 - 1080 Brussels | BE
T. +32 (0)2 421 82 11 | F. +32 (0)2 421 87 87
info@awex.be
https://www.awex.be

AERO SPACE DRONE DEFENCE

The Wallonia Export-Investment Agency (AWEX) is the Wallonia Region of Belgium's government agency in charge of foreign trade promotion and foreign investment attraction. The agency has a worldwide network of 90 Economic Commercial Advisors.

As a **foreign trade agency**, AWEX carries out a mission of promotion and information for the benefit of both Wallonia and the foreign business community.

Upon request, AWEX assists buyers, decision-makers, importers and foreign prospects by:

- Providing economic data on Wallonia and its export potential
- Disseminating information on products and services from companies located in Wallonia
- Identifying companies in Wallonia for international partnerships
- Distributing lists of exporters from Wallonia
- As an export partner for Wallonia-based companies, AWEX offers a wide range of export-oriented services and activities:
- General and commercial information on foreign markets
- Market studies tailored to specific areas upon request
- Organization and planning of marketing activities (international trade shows, economic missions, sector-based contact days...)
- Establishing contacts with international organizations
- Promoting Wallonia's export potential abroad
- Financial support and export financing
- Training in international careers

As a **foreign investment agency**, AWEX has an overall responsibility for the attraction of foreign investment in Wallonia. This includes seeking out and providing information to potential foreign investors. The agency also offers a pro-active follow-up service to investors already established in Wallonia. In addition, it is in charge of identifying new foreign investors for the acquisition of industrial sites under restructuring process.

EEN network Assistance to your SME to develop and exploit your technological expertise by setting up European partnerships www.wallonieeurope.be

TECHNOLOGICAL AND ECONOMICAL NETWORK

A6K

A shared platform in engineering sciences bridging industry and research for Energy, Industry 4.0, 5G, Communication and Embedded Systems.
www.a6k.be

ID2Move

A center of excellence for Autonomous Systems with diversified indoor and outdoor test zones in Europe.
www.id2move.eu

LiEU Network

Provides access to the resources and competences of universities and higher education institutions
www.reseaulieu.be

NCP-Wallonie

Free professional assistance at every stage of your European research project.
www.ncpwallonie.be

SPW EER

The operational Directorate General for the Economy, Employment and Research (Research Department) offers a range of incentives and forms of assistance to increase the technological potential of researchers based in the Walloon Region.
https://www.wallonie.be/fr/acteurs-et-institutions/wallonie/service-public-de-wallonie/spw-economie-emploi-recherche

Synhera

The research support and promotion office that represents applied research within French-speaking Universities and associated belgian Research Centres.
www.synhera.be

Walloon competitiveness clusters

Competitiveness clusters are mandated by the Walloon government to stimulate research and innovation between small and large companies, research centers and universities.
https://www.poles.be

WAL-TECH

Wal-Tech connects Wallonia's accredited research centers to industry and innovation ecosystem, fostering innovation through collaboration, shared resources, and strategic support for R&D-driven economic growth.
https://www.wal-tech.be/fr/

WE - Wallonie Entreprendre

Wallonie Entreprendre is Wallonia's economic and financial tool at the service of companies. (Quasi) Equity, loans & advice for seed, growth & transmission.
https://wallonie-entreprendre.be

Skywin
Aerospace cluster of Wallonia

Skywin is the Walloon Aerospace cluster (Belgium) consisting of an association of companies, research organisations and training centres engaged in public-private partnerships and in the implementation of innovative collaborative projects.

Skywin Wallonie asbl
Business Village Ecolys
Av. d'Ecolys 2 - Bte 47
5020 Suarlée (Belgium)
TVA BE 0887.760.430

E-mail: info@skywin.be
www.skywin.be

With the support of:

Belgian Aerospace
EWA
WALLONIE ESPACE
Wallonie
Wallonia.be
EXPORT
INVESTMENT