



Orano and its partners launch the Plants of Tomorrow project

Paris, December 1st, 2021

The Orano group and its partners are launching a development project known as udd@Orano (for Usines De Demain (Plants of Tomorrow) on Orano industrial sites) in order to accelerate deployment of the plant of the future on the group's industrial sites.

Coordinated by Orano, this project brings together 11 industrial partners for a period of 36 months: 6 VSB-SMEs (Aeraccess, Axionable, Diota, Ob'dO, Shark Robotics, Siléane), 2 large companies (Predict, Probayes) and 3 research organizations (CEA, Ecole des Mines de Saint-Etienne and Université Jean Monnet de Saint-Etienne).

For the duration of the project, Orano and its partners will be pooling their expertise to develop and implement new technological solutions. For example, their work will focus on the design of innovative miniaturized sensors for more efficient radiological measurement. New algorithms based on artificial intelligence (AI) will also be developed to facilitate decision-making support and anticipation of actions. Mixed reality platforms using 3D digital models and the dematerialization of flows will help operators working in constrained environments. And new robots will be developed to perform complex remote operations and automate simple tasks.

These new solutions, applicable both to the nuclear sector and industry as a whole, aim to ensure that Orano's industrial sites continue to operate at the highest technological levels in order to improve performance, production, plant competitiveness and operator safety. They will also support the development and growth of VSB-SME partners by promoting the disruptive technological solutions developed in the framework of the project. Lastly, they will facilitate the development of new knowledge and innovative technological building blocks, helping to strengthen the industrial base of France as a whole.

The udd@Orano project meets the criteria of the economic stimulus plan introduced by the French government. Under the plan, it benefits from a subsidy of €10.48m awarded by France Relance to all the partners involved.

The project offers the prospect of significant economic benefits, including additional turnover of more than €11m per year from 2025 for its VSB and SME partners, and the creation of more than 70 skilled direct jobs in France and a similar number of indirect ones.

About Orano

As a recognized international operator in the field of nuclear materials, Orano delivers solutions to address present and future global energy and health challenges.

Its expertise and mastery of cutting-edge technologies enable Orano to offer its customers high value-added products and services throughout the entire fuel cycle.

Every day, the Orano group's 16,500 employees draw on their skills, unwavering dedication to safety and constant quest for innovation, with the commitment to develop know-how in the transformation and control of nuclear materials, for the climate and for a healthy and resource-efficient world, now and tomorrow.

Orano, giving nuclear energy its full value.

According to Nathalie Collignon, Director of Innovation: *"for Orano, the [udd@Orano](#) project will help make the plants on our operational industrial sites even more efficient, through the adoption of an environmentally-responsible strategy to enhance operator safety and workshop productivity. For our partners, it's an opportunity to validate the innovative solutions they are developing, at full scale under real industrial conditions, so that they can consolidate their industrial positioning in the nuclear power sector or diversify into others, thanks to the development of these new products."*

About Orano's partners

Aeraccess



A finalist in the 2019 Startup World Cup, AERACCESS is a provider of technological solutions, designing, building and producing an innovative portfolio of unmanned aircraft systems (UAS). Its solutions provide airborne overviews through data collection and real-time communication based on multi-sensor / multi-mission capabilities. Thanks to their highly reliable design, AERACCESS solutions are market leaders in the protection of sensitive sites with solutions such as Drone-in-a-box, parcel delivery, robotic food industry applications, and indoor inspections in inaccessible or dangerous areas.

www.aeraccess-group.com

Axionable



Axionable is a market leader in sustainable artificial intelligence in France and Canada. Certified B Corp and Greentech Innovation, and a board member of the benchmark Impact AI organization, Axionable is committed to solving business challenges using sustainable AI. Its multidisciplinary team of AI/data and sustainable development experts and researchers offers a new business approach to AI that combines economic results with social, societal and environmental impacts. It operates in the following sectors: banking/insurance, industry, media, luxury goods, real estate and healthcare. It provides end-to-end support to customers and adopts an industrial approach to lead large-scale transformation projects while also championing ethical considerations. Founded in 2016 by 4 co-founders and always self-funded, the company has seen strong growth since its inception. It has 50 employees working in Paris and Montreal.

www.axionable.com

CEA



The CEA is a major research organization serving the government, economy and citizens of France. It provides concrete solutions to their needs in four main areas: energy transition, digital transition, technologies for future medical applications, and defense and security. The only French public research organization in the Top 100 Global Innovators (Derwent 2018-19), the CEA acts as a catalyst and accelerator of innovation to serve French industry. It improves the competitiveness of companies in all sectors by creating high-performance, stand-out products and provides innovative solutions to support the changes happening in our society. The CEA deploys this strategy in all regions of France by supporting its local partners in their innovation work and contributes to the creation of value and long-term jobs in France, matching the needs of industry as closely as possible.

It also supports the development of its 222 startups which act as agile vehicles for transferring know-how and disruptive technologies originating in laboratory settings.

www.cea.fr

Diota



Founded in 2009, Diota assists industrial companies in their digital transformation strategies by extending use of digital mock-ups to operations on the ground. To achieve this, Diota designs and markets solutions dedicated to optimizing industrial processes such as assembly and quality control operations through digitization of the operator space. Integrating cutting-edge technologies such as augmented reality and automatic control, these solutions create digital continuity between industrial information systems and production and maintenance centers, thus allowing customers to leverage their competitiveness in terms of productivity, quality and traceability.

Through its technological innovations (3D, computer vision, AI, etc.) and its knowledge of different industries, Diota supports key accounts in the following sectors in France and Europe: aeronautics, rail, space, automotive, energy and chemicals.
www.diota.com

Ecole des Mines de Saint-Etienne



The Mines Saint-Etienne engineering school contributes to the udd@Orano project through its expertise in image processing and analysis, random geometric modeling of granular, powder and microstructure media, digital simulation, machine learning and deep learning to optimize processes. The objective is to develop digital models and simulations connecting the morphometric characteristics of the medium studied with the manufacturing process and the functionality targeted (physicochemical properties, performance), in order to improve the competitiveness of partner companies. This is achieved by developing new skills and employing young researchers to develop new digital technologies for businesses.
www.mines-stetienne.fr

Ob'dO



Ob'dO, located in Colombelles, Normandy, is a design office specializing in the development of connected objects. Founded in 2013 by 6 co-founders, the company provides its customers with expertise in management of complex project development in electronic hardware and software, using agile development methodology, proven and deployed during the different phases of digital transformation project development: drafting of specifications, theoretical feasibility study, prototyping, proof of concept, electronic and software development, industrialization, customer follow-up and maintenance.
www.ob-do.com

Predict



PREDICT, a subsidiary of the SNEF Group, provides digital solutions for more efficient, safer and cleaner industrial applications. Since 1999, PREDICT has been implementing and deploying large-scale predictive solutions in the energy, naval, aeronautics, industrial and defense sectors. Predictions made on more than 400,000 pieces of equipment have enabled customers to increase productivity, produce right the first time, eliminate non-quality, contribute to safety, limit overconsumption of energy and reduce incidental maintenance costs.

Using digital twins coupled with interpretable and explainable artificial intelligence, the KASEM solution, available on site or in the cloud, offers all the dashboards appropriate to users and all the decision-making support tools required.

Positioning itself as a digital solutions contractor for optimizing the performance of industrial resources, customers appreciate the experience, advice, performance, technical expertise, responsiveness, lead time compliance and support of PREDICT.
www.predict.fr

Probayes



Created in 2003 by a team of researchers from INRIA and CNRS, Probayes specializes in artificial intelligence and data science in various areas of expertise such as machine learning, deep learning, computer vision, sensor fusion, automatic language processing, ontology, operational research and combinatorial optimization.

In order to integrate the advanced complexity of processes in different industrial sectors and the multitude of data sources, dedicated Probayes teams collaborate closely with the relevant business teams. Transparency is the key word in this collaboration, allowing teams to advance together through the development of the project.

This expertise allows the company to support customers, from identification of use cases to industrialization of high-ROI solutions, enabling them to overcome challenges in the following sectors: automotive, defense, finance and insurance, energy, industry, logistics and distribution, nuclear power, healthcare, etc.

A subsidiary of La Poste Group since 2016, Probayes is a trusted third party.

Probayes also offers off-the-shelf and tailor-made training courses on the various technologies related to data science.

www.probayes.com

Shark Robotics



Shark Robotics is a French market leader in terrestrial robotics in the civil security, defense, industrial and nuclear sectors.

Agile and responsive, Shark Robotics offers robust off-the-shelf and tailor-made robots, entirely produced in France thanks to its expertise in hardware, software and electric batteries.

www.shark-robotics.com

Siléane



Siléane specializes in robotics, vision and artificial intelligence and builds machines to automate movement in random or unknown contexts in complex and unstable industrial environments, where existing technologies have proven limits (food production, pharmaceuticals, health and personal care, microtechnology, etc.).

Siléane robots adapt to changing or unstable situations in real time. They can independently handle, sort, deconstruct or remove all kinds of objects for numerous industrial applications (for example, precision placement, connector assembly, waste sorting).

www.sileane.com

Université de Saint-Etienne



Université Jean Monnet Saint-Étienne is a multidisciplinary university with 20,000 students. Spread over 5 campuses in a stimulating, dynamic and student-centered environment, it offers courses in science, technology, health, human and social sciences, law, economics, management, arts, literature and languages. Thanks to its cutting-edge

research and an increasing number of international accreditations, the university has adopted an innovative transformation strategy in line with its responsible and person-centered university plan.

Université Jean Monnet (UJM) is a key player in its home territory and beyond: in the greater Auvergne-Rhône-Alpes region, while also welcoming national and international partnerships. UJM is involved in the udd@Orano project through the Hubert Curien Laboratory (UJM/CNRS/IOGS) which specializes in optics and photonics, surface engineering, IT, security and image processing. Among its flagship activities with a strong international reputation, the Hubert Curien laboratory has the facilities and expertise to study innovative optical fiber technologies for high-radiation environments such as space and the nuclear industry. It develops disruptive solutions to improve radiation resistance in order to optimize the performance of systems, whether they are "hardened" to radiation or capable of detecting it.

www.univ-st-etienne.fr