



FLASH NEWS

No. 59-2023 – THE BIOTECH INDUSTRY INTELLIGENCE REPORT

CONTENTS

1. EQUIPEMENTS & TECHNOLOGIES.....	2
2. APPLICATIONS, MARCHES & SCIENCES APPLICATIVES	9
3. PUBLIC POLICIES & REGULATIONS	29
4. AGENDA	36

Author

Elodie Victoria – elodie.victoria@inrae.fr

Publication director

Fabrice Garrigue – fabrice.garrigue@inrae.fr

TWB - Campus de l'INSA – Bât 50 – 135 Avenue de Rangueil – 31077 Toulouse Cedex 4 / FRANCE

twb@inrae.fr / +33 (0)5 61 28 57 80
www.toulouse-white-biotechnology.com

Biocatalysis/Bioconversion

4429 - Enzymatic PET degradation in an industrial setting: the enzyme developed by Carbios outperforms the other three enzymes tested

[Carbios](#), the French expert in the enzymatic recycling of plastics and textiles, announced the publication of a paper entitled 'Assessment of Four Engineered PET Degrading Enzymes Considering Large-Scale Industrial Applications'. The paper demonstrates that Carbios' LCCICCG enzyme (published in Nature in 2020) outperforms the three competitors considered the most promising in scientific literature: two variants of the IsPETase enzyme produced by *Ideonella sakaiensis* described by the University of Manchester, United Kingdom, and the University of Austin, Texas, and a variant of PES-H1 (also known as PHL7) described by the University of Greifswald, Germany. Using an international standardised method for comparing PET degrading enzymes under industrial conditions, Carbios and Toulouse Biotechnology Institute (TBI) validated the superior performance of Carbios' enzyme and confirmed the company's leadership in the field. Moreover, since 2020 Carbios has significantly enhanced the enzyme used for the purposes of the paper, further extending its lead. This next-generation enzyme (results not yet published) will be used in the world's first PET biorecycling plant due to be commissioned in 2025 in Longlaville, France.

Publication: Assessment of Four Engineered PET Degrading Enzymes Considering Large-Scale Industrial Applications. Journal: ACS Catalysis. DOI: 10.1021/acscatal.3c02922.

More information: [Press release](#)
En savoir plus : [Communiqué de presse](#)

4430 - Discovery of the first biocatalytic route to produce a broad range of lactams for drug manufacture

Researchers have discovered a new way to produce lactams, building blocks that are highly sought-after by drug manufacturers, particularly for the production of penicillin antibiotics. The new approach employs an iron-based enzyme derived from the haem complex in myoglobin, a protein found in muscles. Their methodology enables '*the cyclisation of dioxazolone substrates by means of an inexpensive, renewable and non-toxic iron-based enzyme.*' This method '*offers excellent stereoselectivity, it is scalable and it has a particularly broad substrate scope, allowing for the synthesis of lactams of varying ring size.*' The team was inspired by previous work that had shown iron-based enzymes could catalyse reactions and introduce nitrogen into substrates. Wondering if this could work in lactam synthesis using dioxazolone reagents as nitrene precursors, the researchers set about testing various iron-containing enzymes and proteins for their activity producing γ -lactams via C–H amidation. They arrived at an engineered myoglobin mutant, which the team had previously found had enhanced activity for nitrene transfer. Tests showed it reacted with dioxazolones to yield tiny yet detectable amounts of γ -lactam. Further mutations were then engineered in the active site of the mutant myoglobin to improve its performance. Their research demonstrates that the myoglobin catalyst can produce a wide range of lactams, especially β , γ and δ varieties, with good yields. β -lactams are particularly important for antibiotics. They also demonstrated how simple and efficient the approach is by producing two drug molecules – an alkaloid natural product and a synthetic drug – in almost half the number of steps and in higher yields than other methods to make the same molecules. Their method could find practical applications for scalable enzymatic synthesis of pharmaceuticals in academic settings and in industry.

Publication: Stereoselective construction of β -, γ - and δ -lactam rings via enzymatic C–H amidation. Journal: Nature Catalysis. DOI: 10.1038/s41929-023-01068-2.

More information: [Chemistry World.com](#)
En savoir plus : [Crumpe.com](#), [Syndicat UNL.fr](#)

4431 - Discovery of a marine bacteria and enzyme molecule that can break down polybutylene succinate (PBS)

By analysing seawater off the coast of Japan, researchers at the [University of Hokkaido](#), together with colleagues from [Mitsubishi Chemical Group](#), identified several types of marine bacteria that could break down PBS. Their research also led to identification of the enzyme responsible for degrading PBS in a specific strain of bacteria called *Vibrio ruber*. They named the enzyme PBSase. They went on to use molecular biological techniques to insert the gene for PBSase into the common bacterium *Escherichia coli*, which they cultured to produce highly purified samples of the enzyme for further study. The availability of the purified enzyme also allowed the researchers to examine its structure, with simulations suggesting it was closely related to a different enzyme known to degrade another common polymer: polyethylene terephthalate (PET). Their discoveries are expected to advance plastic recycling technologies.

Publication: A lesson from polybutylene succinate plastisphere to the discovery of novel plastic degrading enzyme genes in marine vibrios. Journal: Environmental Microbiology. DOI: 10.1111/1462-2920.16512.

More information: [Press release](#)
En savoir plus : [Crumpe.com](#)

4432 - Discovery of a new way to determine the specific catalytic properties of a given enzyme

Scientists at the [Laboratoire de bioénergétique et ingénierie des protéines](#) (CNRS / University of Aix-Marseille) have successfully swapped the various subunits of an enzyme family responsible for oxidation and dihydrogen production. They aimed to understand the specific catalytic properties of the enzyme by altering certain functions. For their research, the scientists took as their example two dimeric homologous hydrogenases, i.e., enzymes created by assembling two subunits, one of which contains the catalytic site. Both enzymes catalyse the oxidation of dihydrogen, but only one of the two catalyses the opposite reaction, which produces hydrogen. This latter enzyme is also sensitive to inhibitors such as O₂ and CO, which can interfere with the enzyme's ability to catalyse the hydrogen production reaction. The scientists used protein engineering methods to work out which of the two subunits was responsible for differences in function, producing a chimeric enzyme by artificially assembling the two subunits of the two dimers. The results challenge established opinions on the molecular determinants of catalytic properties in this enzyme family, and open the door to the construction of new catalytic systems. Such systems would combine the most desirable properties of distinct homologous enzymes, produced by recombining the subunits that determine these properties.

Publication: A Chimeric NiFe Hydrogenase Heterodimer to Assess the Role of the Electron Transfer Chain in Tuning the Enzyme's Catalytic Bias and Oxygen Tolerance. Journal: Journal of the American Chemical Society. DOI: 10.1021/jacs.3c06895.

En savoir plus : [CNRS.fr](#)

4433 - BENEFICCE project: Biomass and bio-oil Fermentation using microbial Communities to produce Chemicals and Enzymes

The project, launched in 2020 and led by the [Institut des Sciences Analytiques et de Physico-Chimie pour l'Environnement et les Matériaux](#) (IPREM) at the [University of Pau](#), France, aims to use local resources to produce bioplastics with a short supply chain. Specifically, the researchers are using corn residue from crops grown in southwest France and bacteria extracted from sediment from the nearby port in Anglet to produce biomass that can be used to manufacture biopolymers. Three years after the project's launch, the scientists have confirmed all their hypotheses and are awaiting fresh funding so they can pursue their work and move into the pre-industrial phase. Their end goal is to produce bioplastics that can primarily be used to make food packaging, in medical applications, or in farming. In addition, some of the microorganisms extracted from the marine sediment and developed over the course of this project could also produce fatty acids to manufacture biodiesel, as well as

oleochemicals for use in the cosmetics and medical industries. They could also produce enzymes to depolymerise lignin and activate processes in biorefineries.

En savoir plus : Techniques de l'ingénieur.fr

Synthetic biology

4434 - Development of a new method to improve peptide and protein efficiency in drug treatments

Peptides and proteins do not always make for efficient drug treatments because their 3D structures can unravel, they are sensitive to high temperatures, and they can be difficult to get inside the body's cells. This drove scientists in the Department of Life Sciences at the University of Bath, United Kingdom, to develop a new method whereby the loose ends of proteins and peptides are joined to create very rigid 'cyclic' proteins and peptides. This improves heat and chemical stability as well as making it easier to get them into cells. To achieve their goal, they used an enzyme called OaAEP1 from *Oldenlandia affinis*, a small purple flower that grows in the tropics. They modified it, then transferred it into bacterial cells and cultivated them to mass produce a protein while simultaneously joining up the ends in a single step. By putting the entire process in one bacterial system, the scientists managed to increase the yield, use more sustainable biologically-friendly reagents, and reduce the number of steps. To demonstrate their method's efficiency, the scientists applied their bacterial OaAEP1 bacterial technology to a protein called DHFR. They found that joining together its head and tail ends made it more resistant to temperature changes while retaining its normal function. A patent has been filed for the technology which could revolutionise the pharmaceutical industry's approach to drug development and also has potential applications in the food industry, detergent industry, in biotechnology, and in bioenergy.

Publication: Intracellular Application of an Asparaginyl Endopeptidase for Producing Recombinant Head-to-Tail Cyclic Proteins. Journal: Journal of the American Chemical Society Gold. DOI: 10.1021/jacsau.3c00591.

More information: [Press release](#)

En savoir plus : [Issues.fr](#), [Techno Science.net](#)

4435 - Announcement of a new technique to synthesise artificial cells that express proteins just like natural cells

An international team of researchers has developed a biocatalytic polymerization-induced self-assembly process named bioPISA to develop artificial cells that can express proteins like natural cells. The new process can, among other things, couple polymer synthesis and self-assembly through PISA with biological or biomimetic systems. The bioPISA technique is based on enzyme-mediated atom transfer radical polymerizations (ATRP). The bio-ATRP catalysts include haem (a cofactor containing a metal atom) enzymes such as horseradish peroxidase, haemoglobin, catalase and copper-containing laccases. To make the artificial cells, the new method uses myoglobin to synthesise amphiphilic block co-polymers that self-assemble into micelles and giant unilamellar vesicles (GUVs). Myoglobin was the chosen biocatalyst because it is a small, stable protein that can operate at a relatively neutral pH. Andrea Belluati, a researcher at the University of Strathclyde, Scotland, and the study's lead author, said *'Our study bridges a crucial gap in synthetic biology, merging the world of synthetic materials with enzymatic processes to create complex, artificial cells, just like real cells. This opens up new horizons in creating cell mimics that are not just structurally similar to biological cells but functionally competent as well.'*

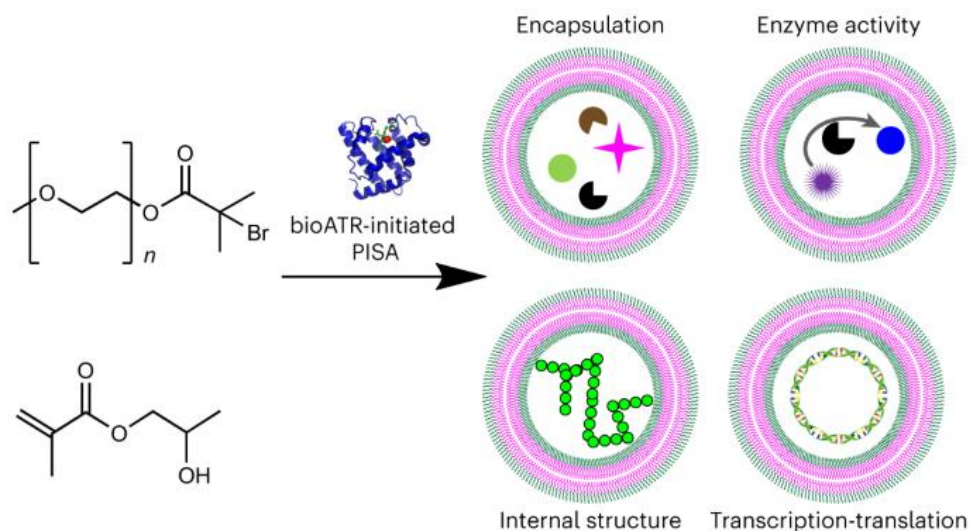


Illustration of the artificial cell synthesis process. Source: nature.com.

The new structures act as microreactors for enzymatic reactions and biomineralization. In time, these cells are likely to have significant implications for medicine, and could even help solve the mysteries of the origin of life on Earth.

Next step: explore the expression of these proteins to catalyse further polymerizations, to mimic the growth and replication of natural cells.

Publication: Artificial cell synthesis using biocatalytic polymerization-induced self-assembly. Journal: Nature Chemistry. DOI: 10.1038/s41557-023-01391-.

More information: [Bionity.com](https://www.bionity.com)
En savoir plus : [Trust my Science.com](https://www.trustmyscience.com)

4436 - Creation of yeast strains containing over 50% synthetic DNA

An international research consortium named Sc2.0 has successfully replaced 9 of the 16 chromosomes in the baker's yeast *Saccharomyces cerevisiae* with 'copies' designed and made in a laboratory, optimising the organism's genome. The synthetic yeast will have entirely lab-generated DNA, with each gene modified to be easily manipulable and with unnecessary information removed from the genome. In one article, the researchers outlined the problems associated with having multiple synthetic chromosomes in one cell. They found that yeast with combinations of synthetic chromosomes didn't grow normally, but it wasn't obvious what the exact problems in the synthetic chromosomes were. To investigate, the researchers designed a large-scale experiment using CRISPR to swap out different parts of the natural versus synthetic chromosomes. Using this method, they were able to home in on a couple of defects, such as a complex mutation that affected the yeast's ability to create a specific sugar called inositol. Once the researchers fixed the defects, they were able to group the synthetic chromosomes into one cell, creating a yeast with more than half synthetic DNA.

The other published studies describe the synthetic yeast chromosomes and outline the main features identified. Their success, which represents the cumulation of 15 years' of research, marks not only a turning point in synthetic biology, but also offers new ways to think about the potential of genetics in fields such as medicine, agriculture and bioenergy.

Next step: obtain a fully synthetic eukaryote genome within the next year.

Publication: Design, construction, and functional characterization of a tRNA neochromosome in yeast. Journal: Cell. DOI: 10.1016/j.cell.2023.10.015.

Publication: Synthetic chromosome fusion: Effects on mitotic and meiotic genome structure and function. Journal: Cell Genomics. DOI: 10.1016/j.xgen.2023.100439.

Publication: Consequences of a telomerase-related fitness defect and chromosome substitution technology in yeast synIX strains. Journal: Cell Genomics. DOI: 10.1016/j.xgen.2023.100419.

Publication: Dissecting aneuploidy phenotypes by constructing Sc2.0 chromosome VII and SCRaMbleing synthetic disomic yeast. Journal: Cell Genomics. DOI: 10.1016/j.xgen.2023.100364.

[Publication](#): Parallel laboratory evolution and rational debugging reveal genomic plasticity to *S. cerevisiae* synthetic chromosome XIV defects. Journal: Cell Genomics. DOI: 10.1016/j.xgen.2023.100379.

[Publication](#): Synthetic yeast chromosome XI design provides a testbed for the study of extrachromosomal circular DNA dynamics. Journal: Cell Genomics. DOI: 10.1016/j.xgen.2023.100418.

[Publication](#): Establishing chromosomal design-build-test-learn through a synthetic chromosome and its combinatorial reconfiguration. Journal: Cell Genomics. DOI: 10.1016/j.xgen.2023.100435.

[Publication](#): Debugging and consolidating multiple synthetic chromosomes reveals combinatorial genetic interactions. Journal: Cell. DOI: 10.1016/j.cell.2023.09.025.

[Publication](#): Rise of synthetic yeast: Charting courses to new applications. Journal: Cell Genomics. DOI: 10.1016/j.xgen.2023.100438.

[Publication](#): A spotlight on global collaboration in the Sc2.0 yeast consortium. Journal: Cell Genomics. DOI: 10.1016/j.xgen.2023.100441.

[Publication](#): Manipulating the 3D organization of the largest synthetic yeast chromosome. Journal: Molecular Cell. DOI: 10.1016/j.molcel.2023.10.015.

[Publication](#): Context-dependent neocentromere activity in synthetic yeast chromosome VIII. Journal: Cell Genomics. DOI: 10.1016/j.xgen.2023.100437.

More information: [Harvard.edu](https://www.harvard.edu), [Nottingham.ac.uk](https://www.nottingham.ac.uk), [Chemistry World.com](https://www.chemistryworld.com), [Nature.com](https://www.nature.com)
En savoir plus : [Sciences et Avenir.fr](https://www.sciencesetavenir.fr), [Futuro Prossimo.it](https://www.futuroprossimo.it)

Modelling/AI

4437 - Publication of a new method to compare the metabolism of photosynthetic eukaryotes

The new methodology, integrated into a software tool named AuCoMe (distributed under an open-source license), was developed via comparative genomics. By drawing on expert knowledge contained in the genome annotations for the best-described species, it can deduce the metabolic traits of species whose genome annotations are rudimentary or incomplete. Missing genes have also been identified by performing searches for sequence similarities between related species. Last, the method integrates an approach to guarantee the reliability of predictions by limiting the biases that may have been inferred by the specificities of a given genome. The method combines knowledge engineering techniques, comparative genomics, and biological systems modelling to simultaneously analyse and compare the metabolism of several eukaryote species, whereas previously scientists were only able to compare a few species, without being able to account for genome heterogeneity. The method is a quick way to get an initial snapshot of the metabolism of a given group of organisms, paving the way for more in-depth studies into certain specificities that would benefit from additional research.

[Publication](#): Inferring and comparing metabolism across heterogeneous sets of annotated genomes using AuCoMe. Journal: Genome research. DOI: 10.1101/gr.277056.122.

En savoir plus : [CNRS.fr](https://www.cnrs.fr)

4438 - Launch of a new system to measure, predict and optimise the production of bioproducts

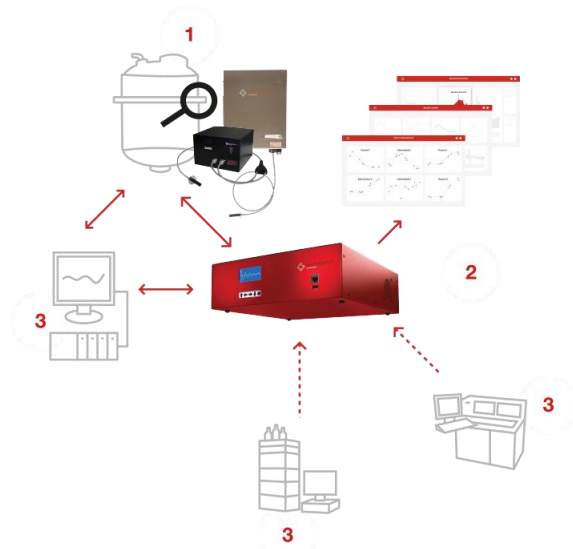
Devised by Quebec-based company [BioIntelligence Technologies](#), the new system combines an optical probe based on technology developed at the [University of Sherbrooke](#), Canada, and software that detects metabolic activity inside reactors. Optical technology is used to install the probe inside a reactor, considerably reducing the risk of bioproduct contamination. The algorithms of the software designed by BioIntelligence Technologies interpret data from the probe in real-time and extract the

relevant information. For example, the software can display:

- The speed at which organisms are reproducing;
- Whether they are lacking nutrients;
- Whether a contamination issue is threatening production.

The system can be used to optimise resource management, thus improving production yields. The company currently has around twenty industrial clients, most of which are in the United States, with a

few in Europe. The BioIntelligence Technologies system has applications in the agri-food, biofuel, health and cosmetics sectors.



Source: biointelligence.com

En savoir plus : InfoBref.com

Processes

4439 - Industrial demonstrator BioD mo opens its second production line

[ARD](#), a research, development, process scale-up and contract manufacturing company that specialises in the conversion of agricultural resources in the plant extraction, industrial biotechnology and green chemistry fields, announced the inauguration of a second production line for its BioD mo industrial demonstrator. The new line required an investment of  8 million and boasts a new 220 m³ fermentor and 15 new bioconversion and separation facilities. The new line puts ARD in a better position to provide support, from the test bench to the large-scale industrialisation of molecules, for applications as diverse as cosmetics, the agri-food industry, and health. It will enable it to meet strong international demand in the biotechnology field.

En savoir plus : [Communiqu  de presse](#), [L'Usine Nouvelle.com](#)

4440 - Guilty Flavours project: using plastic waste to produce edible molecules

The [project](#) led by Eleonora Ortolani, a design student based in London, United Kingdom, created vanilla ice cream from plastic waste. The student enlisted the help of researchers specialising in food and microbiology who designed an enzyme that they placed inside the bacteria *Escherichia coli* to break down the molecules making up the structure of the plastic. Another enzyme then turned this molecule 'soup' into vanillin, the molecule that gives vanilla its flavour. Once the process had been perfected, Eleonora replicated it herself using bacteria sent to her by the researchers in agar and 20 milligrams of polyethylene terephthalate (PET). The ice cream, which was displayed inside a freezer at her university, would have to pass food safety tests before potentially hitting the shelves.

More information: [ABS-CBN.com](#)

En savoir plus : [Science Post.fr](#), [L'Usine Nouvelle.com](#)

4441 - Biotech Heights, a new R&D centre for the sustainable production of food and materials, opens its doors

Founded by [Tetra Pak](#), a Swiss-Swedish business specialising in food packaging and processing, and [Lund University](#), Sweden, the new R&D centre will develop 'healthy and sustainable food products with the help of cutting-

edge technology, both by improving and optimising existing processes and investigating new options for food production.’ The new research hub will leverage state-of-the-art infrastructure from lab to industrial scale and invite collaboration from organisations across industry and academia. Biotech Heights will establish an open innovation environment, in which all participating organisations will have access to laboratories and equipment for both commercial and academic purposes. In addition, participants will have the opportunity to work alongside several faculties at Lund University to address both the technical and non-technical challenges facing producers, brands and manufacturers operating in this space. The new centre will also conduct cross-disciplinary research on marketing strategies, consumer behaviour and emerging trends. The work in this field aims to provide a market-leading understanding of consumer perception and branding while addressing the technical obstacles alternative protein producers face. The Biotech Heights founders want to create a space to nurture and test ideas and collaborate to share knowledge on best practices and consumer trends.

More information: [Press release](#)

4442 - Precision fermentation: a new partnership to support the transition to industrial-scale production

[Boston Bioprocess](#) and [Cauldron](#) have entered into a partnership to create economically viable paths that will enable businesses that would benefit from Cauldron’s continuous fermentation technology to scale up production. To do so, the two partners are planning to draw on Boston Bioprocess’s process development capabilities and Cauldron’s manufacturing expertise and hyper-fermentation technology.

More information: [Boston Bioprocess.com](#)

Miscellaneous

4443 - A new yeast-based sensor can assess the antioxidizing potential of certain molecules

Although researchers had already developed ways to control and monitor the synthesis of antioxidizing molecules, some of these methods were onerous, expensive or tricky to put in place. This led a team of scientists at [Toulouse Biotechnology Institute](#) (TBI - INRAE / INSA Toulouse / CNRS) to work on the brewer’s yeast *Saccharomyces cerevisiae*. The scientists used this yeast to develop a simple test to detect and quantify certain antioxidizing molecules such as resveratrol, epigallocatechin gallate, quercetin and astaxanthin, when placed in the presence of the yeasts. It is therefore a conclusive test to detect and quantify antioxidants. The test goes further, however, as it also demonstrates that it is possible to monitor the biosynthesis of antioxidants directly within the producing microorganisms. By genetically modifying a yeast, the scientists monitored and quantified the synthesis of a ‘natural’ type of antioxidant: carotenoids. This easy-to-use yeast-based quantification method can also measure, characterise and study the physiological effect of the antioxidant molecules bioproduced by the microorganisms. It could therefore be a very useful tool to improve the microorganism strains commonly used to produce antioxidants.

Publication: New Role for Yeast Cells in Health and Nutrition: Antioxidant Power Assessment. Journal: International Journal of Molecular Sciences. DOI: 10.3390/ijms241411800.

En savoir plus : [Inrae.fr](#)

2. APPLICATIONS, MARKETS & APPLIED SCIENCES

Food & feed

4444 - Adisseo

The [industrial group](#) specialising in animal feed announced it had invested €20 million in the construction of a new 4,000 m² building to house several R&D teams which were until recently scattered across France and Europe. Located in Saint-Fons, France, the new premises will conduct research on novel enzymes and molecules, as well as technology improvement, 'to rise to the challenge posed by process decarbonisation.'

Recap: Adisseo has three plants in the Auvergne-Rhône-Alpes region, two in the Rhône valley, and one on the chemicals platform in Commentry. The latter will retain an R&D activity with its experimental farm.

En savoir plus : [Les Echos.fr](#)

4445 - Bon Vivant

The Lyon-based [start-up](#), which produces milk proteins without cows via precision fermentation, announced that it had raised €15 million from its long-standing investors [Alliance for Impact](#), [High Flyers Capital](#), [Kima Ventures](#) and [Founders Future](#), as well as new partners [Sofinnova Partners](#), [Sparkfood](#) (a subsidiary of the Portuguese conglomerate [Sonae](#)) and [Captech Santé](#) (the investment fund for the Hauts-de-France region managed by [Finorpa Gestion](#)). The new funds will go towards expanding its R&D teams, investing in a new lab, moving towards industrial-scale production, and accelerating the regulatory procedure for product authorisation, especially in the United States, with its sights set on product launch in 2025.

En savoir plus : [Maddyness.com](#), [brefECO.com](#), [Les Echos.fr](#)

Bon Vivant has published a [white paper](#) to help the general public better understand the power, stakes and potential of precision fermentation.

More information: [Bon Vivant Food.com](#)

En savoir plus : [Bon Vivant Food.com](#)

4446 - Corbion

The Dutch [speciality chemicals company](#) announced the launch of AlgaPrime™ DHA P3, a high-performance omega-3 ingredient produced via precision fermentation of microalgae. The new ingredient enables pet food manufacturers to enhance the nutritional profile of their products and boost DHA levels while reducing dependency on scarce traditional omega-3 sources. AlgaPrime™ DHA P3 provides the highest DHA level on the market and is stabilised with a natural antioxidant system. The novel ingredient is suitable for dry, wet and injection-mould applications, offering efficient access to, and use of, long-chain omega-3s.

More information: [Press release](#)

4447 - Evolva & Lallemand

Swiss company [Evolva](#), which specialises in the development and commercialisation of biobased food additives, announced that it wanted to sell all its shares and business operations to Canadian group [Lallemand](#) for CHF 20 million (€20.7 million). Lallemand specialises in yeast, bacteria, fungi and enzymes for the food sector. Under the terms of the agreement, Danstar Ferment, the Swiss affiliate of Lallemand, will make the purchase.

Evolva shareholders stand to earn up to an additional CHF 10 million (€10.3 million) if certain sales targets are met over the next 18 months. The proceeds of the transaction will be paid to the Evolva shareholders as a liquidation dividend once all creditor claims have been settled. The liquidation is expected to be completed in the first quarter of 2026. Evolva shareholders will soon be invited to a general meeting to approve the transaction. If approved, Evolva's shares will be delisted within 6 to 12 months.

More information: [Press release](#)
En savoir plus : Zonebourse.com

4448 - Ferments du Futur

The public-private [partnership](#), which aims to accelerate research and innovation in ferments and fermented foods, announced the inauguration of its Centre d'Innovation Ferments du Futur (CI2F - ferments of the future innovation centre) at the Paris-Saclay science and technology cluster. The team has completed the first phase of the move to the first floor of the building, where it is setting up its offices and a temporary lab. Work on the ground floor installing the final lab and making space to welcome visitors is expected to continue until the summer of 2024. In the coming weeks, the CI2F will be able to do the following:

- Screen up to 1,000 conditions each day with Millidrop technology;
- Perform controlled microfermentations for up to 40 conditions each day with Biolector XT;
- Perform liquid fermentation with four automated 1L bioreactors capable of batch and fed-batch processes;
- Perform analytical chemistry with liquid and ion chromatography with triple quadrupole mass, RID and DAD detection, as well as gas chromatography with extraction with a multipurpose sampler (SPME, SBSE, DHS-TDU) and FID detector, quadrupole MS and olfactometry.

With these first installations, Ferments du Futur plans to imminently begin select activities associated with already projects under way.

En savoir plus : Ferments du Futur.eu

4449 - Foremost Farms & Ginkgo Bioworks

[Foremost Farms](#), one of the largest dairy cooperatives in the United States, and American company [Ginkgo Bioworks](#) have entered into a partnership to develop and commercialise a biotech solution to convert dairy manufacturing co-products into environmentally friendly, value-added materials. The partnership will enable Foremost Farms to leverage Ginkgo's bioproduction services and market-leading metabolic engineering and analytical capabilities to advance this novel technology. The American dairy cooperative is counting on Ginkgo's expertise to optimise strains for challenging environmental conditions while avoiding common toxicity issues.

More information: [Press release](#)

4450 - Lesaffre

French yeast, animal feed and fermentation company [Lesaffre](#) announced a series of investments in the United States to strengthen its geographical footprint in the region, respond to growth in nutrition and health, and better serve its customers. The first investment is in [Red Star Yeast LLC](#), the joint venture between Lesaffre and Archer Daniels Midland Company, which now has a new fermentor to serve the bakery, nutrition, health and biotech sectors. The second investment is the purchase of a new dryer to meet growing demand from [Phileo by Lesaffre](#), its Business Unit dedicated to animal nutrition and health. Last, the French group has acquired the capabilities from a Massachusetts-based bioscience company that focuses on naturally derived molecules of benefit to human health. This company joins the Lesaffre Institute of Science and Technology. The investment expands capabilities in metabolic engineering for Lesaffre entity [Recombia Biosciences](#), with new labs opening in November 2023. This new investment will enable them to explore the potential of plant metabolites produced via precision fermentation processes in bacteria and yeasts, along with their multiple interactions with microorganisms.

More information: [Press release](#)
En savoir plus : [Communiqué de presse](#)

4451 - MycoTechnology

The [American company](#) specialising in mycelial fermentation announced the launch of a Fermentation as a Service (FaaS) platform to help other companies produce bioproducts at commercial scale, including proteins, enzymes and probiotics. The new platform offers fermentation capacity services of 300, 3,000 and 90,000 litres which are best suited to fermentation that requires a low oxygen transfer rate (OTR). The platform provides businesses with tools and expertise to address commercial production challenges such as product quality, yield and cost management.

More information: [vegconomist.com](#), [AgFunder News.com](#)

4452 - Phytolon

The [Israeli biotech firm](#), which produces food colouring via precision fermentation of the yeast *Saccharomyces cerevisiae*, announced it had obtained additional funding that will enable it to support its commercial activities, moving toward the first launch of its products on the food and beverage markets. The fresh funding came from [Nextgen Nutrition Investment Partners](#) (NGN), [Dunedain Ventures](#) and [EIT Food](#), an entity that promotes and accelerates innovation in food systems. The financial particulars have not been disclosed.

Recap: Since closing a series A funding round in the summer of 2022, Phytolon has recorded significant progress in its path to commercialisation and signed a commercial deal with DSM-Firmenich to distribute its wide range of natural food colourings. Further, Phytolon has extended its supply capabilities and has put in place a manufacturing agreement at an industrial scale with a CMO that ensures resilient supply to clients. Phytolon has also commenced an in-house facility for production and supply at pilot scale and enriched its in-house capabilities for developing and scaling natural ingredients by fermentation.

More information: [Press release](#), [Food Ingredients First.com](#)

4453 - WNWN Food Labs & Martin Braun-Gruppe

British company [WNWN](#), which has developed a cocoa-free chocolate alternative that has the same taste, texture and baking properties as conventional chocolate, and the [subsidiary](#) of German agri-food behemoth [Dr. Oetker](#), announced they had produced a cocoa-free chocolate croissant. According to the two partners, the pastry '*looks, smells, tastes and bakes just like conventional chocolate and is also healthier as it is dairy-free, caffeine-free, palm oil-free, and contains less sugar.*' WNWN Food Labs uses cereals and legumes from Britain and Europe to produce its cocoa-free chocolate.

More information: [Press release](#), [Press release](#)
En savoir plus : [L'Usine Nouvelle.com](#)

Biocontrol/Biostimulation

4454 - Amoéba

The [biotech firm](#) has developed a biological pest control agent to treat crops and a biological biocide to treat industrial water. It recently announced the publication of a third scientific paper that presents – for the first time to the international scientific community – the efficacy of its biocontrol products based on the lysate of the non-pathogenic amoeba *Williaertia magna* C2c Maky on tomato late blight and powdery mildews of tomato. As with grapevines and potatoes, scientific data on this newly-tested crop show:

- An indirect effect via stimulation of the plant's natural defences by the active substance and the formulated product, XPERA EVA;
- Field efficacy against the pathogens *Phytophthora infestans*, responsible for tomato late blight; *Oidium neolycopersici*, responsible for external powdery mildew of tomato; and *Leveillula taurica*, responsible for inside powdery mildew of tomato.

The data were collected from trials carried out by independent contractors. As tomatoes were grown both in the greenhouse and in the field, the use of AXPERA EVA was validated for both cultivation methods during the 2022 trial campaign. Results show that the amoeba lysate of *Williaertia magna* C2c Maky, a naturally-occurring product, protects tomatoes against both late blight and powdery mildews, with efficacy of up to 97% on leaves and 100% on fruit.

Publication: Fighting Tomato Fungal Diseases with a Biocontrol Product Based on Amoeba Lysate. Journal: Plants. DOI: 10.3390/plants12203603.

More information: [Press release](#)
En savoir plus : [Communiqué de presse](#)

As part of its plans to build a production site for biocontrol applications in Cavaillon, France, Amoéba announced that the building permit was approved on 12 June 2023, three months after submission, and that, according to plan, the signing of the deed of sale, i.e., the final purchase of the land, was scheduled for 26 September 2023. The USIBIAM (Usine Biocontrôle Amoéba) project is the concrete expression of Amoéba's move to scale its products, with a view to marketing its biocontrol solutions in early 2025. This major industrial project, expected to cost around €45 million over the 2023-2025 period (€23 million in capital expenditure and €22 million in operating expenses), is already receiving €5.9 million in support from BPI France as part of the France 2030 programme. Amoéba has also announced €9 million in funding in the form of simple bonds with the Swiss company Nice & Green. Amoéba continues to seek additional funding.

More information: [Press release](#)
En savoir plus : [Communiqué de presse](#)

4455 - BASF

The German [chemicals group](#) announced it had invested several tens of millions of euros in its site in Ludwigshafen, Germany, to build a new fermentation plant to produce biological and biotechnology-based crop protection products. The new plant, which will use microorganisms to convert renewable feedstocks such as glucose into high-value products, will make products that 'bring value to farmers', such as biological fungicides and a biological seed treatment. BASF also plans to use the plant to produce the main building block for Inscalis®, a novel insecticide derived from a fungal strain. Commissioning is planned for the second half of 2025.

More information: [Press release](#)
En savoir plus : [ABC Bourse.com](#)

4456 - Micropep

The [biotech firm](#), which develops biological products using micropeptides (small, natural proteins that can be used to adjust the intrinsic capacities of plants, from germination to reproduction) and the [Laboratoire de Recherche en Sciences Végétales](#) have published a paper demonstrating that miPEPs appear to improve crop growth and reduce weed growth. The results indicate that they could therefore be an effective alternative to fungicides and could be used to tackle health and environmental issues.

Publication: Immune-enhancing miPEPs reduce plant diseases and offer new solutions in agriculture. Journal: Plant Biotechnology Journal. DOI: 10.1111/pbi.14187.

En savoir plus : [Linkedin.com](#)

Chemicals & Materials

4457 - BBGI & Fermbox Bio

Thai holding company [BBGI](#) and Indian biotech [Fermbox Bio](#) announced the creation of BBFB (BBGI Fermbox Bio), a joint venture to establish a contract development and manufacturing organisation (CDMO) to produce bioproducts via precision fermentation. The joint venture, which will operate from Thailand, will initially produce enzymes before going on to produce high-value products, with a total expected fermentation capacity of up to 1 million litres. Under the contract terms, BBGI will contribute its experience running large-scale projects as well as provide financing, while Fermbox Bio will contribute its expertise in synbio and manufacturing processes. Fermbox Bio will also produce some of its proprietary products at the future BBFB facilities. Construction of the new unit – the first of its kind in Southeast Asia – will require an investment of over 3 billion baht (€78 million).

More information: [Press release](#)
En savoir plus : [Zonebourse.com](#)

4458 - Braskem

The Brazilian [biopolymers specialist](#) announced it would open a representation office in Tokyo, Japan: a key market for its I'm green™ biobased polyethylene (PE). According to the company, *'this expansion reinforces our continuous commitment to the Japanese market and the continued development of the biopolymer solutions based on renewable feedstock.'* For over 15 years, Braskem has provided biopolymers to the Japanese market as part of its sustainable solutions, in line with the country's goals to become a carbon-neutral circular economy. The I'm green™ biopolymer is used in a variety of products, including food and beverage packaging; personal and home care products; toys; homeware; and safety equipment.

Recap: Braskem recently upped Brazil's biopolymer production capacity by 30% and created a joint venture with SCG Chemicals to develop a project in Thailand, the aim of which is to increase regional availability of the I'm green™ biopolymer in Asia.

More information: [Press release](#), [Sustainable Plastics.com](#)

4459 - Carbios

The specialist in the enzymatic recycling of plastics and textiles announced that it had been granted the building permit and operating authorisation for the world's first polyethylene terephthalate (PET) biorecycling plant, in Longlaville, France. The simultaneous acquisition of the building permit and operating authorisation means construction work can begin as planned, with commissioning in 2025.

Recap: Built on a 13.7-hectare site adjacent to the existing PET production plant of its partner Indorama Ventures, the new unit will have the capacity to process 50,000 tonnes of post-consumer PET waste per year (primarily waste that cannot be recycled mechanically, equivalent to 2 billion coloured PET bottles or 2.5 billion PET food trays), and will create 150 direct and indirect jobs in the region. The size of the land purchased means there is the option to double the facility's capacity.

More information: [Press release](#)
En savoir plus : [Communiqué de presse](#), [L'Usine Nouvelle.com](#)

Carbios announced the strengthening of its leadership team with the appointment of Bénédicte Garbil as Senior Vice President of Corporate Affairs and Sustainability. She will oversee three strategic areas: Public Affairs, Corporate Affairs, and Sustainability. In her Corporate Affairs role, she supervises Communication, Regulatory, Project Management, and Innovation Funding functions. In her Sustainability role, she oversees CSR, QHSE, and LCA functions. A graduate of Sciences Po Lille, Bénédicte holds a master's degree in health law and a university degree in pharmaco-economics. She began her career as a public affairs advisor at the French Federation of Healthcare Industries before becoming Director of Public Affairs at a pharmaceutical laboratory. She joined the

public sector in 2013, initially working at France's General Directorate of Enterprises (DGE) as Head of the Health, Biotechnology, and Agri-food Industries Bureau, and then at the General Investment Commissioner's Office (CGI) from 2014 to 2017 as Deputy Director of Health and Biotechnology. Her experience allowed her to gain expertise in public policies and funding innovative projects, contributing to the creation of public funding mechanisms supported by the French investments for the future programme (PIA). After working for the public sector she went on to lead Edwards Lifesciences in France for four years, then founded a consulting company accompanying biotechnology and healthcare companies in their development, from leveraging to market access, including industrial development in France. Bénédicte also joins the Group's Executive Committee.

More information: [Press release](#)
En savoir plus : [Communiqué de presse](#)

4460 - Carbios & L'Oréal

Carbios, France's specialist in the enzymatic recycling of plastics and textiles, and the French industrial cosmetics group were awarded a Pioneer Award in the Industry category by the [Solar Impulse Foundation](#). The prize was awarded to Carbios for its enzymatic PET recycling technology, labelled an 'Efficient Solution' by the Solar Impulse Foundation since 2019, and to L'Oréal for having used this breakthrough technology for the first time to design a prototype cosmetics bottle.

More information: [Press release](#)
En savoir plus : [Communiqué de presse](#)

4461 - Dionymer

The [French start-up](#), developer of PHARM, a process that uses dual-phase bacterial fermentation to transform biowaste into polyhydroxyalkanoate (PHA) polymers, announced that it had raised €1.5 million in seed funding. This initial fundraising round brought together investors [AQUITI gestion](#), [IRDI Capital Investissement](#), [AFI Ventures](#) (the early-stage impact fund from [Ventech](#)) and [Resilience](#), with support from the [fundraising department of ADI N-A](#) (the development and innovation arm of the Nouvelle-Aquitaine region). This cash injection will secure the start-up's development and help it prepare to scale operations in France and Europe. In the short term, this will mean marketing its solution, investing heavily in R&D, and significantly expanding its workforce. Concretely, investor cash will go towards developing the pilot phase of the technology, a necessary step before scale-up. The pilot will produce several hundred kilos of polymers annually. It will also make it possible to future-proof the business model and the commercial roll-out of the biopolymers produced. This development will be accompanied by significant expansion of the team, the aim being to create twenty or so permanent jobs over the next five years. The company has a three-year rapid development plan, beginning in 2023 with the finalisation of the prototype, followed by the implementation of a pre-industrial pilot in 2024. It will conclude with a scale-up phase as early as 2026, testimony to the strategic progression of proof of concept to operational phase, and confirmation of its goal of becoming an industry leader in chemistry applied to waste by 2030.

Info: Dionymer has received several awards, including winning the French government's innovation competition I-Lab 2023 and the French national competition Tech For Future. It also took home the jury's prize in the AgriTech and FoodTech category at Techinnov 2023.

En savoir plus : [Biotech Info.fr](#)

4462 - DMC Biotechnologies

The [American start-up](#), which has developed a technology platform to improve yields from microbial fermentation during the production of biobased chemicals, announced the opening of a new R&D lab specialising in metabolic engineering and precision fermentation. Located in North Carolina, United States, the new premises have a surface area of 880 m² and will host teams specialising in metabolic engineering, precision fermentation, automation, and analytical support. The new lab will be home to DMC's work on strain and metabolic engineering and high-throughput testing, as well as bench and pilot-scale fermentation. It complements the site in Boulder, Colorado, which manages the separation and purification development activities.

More information: [Press release](#)

4463 - Dow & LanzaTech

American chemicals company Dow announced the launch of EcoSense™ 2470, an ethoxylated surfactant made from ethanol via a technology developed by LanzaTech, a company specialising in carbon recycling. This surfactant made from recycled carbon has versatile properties suitable for diverse home care applications.

More information: [Press release](#)

En savoir plus : [L'Usine Nouvelle.com](#)

4464 - Global Bioenergies

The French company, which has developed an isobutene production process via sugar fermentation, announced that it had appointed Martin Stephan as Chief Business Officer. A graduate of HEC, Paris, Martin Stephan has spent his entire career in the chemical industry, in France, Germany, Italy and Switzerland. He has previously held strategic positions as Head of International Sales in global groups, particularly in The Chemours Company and Du Pont de Nemours, the world leader in innovative speciality products for industry. As Deputy Chief Executive Officer of Carbios from 2017 to 2022, he contributed to the strong growth of this major listed player in the green chemistry market. This appointment is intended to support Global Bioenergies' scale-up, which includes the commissioning of a new plant in 2027. It will have the capacity to produce 10,000 tonnes of isobutene and derivatives annually, to serve the cosmetics and sustainable aviation fuel markets.

More information: [Press release](#)

En savoir plus : [Communiqué de presse](#)

Global Bioenergies announced that it had joined – in its very first [EcoVadis](#) assessment – the top 30% of the highest-performing companies in terms of CSR of the 110,000 companies worldwide surveyed by the ratings agency, achieving the bronze medal. This award recognises the company's sustainable development performance, and is orchestrated around four pillars: Environment, Social and Human Rights, Ethics, and Responsible Purchasing.

More information: [Press release](#)

En savoir plus : [Communiqué de presse](#)

Global Bioenergies announced that, under Bpifrance's 'Première Usine' call for projects as part of the France 2030 plan, the French government had awarded it €16.4 million in non-dilutive funding in the form of a subsidy (60%) and a repayable advance (40%) to build the world's first biosourced isobutene plant. According to Marc Delcourt, co-founder and CEO of Global Bioenergies, *'This support from the government is essential and represents the cornerstone of the overall financing arrangements for the plant, which we hope to finalise by mid-2024. Located in France, the plant will contribute towards adding value to the region's abundant resources, reviving local industry and establishing a totally new economic sector.'* The new unit, which will be capable of producing 10,000 tonnes of isobutene and derivatives per year, is expected to go on line in 2027.

More information: [Press release](#)

En savoir plus : [Communiqué de presse](#), [L'Usine Nouvelle.com](#)

4465 - IFP Energies nouvelles (IFPEN) & ResiCare

[IFPEN](#), a research institute focusing on energy, transport and the environment, and the Michelin-group entity [ResiCare](#), which develops and markets a high-performance adhesive resin for industrial applications, announced that they had devised a fructose-based production process for 5-hydroxymethylfurfural (5-HMF). Pilot-scale trials resulted in the production of 1.2 tonnes of 5-HMF. The first samples produced by IFPEN have been validated by ResiCare in the manufacture of their resins. In parallel with the finalisation of the large-scale tests, Technip Energies

has been awarded the contract to carry out a basic engineering study (pre-FEED) in 2022, followed by a detailed design study (FEED) in 2023 for an industrial unit.

Recap: 5-HMF is a platform molecule that can replace products of fossil origin in a wide range of applications including adhesives and resins; plastic polymers; solvents and acids; amines and amides; fuels and fuel additives; pharmaceuticals; and food and feed.

More information: [Press release](#)

En savoir plus : [Communiqué de presse](#), [L'Usine Nouvelle.com](#)

4466 - LG Chem & GS Caltex

LG-group subsidiary [LG Chem](#), which specialises in petrochemicals, electric battery production and the manufacture of automotive parts, and South-Korean company [GS Caltex](#), a specialist in chemical and energy production, have signed a memorandum of understanding (MoU) concerning their continued collaboration on a hydroxypropionic acid (3HP) R&D project. This raw material is used to make biodegradable plastics. The MoU follows a joint development agreement signed by the two companies in 2021 which led to the construction of a 3HP testing plant on the GS Caltex Yeosu site in July of the same year. This recently completed plant is expected to produce prototypes from the first quarter of 2024. Produced through microbial fermentation of biomass, 3HP is considered to be an eco-friendly substance. Plastics derived from 3HP present excellent flexibility and biodegradability, positioning them as viable substitutes for various single-use materials. 3HP can also be transformed into bioacrylic acid, making it a new-generation chemical platform with applications in a large range of materials, including paints, adhesives, coating materials, carbon fibre and the super absorbent polymers (SAPs) used in nappies. Under the MoU, the two companies have also agreed to jointly assess the 3HP project model and the overall businesses, with the intention of entering into in-depth discussions covering a broad range of areas of cooperation, such as exploring the creation of a joint venture and examining biodegradable materials projects, in light of the state of the bioplastics market.

More information: [Press release](#)

4467 - NatureWorks

The American [specialist](#) in the production of polylactic acid (PLA) biopolymers has almost completed construction of its new fully integrated Ingeo™ PLA biopolymer plant. Located in Thailand, the new plant will have three manufacturing facilities: lactic acid fermentation, lactide monomer production, and polymerisation. Full production is expected to be achieved in 2025, when it will have an annual capacity of 75,000 tons of Ingeo biopolymer and produce the full portfolio of Ingeo grades. Ingeo™ PLA can be used in 3D printing as well as to make nonwovens for hygiene, compostable coffee capsules, tea bags, flexible packaging, and sustainable food serviceware.

More information: [Press release](#)

4468 - Octarine Bio

The Danish [start-up](#), which has developed a biotech platform that employs microbial fermentation to produce natural, sustainable dyes for the fashion industry, announced that it had raised €4.35 million in a new fundraising operation carried out by the impact venture-capital firm [Unconventional Ventures](#) with the participation of [Óskare Capital](#), [The Footprint Firm](#) and [dsm-firmenich Venturing](#). Octarine Bio now has €12 million to spend accelerating the development and commercialisation of its sustainable dyes. The company has also developed an innovative dyeing process that enables efficient dyeing of both natural and synthetic fabrics directly, without the need for mordants or other harmful chemicals.

More information: [Silicon Canals.com](#), [Arctic Startup.com](#)

4469 - Pow.Bio

The American [company](#), which uses an AI-controlled tool to accelerate process optimisation during precision fermentation, announced that it had raised \$9.5 million (€8.9 million) in a Series A funding round. The round was led by [Re:Food](#) and [Thia Ventures](#) with the participation of Hitachi's strategic corporate venture capital arm [Hitachi Ventures](#), [Possible Ventures](#), [XFactor Ventures](#), [Bee Partners](#), [iSelect](#), [Climate Capital](#), [Vectors Angel](#), [Better Ventures](#) and Chant Venture fund. Pow.Bio also announced construction of an advanced demonstration facility in California, United States. The Californian site is engineered for the seamless transition from gram-scale experimentation to the production of hundreds of kilograms of finished products. This facility will not only showcase the potential of Pow.Bio's platform but also serve as a blueprint for commercial-scale deployment of the platform for the production of a wide range of biology-based products.

More information: [World Bio Market Insights.com](#)

4470 - Protein Evolution

This American [company](#) has developed an enzyme technology that can break down synthetic textiles, plastic bottles and tyres to produce new raw materials, as well as an innovative process that uses artificial intelligence (AI) to design new enzymes to break down plastics and textiles. It has joined the [Agile BioFoundry](#) (ABF) consortium run by the [American Department of Energy](#) (DOE), the [Advanced Biofuels and Bioproducts Process Development Unit](#) (ABPDU), and the [Joint BioEnergy Institute](#) (JBEI) to develop new classes of enzymes capable of breaking down plastic and textile waste in order to manufacture new high-value molecules. The partners plan to work on two separate projects. The first will leverage the team's collective advancements in AI to create enzymes that break down plastic and textile scrap. The second has been designed to streamline the methods for manufacturing these enzymes at scale.

More information: [Waste Today Magazine.com](#), [Sustainable Plastics.com](#)

4471 - Shell & Manchester Institute of Biotechnology (MIB)

The Anglo-Dutch petroleum company and the [Manchester Institute of Biotechnology](#), United Kingdom, have signed a partnership agreement worth over £9 million (€10.4 million) to develop new, sustainable ways to produce commodity chemicals. The partners have launched the Sustainable Commodity Chemicals through Enzyme Engineering and Design (SuCCEED) project, assembling an interdisciplinary team of biochemists, protein engineers, synthetic biologists, chemists and chemical engineers. The team will draw on industrial biotechnology to create a proof-of-principle, scalable biorefinery. If successful, this five-year project could help reshape the chemical industry and support the UK in delivering on its clean growth strategy.

More information: [Manchester.ac.uk](#)

4472 - Solugen & Archer Daniels Midland (ADM)

American start-up [Solugen](#), which designs and cultivates enzymes to transform the sugars into high-value molecules, and American company [ADM](#), which specialises in agri-industry and trades in raw materials, announced they had entered into a strategic partnership for the development of a range of biobased chemicals at a new plant in Marshall, United States. Under the contract terms, Solugen will build a new 46,000 m² facility next to ADM's existing corn processing complex in Marshall. The facility will utilise ADM-provided dextrose to scale its current line of lower-carbon organic acids and develop new, innovative molecules to replace existing fossil fuel-based materials. The companies also plan to collaborate on commercialisation opportunities for these biomaterials for a range of applications including energy, water treatment, agriculture, construction materials, cleaning, personal care, and more. The facility is expected to go on line in the first six months of 2025.

More information: [Press release](#)

En savoir plus : [WK Transport logistique.fr](#), [Zonebourse.com](#)

4473 - Sumitomo Chemical

The Japanese speciality [chemicals company](#) announced the construction of a pilot facility for the synthetic production of propylene directly from sustainable ethanol. The facility, built at its plant in Chiba, Japan, is expected to go on line in the first six months of 2025. Sumitomo Chemical plans to begin commercial production of sustainable propylene, while offering technology licences to other companies, by the early 2030s. The development of this technology is supported by the New Energy and Industrial Technology Development Organization (NEDO) in the scope of its Green Innovation (GI) Fund, which has a budget of 2 trillion yen (€12.5 billion). Its goal is to enable Japan to achieve carbon neutrality in 2050.

More information: [Press release](#)
En savoir plus : [L'Usine Nouvelle.com](#)

4474 - Versalis & Novamont

[Versalis](#), a subsidiary of Italian oil group Eni, which until recently held 36% of the share capital of [Novamont](#), an Italian company specialising in compostable and biodegradable bioplastics, announced that it had recently bought the remaining 64%. The acquisition will enable Versalis to pursue its strategy towards chemistry from renewable energy by integrating the two portfolios.

More information: [Press release](#)
En savoir plus : [Boursorama.com](#)

4475 - Publication of a white paper on the bioproduction of aromatic molecules

Published by American company Ginkgo Bioworks, the white paper shows how important it is to take a platform approach to synthetic biology R&D. It focuses on three commercial programmes currently under way to produce aromatic molecules in yeast:

- Aromatic molecules for nutrition and wellness;
- Aromatic molecules for food colourants;
- Aromatic molecules for biobased materials intermediates.

For each programme, the American company shows how it has de-risked a partner's R&D and commercial objectives by applying scale and utilising iterative learnings from previous programmes. Ginkgo Bioworks closes by proposing an approach for identifying which aromatic molecules could be good candidates for bioproduction. Specifically, it walks through the factors that inform a techno-economic analysis so that commercial and technical leaders are aligned on the costs and the value of undertaking bioproduction R&D.

More information: [Ginkgo Bioworks.com](#)

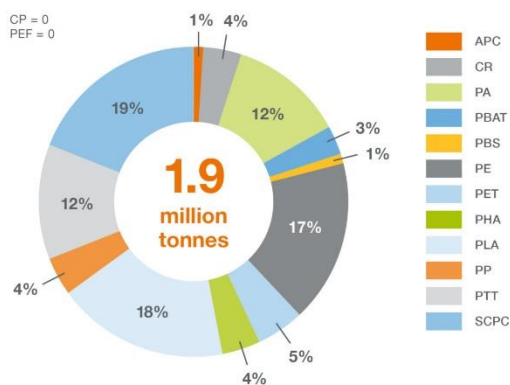
4476 - Presentation of a new road map to decarbonise plastics production by 2050

Presented by the association [Plastics Europe](#), a European lobby group of plastics producers, the purpose of this road map entitled [The Plastic Transition](#) is to 'accelerate the transition to make plastics circular.' The document 'establishes a pathway to reduce greenhouse gas emissions from the overall plastics system by 28% by 2030 and towards net-zero by 2050.' The road map is based on a predicted 1% average annual increase in demand for plastics manufacturers in Europe until 2050, ultimately reaching 76.2 million tonnes (56.9 million tonnes in 2021). In 2050, European manufacturers are expected to produce 15 million tonnes of recycled plastic via traditional mechanical processes, compared with 5 million currently, and 12 million tonnes via chemical processes (currently zero). In total, recycled plastics are expected to represent 43% of total production, against 9% in 2021. Plastics Europe is also betting on the development of plastics made from biomass (sugar cane, cereals or other plant matter), which it forecasts will reach 11 million tonnes in 2050, or 18% of the total, against 2% in 2021. Producers of plastics in Europe believe the application of this programme will require an additional investment of €235 billion, given the current development scenario and support from public authorities. On this last point, they are asking the European Union for a clear framework that 'stimulates circular markets and industry investments in Europe, rather than hinders the industry's transition.'

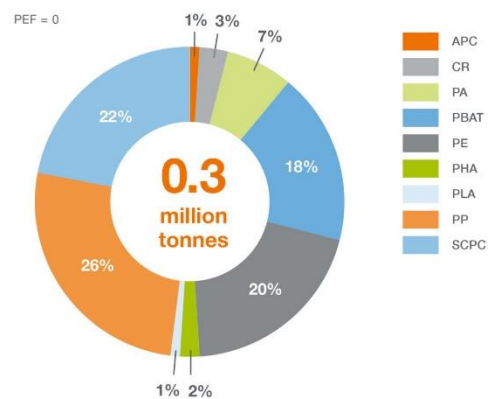
4477 - Bioplastics: 2022 report on global production

According to data compiled by [European Bioplastics](#), an association that represents the interests of the bioplastics industry, in collaboration with [nova-Institute](#) and the European association of plastics producers [Plastics Europe](#), in 2022 global bioplastics production hit 1.9 million tonnes, 300,000 tonnes of which were produced in Europe. Applications include agriculture and horticulture; automotive and transport; building and construction; consumer goods; electrics and electronics; functional, flexible and rigid packaging; fibres; and others. European Bioplastics does not include data on cellulose acetate, EPDM rubber, epoxy resins and polyurethanes based on their bioplastics scope. On top of EUBP's comprehensive market data report on bioplastics production capacities released every year at the beginning of December, and in collaboration with nova-Institute and Plastics Europe, EUBP will now also release these production data, which show that 86% of the production capacities were reached in 2022.

Bioplastics Production 2022 | Worldwide



Bioplastics Production 2022 | EU27+3



APC	Aliphatic polycarbonates	PBS	Polybutylene succinate	PP	Polypropylene
CP	Casein polymers	PEF	Polyethylene furanoate	PTT	Polytrimethylene terephthalate
CR	Cellulose regenerates	PET	Polyethylene terephthalate	SCPC	Starch-containing polymer compounds
PA	Polyamide	PHA	Polyhydroxyalkanoates		
PBAT	Poly(butylene adipate-co-terephthalate)	PLA	Poly(lactic acid)		

europeanbioplastics

Source: european-bioplastics.org

More information: EuropeanBioplastics.org

Energy

4478 - Air France-KLM

The Franco-Dutch [air transport specialist](#) announced it had invested \$4.7 million (€4.40 million) in American start-up [DG Fuels](#), which specialises in sustainable aviation fuel (SAF). The investment will go towards completing the developmental work necessary to reach the Final Investment Decision on DG Fuels' initial SAF plant in Louisiana, United States. In addition to the investment, Air France-KLM announced it had acquired an option to purchase up to 75,000 tonnes of SAF annually from DG Fuels, with deliveries commencing in 2029, in addition to the long-term offtake contract announced by the two companies in 2022 for the supply of 600,000 tonnes of SAF between 2027 and 2036. The final decision is expected in early 2024. DG Fuels has set 2026 as the inauguration target for its first production site, with an initial capacity of 454 million litres of SAF per year, or around 364,000 tonnes.

Recap: Air France-KLM intends to use at least 10% SAF by 2030.

More information: [Press release](#)

En savoir plus : [Communiqué de presse](#), [L'Usine Nouvelle.com](#), [Les Echos.fr](#)

4479 - ArcelorMittal

The steel group announced the first successful industrial production of ethanol at its Steelanol plant. Located within the ArcelorMittal complex in Ghent, Belgium, Steelanol captures carbon-rich industrial gases from steel production and biologically converts them into ethanol using New Zealand-based company LanzaTech's carbon biorecycling process. The Steelanol plant has the capacity to produce 80 million litres of ethanol and reduce annual carbon emissions from the Ghent plant by 125,000 tonnes.

More information: [Press release](#)

4480 - Clariant

The Swiss speciality chemicals company announced it would close its Sunliquid® bioethanol production plant in Podari, Romania. The plant came on line in the spring of 2022. The plant never actually achieved full capacity, planned for mid-2022, and *'attempts to raise the bar were far from successful.'* However, Clariant intends to continue monetising its rights over this proprietary product by granting production licences to third parties. The closure of the Romanian plant will be accompanied by the downsizing of the biofuels and derivatives businesses on the group's German sites in Straubing, Planegg and Munich.

More information: [Press release](#)

En savoir plus : [Zonebourse.com](#)

4481 - Novozymes

The Danish [enzymes specialist](#) announced the launch of Quara® LowP, an enzyme solution that offers producers of sustainable diesel and sustainable aviation fuel (SAF) the flexibility to process mixed feedstocks without negatively impacting their bottom line. Quara® LowP facilitates the pretreatment of Hydrotreated Vegetable Oil (HVO) and Hydroprocessed Esters and Fatty Acids (HEFA) feedstocks. Producers can achieve higher yields and significantly lower operational costs, all while reducing the environmental footprint of their operations.

More information: [Press release](#)

4482 - VINCI Airports & TotalEnergies

VINCI Airports, which operates France's Saint-Nazaire Montoir airport, and the broad-energy group have joined forces to provide sustainable aviation fuel (SAF) to the airport. The biofuel is produced in France by TotalEnergies from waste and residues from the circular economy, such as used cooking oils. It has the same specifications and technical certifications as conventional kerosene and can therefore be used directly in aircraft, without modifying the engines or infrastructure. It is blended with up to 30% traditional fuel before use. The SAF will be used by aircraft manufacturer Airbus to refuel Beluga cargo aircraft, which transport fuselage sections between its production plant in Saint-Nazaire and the assembly lines in Toulouse daily. The fuel will also be used by the Airbus shuttle operated by Air Corsica, which carries the manufacturer's employees and subcontractors between Saint-Nazaire and Toulouse every day.

More information: [Vinci Concessions.com](#)

En savoir plus : [Vinci Concessions.com](#)

4483 - Virgin Atlantic, Boeing, Rolls-Royce & BP

British airline Virgin Atlantic has been granted authorisation from the UK Civil Aviation Authority to run the world's first transatlantic flight on 100% sustainable aviation fuel (SAF). The Boeing 787, equipped with Rolls-Royce engines, will fly on a SAF blend of 88% HEFA, made from waste fats, and 12% synthetic aromatic kerosene (SAK), made from sugars, plant proteins and oil. The aim of this test flight between London Heathrow, UK, and JFK in New York, USA, is to test and demonstrate whether it is possible to fly on 100% SAF. The authorisation was granted following a programme of technical assessments carried out by the regulator, analysing different aspects of the planned flight, including ground tests with Rolls-Royce on a Trent 1000 engine powered solely by SAF. Led by Virgin Atlantic and partly funded by the Department for Transport, a consortium of companies including Boeing, Rolls-Royce and BP, among others, was created to prepare for the flight and demonstrate that SAF is a viable alternative to standard jet fuel.

More information: [Press release](#)

En savoir plus : [Air Cosmos.com](#), [Air Journal.fr](#), [France TV Info.fr](#), [La Tribune.fr](#)

Health & Cosmetics

4484 - Amoéba

The [biotech](#) expert in tackling microbiological risk announced it had obtained convincing results for the use of the *Willaertia magna* C2c Maky lysate in cosmetic skin care. As part of its research into new applications, Amoéba unexpectedly discovered that the non-pathogenic lysate of the *Willaertia magna* C2c Maky amoeba could be of cosmetic interest. Two studies were organised to validate this use. The first study was carried out by a specialised external laboratory with the aim of assessing the level of induction of target genes of cosmetic interest after lab-grown human skin cells were treated with the *Willaertia magna* C2c Maky lysate. The second study was conducted by [LabSkin Creations](#), a biotechnology company specialised in advanced 3D skin engineering and service provider to the world's leading cosmetics brands. The aim was to assess the lysate's effect on a 3D skin model. The study results show that the amoeba lysate could be used as a cosmetic ingredient for the following cosmetic purposes:

- protection against cell death of skin cells;
- cellular renewal of skin cells;
- protection against the effects of UV rays;
- anti-oxidative stress;
- protection against photoaging.

The next step, planned over the coming months, is for specialised companies to conduct cosmetic trials on volunteers using a test formulation.

Amoéba has filed a patent for the invention with the French patent office, the Institut national de la propriété industrielle, on the back of these encouraging results. The patent entitled *Cosmetic composition containing protozoa* will protect the invention of a cosmetic composition for skin care including protozoa of the amoeba genus *Willaertia*.

More information: [Press release](#)

En savoir plus : [Communiqué de presse](#)

4485 - Cambrium

The German [start-up](#), which employs a technical platform that blends biology with machine learning to create 'novel' molecules with 'previously inaccessible functionalities' for use in personal care and fashion, announced it had raised €8 million through a funding round conducted by [Essential Capital](#) with the participation of SNR Ventures, [Valor Equity Partners](#) and [HOF Capital](#). Together with initial funding from [Merantix](#), the company has raised a total of €11 million. The fresh funds will be used to ensure the long-term success of NovaColl™, the first micro-molecular and 100% skin-identical collagen for high-end personal care formulations. Cambrium also plans to expand its industrial and commercial activities to produce collagen not derived from animals. In addition, Cambrium intends to

ramp up development of its project portfolio, with molecules for new applications and industries to be launched within the next two years.

More information: [Press release](#), [TechNews180.com](#)
En savoir plus : [Silicone Canals.com/fr](#)

4486 - Clariant, International Flavors & Fragrances (IFF) & Lucas Meyer Cosmetics

Swiss speciality chemicals company [Clariant](#) announced that it had offered \$810 million (€764 million) to American group [International Flavors & Fragrances](#) (IFF) for [Lucas Meyer Cosmetics](#), a Canadian company specialising in high-value active and functional cosmetic ingredients. The transaction will see it become the owner of an entity that develops, manufactures and markets innovative ingredients for the cosmetics and personal care industry, particularly active ingredients, functional ingredients, and distribution systems. The acquisition will also help it strengthen its presence in North America. Lucas Meyer Cosmetics records annual sales growth of around 10%, but Clariant intends to grow the turnover of this new unit from \$100 million (€93 million) to \$180 million (€169 million) by 2028. IFF and Clariant plan to finalise the transaction in the first quarter of 2024, following the required consultation of the works council and subject to the usual conditions, including regulatory approvals. IFF said the proceeds of the sale would go towards reducing the group's debt burden.

More information: [Press release](#)
En savoir plus : [Premium Beauty News.com](#), [L'Usine Nouvelle.com](#), [Le Figaro.fr](#)

4487 - Ginkgo Bioworks & Zenfold Leverages

American biotech firm [Ginkgo Bioworks](#), which is building a cell programming and biosecurity platform, and the Indian fine and speciality chemistry group [Zenfold Leverages](#) have entered into a collaboration authorising Zenfold Leverages to use the enzyme services of Ginkgo Bioworks to develop veterinary active ingredients. The partnership aims to replace traditional chemical processes in veterinary active ingredient production with a sustainable biological method.

More information: [Press release](#)

4488 - Lallemand Health Solutions

Specialising in the research, development, production and marketing of probiotics and yeasts, the Lallemand Group [subsidiary](#) is strengthening its strategic position in microbiomes with contract development and manufacturing thanks to the launch of Expert'Biome™ CDMO by Lallemand. With Expert'Biome™, Lallemand Health Solutions is determined to support its partners as they develop next-generation strains by offering comprehensive services in the health sector. These services include strain R&D, bioprocess scaling, and pharmaceutical manufacturing.

More information: [Lallemand Health Solutions.com](#)
En savoir plus : [Lallemand Health Solutions.com](#)

4489 - L'Oréal & Lactobio

The French cosmetics giant has acquired [Lactobio](#), a Danish research company specialised in probiotic and microbiome research. Lactobio has developed a unique, proprietary microbiome discovery platform and screening method to select the most effective and safest strains. These precision probiotics have been created from an impressive biobank of lactobacillus bacteria and will be used to produce topical formulations containing live bacteria. Ultimately, the aim is to provide hair and skin with many nature-inspired benefits. Through this acquisition, L'Oréal furthers its knowledge of microorganisms living on the skin's surface and reinforces its position as a leader in this field. It also paves the way for new opportunities to develop safe and effective cosmetic solutions from live bacteria using Lactobio's expertise in microbiomes and sizeable patent portfolio. The acquisition price was not disclosed.

More information: [Press release](#)
En savoir plus : [Communiqué de presse](#)

Miscellaneous

4490 - France Deeptech launched

This [association](#) was created to establish a sustainable deep-tech ecosystem and turn French and European start-ups into international heavyweights. It is open to everyone in deep tech, with '*ecosystems, partnerships and healthy, creative competition*' in mind. To date, there are already 120 members, including start-ups, investment funds and research laboratories. The association already has four working groups to bring technology champions to the fore and help them grow. The working groups will work on topics that industry start-ups see as a priority:

- Deep tech funding – to meet an estimated need for €12 billion for the most promising French start-ups between 2024 and 2026;
- Technology transfer – taking academic research from theory to reality and scaling up;
- Regulations governing the living world – for a framework suited to innovations offering lasting solutions to environmental issues;
- Public procurement – encouraging public-private partnerships and, as a result, the roll-out of strategic technologies.

These working groups will collaborate closely with the government and public authorities to develop concrete measures that can be deployed quickly and on a large scale. In the longer term, the association plans to provide entrepreneurs and institutional investors with training, among other things. It even plans to host meetings between start-ups and major groups to work together on topics associated with scaling up to encourage skill transfer.

En savoir plus : [Communiqué de presse](#), [Maddyness.com](#), [L'Usine Nouvelle.com](#), [Les Echos.fr](#)

4491 - “Patents, trade marks and startup finance: Funding and exit performance of European startups” study published

A joint [study](#) by the [European Patent Office](#) (EPO) and the [European Union Intellectual Property Office](#) (EUIPO) has shown a strong correlation between patent applications from European start-ups and the funding these start-ups secure. Through this study, we found out that:

- On average, 29% of European start-ups filed a patent or trademark application. However, there were significant differences between sectors;
- French Tech leads the way in patent and trademark applications in Europe – 42% of French start-ups filed for intellectual property (IP) rights to protect products, services or know-how. This rate is higher than Germany (40%), Austria (40%), Italy (39%), and even Norway (37%);
- In all, 74.5% of French biotech start-ups have patents and trademarks, making it the foremost industry to have them;
- Start-ups increasingly use intellectual property (IP) rights as they grow and are placing a strong emphasis on European intellectual property rights at all stages of their development;
- European start-ups that file patent or trademark applications during the seed stage or initial growth are 10.2 times more likely to secure funding;
- The likelihood of subsequent funding for start-ups through risk capital is over five times greater when European patents and trademark applications have been filed (compared to national intellectual property rights alone);
- Investors, meanwhile, are more than twice as likely to see a successful exit if a patent or trademark application has been filed.

En savoir plus : [Epo.org](#), [Bpifrance.fr](#), [Biotechinfo.fr](#)

4492 - New map for French impact start-ups

For this 2023 [map](#), the independent association [France Digitale](#), [Bpifrance Le Hub](#) and [Mouvement Impact France](#) identified 1,142 start-ups whose core activity had a significantly positive impact on the environment and society (a

6% increase on the previous edition). The start-ups in question have raised a total of almost €10 billion since their creation, with an average of €10 million per start-up that raised funds (70% on the map), accounting for 32,000 jobs (up by 2,000 in one year). Four industries were particularly well represented:

- Energy – 12% of start-ups, 4,500 employees and over €3 billion raised;
- Circular economy – 12% of start-ups, 3,600 employees and €900 million raised;
- Agriculture – 11% of start-ups, 4,400 employees and €1.4 billion raised;
- Mobility – 11% of start-ups, 4,000 employees and €1.6 billion raised.

As for priority actions, 25% of the start-ups listed on the map want to create commercial ties, 18% want to expand in France, and 18% want to expand internationally. Despite a tougher business climate over the last 12 months, the map confirms that impact start-ups continue to grow and attract both investments and talent.

[Info] Bon Vivant, Green Spot Technologies, MicroPep Technologies and PILI – members of the TWB consortium – feature on this map. Complete this [questionnaire](#) to appear in the next update.

En savoir plus : FranceDigitale.org, [Caisse des dépôts.fr](http://CaisseDesDepots.fr)

4493 - Carbios

Carbios, the French specialist in enzymatic recycling for plastic polymers and textiles, appointed Sophie Balmay as Director of Human Resources and Legal Affairs. Sophie is a lawyer by training who started her career at Renault in 1995. During her time there, she contributed to major projects involving Group legal structure modifications and mergers and acquisitions. In 2003, she joined the Renault Group Human Resources Division, taking on a range of responsibilities including recruitment in France, managing the head office and social relations for France. In September 2017, Sophie joined Michelin as Director of Social Relations, France. Her previous experience at Renault was crucial to strengthening social dialogue at Michelin, combining empowerment, agility and social cohesion while capitalising on her legal skills and in-depth understanding of human and industrial challenges. At Carbios, Sophie's role will be to support growth within the company and its activities: manage organisational changes, cultivate talent, help promote a stimulating and fulfilling working environment, and secure activities as part of Carbios' industrial and commercial expansion. Sophie joins the Executive Committee and reports to Emmanuel Ladent, Carbios CEO.

En savoir plus : [Communiqué de presse](#)

4494 - Cradle

The Dutch-Swiss [start-up](#), which uses generative artificial intelligence (AI) to design and manufacture new proteins, raised \$24 million (€22 million) through Series A funding. [Index Ventures](#) managed the operation with the participation of [Kindred Capital](#) and investors (Chris Gibson, co-founder and CEO of Recursion, and Tom Glocer, former CEO of Thomson Reuters and lead director at Merck).

Following this new fundraising operation, Cradle now has a total of \$33 million (€30.4 million) to grow its teams specialised in machine learning and biotechnology; build new engineering facilities and laboratories in Amsterdam; and continue to expand its platform to meet growing demand. This year, the company entered into nine industrial partnership agreements, including with Janssen Research & Development, Novozymes and Twist Bioscience. Cradle is currently working on more than 12 R&D projects focused on a range of protein modalities (enzymes, vaccines, peptides and antibodies) and targeting several properties, such as stability, expression, activity, binding affinity and specificity.

[Info] Cradle has a software [solution](#) that can be accessed on the internet, meaning other companies can use its data for generative AI and machine learning tools.

More information: Cradle.bio

En savoir plus : Cryptopolitan.com/fr, [Silicon Canals.com/fr](http://SiliconCanals.com/fr)

4495 - Global Bioenergies

The green chemistry company increased its gross cash position to €14.4 million to date (cash flow yet to be audited), and extended its financial visibility until early 2025 through several non-dilutive funding operations from well-known partners (Bpifrance, ADEME and the European agency BBI-JU within the framework of the Horizon 2020 research and innovation programme).

More information: [Press release](#)
En savoir plus : [Communiqué de presse](#)

4496 - METabolic EXplorer (METEX)

The industrial biotechnology firm is reviewing the latest measures implemented in its transformation plan. Given the constantly growing competitive pressure over the financial year, the Group had to reposition its offer quickly, pivoting toward specialty products, with a greater product mix for applications other than animal nutrition. In addition to appointing Rudolph Hidalgo as Deputy Chief Executive Officer (whose primary role is to manage the transformation plan and identify new commercial opportunities by strengthening the Group's operational effectiveness), METEX has also launched discussions with its staff representative bodies to set up mandatory part-time measures to quickly adapt production volumes on the Amiens and Carling sites. Looking past this new stage, METEX must implement the transformation plan faster to focus on specialty products. Measures have already been put in motion to stimulate value-added sales:

- Debottlenecking should soon be in place for the tryptophan production capabilities that are currently saturated. As this specialty product is more complex to synthesise than the other amino acids on the market, market availability is lower, meaning higher prices;
- Launch of new specialty products, with further work to scale up glycolic acid production in particular. As a reminder, METEX's glycolic acid of natural origin is produced by fermentation and would be a world first, one the cosmetics industry awaits eagerly.

As regards overhead reductions, the priority areas aim to:

- Diversify the sugar typologies that can be used to manufacture METEX goods;
- Improve the tool's flexibility and industrial performance;
- Continue to optimise fixed costs;
- Improve energy efficiency for processes.

METEX is working to speed up its transformation plan and find other means to restore business profitability and secure its financing. The company has mobilised stakeholders on a national and European level to restore the mechanisms of healthy competition.

En savoir plus : [Communiqué de presse](#)

METEX appointed Maria Wiltz as Director of Group Business Development Strategy. As a graduate of Sorbonne University (post-graduate degree in Foreign Trade), ASEBUSS Washington University (Executive MBA) and ESSEC (Master 2 Digital Leadership), Maria has proven knowledge of the ingredients markets for the life sciences and animal nutrition industries. For over 20 years, she has been part of the development of groups such as Rhône Poulenc, Rhodia, Adm, Aventis, Adisseo and Innovi'ia. Maria was also a business coach for SMEs with the Paris Ile-de-France Chamber of Commerce. As part of her new functions, Maria will report to Rudolph Hidalgo, METEX Deputy CEO. She will supervise METEX's Animal Nutrition and Consumer Care Business Development teams in relation to green transition challenges and the demands for naturality and sustainability. Her role will be to accelerate value creation in the activities that make up the short, medium and long-term business plan, in particular through contract development manufacturing organisations (CDMO). She will also play a crucial part in rolling out the Group's strategic vision by negotiating sales contracts and boosting value chain performances.

En savoir plus : [Communiqué de presse](#)

METEX appointed Rudolph Hidalgo as Deputy CEO, who took on this role on 9 November 2023. Rudolph is a graduate of HEC Paris, NYU Stern Business School and LSE (TRIUM EMBA) and the founder of [Tetraktys Concept](#)

[Management](#), a strategic consulting firm specialising in interim management, consultancy and support services focused on accelerating growth and transformation through innovation. Over the last seven years, Rudolph has helped companies operating in various fields – retail, mass distribution, textile, tourism, training, logistics, digital, renewable energies – roll out their strategic plans and accelerate growth or turn their businesses around. Rudolph will work directly with Benjamin Gonzalez, Chair of the Board of Directors and METEX CEO. His primary task within the METEX Executive Committee will be to assist with the Group transformation plan launched in 2021 by identifying new opportunities for growth while shoring up operational effectiveness.

More information: [Press release](#)
En savoir plus : [Communiqué de presse](#)

On the occasion of the publication of its 2022 sustainability [report](#), METEX announced that a life cycle analysis (LCA) was available for that year for 98% of marketed products (compared with 90% in 2021, excluding co-products) and 56% of all sales volumes (compared with 59% in 2021). The LCAs clearly showed that METEX products are a prime solution for decarbonising the value chains in which they are used. For example, the carbon footprint of amino acids produced in France is five times lower than in China. The LCA data for METEX products is reviewed by independent experts and made available to our clients. The data is also available in [Agribalyse](#), the official database for the French agency for the environment and energy management, ADEME.

More information: [Press release](#)
En savoir plus : [Communiqué de presse](#)

4497 - PILI

[PILI](#) has developed a hybrid process combining industrial fermentation and green chemistry to produce biobased pigments and colourings. It announced the launch of [Glory to the Microbes](#), a project *'on the cutting edge of microbial science and at the forefront of the imaginary'* designed to help people better understand or learn about the world of microbes. This project should help *'navigate the current fog, dispel the alarming notions of microbes, and teach people to see microbes for what they are: organisms that are incredibly important to the living world, and ancestors and cousins to whom we owe life, far more so than death.'* For PILI, Glory to the Microbes is the first cross-species mission that brings together microbes of all kinds and humans, artists and scientists, with all invited to reflect on the mystery of microbes. For the artistic side of things, 12 artists were selected to introduce the general public to these unknown microscopic worlds. They created works of art designed to refresh and replace the images we had in our minds. The drawings, screen printed with a revolutionary pigment derived from bacteria grown at PILI, have their roots in scientific discoveries but are not intended to be accurate depictions. Many events, exhibitions, meetings and workshops will be set up over the next few years in France and abroad to spread the word about these new narratives.

Recap: In 2020, the pandemic and a widespread misunderstanding of microbes prompted PILI to launch the Microscopic Appeal of 18 June (a play on the French General de Gaulle's WWII appeal). The purpose was to rally the poetic forces of resistance to tout the mysteries and achievements of microorganisms. After all, these organisms will be valuable allies when it comes to tackling the ecological crisis, both in terms of climate and biodiversity. This microscopic appeal – Glory to the Microbes – was published in December 2020 in a special edition of the magazine Socialter edited by Baptiste Morizot.

En savoir plus : [Press release](#)

Industrial biotech services

4498 - TWB

TWB will hold the sixth edition of its event for innovative biotech start-ups on 31 January and 1 February 2024. The event has been renamed Start me up! to mark the occasion. This change was prompted by the drive to further

champion start-ups by offering them fantastic opportunities for development and showcasing their potential to address new challenges in sustainability and industry expansion. Over the two days, there will be thematic sessions covering burning topics in biotechnology featuring thought leaders, renowned speakers and start-up pitches. There will also be two flagship pitch competitions for start-ups (Go for it! and Fast track it!) along with networking and business matchmaking between key stakeholders (industry players, investors, start-ups and clusters, etc.). There will also be the opportunity to learn about some of the most prestigious biotechnology centres in Toulouse. Sign up for free on the event [website](#).

En savoir plus : Toulouse White Biotechnology.com, La Gazette du laboratoire.fr

Investments

4499 - Supernova Invest & Crédit Agricole

The deep tech investment [company](#) and French bank [Crédit Agricole](#) announced the launch of a €100 million innovation investment fund to support French and European start-ups that provide the agriculture and agro-industries with the best technology solutions to maintain a competitive edge and accelerate their industrial transformation for greater business longevity. Hopeful start-ups must meet the five strategic pillars for agribusiness transitions set by Crédit Agricole:

- Promoting the appeal of the farming profession;
- Transitioning to low-carbon foods;
- Preserving natural resources;
- Changing eating habits;
- Producing goods using the circular economy.

The investments will help finance transformational R&D projects (biocontrol, precision agriculture, green chemistry, robotics, and more), industrial scale-up and commercial deployment in start-ups with a high growth potential that are expected to become European and global leaders. This is Supernova Invest's first agritech fund in which it will invest on a lead/co-lead basis. It aims to have a maximum of 20 participations, with initial investments of €2 to €4 million and a reinvestment capability for extra funding rounds. The first funding round closed for a total of €60 million thanks to Crédit Agricole (via its regional branches and Crédit Agricole S.A.). The fund will also be open to third-party investors (industrial stakeholders and institutional players).

En savoir plus : Crédit Agricole.com, Capital Finance Les Echos.fr

3. PUBLIC POLICIES & REGULATIONS

In France

4500 - What might France's research strategy be over the coming years?

At a reception bringing together over 300 researchers, representatives from higher education establishments, research institutes, institutional investors and company heads, the French President made several proposals to transform how French research is organised and adapt it to future challenges: improving financing, and boosting the country's competitiveness and appeal of its research. In his speech, Emmanuel Macron promised a '*real revolution*' to make research in France '*more competitive*' and to resolve a '*disparate approach*' that is weakening the country's position. According to the French President, '*France is a major country for research and must remain so. I want us to succeed in transforming our national research institutes (the French national centre for scientific research (CNRS), the French national institute of health and medical research (INSERM), the French national*

research institute for agriculture, food and the environment (INRAE) into genuine programme agencies, strategists in their field.' President Macron also called for the opening of 'the second independence act' for French universities, meaning 'real multi-year contracts' and 'reformed governance'.

En savoir plus : [Elysee.fr](#), [Le Monde.fr](#)

4501 - Creation of a 'Presidential Council for Science'

The French Presidential Council for Science, established on 7 December 2022, is made up of 12 scientists who 'must advise the executive to guide its research and innovation policy'. It is hoped that this body will bring together scientists and politicians with the aim of 'placing science at the heart of public decision-making.' The council will have an 'internal role in direct relation with the French President,' whom the scientists must inform of the latest research advances and advise on the challenges facing or to be faced by the country. According to the French government, 'The aim is to shine a light on scientific topics that are not necessarily headlining mainstream news, but will affect future challenges.' The Council will have no chair, as 'its format is intended to be streamlined, so the President can get opinions and feedback directly from researchers for certain scientific priorities.' It will meet with Emmanuel Macron 'at least once a quarter', and will be a permanent entity, the views of which will not be made public.

En savoir plus : [France TV Info.fr](#), [La Dépêche.fr](#), [Le Parisien.fr](#), [Le Figaro.fr](#), [Le Jdd.fr](#)

4502 - The LabCom programme celebrates ten years in existence

This scheme launched in 2013 and steered by the French National Research Agency (ANR) helps support the creation of joint laboratories (LabComs) shared between socioeconomic and academic research players, as well as private companies, in order to develop industrial and knowledge transfer partnerships. Open to all scientific and technological fields, LabComs make it possible to share knowledge and know-how, as well as set up specific research programmes to remove certain technological obstacles. They also allow for new markets to open up and growth to occur: 54% of companies have declared an increase in turnover during the period covered by the LabCom. From 2013 to the first half of 2023, the programme saw 234 ambitious, lasting partnerships put in place with the socioeconomic world; and since its creation, has brought support to 225 research projects. In terms of creating value, the results are significant, with, notably, more than 440 scientific publications, 86 patent applications, 83 software applications or programmes and more than 150 prototypes. Building on previous results from LabCom projects, the programme will be extended from 2024. The coordination work between the different innovation stakeholders will continue in close collaboration with local ecosystems such as the French university innovation clusters (PUI), and two new changes will be introduced to encourage the roll-out of LabComs. In 2024, the scheme will be opened up to include start-ups, in line with the deep tech plan. Though the practical terms of this change are yet to be announced, it will help LabComs contribute to the scientific resources of those companies that are innovating with high technological intensity. Access to the CIFRE thesis system will also be made quicker and easier for all LabCom beneficiaries, so the administrative process does not prove a stumbling block to potential collaborations when guidance is received towards partner research. The new measures will be essential in achieving the objective of surpassing 20 or so projects funded each year by the ANR and around 50 projects supported annually from 2027 onwards.

En savoir plus : [Anr.fr](#), [Dossier de presse](#), [POCMEDIA.fr](#)

4503 - How is Bpifrance faring after ten years in existence?

Ten years on from its creation, Bpifrance can report 600 partner funds (300 of which carried out at least one operation in 2022) managed by 200 fund management firms whose controlled assets are experiencing continuous growth. As such, 40 fund management firms are managing more than €1 billion, including 15 that manage more than €5 billion. Between all the strategies, the average size of a fund in the portfolio from the period 2018 to 2022 has multiplied by 3.3 in innovation capital, by 2.3 in development capital and by 1.3 for regional funds, in comparison with the 2013 to 2017 period. Since 2013, Bpifrance has injected €10 billion into its partner funds, and the funds have invested €35 billion in French companies (€15 billion in start-ups and €20 billion in SMEs and intermediate-sized enterprises). They now have an additional €28 billion still to invest. Since 2012, the amounts available in the

Bpifrance portfolio ('dry powder') to invest have increased fivefold, reaching a record €28 billion in 2023. The funds raised in 2022 and 2023 represent more than 50% of the dry powder overall. In 2021 and 2022, Bpifrance invested €3.1 billion in 130 funds through its Fund of funds business. The leveraging effect of equity funding for private companies is significant because more than €14 billion has been injected into the real economy by the 600 funds in the Bpifrance portfolio over the last two years. The Bpifrance partner fund activity has remained intense in the first six months of 2023, with current fundraising closely matching the number from 2022, and invested amounts that remain high compared with those recorded in the past. Transfers are down in number, but the average performance is excellent, at 2.7x for transfers made in the first six months of 2023. Investment levels are similar to those of 2022, and shares are increasing in number, in favour of greater diversification of sources buying shares. For example, this involved the renewal of the France insurance company investment partnership (FIA) in 2023, a partnership that leveraged €60 billion over 10 years for French SMEs. It also involved a search for new institutional investors, as well as the democratisation of investment among private investors in capital investment, for example with the launch of Bpifrance Entreprise Avenir 1 ('Bpifrance Future Company 1'), a third product aimed at private investors.

En savoir plus : [Bpifrance.fr](https://www.bpifrance.fr)

4504 - France 2030: applications open for the i-PhD and i-Lab 2024 innovation competitions

Funded by France 2030 and operated by Bpifrance (in collaboration with ADEME on certain topics) on behalf of the French state, these innovation competitions are there to support innovative French companies and researchers. The competitions aim to encourage the development of deep tech in France along an innovation continuum from laboratory to company creation and on towards growth.

The [i-PhD competition](#) was set up to stimulate the entrepreneurial dynamic among young researchers and to best guide the development of deep tech start-ups in relation to technology transfer organisations and public research incubators. The competition is for PhD students having to defend their thesis up to two years after the year of competition, or PhD holders who have defended their thesis in the last five years. To be eligible to apply, researchers must work with a technology transfer organisation or public research incubator on their project to start a company. Applications for the i-PhD competition are open from 22 November 2023 to 29 March 2024 at 23:59 (Paris time) on the simple step-by-step site: [i-PhD competition call for applications](#).

The [i-Lab competition](#) aim is to identify company creation projects in innovative technologies and support the top projects with financial assistance and tailored guidance. The selected start-ups are '*creation-development*' projects proven to be legally, financially and technically feasible, and which may give rise to a new company or innovation projects led by companies that are less than two years old. This funding scheme plays a key role in supporting these young deep tech enterprises, enabling them to find funding and speed up their company start-up process, and thus help them carry out market or feasibility studies or experiments, create pilot/prototypes, develop products, navigate intellectual property formalities, and so on. The funding takes the form of a subsidy of up to €600,000. Applications for the i-Lab competition are open from 22 November 2023 until 1 February 2024 at noon (Paris time).

En savoir plus : [Communiqué de presse](#)

4505 - French Tech Next40/120 programme: selection criteria revised to reflect change in the start-up ecosystem

The [French Tech Next40/120 programme](#), launched in 2019 by [Mission French Tech](#), supports the 120 highest-performing French scale-ups with the potential to become international leaders. These companies receive guidance on their growth challenges over one year, boosting their value in France and beyond. As part of a dedicated working group made up of various players in the French Tech ecosystem, the French Tech Next40/120 programme selection criteria have been revised to issue different proposals and reflect changes in the tech and start-up world. These proposals have been reworked by Mission French Tech to offer new selection criteria. The changes meet three objectives:

- to take into account the increased maturity of the French Tech ecosystem, especially in its capacity to generate significant revenue;
- to balance out the Next40 selection, extending it beyond unicorns and fundraising;

- to strengthen the impact commitments (green transition, greater parity, inclusiveness and diversity) asked of the companies.

Notably, these changes affect the schedule; the selection criteria for the first 40 places; the selection criteria for the next 80 places; more stringent independence and innovation criteria; the company foundation cut-off date, changed to 1 January 2004 (i.e., a maximum of 20 years in business); the professional equality index, which must either score 75 upwards or include an action plan to increase the current score; and a carbon report (scope 1, 2 and 3) dating from within the last 3 years, to be included in the application pack.

En savoir plus : [La French Tech.gouv.fr](https://www.lafranchetech.gouv.fr)

4506 - New version of the socially responsible investment (ISR) certification to meet savers' expectations and help fight climate change

Introduced in 2016, [ISR](#) is the first government-backed certification to help the public choose savings products that are managed in line with environmental, social and governance principles. Since its introduction, the certification has contributed to financial management evolving towards greater transparency and social responsibility. Following on from the work of a committee involving all stakeholders (private enterprises, management companies, academic bodies, etc.), whose aim was to bolster the ambition and requirements of ISR certification, and after two public consultations, the ISR certification committee has submitted its proposals to Bruno Le Maire, French Minister for the Economy, Finance and Digital and Industrial Sovereignty. Based on these recommendations, the Minister decided to launch a new, more ambitious version of ISR, taking climate impact as its key principle. As such, any company using coal or unconventional hydrocarbons, or undertaking new projects to explore, exploit or refine hydrocarbons (oil or gas), will not be eligible for the fund. In addition, a transition plan conforming to the 2015 Paris Agreement will be required. Alongside the climate principle, ISR certification will remain holistic in nature, with more stringent environmental, social, societal and governance criteria. In particular, management companies must guarantee to limit the negative repercussions of their investments on the environmental, social or governance front. The new reference documentation is due to be published by the end of November and will come into force from 1 March 2024.

En savoir plus : [Communiqué de presse](#), [Les Echos.fr](#), [L'Usine Nouvelle.com](#), [Challenges.fr](#), [Capital.fr](#)

4507 - Mission French Tech: results of a survey into directors' ambitions for French start-ups by 2033

[Mission French Tech](#), in collaboration with the Consumer Science & Analytics ([CSA](#)) polling institute, carried out a survey involving 206 start-up directors based all over France to study their ambitions and needs, with the particular aim of improving guidance given for them by public institutions, through priority strategies from funding to parity to approaching international markets. Survey results show that France is perceived by 77% of entrepreneurs as a good country in which to set up a company, though 75% still encounter obstacles to developing their company on French soil. The question of financing emerges in first place for 73% of participants, well above regulatory restrictions. This result emerges amid tightened conditions for financing. In this new landscape, entrepreneurs judge that profitability is the number one priority. Indeed, the majority (72%) believe that it is the top success criterion for a start-up over the next 10 years, ahead of turnover (35%) and social and societal impact (35%). What's more, even if they are innovating in France, French entrepreneurs remain completely committed to globalisation. In the next 5 years, 95% of them have stated their intention to develop on the international stage. The USA remains a top destination, with 58% hoping to have some form of presence there in the next 5 years, ahead of Germany (50%), which seems the most attractive for the deployment of start-ups after Spain (39%), the UK (30%) and Italy (29%). French Tech entrepreneurs, who are increasingly pivoting towards breakthrough inventions, are not limited to creating platforms or services: as it stands, 69% of successful French Tech 2030 tenderers and 16 successful French Tech Next40/120 tenderers already have a factory or factory project. This trend can only gather momentum, because 34% of directors surveyed answered that they plan to build a factory in the coming years. Despite the economic context, entrepreneurs are not compromising on the social commitments that make up their identity: 85% state they have set objectives in terms of equality, and 80% have declared they have a strategy to respond to current ecological challenges. Such commitments prove that their willingness to have a positive impact upon society remains intact.

En savoir plus : [La French Tech.gouv.fr](https://www.la-french-tech.gouv.fr), [Economie.gouv.fr](https://www.economie.gouv.fr)

4508 - Launch of Deep Tech Finder, a platform to facilitate contact between start-ups and financiers or big companies

Launched by the [European Patent Office](https://www.epo.europa.eu) (EPO), this new [free tool](#) combines financial information with patent data to help investors identify and research European start-ups who are putting '*revolutionary inventions in essential technological fields*' out onto the market. Currently featured in the tool are the profiles of more than 7,500 deep tech start-ups in all business sectors. They can be searched according to the field of activity in which their European patent applications have been submitted. So far, it includes nearly thirty different technologies in smart industries and clean energy.

En savoir plus : [POC Media.fr](https://www.poc-media.fr)

4509 - Ecophyto 2030: presentation of the primary themes of the national strategy to reduce the use of phytopharmaceutical products

The primary themes of the new Ecophyto 2030 strategy have been put forward to all stakeholders for consultation (representatives from the agricultural sector, associations, communities, scientific institutions, etc.) at the Strategic Steering Committee meeting organised for the national plan to reduce the use of phytopharmaceutical products. With this strategy, the French government continues with its commitment to reduce the use of and risks associated with phytopharmaceutical products and reaffirms its ambition to halve the use of such products by 2030, compared with 2015-2017 levels. To do so, the government is proposing a new approach based on speeding up the development of non-chemical and chemical alternatives, to better prepare for the potential withdrawal of certain active substances. In parallel, to successfully roll out the practical changes, users of phytopharmaceutical products are being offered greater guidance, and there's also a clear drive to involve the entire value chain in the strategy's implementation. Finally, the European arm remains of central importance to ensure there are measures put in place to protect the domestic market from imports that do not meet French environmental standards. The main themes of the action plan which are subject to consultation for the first period of the Ecophyto 2030 strategy are as follows:

- conceive a new approach based on accelerating research into alternatives and preparing for the withdrawal of active substances: boosting innovation and research into alternatives, coupled with support measures;
- guarantee protection from international competition and support French positioning in Europe;
- mass implementation of system redesign practices in line with agro-ecological transition thinking, combining non-chemical and chemical methods as a last resort, and bolstering the role of agricultural collectives;
- strengthen protection for health and the environment via a One Health approach;
- highlight the link with food policies and the involvement of the entire value chain;
- localise the strategy to make actions operable on the ground.

The strategy will be unveiled at the end of the consultation period in early 2024. A meeting will also be scheduled halfway through the strategy period, in 2027, to adjust the methods used to achieve the objectives, as necessary.

En savoir plus : [Communiqué de presse](#), [Agri Mutuel.com](https://www.agri-mutuel.com)

4510 - Biofuel for non-road-related uses: working group for the public buildings and works, agriculture, forestry-wood and transport value chains

Bruno Le Maire (French Minister for the Economy, Finance and Digital and Industrial Sovereignty), Marc Fesneau (French Minister for Agriculture and Food Sovereignty) and Agnès Pannier-Runacher (French Minister for the Energy Transition) gathered together representatives from the biofuel producer and consumer value chains. The aim of the meeting was to talk about the development of the biofuel value chain and opportunities for the public buildings and works, agriculture, forestry-wood and transport value chains to access this resource. This meeting follows a request from sectors concerned by the gradual increase in tariffs on diesel for non-road-related uses (GNR, similar to red diesel), until 2030. At the meeting, the Ministers announced that the agriculture, forestry and

heavy equipment value chains had been identified as priority value chains in the long-term access to fuels derived from biomass. In 2024, distribution of 'XTL' diesel will also be made easier by removing obstacles that currently limit its sale to professional fleets described as 'captive', i.e., that have a dedicated logistics chain. In addition, to encourage its use in agricultural and construction machinery, a new type of decarbonised fuel will be created for non-road-related uses, called 'GNR XTL'. The Ministers presented the terms for structuring the dialogue between biofuel producers, users and government services over the next few months. This dialogue will be maintained through working groups that must make concrete proposals for better access to decarbonised solutions for public buildings and works, agriculture, forestry-wood and transport over the next few months.

Communiqué de presse : [Communiqué de presse](#), [L'Usine Nouvelle.com](#), [La France Agricole.fr](#)

4511 - France 2030: list of successful tenderers from the third round of the 'First Factory' call for proposals

As part of this third round, 8 projects will be supported with up to €35 million, meaning a total of €811 million in productive investments. They join the 31 winning projects from the previous rounds. This selection is particularly representative of the local anchorage of the French government's industrial policy, as 100% of projects are based outside the Ile-de-France region (Paris and neighbouring departments). Winners from this round operate in strategic and priority sectors of interest (chemicals, space, robotics, electronics and agri-food), with big growth potential. This call for proposals falls within the framework of the government's 'Industrial start-ups' plan, which aims to convert excellence in French entrepreneurship and research into productive industrial success. Presently, more than 1,900 start-ups with an industrial mission have been identified on French soil with production sites yet to be created. And yet these companies represent a high potential for reindustrialisation and are of core socioeconomic interest (creation of jobs, investment, regional pull). This is why the government has bolstered its support measures for industrialisation and set an objective of 100 industrial sites inaugurated by these companies for 2025. In 2022, 35 industrial sites were inaugurated by industrial start-ups and 41 by industrial SMEs.

Recap: Launched in 2022, the France 2030 'First Factory' call for proposals is aimed at start-ups and innovative SMEs with an industrial project. Open for proposals until 2026, the scheme favours the industrialisation of highly innovative productions, in value chains that are crucial for the green transition and energy transition in France.

En savoir plus : [Communiqué de presse](#)

4512 - France 2030: first report after two years in place

Two years after its launch, the France 2030 investment plan, which aims to encourage innovation, industrialisation, research and training to establish the country's industrial and technological sovereignty in strategic fields for the future, has so far yielded the following results:

- 4,370 projects supported;
- €21 billion already invested;
- 2,000 patent applications submitted;
- 40,000 direct jobs created or kept;
- 34,000 new certifying training schemes in future professions opened up in 2022 and 2023;
- 1 million electric vehicles secured;
- 4 battery gigafactories;
- 8 biopharmaceuticals produced in France;
- approximately 8.5 million tonnes of CO₂ to be saved per year on current projects.

From now until 2030, the plan should lead to the creation of between 288,000 to 600,000 net jobs, confirming the importance placed by France 2030 on supporting training for future professions. The plan should also lead to €40 to €80 billion extra GDP generated per year. By generating growth and employment, expenditure laid out in the investment plan should be fully compensated by public revenue gains in the mid-term. Mobilisation is already clear to see in sectors such as health, automotive, hydrogen, electronics, quantum industries, space, biotherapy & biomanufacturing, agriculture, and food.

Recap: In total, €54 billion will be invested in companies, universities and research organisations in France, to guide them in their transition.

En savoir plus : [Gouvernement.fr](https://www.gouvernement.fr)

4513 - Mapping start-ups committed to decarbonising industry: the second edition

This new edition, compiled by Bpifrance Le Hub, France Industrie and Alliance Industrie du Futur, shines a light on the efforts of 236 French start-ups who actively contribute to reducing the carbon footprint of the industrial sector. The map provides industrial players with a panoramic view of the different solutions being offered by start-ups to adopt increasingly sustainable and responsible production methods. This second edition exclusively focuses on companies founded in or after 2010, to showcase the most recent and most innovative players. However, rather than providing a comprehensive list, by nature this approach limits the panel of companies offering innovative solutions to the most recent, and excludes certain more mature structures that might have a significant impact on decarbonising industry. Start-ups are mapped into four categories:

- 'Procurement & Materials' for those start-ups operating upstream of the industrial production chain;
- 'Industrial Production' for those start-ups offering solutions to reduce carbon emissions from production plants, at the exact time of production;
- 'Externality control' for those start-ups whose common goal is at the end of the production cycle, offering solutions to industries to minimise the effect of their waste and loss;
- 'Industry' for those start-ups who offer solutions specifically designed for certain industries with a significant carbon footprint, such as chemicals, construction and agro-industry.

The new map reveals that the 236 companies listed employ 7,902 people, averaging 33 employees per start-up; and more than one-third of these start-ups have been founded in the last 5 years, of which 13% since 2020.

Info: PILI, a start-up member of the TWB consortium, is included in this mapping.

En savoir plus : [Communiqué de presse](#), [L'Usine Digitale.fr](#)

4514 - France 2030: international arm of the plan officially launched

[Business France](#) and the French general secretariat for investment (SGPI) have signed a strategic partnership deal giving France 2030 a resolutely international dimension. This partnership aims to align France's external business strategy with the sector-specific priorities of reindustrialisation and the France 2030 objectives, including commerce, attractiveness and exports, in the future economic vision for the country. Starting from the basis that the two public policies implemented by the SGPI on the one hand, and by Business France on the other, are aimed at mutually feeding into one another to create a multiplication effect, the two parties have identified the following common strategy points:

- Deploy and develop an international strategy for successful France 2030 tenderers;
- Make France 2030 a major draw for the country;
- Attract international candidates to the France 2030 support measures;
- Win the battle for talent in the sectors of tomorrow's economy.

En savoir plus : [Communiqué de presse](#)

4515 - French government shelves its deposit scheme for recycling plastic bottles

Minister for the Ecological Transition Christophe Béchu has announced the cancellation of the deposit scheme for recycling plastic bottles, at least in the short term. According to Mr Béchu, the measure '*has not been met with the full backing we currently need. We must remain unwavering in our objectives, but flexible in how we get there.*' The measure was presented by industrialists in the drinks and recycling industries, as well as distributors and even Citeo as the only way of achieving the European objective of a 90% collection rate for containers on the market between now and 2029, compared with just 62% in 2022 in France. Local councillors fiercely opposed the measure for fear of upsetting the financial balance of their waste sorting facilities. As for environmental associations, they

predicted a risk of increased production of plastic packaging as a result. To improve and speed up the collection of plastic packaging, the Minister revealed other measures recommended by the French agency for the environment and energy management (ADEME). One of these is to simplify the incentive pricing strategy*, which currently only applies to six million people in France, while another is to improve waste collection in public spaces. Local communities, for their part, will have to work on improving their waste collection, given that in certain areas the collection rate is below the national average. To ensure they contribute fairly, a reward/penalty system will be introduced. However, the Minister for the Ecological Transition is not closing the door entirely on a recycling deposit scheme. If the above measures fail to help France meet the standards, a deposit scheme may be considered again by the government. Studies will be conducted if this is the case. Mr Béchu has scheduled a review for 2025.

**Whereby households only pay for collection of the household waste they produce.*

En savoir plus : [L'Usine Nouvelle.com](https://www.usine-nouvelle.com), [Novethic.fr](https://www.novethic.fr)

In Europe

4516 - Launch of the European Biosolutions Coalition

This international [alliance](#) will identify and remove the regulatory barriers that are slowing the development and commercialisation of biobased products in Europe's agricultural and industrial sectors. The Coalition has been formed by European industry organisations that believe existing European regulations are hindering the development of biosolutions and preventing European biotech firms from being competitive. The members want to educate policymakers about the advantages and opportunities offered by biotechnologies for a more sustainable future. They will also roll out targeted information campaigns for the EU member states, European institutions and institutional policymakers, as well as non-governmental organisations. According to the founding members of the Coalition, biosolutions are regulated by different regulatory systems in the European Union which are not designed for this purpose. In addition, the regulatory renewal system is much longer than in other countries, making Europe slower than anywhere else in the world when it comes to approving new biological solutions, even though a large part of the expertise and companies involved is based on our continent. Consequently, the founding members of the Coalition judge that the EU is lagging behind other countries, missing out on both tax revenue and access to innovative products of European origin that could help achieve sustainable development objectives.

More information: [Dansk Industri.dk](https://www.danskindustri.dk), [Assobiotec.federchimica.it](https://www.assobiotec.federchimica.it)

JANUARY 2024

Bio360

24-25 January 2024. Nantes, France.

More information: [Website](#)

Start me up!

31 janvier-1^{er} février 2024. Toulouse (France).

More information: [Website](#)

FEBRUARY 2024

8th European Chemistry Partnering (ECP 2024)

06 February 2024. Frankfurt (Germany).

More information: [Website](#)

ICIBB 2024: International Conference on Industrial Biotechnology and Biocatalysis

19-20 February 2024. Paris, France.

More information: [Website](#)

CLIB International Conference (CIC2024)

21-22 February 2024. Düsseldorf, Germany.

More information: [Website](#)

MARCH 2024

IBiolC's Annual Conference

13-14 March 2024. Glasgow, United Kingdom.

More information: [Website](#)

Bioket

19-21 March 2024. Reims, France.

More information: [Website](#)

Bioprocessing Summit Europe

19-21 March 2024. Barcelona, Spain.

More information: [Website](#)

Hello Tomorrow Global Summit

21-22 March 2024. Paris, France.

More information: [Website](#)

ICIBB 2024: International Conference on Industrial Biotechnology and Biocatalysis

25-26 March 2024. Sydney, Australia.

More information: [Website](#)

APRIL 2024

In-Cosmetics Global

16-18 April. Paris, France.

More information: [Website](#)

MAY 2024

Global Bioprocessing Summit & Exhibition

15-17 May 2024. Berlin, Germany.

More information: [Website](#)

Viva Technology

22-25 May 2024. Paris, France.

More information: [Website](#)

JUNE 2024

European Congress on Biotechnology

30 June-3 July 2024. Rotterdam, Netherlands.

More information: [Website](#)

AUGUST 2024

International Summit on Metabolomics and Systems Biology (ISMSB2024)

26-28 August 2024. Valencia, Spain.

More information: [Website](#)

DECEMBER 2024

International Conference on Genome Engineering and Synthetic Biology

9-10 December 2024. New York, United States.

More information: [Website](#)