

Wallonia.be

WALLONIA.BE at Hannover Industrie Messe 2019

1 - 5 april 2019

Research & Technology Hall
Hall 2 – Booth C56

Feel inspired

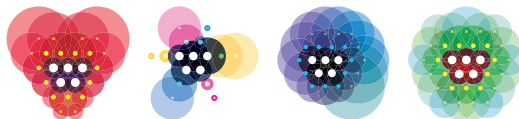


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Introductory remarks by **MS PASCALE DELCOMMINETTE** CEO of AWEX & WBI

The Hannover Messe is known as one of the largest industrial technology fair in the world. What used to be only the showcase of the German economic miracle is today a key international event in which we can find a full range of technical innovations throughout the whole value chain - from automation to supplier solutions. During a week, on nearly 25 hectares of technological innovations and competitive solutions, 150 delegations generate 5.5 million of commercial contacts. Impossible for Wallonia to not be present at this event!

The key themes of the 2019 edition are digital for the industry - automation, robotics, virtual and augmented reality, integrated processes and IT solution. As you will notice in this brochure, Wallonia will be present with strong actors of our Industry 4.0 ecosystem. For more than a decade, we have put open innovation at the heart of our territorial development strategy including, since 2015, important investments in the digitalization of our industry. Nowadays, our regional development strategy focuses more than ever on innovation, through important investments in transversal axes such as digital technologies, smart territory initiatives and the circular economy programs. It might then seem natural to expect that Wallonia would be part of this edition!

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Wallonia-Brussels International (WBI) and the Wallonia Trade and Investment Agency (AWEX) have thus joined their forces to lead a Walloon delegation coming from various fields. With the support of the Walloon Digital Agency and its digitalization program “Made Different”, our Infopole ICT Business Cluster and Mecatech - the Innovation Cluster for Mechanical Engineering - will also be present with representatives from technological factories and research centres as well as experts from academia and spin-offs who will give you a taste of our technological solutions.

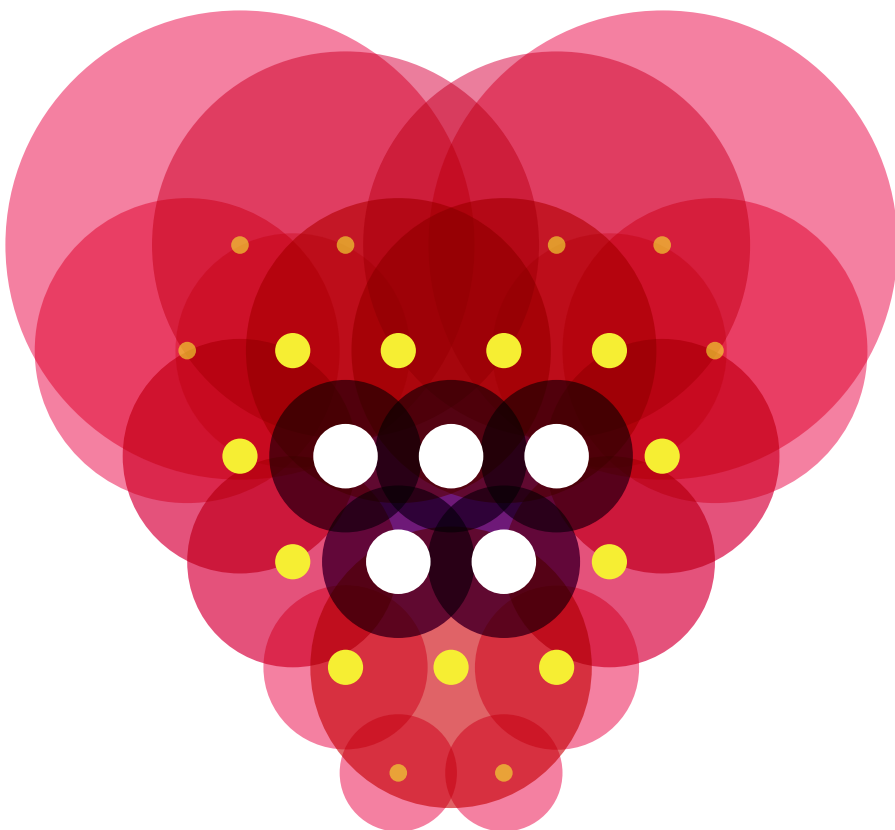
This year, the young startup VOCSEns and the research centers Sirris, CRM Group, CETIC, Multitel, Materia Nova and Cenaero has decided to create a joint demonstrator, Wallonium - This demonstrator is a technological artwork highlighting the Walloon region's expertise.

For the Walloon participants, the Hannover Messe is also a unique opportunity to showcase their technologies and expertise, meet and connect with German and foreign companies and delegations in order to conclude new technological partnerships or launch joint research projects.

The delegation from Wallonia will be present in the Research and Technology Hall (Hall 2) and our participants will be available for one-to-one business meeting. Do not hesitate to visit us and discover the Wallonium !

Ms Pascale Delcomminette
CEO of WBI and AWEX

COORDINATORS

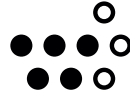


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**Wallonie - Bruxelles
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As a public administration, Wallonia-Brussels International (WBI) is responsible for the international relations of the Walloon Region and the Wallonia-Brussels Federation, in Belgium. Thanks to its exclusive capacities in various and essential areas (amongst others: education, economy, energy, culture, research, environment, etc.) and the international extension of these fields, WBI developed a particularly dense network abroad. Widely open to the world, the Walloon Region and the Wallonia-Brussels Federation have signed multiple bilateral cooperation agreements with countries and regions. These agreements support bilateral collaboration projects, mainly focused on the academic, scientific and cultural sectors. The main objective of the Research & Innovation Unit of WBI is to actively build networks between research and innovation actors of Wallonia, Brussels and other countries. By promoting partnerships in international research projects and stimulating an open innovation approach in the field of international scientific and technological cooperation, the Unit supports synergies in the internationalisation of academia, research institutes and businesses.

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The Research & Innovation Unit is also coordinating the Research & Innovation Platform, which brings together all the research and innovation operators of Wallonia and Brussels (universities, research centers, competitive clusters, public bodies). The Platform's objective is to facilitate the further development, implementation and monitoring of the international dimension of the regional research policy by the sharing of information and consultation between all the partners. The aim is to identify common priorities which could lead to coordinated or joint initiatives towards third countries and within international networks. The Platform benefits from a network of scientific liaison officers based in innovative ecosystems (in Germany, the Scientific Liaison Officer is based in Munich). They have the responsibility of liaising with various key international initiatives, networks and infrastructures on behalf of the Platform.

In attendance at Hannover Industrie Messe :



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Remarks by **MATHIEU QUINTYN** Scientific liaison officer in Germany (Munich)

Cross-sector innovation is becoming the strategic imperative: the creative combination of complementary competences is the invitation to play a leading role on the innovation stage of the future. In fact, the rapid roll-out of new technologies and increased globalisation means a striking shift away from traditional manufacturing towards services and innovation. If Wallonia wants to remain competitive in this changing global environment, it needs to put in place the right conditions for creativity and innovation to flourish in a new entrepreneurial culture.

For facilitating this innovation processes of the complementary knowledge's combinations, Wallonia has precisely decided for this edition 2019 to put an emphasis on

- the valorization of the transfer of knowledge (1) ;
- the promotion of cross-industry collaboration (2).

Within this framework, you will have the opportunity to have a look at our technological artwork WALLONIUM - This demonstrator highlights the Walloon region's expertise and know-how in different Industry 4.0 related fields : innovative materials engineering, simulation techniques, ICT, additive manufacturing, embedded systems, signal processing, gas measurements. Covering the whole Walloon Research and Innovation Chain, the WALLONIUM is the perfect tool for promoting our cross- innovation strategy within our ecosystem.

Another opportunity to collaborate with Wallonia will be the possibility to meet our experts from LIEU (Liaison Universités - Entreprises) - the collaborative network of Knowledge Transfer Offices (KTOs) belonging to the Universities and Higher Education Institutions of the Fédération Wallonie-Bruxelles. You will thus discover our technological portfolio from over 1000 research laboratories and 10000 academic researchers.

Moreover, the promotion and facilitation of international cooperation between research and innovation stakeholders of Wallonia-Brussels is one the most important task of the R&I Department of WBI. For consolidating this collaborative approach, we need to highlight that Wallonia and Germany are member of several funding schemes for increasing the competitiveness of our industries and Small and Medium-sized Enterprises (SMEs). Among others, CORNET and IRA-SME Programs support projects for introducing pilot actions and schemes for pre-competitive Collective Research. New innovative projects are also developed through EUREKA/EUROSTARS, M-ERANET and MANUNET Programmes.

We are looking forward to meeting you at the Wallonia-Brussels Booth.

Mr. Mathieu Quintyn
Scientific Liaison Officer - Germany

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Wallonia.be

EXPORT
INVESTMENT

The Wallonia Export-Investment Agency (AWEX) develops and manages the international economic relations of Wallonia, the Southern region of Belgium. The agency, which employs more than 400 people, promotes the competitive advantages of Wallonia internationally.

AWEX makes use of its global network of more than 100 offices to strengthen in a sustainable way the image of Wallonia abroad. To promote international business relations, AWEX exchanges commercial information with both the international business community and Walloon companies.

The agency provides exporters, importers and potential investors with information on:

- the region of Wallonia and its export potential by means of macro-economic data
- Wallonia-based companies and their products/services
- the potential of Wallonia-based companies for international partnerships

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Furthermore, AWEX assists companies based in Wallonia with a wide range of services in regard to their international activities such as:

- gathering information on foreign markets
- carrying out individual market studies upon request
- organizing trade missions, group stands at international fairs, and visits to Wallonia by foreign dignitaries and captains of industry
- promoting commercial contacts with international organizations
- providing financial incentives for export activities
- organizing professional training of specific commercial skills
- increasing awareness of international business opportunities

In addition, AWEX has a key role in the expansion or development of the business of potential foreign investors. It offers its expertise in how to establish a business in Wallonia, as well as provide them with detailed information and tailored made assistance on local investment opportunities.

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Wallonia's digital strategy, platform and brand, Digital Wallonia sets the framework for all of the Walloon Government's actions in terms of Wallonia's digital transformation. Made Different Digital Wallonia is one the project from the strategy.

This programme is aimed at supporting the creation of new businesses, and is designed to speed up the digital transformation through awareness raising, diagnostics and support around the theme of "Industry 4.0", "smart manufacturing", "factory 4.0", etc. The programme mainly focuses on advanced technologies such as Artificial Intelligence, Cyber Physical systems, advanced robotic, etc.

In attendance at Hannover Industrie Messe :



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In collaboration with the Walloon Export and Foreign Investment Agency AWEX, Wallonia Digital Hubs have been set up all over the world. These hubs, which are based in cities and regions with a high level of digital innovation, assist Walloon companies wishing to access international markets and inform them about business opportunities and innovations. The hubs are the preferential contact point for Walloon start-ups and businesses in the digital sector, facilitating their relationship with German communities in order to enable accelerated growth of their activities.

The Digital Wallonia Hub Germany, which is based in Munich, has a special focus on the start-up scene in Berlin. The Hub is particularly interested in the areas of digital factory and industry 4.0. Its aim is to establish contact between Walloon and German stakeholders, generating partnerships in digital innovation and business. Digital Wallonia focuses, among others, on technologies such as artificial intelligence, Internet of things (IoT), cybersecurity, big data and smart data.

In attendance at Hannover Industrie Messe :



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MECATECH CLUSTER



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Pôle MecaTech is a competitiveness Cluster in Mechanical Engineering based in Wallonia (Belgium), gathering over 300 members (185+ companies, Research Centers, University labs)... Our main activity is to setup collaborative innovation projects (R&D, training, Investment). More than 110 projects (316 million € of investment) have been developed since 2006.

Our network focuses on innovative products, equipment & processes with high added value in 4 strategic technological fields:

- Materials & surfaces treatment ;
- Materials forming & shaping, especially AM technologies ;
- Mechatronics, (micro- electronics, micro-technologies) ;
- Smart maintenance & Factory 4.0.

The applications cover different domains such as Medical Devices, Defence, Manufacturing, Automotive, Energy & environment, Manufacturing.

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The LIEU network brings together the Knowledge Transfer Offices (KTOs) of the five Belgian French-speaking Universities, namely UCLouvain, ULB, ULiège, UMONS and UNamur. The mission of the KTOs is to stimulate and facilitate cooperation between scientific communities and companies in terms of collaborative research, services and knowledge transfer.

The LIEU network aims to create a forum where businesses and researchers can enter a dialogue to build trusting relationships. The advisors of the LIEU network act as go-betweens for businesses and researchers, analyzing the business' needs in order to direct them to the best available solution, and facilitate their cooperation with appropriate academic researchers.

The digital and materials working groups of LIEU are responsible for technology and knowledge transfer in the fields of Micro-Nanotechnologies, Information and Communication Technologies and Materials. These working groups act as the entry point of the network to foster collaborative initiatives.

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WALLONIUM DEMONSTRATOR



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THE WALLONIUM DEMONSTRATOR

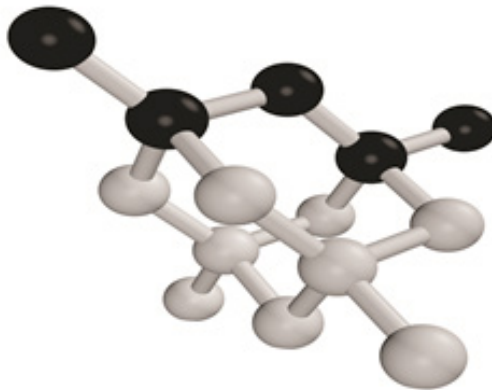
www.wallonium.be

«Wallonium» is a technological artwork highlighting the Walloon region's expertise and know-how in different Industry 4.0 related fields : innovative materials engineering, simulation techniques, ICT, additive manufacturing, embedded systems, signal processing, gas measurements,... In addition to the participation of the accredited research centres [Sirris](#), [CRM Group](#), [CETIC](#), [Multitel](#), [Materia Nova](#) and [Cenaero](#), the young startup [VOCsSens](#) has also joined forces with these research centers to create the joint demonstrator. This illustrates how research that is carried out in Wallonia leads to its industrial valorization and how upstream research aids the development of the local industrial fabric.

The Wallonium project was carried out under the impetus of WBI's Research and Innovation department. Taking its inspiration from the famous Atomium monument in Brussels, the Wallonium represents a dynamic model of the silicon crystal.

Curious to discover this interactive display of the latest technology ?

For more information, visit www.wallonium.be



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Cenaero is a private non-profit applied research center providing companies involved in a technology innovation process with numerical simulation methods and tools to invent and design more competitive products.

Our ambition is to be internationally recognized as a technology leader in modelling and numerical simulation, to be a strategic partner of large global industries as well as a real support to regional companies including SMEs. Cenaero is mainly active in the aerospace sector (in particular turbomachinery), process engineering, energy and building sectors.

Cenaero operates experimental facilities in composite manufacturing and prototyping as well as the Tier-1 Walloon supercomputing infrastructure.

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At CRM Group, our activities are centered on the production, transformation, coating and use of metallic materials. Since 1948, we offer R&D and technology solutions focusing on the development of innovative processes and products that create value for our industrial partners.

Our group combines skilled and experienced research teams with unparalleled testing facilities covering the whole manufacture chain of metals, from raw materials to advanced applications, ranging in size from laboratory scale to pilot and even semi-industrial production lines.

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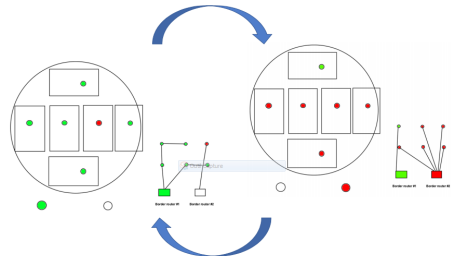
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As an applied research centre in the field of ICT, CETIC's mission is to support economic development by transferring the results of the most innovative research in ICT to companies, particularly SMEs.

CETIC helps companies integrate these technological breakthroughs into their products, processes and services, enabling them to innovate faster, save time and money and develop new markets. CETIC develops its expertise in key technologies, including Big Data, Cloud Computing, the Internet of Things, software quality, and trust and security of IT systems.

These innovations are applied in domains of primary importance to society, such as health, smart mobility, energy and industry. This expertise is continuously supplemented through CETIC's active involvement in European and regional projects. CETIC is located on the Aeropole of Charleroi, in the Walloon region, Belgium.

In a near future, our environment will be equipped with many connected objects targeting to make life better. E.g: medical devices (insulin sensors, heart rate sensors), security devices (emergency buttons, localization sensor), environmental devices (temperature, hygrometry, pressure, luminosity sensors) among others.



People and infrastructures will be constantly connected, and data measured by sensors will rely on cloud connectivity. Data will be transmitted by radio waves through access points, like GSM devices through relay antennas. GSM devices will switch automatically to avoid interruption of service and to ensure quality of communication. Connected objects will also have to cope with multiple access points. To manage sensor access to the Internet and to better manage energy, CETIC is working on connectivity technologies for hopping in the near field, in a peer-to-peer network scheme. In case of failure, objects shall be able to find their path to another functional access point automatically.

CETIC demo shows the behaviour of such objects network, as well as its automatic reorganization in case of access point failure. LED colours on each object show access point association. We simulate a failure, then the automatic network reorganization can be observed.

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Materia Nova is a research and development center based on advanced and disruptive technologies in the field of sustainable materials, multifunctional surfaces, materials for energy and biotechnology. Materia Nova offers partnerships with small, medium or large companies in R&D research axes such as plasma technologies, sol-gel and wet coatings, metallization, electrochemistry, corrosion, organic electronics and chemical sensors, white biotechnology, (bio)polymers and (bio)composites and life cycle thinking.

It facilitates the technological transfer from the academic to the industrial world. This transfer helps companies to test in a real environment the solutions resulting from their research, from lab to pilot scale, before industrialization.

Today, this technological transfer is made possible by, among others, the subsidiaries of Materia Nova: IONICS and NANO4, specialized in surface treatments and nanomaterials, respectively. Materia Nova gives also technical assistance to companies such as in upscaling, feasibility testing, life cycle assessment, materials characterization, market research, state of the art, technology watch and targeted consulting.

Various demonstrators will be displayed that highlight the domains of expertise of Materia Nova (plasma technologies, sol-gel and wet coatings, metallization, electrochemistry, corrosion, organic electronics and chemical sensors...)

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Multitel
INNOVATION CENTRE



Recognized as a center of excellence at the international level, Multitel develops and integrates emerging technologies in the industrial sector.

Thanks to its diversified expertise fields (Signal & Embedded Systems, Computer vision, Applied photonics, Network Engineering), Multitel helps companies in their technological innovation projects, in the exploratory phase, the feasibility and the development.

In general, the goal of Multitel is to boost business innovation, through different means:

- Technology watch and guidance
- Technical tests performance
- Feasibility study
- Prototyping and small series
- Design and implementation of innovative technological solutions
- Technology transfer
- Active participation in regional and European research programmes.

In attendance at Hannover Industrie Messe :

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Sirris is the collective centre for and by the technological industry.

The technical support provided to its 2500 members is mainly focused on product, process and business model innovation. In this context, Sirris has 3 key assets :

- Years of experience in a wide range of companies ;
- High Tech infrastructure spread throughout the country and accredited laboratories;
- A large network of partners (academic, industrial, research centres... in Belgium and abroad)

With 150 experts, Sirris covers 20 domains of expertise around 3 action lines : Product of the Future, Factory of the Future & Business of the Future.

In addition to our technological skills and through our network, Sirris offers support for the definition of innovative projects, reinforced by internal technological monitoring and patent support (Patlib).

In attendance at Hannover Industrie Messe :



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VOCSENS creates your future gas sensing solutions tuned for remote environmental monitoring, industrial, security and health applications, from device to system level. Founded in 2019 as a spin-off of the UCLouvain, our company is deeply focused on the development of a novel ultra-low-power, multi-pixel and CMOS integrated gas sensing platform. Our first product, EnviCam®, reflecting the concept of «environmental camera», is a multi-sensor measuring the concentration of various gases and volatile organic compounds, particulates, humidity and temperature, connected to Internet of Things networks and the Industry 4.0.

VOCSENS developments are pioneering in terms of autonomy, accuracy, versatility and portability, while ensuring continuous measurements in an active way, helping companies and institutions to unveil their environmental parameters, strengthen safety and health.

The EnviCam® sensor is placed within the pedestal of the Wallonium structure, highlighting the skills of the Wallonia Accredited Research Centres, for continuously measuring the indoor air quality, as well as selectively detecting volatile compounds emitted from one dedicated sphere and generating alarms on an electrochromic film, in collaboration with Materia Nova. Finally, data are remotely sent through IoT networks such as LoRa or Bluetooth for live visualization on a dedicated dashboard in the cloud.

In attendance at Hannover Industrie Messe :



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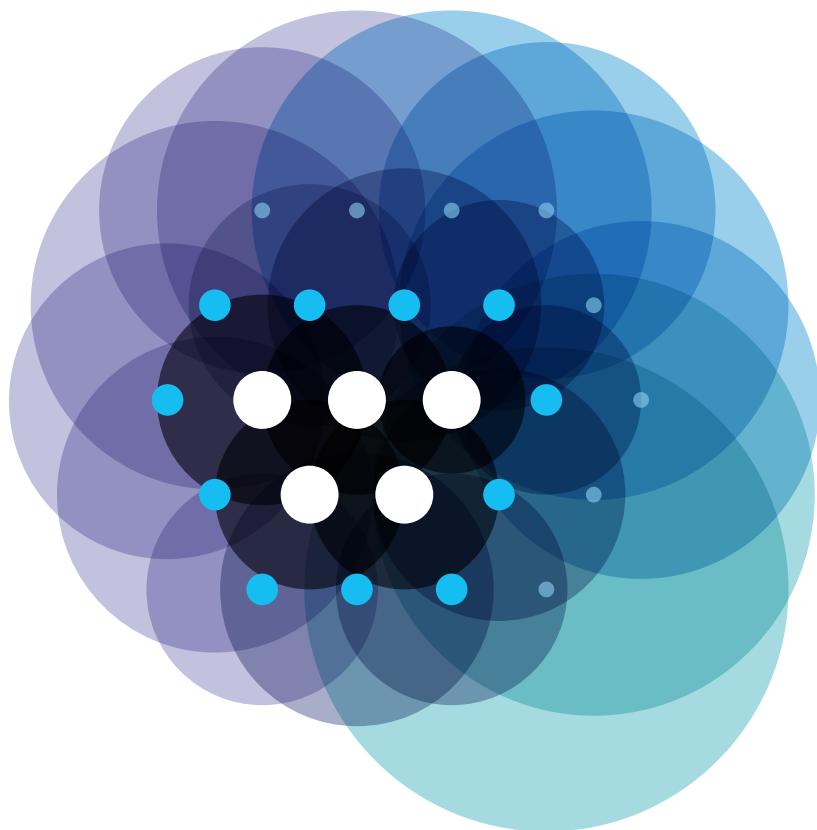
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IOT - PREDICTIVE/ ADVANCED ANALYTICS



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Altheria Solutions enables immersive, interactive, and intuitive knowledge transfer by developing Virtual Reality and Augmented Reality educational software. Our portfolio includes VR add-ons for university lectures, AR books and educational games. Besides, we offer on-demand services for companies willing to discover how AR/VR can improve the productivity of their organization through better communication.

Services include talks, workshops, technical consulting and AR/VR prototyping. We are currently developing Logia, a toolbox allowing manufacturing companies to build VR training sessions aimed at assembly line workers, straight from CAD designs and 360° videos. Logia also provides a platform for simulation of the assembly process.

In attendance at Hannover Industrie Messe :



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Atheris Services offers developments for complete custom professional Internet of Things solutions. To this end, Atheris develops connected devices as a technological integrator, and evaluates the data from those devices through its data analytics management platform, Owlata.

The custom-developed devices, associated with the data management platform offer a complete, coherent, high-end, and turnkey solution; to innovate and accelerate the user growth. Atheris' services focus on integrating targeted technologies based on specific needs into a single solution. This approach offers state-of the-art solutions that shape the assets of the 4.0 Industry.

In attendance at Hannover Industrie Messe :



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Think outside the block.

Block0 helps organisations leverage the benefits of the Blockchain & Distributed Ledger technologies. Our first product called EterniTrace is a platform targeted at Supply-chain ecosystems, whereby stakeholders are able to optimize processes and reduce costs by sharing data with each other in a secure and compliant way.

In attendance at Hannover Industrie Messe :



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Digital Attraxion is a digital startup accelerator working in close collaboration:

- Upstream: with the Hainaut economic agencies that support entrepreneurs in the creation of their activity;
- Downstream: with the VCs in the preparation of the startups first funding round.

Digital Attraxion's ambition is to make in Hainaut a solid and sustainable digital ecosystem particularly active and recognized beyond its borders.

We focus on : Industry 4.0, Smart city, Ed&HR Tech, SAAS/Marketplace, e-health and Creatives Industries. Move Up Program is an Open Corporate Innovation program that brings Corporates and Startups together in order to work on concrete problems in partnership. It is dedicated to startups from around the world who are looking to target the European Market in the field of Industry 4.0.

The program offers introduction to customers and investors, a European commercialization roadmap, funding, access to shared office space, coaching and workshops/training days.

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Emphase is a company specialized in the optimization of technical and financial resources of buildings, infrastructures and processes. It analyses and reduces energy costs and those of other flows (water, gas, air, waste) while providing comfort and optimum security to users.

Emphase is active in the building sector, hotels, but also in the infrastructure and industrial sectors. In Belgium and in Europe. It is also part of the smart buildings approach, in the trend of smart cities. Emphase regularly enriches its products / services offer. Schneider Electric and SIEMENS have chosen Emphase as a development partner for its automation systems. The company is also certified for the distribution and installation of Schneider Electric Struxureware equipment.

Relying on its R&D department, Emphase develops new solutions, based on innovative technologies. The latest of the proposed specific sensors is a sensor based on fiber optic technology. This sensor, unique on the market, allows a double measurement of the temperature, via a measurement of a very small variation of the temperature over long distances and via a specific measurement of the absolute temperature in several points, distributed on a bus. The first measurement is done via an optical fiber, following a principle patented by Emphase.

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PERFORMANCE FOR ASSETS

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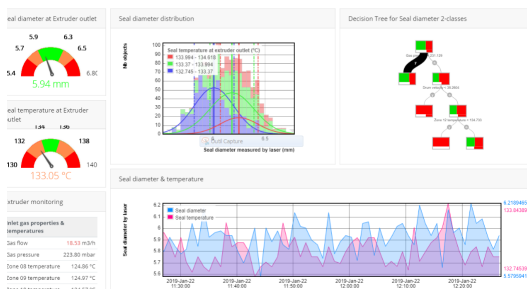
www.pepите.com



PEPITE provides Advanced Analytics solutions for industry. For more than 15 years, our team of experienced computer scientists and process engineers provide our clients with state of the art tools, skills and knowledge to harness Advanced Analytics in manufacturing. Our software, DATamaestro, is designed by engineers for engineers. It uses a stack of cutting edge AI and machine learning technologies adapted to implement a complete Advanced Analytics workflow in a process plant. Our methodology, OPTImaestro, combines Advanced Analytics and plant staff participation to deploy successfully projects that optimize productivity, energy, yield, quality, predictive maintenance, OEE and environmental impacts.

DATamaestro software is based on cutting-edge machine learning technology adapted to real industrial challenges. PEPITE has developed OPTImaestro, a participative methodology to deploy successful and sustainable AI projects in industry.

Engineers and operators have accumulated a lot of uncoded knowledge on the operation of a plant while IT systems have accumulated a huge amount of unused data. OPTImaestro combines both sources of information to improve performance and deploy reliable decision support tools.



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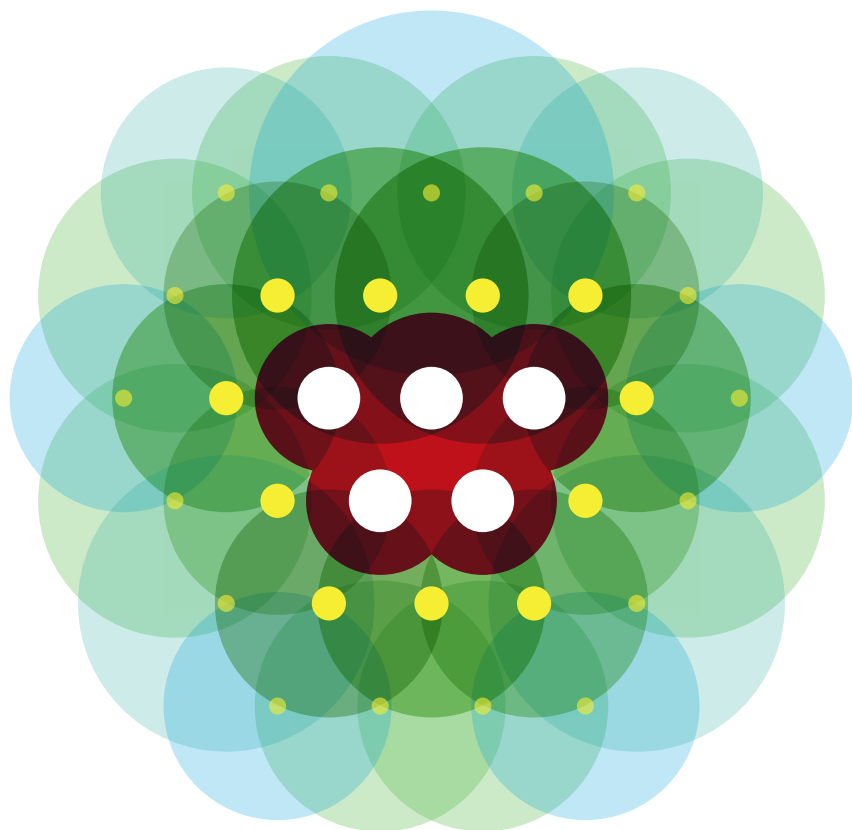
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PLASMA / SURFACE TECHNOLOGY



34

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AGC Plasma Technology Solutions makes the coating technologies used within the glass industry available to a broad range of industries. Our fields of expertise include magnetron sputtering, plasma-enhanced chemical vapor deposition (PE CVD) and ion beam implantation. The value proposal of AGC Plasma technology Solutions is that we are an industrial partner to upscale innovative plasma coating processes and have the capabilities to support our customers till reaching operational excellence in their production.

AGC Plasma has a customer-centric approach with a demonstration center with pilot coating lines and extensive analysis tools in Lauenförde, Germany at the service of our customers to make product prototypes and realize proof of concepts. Next, AGC Plasma is a one-stop provider for the vacuum plasma equipment. We take full responsibility for the project management and start-up of a turnkey vacuum plasma process line including integrated process control.

AGC Plasma Technology Solutions has successfully made the upscaling of a linearized Hollow Cathode for Plasma Enhanced Chemical Vapor Deposition (PE CVD) till a width of 3.6 meters. This allows the industrialization of this technology for large area coating on a wide variety of substrates. The integration of the hollow cathode in a standard magnetron sputtering line allows high rate deposition of SiO₂ layers among other materials.

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Esix was born from industrial and technological partnership.

Esix is able to offer «Coatix». This hydrophobic thin ceramic coating allow to get «super» properties on different kind of materials (Metals, Polymers, Ceramics). thanks to its hydrophobicity, «Coatix» has «easy to clean» properties and forms an excellent barrier against corrosion properties. Recently researchers have developed another coating with antibacterial properties. Beside, Coatix is available in a clear or colour version.

Today Esix is mainly present in the pharmaceutical field where Coatix is used to protect equipment against aggressive atmosphere. Furthermore, Coatix attracts more and more interest from the food industry, the luxury and the building industry.

Esix works closely with R&D centre in Mons, in order to improve surface performance on a large scale of materials.

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INNOVATIVE COATING SOLUTIONS

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www.incosol4u.com



ICS is a University of Namur spin-off, a small-sized university situated in the centre of Wallonia (Belgium), which shows strong assets in nanotechnology, plasma techniques and numerical modelling. Expertise ranges from photonic to surface and interface sciences including molecular modelling. Research projects vary from fundamental to applied ones and are often performed in interaction with industrial companies.

ICS is your surface optimization partner to transform your ideas/needs in real surface-enhanced products. ICS is based on 40 years of experience in surface and treatment to improve/confer properties such as adhesion, anti-wear, conformability, anticorrosion, decorative, tunable electric conductivity...

ICS uses low-temperature low-pressure plasma deposition techniques allowing the treatment of metal, ceramic, glass and polymers/elastomers under powder form or complex build parts. ICS also proposes Lithium deposition for battery and energy applications.

In addition to its core expertise, ICS also offers potential pre- and post-treatments, simulation (prediction of coating deposition and properties) and characterization.

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IONICS develops and supplies specialty surface technologies for metal, glass and other substrates. Our demanding and ambitious customers capitalize on our innovative technologies and responsive service. Our product portfolio finds use in various industries: automotive, architecture, household appliances, telecommunication, electronics, life science,...

IONICS is proud to present a brand-new application: the ionPOWDER low pressure reactor. The equipment allows the surface modification of micrometric powders, fibers and loose parts using the Hardion ion source. Hardion is an industrial ion gun solution solving different technical and economic issues generally associated to the process. It enhances the surface properties of your material without any coatings and using an environmentally friendly technology. The system can also be equipped with PVD and PECVD low pressure plasmas deposition processes. The fields of application are numerous: additive manufacturing, thermal spraying, sintering processes, catalysis, mechanical parts, connectors,...

The innovation is supported by the Walloon Region through the WALIBEAM project which gathers major industrial actors in the fields of surface treatment of glass, metal and polymer. An R&D scale functional equipment will be present on our booth at HANNOVER MESSE 2019.

In attendance at Hannover Industrie Messe :



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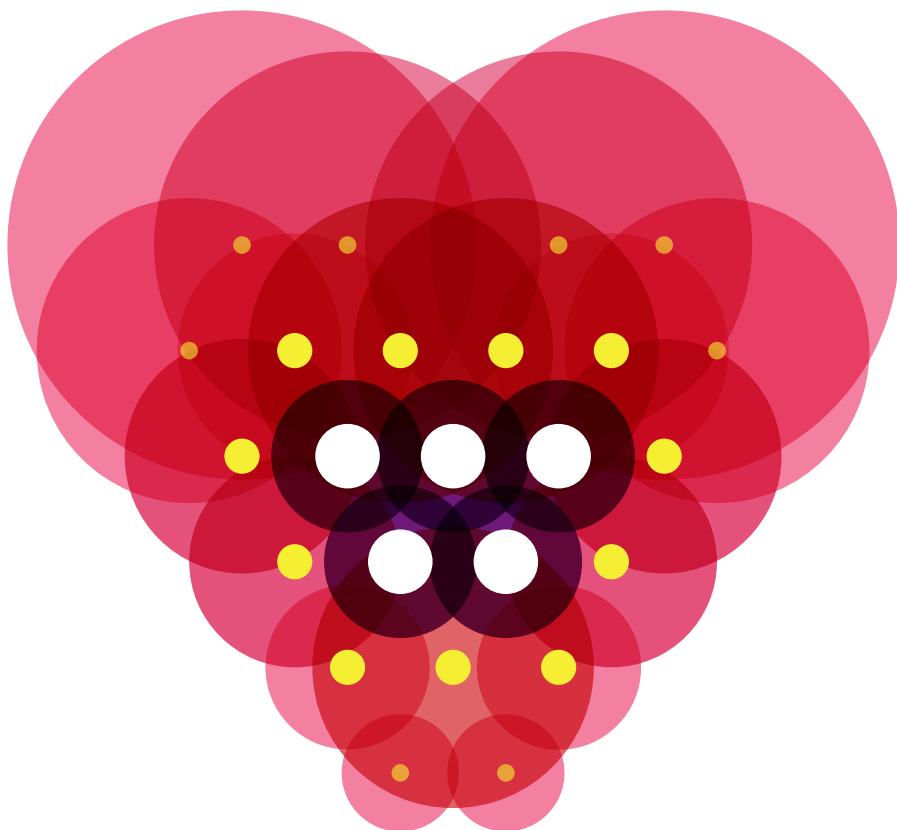
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SMART EQUIPMENT & ROBOTICS

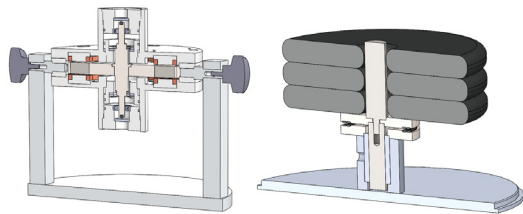


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The Center for Research in Mechatronics (CEREM) belongs to the Institute of Mechanics, Materials and Civil Engineering (IMMC) of the University catholic de Louvain (UCLouvain).

The CEREM combines its various fields of expertise in solving the technological challenges arising from new applications. The modelling, the design and the prototyping of mechatronic devices involving sensors, actuators and control systems are at the heart of its activities. The goal of the CEREM is to grasp the problem specifications and propose an integrated and optimal solution, in various fields, like mobile robotics, medical robotics, multibody system dynamics, aeronautics, or high performance actuation. In addition, CEREM is closely linked to a technological platform that designs, manufactures and tests electromechanical devices. It builds custom prototypes to meet specific needs in many areas of research: robotics, mechatronics, bioengineering, fluid mechanics, process engineering, thermodynamics and energy.



The Center for Research in Mechatronics presents two demonstrators :

The first demonstrator is a self-bearing motor providing within one single unit both the conventional torque generation and the magnetic levitation of the rotor. The development of such motors has been supported by the increasing demand for electrical machines operating in high purity environment, requiring a high compactness or rotating at high spin speeds.

The originality of the proposed solution is that it relies on the use of a fully passive magnetic levitation. The absence of active magnetic bearings leads to more compact and more reliable self-bearing machines, what is particularly well suited for critical applications such as reaction wheels .

The second demonstrator is a permanent magnet thrust bearing that can be used in combination with classical ball bearings for relieving the axial load on the latter. As positive consequences, the mechanical losses are strongly reduced and the bearing lifetime increased. The uniqueness of the proposed solution is the very small volume of permanent magnet and the possibility to add a simple and compact system maintaining this load constant whatever the temperature in the permanent magnet or their ageing.

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HIPPEROS is an innovative solutions provider focusing on Intelligent Autonomy for embedded and real-time OS to enable Computer Vision, Machine Learning and Robotics.

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Established in 1937, JEMA s.a. has evolved from transformers to high performance DC power supplies applications. JEMA s.a. designs, develops and manufactures high performance power supplies for various sectors including particle science, metallurgy, infrastructure equipment, electrical network, surface treatment processes, industry,... among others.

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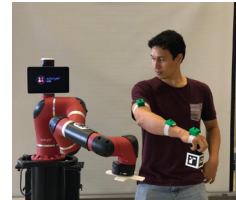
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The University of Liège (Belgium) is located in the heart of Europe and prides itself on its pluralistic vision and on its pursuit of excellence in teaching, research, and innovation. The Multibody and Mechatronic Systems (MMS) Laboratory is specialized in the modelling of robots and mechatronic systems for numerical simulation, control and optimization purpose. It benefits from close partnerships with industrial companies in the field.

The University of Liège is involved in the Robotix Academy project which targets the development and dissemination of robotic technologies in the Greater Region. The project involves the development of research activities including novel technologies for human-robot cooperation, the construction of a network on industrial robotics connecting academic and industrial players in the Greater Region, and the transfer of knowledge to the industry.



The demonstrator combines a collaborative robot and external sensors (IMUs and cameras). It is designed to illustrate new control and programming methods that facilitate the interaction between human and robots: the robot is commanded by the operator's gesture to execute the required task.

In attendance at Hannover Industrie Messe :



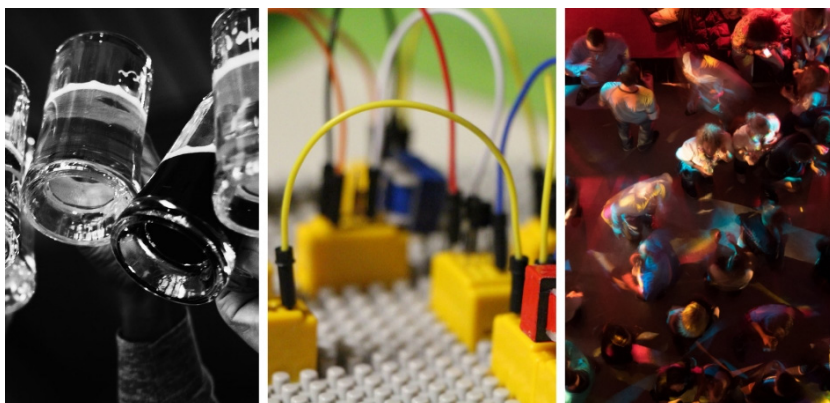
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BELGIAN BEER CAFÉ

02.04.2019 - From 16.30 to 19.00
Hannover Messe - Hall 02 - Booth C56

NOTES

Feel inspired

