



FLASH NEWS

**10 YEARS
50th edition**

No. 50-2022 – THE BIOTECH INDUSTRY INTELLIGENCE REPORT

CONTENTS

- 1. EQUIPMENT & TECHNOLOGY..... 3**
- 2. APPLICATIONS & MARKETS..... 9**
- 3. PUBLIC POLICIES & REGULATIONS..... 28**

Author
Elodie Victoria – elodie.victoria@inrae.fr

Publication director
Olivier Rolland – olivier.rolland@inrae.fr



10 YEARS NOW!

On the occasion of this **50th edition of Flash News**, I'd like to look back on this initiative launched in 2012. For ten years now, at a rate of around five issues per year, Elodie Victoria has put together this industry intelligence report with the aim of compiling all industrial biotechnology news items in one place.

For each issue, Elodie collects information using monitoring tools and selects articles that may be of interest, which are then reviewed by moderators* based on the themes of the report. Once the articles have been validated, Elodie drafts the Flash News document, which is then reviewed in full by Véronique Paquet before being sent out (in French and in English since 2020). Following Véronique's departure, this last duty has been picked up by Laurie Rey.

I also want to praise Elodie's commitment and motivation as she strives tirelessly to improve this information channel. My special thanks to her, to Véronique and to all moderators past and present who contribute to the quality and relevance of the report.

At a time when information (and its "fake news" cohort) is everywhere in abundance, our goal remains more than ever to offer you concise information from certified journalistic sources. I hope that Flash News still meets your expectations and will continue to do so with future editions and a new layout. We obviously welcome any feedback and recommendations to remain in line with your needs.

Wishing you an excellent 2022 in the company of Flash News!

Olivier Rolland
Managing Director, TWB

* List of current moderators & themes: Olivier Galy (Equipment & Technology), Cédric Montanier (Public Policies & Regulations), Nic Lindley (Applications & Markets), Laurie Rey (Applications & Markets), Olivier Rolland (Applications & Markets), Philippe Urban (Public Policies & Regulations).

1. EQUIPMENT & TECHNOLOGY

Biocatalysis/Bioconversion

3849 - The presence of enzymes that can break down plastic increases with the level of pollution in a given place.

Before reaching this conclusion, scientists from [Chalmers University of Technology](#), Sweden, compiled data on 95 enzymes that were already known to break down plastic. They then analysed 200 genes taken from all over the world during global environmental DNA sampling projects. Through their work, they were able to identify nearly 12,000 "non-redundant" enzyme counterparts in the ocean and nearly 18,000 in the earth, of which 60% have no recognised classification. The researchers also observed that in the ocean, *'the enzyme rate increases with depth, in response to plastic pollution and not just taxonomic composition.'* They believe these new enzymes could break down at least ten different types of plastic.

Next steps: to lab test the most promising candidate enzymes, to closely study their properties and the rate of plastic breakdown they are capable of. In time, to create microbial communities with targeted breakdown functions for specific types of polymers.

Publication: Plastic-Degrading Potential across the Global Microbiome Correlates with Recent Pollution Trends. Journal: mBio. DOI: 10.1128/mBio.02155-21.

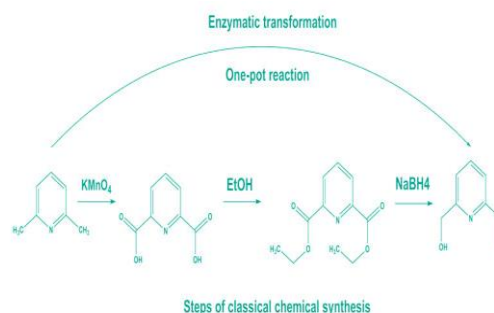
More information: [Chalmers.se](#)

En savoir plus : [National Geographic.fr](#), [Techniques de l'Ingénieur.fr](#), [Businessam.be](#), [Le Parisien.fr](#), [France TV Info.fr](#), [Slate.fr](#)

3850 - New bioprocess for producing 2,6-Pyridine dimethanol.

[Swiss chemical group](#) VIO Chemicals, in partnership with [ETH Zurich](#), Switzerland, has announced that it has developed a biocatalytic method that offers a simplified synthesis solution for developing 2,6-Pyridine dimethanol, a chemical precursor used to produce a variety of metal complexes and catalysts, biobased polymers and active pharmaceutical ingredients. To achieve this, the partners used multigram biocatalytic synthesis in a single pot from natural 2,6-Lutidine, using hydroxylation enzymes as whole-cell biocatalysts - a procedure which mitigates certain operational challenges and eliminates the problems linked to high cell density fermentation. The new process offers greater productivity and excellent

space-time yields. It also saves on significant quantities of chemical products and solvents, whilst cutting down waste and production costs.



Source: [viochemicals.com](#)

More information: [VIO Chemicals.com](#)

3851 - Enzyme synthesis: Ingenza and Johnson Matthey have developed efficient new approaches for industrial production.

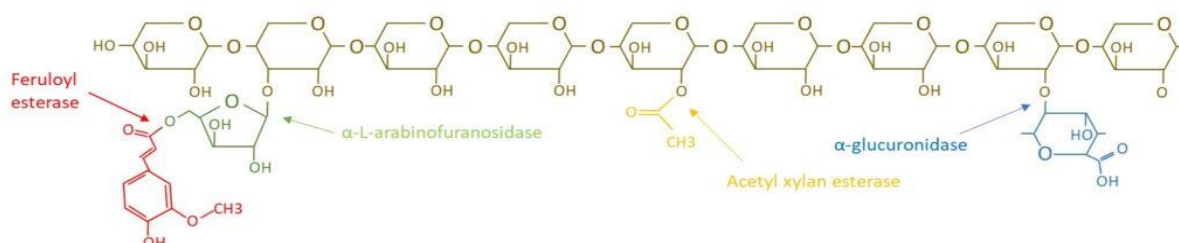
After six months of collaboration, biotechnology company [Ingenza](#), which specialises in the design, development and manufacture of various high value-added molecules and therapeutic proteins, together with chemical product and sustainable technology supplier [Johnson Matthey](#), have announced that they have developed efficient new approaches for producing useful industrial enzymes, including cytochrome P450. To achieve this, Ingenza combined its full panel of microbial hosts, including *Pichia pastoris*, *Saccharomyces cerevisiae*, *Escherichia coli* and *Bacillus subtilis*, with its visABLE® platform, and a proprietary predictive codon modification algorithm to select favourable genetic elements and significantly increase candidate enzyme expression. This approach was combined with automated screening of a high throughput of colonies, performed at the Edinburgh Genome Foundry, UK, using highly sensitive functional enzyme doses created by Ingenza to rapidly identify the clones with the best performance in terms of highest levels of secretion and enzymatic activity towards different substrates.

More information: [Press release](#)

3852 - EnXylaScope project: accelerating the discovery of enzymes that debranch xylan.

Steered by a consortium that believes that xylan remains an under-used resource, the [project](#) aims to provide tools to overcome certain challenges and limitations that have slowed the use of this lignocellulosic polymer. For it to be incorporated into a range of consumer products and thus replace less sustainable components, initial work has focused on debranching using enzymes, revealing four different classes:

- GH115- α -glucuronidase,
- α -1,2-L-arabinofuranosidase,
- acetyl xylan esterase,
- feruloyl esterase.



Enzyme action on the xylan polymer and its side chains. Source: [enxylascope.eu](#).

EnXylaScope should also make it possible to collect samples to help research new candidate enzymes used to debranch xylan. Screening activities will target both new and existing samples, either by extraction approaches based on sequences from public or in-house databases (as well as new datasets created as part of the project), or by applying functional screening procedures on samples, stem isolates or cloned metagenomic libraries.

More information: [Press release](#)

Synthetic biology

3853 - New approach for generating simple-structure polyketide analogues.

This work was carried out as part of I-SITE LUE's IMPACT Biomolecules [project](#), the aim of which was to develop a synthetic biology approach to produce simple structure polyketides, and which focused on a PKS system from the soil bacterium *Streptomyces ambofaciens*, which is responsible for synthesising stambomycin polyketides (molecules with a macrocycle of 51 members). Using multiple state-of-the-art strategies, researchers from INRAE, the University of Lorraine, the CNRS and ETH Zurich's Institute of Microbiology were able to remove 7 whole modules out of the 25 that make up the stambomycin assembly line directly from the *S. ambofaciens* bacterium, and thus obtain a mutant stem producing a series of "simplified" mini-stambomycins with 37 members. The work also identified several factors contributing to the productivity of the engineering, which should in time improve the production yields of these simple-structure polyketides. Researchers must now characterise the biological properties of these new simplified stambomycin forms. Their work opens new opportunities for the community working on polyketides to manipulate PKS *in vivo*.

Info: bacterial polyketides are particularly important biomolecules in human and veterinary therapy. They form the basis of many medical products used for antibacterial, antifungal, anthelmintic, immunosuppressive or even anti-tumour treatments. They also have applications in crop protection thanks to their insecticidal, antifungal and herbicidal properties.

Publication: Engineering the stambomycin modular polyketide synthase yields 37-membered mini-stambomycins. Journal: Nature. DOI: 10.1038/s41467-022-27955-z.

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

3854 - New, more sustainable method of producing molecules of interest for the pharmaceutical and agrochemical industries.

To achieve this, researchers from the University of Warwick, UK, looked into the indole-3-acetamide (IAM) pathway that allows the plant to produce compounds such as indolic amides, carboxylic acids and auxins. The scientists have used the pathway to create bacteria that 'digest' molecules to synthesise new compounds in a process that is reusable and produces minimal waste products.

Publication: Versatile and Facile One-Pot Biosynthesis for Amides and Carboxylic Acids in *E. coli* by Engineering Auxin Pathways of Plant Microbiomes. Journal: American Chemical Society Publications. DOI: 10.1021/acscatal.1c04901.

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

Modelling/AI

3855 - Synthesising new molecules: researchers at IBM propose an artificial intelligence (AI) model to identify the best pathway.

Based on [IBM RoboRXN](#), a machine available online, designed to execute the steps of chemical compound retrosynthesis operations and established by [IBM RXN for Chemistry](#), a free online tool that "predicts" chemical reactions, IBM researchers have developed a new model for determining which enzymes might be suitable substitutes for a given reaction. Thanks to transfer learning, researchers achieved nearly 50% accuracy in synthesis and 40% in retrosynthesis. According to Daniel Probst, main author of the study: *'the lack of available data to form our model still considerably affects its accuracy. However, a user with access to specific sub-classes of enzymatic reactions to work on could use them to refine our model and increase its predictive power.'*

Publication: Biocatalysed synthesis planning using data-driven learning. Journal: Nature Communications. DOI: 10.1038/s41467-022-28536-w.

More information: [Chemistry Community.nature.com](#)
En savoir plus : [Industrie & Technologies.com](#)

Processes

3856 - Global Bioenergies has succeeded in producing prenic acid from renewable resources.

The French industrial biotechnology company has announced that it has succeeded in synthesising prenic acid, a 5-carbon intermediate also known as “methyl-crotonic acid”, “dimethyl-acrylic acid” and “senecic acid” (CAS 541-47-9), using a biotechnological method. According to Frédéric Ollivier, Chief Technical Officer of Global Bioenergies: *‘this is the first time this molecule has been produced from renewable resources. The production process for our biosourced prenic acid is now mature: it was developed in a laboratory setting and was brought to full industrial scale in 2021. We have already produced several tonnes of it.’* Thanks to its two chemical functions (acid and vinyl), prenic acid can be derived into many compounds that are currently derived from oil and used in food additives, flavours and fragrances. It can be used to obtain citral, menthol or even vitamin A, among others. As the molecule has already piqued the interest of several chemical industrialists, Global Bioenergies has announced it is preparing a sampling campaign for spring 2022.

More information: [Press release](#)

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

3857 - New research into the most efficient enzymes for converting CO₂.

Researchers at the Technical University of Denmark (DTU), in collaboration with the École Polytechnique Fédérale de Lausanne (EPFL) and Technion – Israel Institute of Technology, are looking to identify the most efficient enzymes that could directly use the CO₂ present in the air and convert it to new chemical products and biofuels. To achieve this, the researchers selected and tested different microbial formate dehydrogenase (FDH) enzymes which have shown great potential for converting CO₂. The selection of the genes from the FDH enzymes is a comprehensive task. The researchers therefore use special, engineered *E. coli* strains as screening platforms to test the properties of different enzymes, and to investigate the effect of small changes in their genetic codes. In this way, researchers are able to test millions of genes and identify the gene sequences that could make the FDH enzymes more efficient at converting CO₂. Results from tests with manipulated enzymes are then collected in a large enzyme library.

Next steps: to study the performance of the ten best enzymes using a bioelectro-catalytic system that can measure how efficient the enzymes are at converting CO₂ based on the direct transfer of electrons from an electrode to the enzyme. To examine the rate of the chemical reactions and characterise the robustness of the best-constructed FDH variants.

More information: [DTU.dk](#)

3858 - New method of converting glucose into olefins.

To achieve this, researchers at the [State University of New York](#) at Buffalo, the [University of California](#), Berkeley, the University of Minnesota and Wuhan University, China, have fed glucose to *Escherichia coli* (*E. Coli*) strains that have been genetically modified to produce a suite of four enzymes that convert glucose into 3-hydroxy fatty acids. The researchers then used a catalyst called niobium pentoxide (Nb₂O₅) to chop off unwanted parts of the fatty acids in a chemical process, generating the final product: the olefins. With this method, it takes about 100 glucose molecules to produce about 8 olefin molecules, but researchers expect to improve on this ratio by increasing the *E. Coli*'s capacity to produce more 3-hydroxy fatty acids for every gramme of glucose consumed. According to the researchers, this new method could perhaps be used to generate other types of hydrocarbons too, including certain other petrol components. It could also have applications other than fuel as olefins are also used in industrial lubricants and as precursors for making plastics.

Publication: A dual cellular–heterogeneous catalyst strategy for the production of olefins from glucose. Journal: Nature Chemistry. DOI: 10.1038 / s41557-021-00820-0.

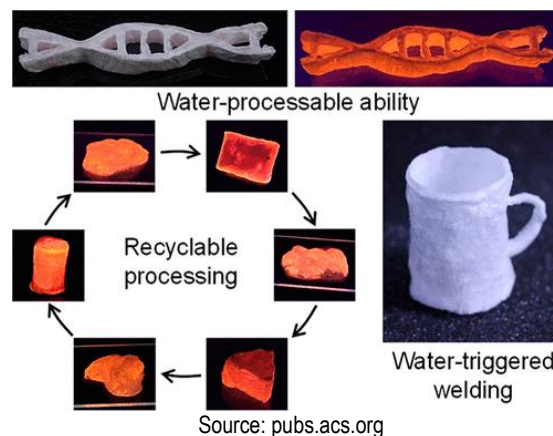
More information: [Buffalo.edu](#), [News.Berkeley.edu](#)

En savoir plus : [New Day Crypto.com](#), [Science et vie.com](#)

3859 - New type of plastic created from natural DNA and plant- and bacteria-based ionomers.

To create this fully biodegradable plastic that is cheap to produce and 'infinitely recyclable', researchers from [Tianjin University](#), China, extracted strands of DNA from salmon sperm then dissolved the genetic matter in water with polymers derived from vegetable oil, which binds the strands together. This is how they obtained a material called "hydrogel", which is flexible enough to be moulded into different shapes. This "hydrogel" was then freeze-dried to make it more solid, then moulded with water to make a cup, a triangular prism, puzzle pieces, a model of a DNA molecule and a piece in the shape of a dumbbell. Researchers then recycled these objects by dipping them in water again to get a gel that could be remodelled into new shapes. This new plastic, which does not require high temperatures, produces 97% less carbon emissions than polystyrene plastic. It can be decomposed with the help of DNA-digesting enzymes at the end of its

life cycle. Though they used DNA from salmon sperm, the researchers believe that the DNA could also be extracted from renewable sources such as crop waste, algae or bacteria.



Publication: Sustainable Bioplastic Made from Biomass DNA and Ionomers. Journal: Journal of the American Chemical Society. DOI: 10.1021/jacs.1c08888.

More information: TJU.edu.cn, Smithsonian Magazine.com
En savoir plus : Futura Sciences.com, Trust My Science.com

3860 - Calyxt: its BioFactory™ production system takes an important step.

The American [biotechnology company](#) announced that it has identified more than 15,000 unique chemical signatures using its BioFactory™ laboratory large-scale production system. The metabolomic analyses identified known but uncharacterised molecules as well as chemical components that might serve as platform molecules to produce other compounds. In particular, the analyses discovered terpenoids, flavonoids, phenolic compounds, alkaloids and sterols, as well as chemical signatures that might represent new, never before characterised plant molecules. In addition, Calyxt has identified gene models that could be used to create platform molecules to be converted to an ever broader suite of chemical products. These discoveries could be used to produce cosmetics, nutraceutical and pharmaceutical products. On 6 January, Calyxt announced its BioFactory™ system was operational.

More information: [Press release](#), [Press release 2](#)

Miscellaneous

3861 - Genopole is steering its action towards industrial biotechnology and will create both a biofoundry and a foodlab.

In 2022, Genopole wishes to play a part in the development of industrial biotechnology, to *'speed up production of biopharmaceuticals and innovative technology for a revolutionised, biobased and less harmful industry'*. To achieve this, the biocluster (made up of laboratories, research centres and companies) is leading a project to create a biofoundry that will be *'home to a set of state-of-the-art equipment for creating bacteria, yeast... that can naturally produce molecules of interest to the industry, for example a molecule of therapeutic interest.'* Genopole also intends to open a Foodlab that will be a *'prototyping space dedicated to future food production'*. It will be equipped with L1 and L2 laboratories (with no particular architectural organisation) and welcome companies specialising in the development of alternative sources of protein from insects, plants, algae or even cell culture, to create synthetic foie gras for example. The twin projects will provide a pre-industrial building block to the campus, with the goal of speeding up access to the guided start-up market.

En savoir plus : [Genopole.fr](https://www.genopole.fr), [Communiqué de presse](#), [Actu.fr](https://actu.fr)

3862 - ARD to build a second line for its demonstrator plant.

To keep up with the major growth in the field of industrial biotechnology, as well as its clients' expectations, the French green chemistry expert has announced it is building a second line for its BioDemo industrial demonstrator plant. Installed in 2009, the facility, which derives its name from "Bio" for Biotechnology and "Demo" for industrial demonstrator plant, helps ARD develop innovative biotechnology processes up to industrial stage as well as offer contract manufacturing. The new line, which will include a 220 m³ fermentor (compared to the 180 m³ fermentor in the first line), should be in service by the end of the year. It will have taken less than €10 million in investment.

En savoir plus : a-r-d.fr, [AGROMedia.fr](https://agromedia.fr)

3863 - INPI offers a notification service by brand, patent and company.

The National Institute for Industrial Property's [data portal](#) has developed a new, free service letting you create up to ten alerts, in order to:

- follow the life of a brand, patent, drawing & model or company, and be notified of any changes relating to it, by entering the number or industrial property title of the publication or SIREN number of the company in question ("Alert for a brand, patent, drawing & model or company"),
- follow new brand, patent, drawing & model and company administrative publications with a specific keyword in the title ("Multi-database alert based on a keyword"),
- follow a brand, patent, drawing & model or company according to customisable criteria ("Single-database alert based on criteria").

The video tutorial on how to create an alert is available [here](#).

En savoir plus : [Communiqué de presse](#), [Inpi.fr](https://inpi.fr), [Archimag.com](https://archimag.com)

2. APPLICATIONS & MARKETS

Food and feed

3864 - Afyren & Ennolys by Lesaffre

The producer of molecules of interest by fermentation and the Lesaffre group subsidiary specialising in fermentation have signed an agreement for the exclusive distribution of the Afyren Neoxy range, made up of seven biobased organic acids, in Europe. The terms of the agreement state that Ennolys will market the products to its existing client portfolio for the Flavour and Fragrance market and also provide services required for the acids' correct usage in their major industrial clients' production process. For its part, Afyren hopes the agreement will help grow its sales in this steadily growing market. The producer also expects to draw on Ennolys' expertise to capitalise on its innovative, GMO-free technology.

More information: [Press release](#)

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

3865 - METabolic EXplorer (METEX)

The industrial biotechnology company has announced that it has developed a proprietary bacterial strain for the production of L-Valine by fermentation. L-Valine is an essential amino acid for animal nutrition. This new patented process from its ALTANØØV™ platform has been validated on pre-pilot scale and shows significantly improved strain competitiveness compared to current technologies. With this new production technology and the purification process, which is being developed in parallel, METEX aims to obtain a functional ingredient rich in L-Valine, which should help meet the challenges of animal nutrition, such as animal health and well-being, as well as a reduction in the use of soy proteins in the manufacture of animal feed and lowering of the carbon footprint of meat production. The first batches of L-Valine required to submit an application for approval to market animal nutrition in Europe will be manufactured in the first half of 2022. Once the European Food Safety Authority (EFSA) has considered the application, the European Commission will decide whether to authorise the product for the animal nutrition market in Europe. This process is estimated to take an average of 24 months.

More information: [Press release](#)

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

3866 - Kerry Group

The Irish [agrifood group](#) has announced that it has invested €137 million in the acquisition of 92% of the share capital of [German biotechnology company](#) c-LEcta. The move will accelerate the Kerry Group's innovation capabilities in enzyme engineering, fermentation and bio-process development. For its part, the German company will speed up the expansion of its product portfolio and develop its technological capabilities.

Kerry has also announced its €62 million investment to acquire 100% of the share capital of Mexican company Enmex, an enzyme manufacturer that has developed several bioprocesses for the food, beverage and animal nutrition markets. The takeover will extend Kerry's fermentation and enzyme manufacturing capabilities into Latin America.

More information: [Press release](#)

3867 - Can residual biomass become new food resources?

To try and answer this question, INRAE scientists from the Toulouse Biotechnology Institute (INRAE, INSA, CNRS) laboratory reviewed over 950 scientific and industrial records documenting existing and emerging waste-to-nutrition pathways, involving over 150 different feedstocks grouped into 10 categories: (i) wood-related residual biomass, (ii) primary crop residues, (iii) manure, (iv) food waste, (v) sludge and wastewater, (vi) green residual biomass, (vii) slaughterhouse by-products, (viii) agrifood co-products, (ix) C1 gases and (x) others. The review includes a detailed description of these pathways, and highlights four applicable conversion stages: enhancement, cracking (technique to separate the constituents of a stock), extraction and bioconversion. The proposed framework aims to support future research in waste recovery and valorisation within food systems, along with stimulating reflections on the improvement of resources' cascading use to preserve ecosystem sustainability. The team now aims to quantify the environmental importance of these emerging valorisation pathways, to compare them but above all to understand the conditions under which they might help France transition towards a more green economy.

Publication: Waste-to-nutrition: a review of current and emerging conversion pathways. Journal: Biotechnology Advances. DOI: 10.1016/j.biotechadv.2021.107857.

En savoir plus : [Inrae.fr](https://www.inrae.fr)

Biocontrol/Biostimulation

3868 - Amoeba

The producer of a biological biocide capable of eliminating bacterial risk in water and human wounds, and of a biocontrol product for plant protection (still in the development phase), has announced the provisional appointment of Mrs Sylvie Guinard as an independent director of the Board of Directors. She replaces Mrs Claudine Vermot-Desroches for the remainder of her term of office, i.e. until the Ordinary General Meeting called to approve the accounts for the year ending 31 December 2022, subject to ratification by the next Ordinary General Meeting.

Sylvie Guinard is an engineer and holds an MBA from EM-Lyon. She has spent her entire career in industry. She previously worked in sectors as varied as space, defence, railways, public works machinery and vehicles. Sylvie Guinard is currently President of the Thimonnier Group, which specialises in the design and manufacturing of special flexible packaging machines for sensitive products, Chairwoman of the Board of Directors of INPI (French National Institute for Industrial Property), Director of Business France (state structure in charge of the international development of French companies and international investments in France), of Visiativ (private player in companies' digital conversion) and of EVOLIS-SYMOP (professional union of creators of industrial solutions).

More information: [Press release](#)

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

3869 - Biotalys & Olon

The [Belgian agricultural technology company](#), which has developed protein-based solutions to protect crops and food, and the [Italian group](#) and contract development and manufacturing organisation (a CDMO) specialising in active pharmaceutical ingredients (API) and generics, have signed a long-term strategic partnership for the manufacturing of Biotalys' biocontrol products. The agreement concerns Evoca™ in particular, a biofungicide that aims to provide fruit and vegetable growers with a new rotation partner in integrated pest management programmes. It helps control diseases such as Botrytis and powdery mildew, thus reducing the dependency on chemical pesticides. Under the partnership, Olon will produce the active ingredient of Evoca™ at its twin centres specialising in microbial fermentation in Capua and Settimo Torinese, Italy. The Capua facility is equipped with a 35 m³ fermentor, while the facility in Settimo Torinese envisages production in batches of up to 112 m³.

More information: [Press release](#)

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

3870 - Mycophyto

This [start-up](#), a spin-off from INRAE and the University of Clermont Auvergne, has developed an ecofriendly solution to enrich the earth: collecting mycorrhizal fungi from a site then multiplying them in a laboratory before putting them back in the ground they came from. In time, Mycophyto thinks it can meet future biological demands: drought solutions, adaptation to threats and improved productivity.

Info: there are thought to be between 200 and 300 species of fungi that form mycorrhizae with 85% of plants. But according to researchers, many are left to discover. The challenge of future projects will be to identify them and give them names.

En savoir plus : [France3-regions.francetvinfo.fr](https://france3-regions.francetvinfo.fr)

Chemistry & materials

3871 - ArcelorMittal & LanzaTech

The steel manufacturer has announced a \$30 million (€26 million) investment via its Xcarb™ innovation fund in the New Zealand company specialising in carbon recycling using biotechnology. The investment strengthens a collaboration that started in 2015 when ArcelorMittal announced its intention to use LanzaTech's carbon capture and recycle technology at its site in Gand, Belgium. The steel manufacturer has announced a €180 million investment to build the Carbalyst® facility at the same site. This future plant should help produce 80 million litres of bioethanol per year, as well as reduce CO₂ at the Gand site by 125,000 tonnes per year. It is set to enter into service by the end of the year.

More information: [Press release](#)

3872 - Carbios

The French company specialising in the enzymatic recycling of textile and plastic polymers has announced that it has partnered with [Thai group](#) Indorama Ventures, world leader in the production of recycled PET for the plastic bottle market, with a view to building the first PET biorecycling plant in the world to use the C-ZYME™ enzymatic recycling technology developed by Carbios. Located on the Indorama Ventures production site in Longlaville, France, the future plant should have an estimated processing capacity of 50,000 tonnes of post-consumer PET waste per year - the equivalent of 2 billion bottles or 2.5 billion food trays. The total investment required is estimated to be €200 million, of which €150 million for the Carbios technology, including an extra purification stage that has been added to the process, plus €50 million to prepare the site infrastructure. Indorama Ventures expects to co-invest in the project and open the usage of the Carbios technology to other PET production sites for future developments. The French government and French Grand-Est region will also contribute by way of a significant sum of non-dilutive funding. The new plant should become operational in 2025.

Recap: C-ZYME™ is an enzymatic recycling technology that aims to break down all types of PET waste and polyester fibres into their basic components using an enzymatic depolymerisation bioprocess then reuse them to produce new, high-quality PET products that are as new.

More information: [Press release](#)

En savoir plus : [Communiqué de presse](#), [L'Usine Nouvelle.com](#), [Formule Verte.com](#), [La Dépêche.fr](#)

Carbios and the **European Investment Bank (EIB)** have announced the signature of a €30 million loan contract supported by the European Commission's InnovFin energy demonstration scheme, which falls under the European Union's "Circular economy" action plan. The fresh funds will help Carbios support the strategic industrial and

commercial development of C-ZYME™. The loan, to be disbursed in a single tranche by the EIB in the first quarter of 2022, is subject to a fixed annual interest rate of 5% and a repayment term of 8 years. This agreement is supplemented by a warrants' issuance agreement by which Carbios will issue 2.5% of the fully diluted share capital in warrants to the benefit of the EIB, of which 1.25% with an exercise price of €40 per share, and 1.25% with an exercise price of €38.8861 per share, corresponding to the volume-weighted average of the trading price of an ordinary share of the company over the last three trading days preceding the date which is five days prior to the signing date. The creation and issuance of these warrants, and therefore the disbursement of the loan, are subject to the vote by an extraordinary shareholders' meeting of Carbios to be held in the first quarter of 2022.

More information: [Press release](#)

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

3873 - CarbonWorks

The company specialising in CO₂ capture and valorisation, jointly held by microalgae specialist Fermentalg and French waste and water management group Suez, has raised €11 million in series A funding. BNP Paribas Principal Investments, Bpifrance, Demeter Investment Managers via its "Agrinnovation" fund and Aquiti Gestion via NACO in association with the French Nouvelle-Aquitaine region, were all party to this initial funding round, alongside founders Fermentalg and Suez. Following the operation, Fermentalg and Suez will hold a two-thirds share. This financial support will provide CarbonWorks with the means to build a semi-industrial scale photobioreactor with a capacity of less than 100 m³, due to enter into service in 2023.

En savoir plus : [Bourse Direct.fr](#), [L'Usine Nouvelle.com](#), [Environnement Magazine.fr](#), [Sud Ouest.fr](#)

3874 - Circa Group

The specialist in converting biomass co-products into chemical products, lead partner in the European [ReSolute](#) project aiming to develop a sustainable alternative to conventional solvents made from petrochemical products, has announced that it has received an €8.2 million subsidy agreed by the government as part of the "France Relance" plan. The ReSolute project was selected because it focuses both on manufacturing biochemicals from sustainable feedstocks as well as repurposing the site of a former coal-fired power plant for new low-carbon technologies. This financial support will help the Circa group build its first commercial-scale facility in the East of France. The future plant will produce green and sustainable solvents by utilising local forest biomass waste and should produce 1,000 tonnes of Cyrene™ solvent per year. It is scheduled to open by the end of next year.

More information: [Press release](#)

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

3875 - METabolic Explorer (METEX)

The industrial biochemistry company has announced the transfer of its securities from compartment C to compartment B of the Euronext Paris regulated market from 31 January 2022. The transfer is *'an important step which recognises the significant progress of the METEX market value in 2021.'*

[Info:] compartment B includes listed companies with a market capitalisation of between €150 million and €1 billion. Compartment changes take place once a year. Euronext bases the company's market capitalisation on the last 60 days of the previous year's market.

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

3876 - NatureWorks

To meet the high demand for polylactic acid (PLA), the American company has announced that it has opened new headquarters and an advanced R&D facility in Plymouth, USA. The new site will offer extra laboratory capacity and support research into the life cycle of its Ingeo biopolymer. It should also aid the development of new grades of

biopolymers that will support the operation of its future Ingeo PLA production facility in Thailand. This plant should be able to produce the whole range of Ingeo grades as soon as it opens in 2024, with a capacity of 75,000 tonnes of biopolymers per year.

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

3877 - Novozymes & Saipem

The Danish enzyme specialist has announced that it has reached a partnership agreement with the [Italian company](#) specialising in engineering and construction services for the oil and gas industries, in order to develop new enzymatic carbon capture solutions. With this new contract, the partners should be able to make progress with the enzymatic carbon capture technology developed by Saipem. To achieve this, the latter will provide the process and mechanical equipment design, while Novozymes will contribute the enzymes for Saipem's client base and further optimise the process through enzyme innovation.

More information: [Press release](#)

3878 - Polybiom

The [French company](#), which has developed a bioplastic derived from miscanthus, announced that it has opened its first industrial-scale production plant. The plant, located in Moret-Loing-et-Orvanne, France, took €2.2 million in investment to complete and is set to produce 300 tonnes of bioplastic per year.

In addition, Polybiom hopes to raise funds to upgrade its equipment and get its own R&D laboratory, with the aim of doubling its production capacity from 2023.

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

3879 - Tereos & Avantium

The French sugar cooperative group and the Dutch renewable chemistry specialist have signed a strategic procurement agreement over several years (subject to financial closure), guaranteeing Avantium Renewable Polymers 100% supply of local, biobased feedstock in the form of high-fructose syrup made by Tereos from European wheat. The agreement will enable the Dutch company to maintain the production capacity of its facility in Delfzijl in the Netherlands, which specialises in Furandicarboxylic acid (FDCA).

Recap: The Avantium facility will be the first in the world to produce FDCA on a commercial scale, with a capacity of 5 kilotonnes per year. FDCA is the primary component in Polyethylene Furanoate (PEF), a recyclable plastic that is 100% plant-based.

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

3880 - Launch of the “Incorporation de Matières Plastiques Recyclées” (Includes Recycled Plastic) certification.

The certification, part of a partnership signed between the [LNE](#) (French national metrology and testing laboratory) and the [IPC](#) (French industrial centre for plastic and composite processing), was created to meet the demands of circular economy principles, such as those laid out in the AGECE law of 10 February 2020 (French anti-waste law for a circular economy), which aims to increase the use of recycled plastic. It should allow plastic converters and composite manufacturers who use recycled plastic from pre- and post-consumer waste to evidence the quantity of recycled plastic included in their products. Based on a reference document developed in partnership with the IPC, the “Incorporation de Matières Plastiques Recyclées” certification reference is split into two independent parts and enables industrialists, depending on their objectives:

- to certify the recycled plastic tonnage values declared in a site's annual production and/or

- to certify specific quantities of recycled plastic in a product or product range.

Certified characteristics include recycled plastic tonnage included in a site's annual production, and the breakdown of tonnage by market, material family and origin.
The first audits should begin in March 2022.

En savoir plus : [CT-IPC.com](https://www.ct-ipc.com), [LNE.fr](https://www.lne.fr), [L'Usine Nouvelle.com](https://www.usine-nouvelle.com), [L'Usine Nouvelle.com](https://www.usine-nouvelle.com)

3881 - Sustainable chemistry: ISC3 Innovation Challenge launched.

Launched by the International Sustainable Chemistry Collaborative Center ([ISC3](https://www.isc3.com)), the competition is focused on sustainable chemistry, and waste prevention, valorisation and management in particular. The new edition is aimed at innovators and entrepreneurs, and proposals regarding challenges in developing countries are especially encouraged. Submissions will be taken until 19 April 2022. The five finalists will be announced after 15 July 2022. They will have access to ISC3 Global Start-up Service personalised assistance. The winner of this edition will receive €15,000.

More information: [Press release](#)

3882 - Chemical recycling of plastic waste: two new facilities set to open in France.

Behind these two projects are the American Eastman Chemical Company, and Canadian Loop Industries, investing €850 million and €250 million respectively to build two facilities dedicated to recycling plastic and polyester. Though the site of the Eastman project has yet to be revealed, its future plant is said to be able to recycle 160,000 tonnes per year, with a focus on hard-to-recycle plastics, including textile waste. Entry into service is planned for 2025. The American group also intends to create an innovation centre for molecular recycling, which will see France emerge as the leader of the circular economy in Europe. The innovation centre will allow advances to be made in alternative recycling methods to reduce the incineration of plastic waste and the use of fossil-based materials. The Eastman project has garnered support from LVMH Beauty, The Estée Lauder Companies, Clarins, Procter & Gamble, L'Oréal and Danone.

For its part, the Canadian company plans to build its facility in Port-Jérôme-Sur-Seine, France, on a 130,000 m³ plot. The future plant, which should have an annual production capacity of around 70,000 tonnes of PET resin, will be able to process the opaque white PET used in milk bottles and other plastic waste such as food trays, in particular, which will be provided by French group Suez, specialising in waste sorting and processing, Loop's partner on the project. Building work on the future plant is set to begin in 2023, with entry into service 'about 18 months later.' Loop has already signed agreements with Danone, L'Oréal and l'Occitane, which will buy the recycled plastic for their packaging.

[Info] The two investments represent one quarter of the €4 billion announced as part of the Choose France attractiveness scheme led by the French government.

En savoir plus : [France Inter.fr](https://www.franceinter.fr), [Premium Beauty News.com](https://www.premiumbeautynews.com), [BFM TV.com](https://www.bfmtv.com), [L'Usine Nouvelle.com](https://www.usine-nouvelle.com), [Les Echos.fr](https://www.lesechos.fr)

3883 - Bioplastics: global production set to more than triple by 2026.

According to a study carried out in collaboration with Nova-Institute and published by European Bioplastics, bioplastics production is set to increase from approximately 2.4 million tonnes in 2021 to 7.5 million tonnes in 2026. This would see it surpass 2% of the world's volume of plastic production. According to the report, polybutylene adipate terephthalate (PBAT), the production of which will almost quadruple, polybutylene succinate (PBS) and biobased polyamides (PAs) are the main drivers of this growth. The production of polylactic acid (PLA) will also continue to grow, as well as biobased polyolefins, such as polyethylene (PE) and polypropylene (PP). As for applications, even though bioplastics usage is growing in other sectors such as sustainable consumer goods, fibres or agricultural and horticultural products, packaging remains the largest, with almost 48% (1.2 million tonnes) of the total bioplastics market in 2021. Whereas Asia currently represents nearly 50% of global production capacity compared to Europe's 25%, authors of the study estimate that the share of Europe and other world regions is set to decrease considerably over the next five years, while Asia will surpass 70% of production capacity in 2026.

More information: [Press release](#), [Summary bioplastic market update 2021](#)
En savoir plus : L'Usine Nouvelle.com

3884 - Bioplastics: their contribution to the European Union's climate objectives is significant

Having debated the role of bioplastics in Europe's Green Deal at the 16th annual European Bioplastics Conference (EUBP), industry experts confirmed that bioplastics make significant contributions to help achieving the European Union's climate goals. However, Kestutis Sadauskas, Director for Circular Economy and Green Growth at the European Commission's DG Environment, believes that *'while biobased and biodegradable and compostable plastics can be part of the solution, they also present certain challenges. The feedback received tells us a policy framework is needed.'* As such, a session was organised to discuss key processes, such as a framework for bioplastics and the directive on packaging and related waste. Further conference sessions highlighted new opportunities for compostable plastics and discussed their performance in different open environments.

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

3885 - Bioplastics: the FAO recommends bioplastics as a sustainable alternative to conventional plastics in agriculture.

In a [report](#) assessing the sustainability of agricultural plastic products used worldwide and in various value chains, the Food and Agriculture Organisation (FAO) of the United Nations recommends the replacement of non-biodegradable, conventional polymers with biodegradable, biobased polymers. The FAO carried out a qualitative risk assessment, which analyses 13 specific agricultural products, and *'significantly, for 6 out of 13 assessed products, biodegradable, biobased plastics are recommended as preferable substitutes for conventional plastic material.'* The list of recommended products included mulch films, fishing gear, polymer-coated fertilisers, tree guards and shelters, plant support twines, and pesticide-impregnated fruit protection bags. The FAO report also emphasises the need to develop polymers that are biodegradable in the marine environment. It also highlights the importance of improving data around assessing the life cycle of biobased agricultural plastic as well as the behaviour and degradation rate of biodegradable products. Finally, the report highlights the role of research and innovation grants as a means of pump-priming new ideas which lead to the development of new products.

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

3886 - Compostable bioplastics: do they fully degrade during the industrial composting process?

Having selected and studied refined compost from five industrial composting facilities across the Iberian peninsula over a period of five months, researchers from the [University of Alcalá](#) and the [Autonomous University of Madrid](#) found zero trace of EN 13432 certified compostable industrial bioplastic. The scientists therefore concluded that when correctly composted, their use does not contribute to increasing microplastic pollution.

[Publication](#): Microplastics identification and quantification in the composted Organic Fraction of Municipal Solid Waste. Journal: Science of The Total Environment. DOI: 10.1016/j.scitotenv.2021.151902.

More information: [European Bioplastics.org](https://www.europeanbioplastics.org)

3887 - Polylactic acid (PLA) does not endanger polyethylene terephthalate (PET) recycling.

Indeed, a study conducted by the University of Wageningen, the Netherlands, in collaboration with TotalEnergies Corbion, concluded that considering current industrial methods for sorting and recycling, PLA has little to no influence on recycled PET (rPET). The current concentration of PLA in Dutch recycled PET was estimated to be between 0% and 0.019%. Even with an increase of PLA consumption, the infrared sorting technology keeps this concentration below 1%. PLA food trays were added to PET bottles in concentrations from 0.1% up to 1%. At 1% and below, the influence of PLA on the optical and thermal properties of PET was negligible. Conversely, 0.1% of PVC already showed a negative impact on recycled PET. The results suggest that PLA can be integrated in waste management systems without disturbing existing recycling streams.

[Publication](#): Effect of poly lactic acid trays on the optical and thermal properties of recycled poly (ethylene terephthalate). Journal: Packaging Technology and Science. DOI: 10.1002/pts.2633.

More information: [TotalEnergies Corbion.com](https://www.totalenergies.com)
En savoir plus : [L'Usine Nouvelle.com](https://www.usine-nouvelle.com)

3888 - Launch of “ChemTech”, the chemistry start-up community.

Created by France Chimie and Bpifrance, Chemtech operates in six fields:

- biobased chemistry and industrial biotech,
- solutions for batteries and electrolysers,
- chemical recycling and CO₂ valorisation,
- healthcare applications,
- digital solutions for chemistry,
- Measuring, monitoring and optimising processes.

By participating in this community, start-ups can:

- fill out their contact books by networking with SMEs, ISEs or even large chemistry groups in France,
- access personalised information about financial schemes and support schemes offered by Bpifrance,
- benefit from preparation for industrialisation by identifying potential sites and benefiting from potential guidance from a sponsor, a former chemistry professional,
- benefit from explanatory sessions with France Chimie on the topic of the French and European regulations governing their products, solutions and markets.

The initial list of start-ups in the ChemTech community included 69 companies.

En savoir plus : [France Chimie.fr](https://www.francechimie.fr), [Dossier de presse](#)

3889 - Publication of a market study entitled “Plant-based chemistry and the challenge of achieving industrial scale .”

This study (available for a fee) published by the Xerfi private study institute offers turnover forecasts for the plant-based chemistry specialists up until 2025, deciphering the challenges and levers for growth among players through case studies, a detailed panorama of the competition in the form of a rankings table and positioning of the main players, a focus on demand in the different customer markets for biobased products and a comparison of the main financial ratios of 120 major companies.

Beyond analysing the demand addressed by the main customer markets, the study deciphers the business dynamic of the specialists and issues a forecast scenario for 2025. What will be the main drivers and hindrances for growth? And what place will biobased chemistry have in the chemical industry as a whole? The report gives a tour of the plant-based chemistry players and deciphers their biobased chemistry by means of positioning tables. Detailed identity cards for the 11 main players, with varied profiles (agro-industry, chemistry groups and specialists in

plant-based chemistry), are also given. Can the arrival of emerging players, notably start-ups, pose a threat to the position of the historic leaders? Drawing on examples and concrete case studies, the study sorts through the different levers actioned by the players to meet the challenge of this developing market. How are they attempting to improve their production processes to become more competitive in the face of petrochemicals and guarantee the scale-up to industrial level? Which recent innovations aim to exploit all that biomass has to offer?

En savoir plus : [Xerfi.com](https://www.xerfi.com)

Energy

3890 - ADEME & GRDF

The French environment and energy management agency and the French gas distribution company have announced they have signed a fifth framework agreement to pursue their work on the role of renewable gases in the French energy mix, and how they can help contribute to achieving carbon neutrality by 2050. As part of this agreement, new studies to support the development trend of biomethane will commence. Technical analyses will be carried out in particular, about the future of anaerobic digesters in combined energy production and at the end of their purchase price. ADEME and GRDF also plan to continue their support to local authorities, by drafting a new guide with the aim of optimising the energy mix and informing them of the options for valorising locally-produced biomethane for transport or heating public buildings. The partners also want to assess the potential to develop the power-to-gas process which can produce hydrogen through electrolysis. A comparative study will also be carried out to assess the potential benefits of linking up a methanation unit (a solution that combines hydrogen with CO₂ to produce a synthetic methane that can be pumped directly into gas networks). Finally, GRDF will support ADEME in studies into new pathways for BioNGV.

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

3891 - Air France-KLM

To offset part of the increased cost of having to use biofuel, the French-Dutch group announced a 'Sustainable Aviation Fuel' surcharge to its customers, to be included in the ticket price. With Air France, this new measure will result in a price increase of €1-4 in Economy class, €3-6 in Premium, €1.50-12 in Business class and €12-24 in First class. As for KLM Royal Dutch Airlines, the increase will be applied as 0.5% of the ticket price, which amounts to '€1.50-12 depending on the class and distance.' The group stated that the same principle would be applied to its low-cost subsidiary, Transavia. The group is also offering passengers the option to 'make a voluntary extra contribution to the purchase of sustainable aviation fuel' on its website, to reduce the carbon footprint of their journey. The group insists that 'every Euro contributed voluntarily will be invested in these fuels.' In a few months' time, members of the Flying Blue loyalty scheme will also be able to buy SAF using their air miles.

En savoir plus : [20 minutes.fr](https://www.20minutes.fr), [Air Journal.fr](https://www.airjournal.fr), [Les Echos.fr](https://www.lesechos.fr), [La Tribune.fr](https://www.la Tribune.fr)

3892 - Air Liquide

The French group specialising in industrial and medical gases has announced its intention to build its biggest biomethane production facility in the world on a site in USA. The future complex in Rockford, Illinois will reportedly produce 380 Gwh of biomethane per year, derived from the biogas from a solid waste processing plant owned and run by Waste Connections Inc. The facility is set to open by the end of 2023. Meanwhile, Air Liquide plans to open another biomethane production facility at the beginning of the second quarter of 2022 in Delavan, Wisconsin. The French group, which currently owns 21 biomethane production plants in activity around the world, for a combined annual production capacity of around 1.4 TWh, hopes to produce 1.8 TWh per year with the entry into service of its American plants.

More information: [Press release](#)

En savoir plus : [Communiqué de presse](#), [Gaz Mobilite.fr](https://www.gazmobilite.fr)

3893 - Eni Versalis & BTS Biogas

Eni's petrochemical subsidiary and the Italian company specialising in the building and managing of biogas plants have announced the signing of a partnership to develop and commercialise an innovative technology for the production of biogas and biomethane from residual lignocellulosic biomass. This new technology will integrate Versalis' proprietary technology for the thermomechanical processing of biomass with BTS Biogas' technology for the fermentation production of biogas and biomethane.

More information: [Press release](#)

3894 - LanzaJet & Microsoft

The LanzaTech subsidiary, specialising in carbon recycling by biotechnological means, has announced that it has received \$50 million (€44 million) from the Microsoft Climate Innovation Fund. LanzaJet will use the funds to build its first sustainable aviation fuel (SAF) production plant on American soil. Christened Freedom Pines Fuels and located in Soperton, Georgia, the future plant is set to produce 10 million gallons of SAF and renewable diesel per year from sustainable ethanol, which includes waste-derived feedstock. Entry into service is scheduled for 2023. The investment will also enable Microsoft to access sustainable, renewable diesel to operate its data centres, allowing it to reach its carbon neutrality objectives more quickly.

More information: [Press release](#)

En savoir plus : [Tremplin Numerique.org](#)

3895 - Suez

The French group specialising in waste processing and sorting has started building its new plant in Pau, France, which will methanise sludge to produce biogas without emitting CO₂. To achieve this, the plant will rely on methanation, an industrial process for making carbon dioxide or monoxide react with hydrogen to produce methane (which can then be converted to heat, electricity or fuel) and water. The hydrogen required for methanation will be produced on site, using electricity provided by a solar farm to be built on a former landfill site. The future plant will also rely on hydrothermal carbonisation, *'which will heat and pressurise the sludge to produce what is referred to as biochar, a promising fuel for agricultural use in particular.'* Biochar can also be used as a valorised fuel in heating networks. The plant should be fully built by the start of the year 2023. It should be able to start producing in the spring, becoming fully operational in September of the same year. To complete the project, the Pau municipality will invest €33 million in the equipment, which will then be operated by Suez under a global performance contract for €48.5 million over 15 years.

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

3896 - TotalEnergies

The multi-energy group and the **French National Federation of Farmers' Unions** (FNSEA) have concluded a partnership to support and accelerate the French agricultural sector's environmental, economic and energy transition. Through this collaboration, the two partners aim mainly to develop uses for biomethane, renewable energy and biofuels. To do so, they will create synergies between the agricultural world and the energy sector, with the aim of encouraging sustainable development. Within the framework of the agreement, the FNSEA will draw on its network of farmers and its expertise from the agricultural world, while TotalEnergies will share its industrial know-how, its means and its knowledge across all forms of energy.

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

The French group has announced that it has successfully begun producing sustainable aviation fuel (SAF) at its new base in Normandy, thus building on its SAF production capacities from La Mède and Oudalle, France. With

this new rollout, the group can now meet the demands of its customers and of French law, which has fixed an SAF inclusion rate of 1% from 1 January 2022. TotalEnergies has also announced that it will produce SAF from its zero-oil base in Grandpuits, France, from 2024.

Recap: all SAF destined for French airports will be produced from waste and residue from the circular economy in particular.

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

TotalEnergies and the **Veolia** group, which designs and deploys water, waste and energy management systems, have announced that they have signed an agreement to produce biomethane from Veolia waste and water treatment facilities operating in more than 15 countries. The partners will develop and co-invest in a portfolio of international projects, with the ambition to produce up to 1.5 terawatt-hours (TWh) of biomethane per year by 2025. This production of renewable gas from organic waste will be equivalent to the average annual natural gas consumption of 500,000 residents and will avoid some 200,000 tons of CO₂ emissions per year. TotalEnergies will market the resulting biomethane as a renewable fuel for mobility or as a substitute for natural gas in other uses. As part of this agreement, Veolia will provide its expertise in the production and processing of biogas from its facilities, and TotalEnergies will contribute its in-depth knowledge of the entire biomethane value chain.

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

Through their joint venture, TotalEnergies and **Clean Energy**, the leading US distributor of renewable gas for vehicles, are launching the construction of their first biomethane production unit in USA. Located on the Del Rio Dairy farm in Friona, Texas, the facility will be fuelled by the onsite supply of livestock manure to produce more than 40 GWh of biomethane per year. The biomethane will be distributed in the United States by Clean Energy through its network of fuelling stations, enabling the supply of renewable gas to between 200 and 300 trucks per year.

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

3897 - Aviation: Canadian Council for Sustainable Aviation Fuels (C-SAF) is launched.

Created by a consortium of 60 airlines operating in Canada and comprised of key stakeholders in the Canadian aviation ecosystem including suppliers, aerospace manufacturers, airports, finance, and academia, the Council will aim to facilitate the deployment of sustainable aviation fuel (SAF) in Canada. It should ensure that the aviation sector remains competitive during its transition to a zero-carbon future. To achieve this, the new council will aim to facilitate the production and supply of made-in-Canada SAF. It will also act as the voice of its members with governments and stakeholders to develop an ambitious strategy and roadmap for a profitable and sustainable SAF market in Canada.

More information: [Press release](#)

3898 - Biofuel: IFPEN publishes its annual dashboard.

The dashboard covers the global biofuel market for the road and aviation sectors. It also looks back on the impact of the COVID-19 crisis on the market.

More information: [IFP Energies Nouvelles.com](#)
En savoir plus : [IFP Energies Nouvelles.fr](#)

3899 - Bioethanol: results from France in 2021

According to figures published by La Collective du Bioéthanol, consumption of Superethanol-E85 made a +33% leap in 2021 (+21% for overall petrol consumption), and represented 4% of petrol sales (3.6% in 2020). Taxed less thanks to its more eco-friendly credentials, Superethanol-E85 remains the cheapest fuel on the market, sold at the pump for €0.75 on average. In early January 2022, 2,725 service stations offered Superethanol-E85, which is 420 more than the previous year. On a national scale, the fuel is available at 30% of stations in France, and the regions of Occitania (40%), Hauts-de-France (35%) and Provence-Alpes Côte d'Azur (34%) are the best equipped in terms of E85 stations. In 2021, more than 30,000 approved E85 conversion boxes were installed in France - twice as many as the previous year. Currently more than 135,000 petrol vehicles equipped with boxes are powered by Superethanol-E85. SP95-E10, on the other hand, strengthened its position as the leading petrol in France, with a market share of 51.3% over the year 2021, with a record level of 55.6% in December 2021. Despite this impressive growth, the French bioethanol industry does not conform to some European regulations. As such, in the revision of the renewable energy Directive, it is proposing to apply the first-generation biofuel cap of 7% of transport energy at European level, rather than by member state. The industry is calling for regulatory updates to increase biofuel contribution to the objectives of reducing CO₂ emissions and guaranteeing consumers a transparent, objective comparison of the environmental benefits of the technologies available. The renewable aspect of biofuels should therefore be better taken into account, at least by removing renewable CO₂ from vehicle exhaust CO₂ emissions.

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

3900 - Agrofuel: the Court of Auditors believes the French State should review its strategy.

In a [report](#) entitled "Biofuel development policy", the Court of Auditors believes the French State should *'redefine its agrofuel strategy, anticipating both reduced consumption of conventional biofuels (resulting from future prohibition of new thermal vehicles) and the potential increase in the need for advanced biofuels'*. Indeed, for the Court of Auditors, "conventional" biofuels, i.e. fuels produced from food biomass, had mixed environmental results because their reduction in greenhouse gas emissions was limited to 4.5% with respect to pure fossil fuels, falling far short of the European objective of 6% in 2020. In addition, the Court of Auditors believes that these conventional productions have plateaued over the last ten or so years and the commercial balance, in deficit since 2016, continues to widen (€472 million in 2019). The Court also believes that tax reductions are *'applied with no rationality in some cases, and without taking into account excess production costs due to biofuel inclusion,'* and that they benefit *'the agroindustry more than they do the agricultural workers.'* The authors of the report do believe however that France has materials that could make second- or even third-generation biofuels and biojet fuels (straw, wood residue, algae, etc.), but their deployment *'still requires a research and development drive, as well as substantial industrialisation investments that require visibility over the trajectory of transition'*. Furthermore, incentives to develop "advanced" biofuels (produced from feedstock not produced for human food) remain *'insufficient'*.

En savoir plus : [Connaissance des Energies.org](#), [Challenges.fr](#), [L'Info Durable.fr](#), [Le Figaro.fr](#)

3901 - Methanation: MéthaFrance portal launched.

Launched by the French renewable energy syndicate, in collaboration with a consortium of industry representatives, [MéthaFrance](#) is a national information portal which should *'inform the wider public about methanation, particularly its effects on regions and the agricultural world (circular economy, waste valorisation, healthcare, employment, etc.)'*. This new online resource centre also offers information to local authorities and project sponsors who want to play a part in the development of renewable gas in France. The pooling of existing resources into one national interface helps stakeholders understand both the benefits and the points to be wary of when developing methanation. MéthaFrance also aims to help shine a light on the debating points of this sector.

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

3902 - Biomethane: results from Europe in 2021

According to data collected by the European Biogas Association (EBA) and Gas Infrastructure Europe (GIE), the biomethane sector beat all records last year. Boyana Achovski, GIE Secretary General, said: *'2021 has witnessed the most exponential deployment of biomethane plants in Europe.'* The Biomethane Map shows that almost 300 new units started operation in the last year and a half. Today, Europe has 40% more biomethane plants than in the previous edition released in 2020. Today, Europe has around 20,000 units in operation (total number of biogas and biomethane plants). France, Italy, and Denmark are the countries with the largest increase on the number of biomethane plants. No less than 91 new units began operation in France in 2020 and 123 plants started operation between January and October 2021. After France, the countries which saw the biggest growth in their number of biomethane plants are Italy (+11 plants in 2020) and Denmark (+10 plants in 2020). Yet the authors of this study still believe that *'the sector will need important legislative support in the coming years to harness its full potential.'*

More information: [European Biogas.eu](https://www.europeanbiogas.eu)
En savoir plus : [Gaz Mobilite.fr](https://www.gazmobilite.fr)

Health & Cosmetics

3903 - Estée Lauder Companies

The American group specialising in the production and distribution of skincare and cosmetics has published [Green Score](#): a methodology to assess and measure the sustainability of ingredients and formulas in terms of health and the environment. The tool can be used to assess both existing products and inform how to create new, better products, and is used across all group laboratories, guiding the science teams on how to develop greener ranges. It is a chemistry-based process, used to examine the properties of each ingredient and rank them, so as to select the most promising materials. By publishing its Green Score methodology, Estée Lauder Companies aims to *'encourage sustainable innovation across the consumer products industry.'*

More information: [Press release](#)
En savoir plus : [Journal du Luxe.fr](#)

3904 - Global Bioenergies

The French industrial biotechnology company announced that its LAST® makeup brand has won the Marie Claire magazine Prix d'Excellence France award for "Research and Innovation".

Recap: LAST® is the first makeup brand in the world to combine long-lasting performance, water resistance and transfer resistance with over 90% natural ingredients. This innovation was made possible by using biobased isododecane produced by Global Bioenergies at the heart of its formula, thanks to the latter's innovative process.

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

Global Bioenergies has received a €500,000 subsidy from the Grand-Est region of France, as part of the "France Relance" plan. This financial aid will help it finish building its production site in Pomacle, France, and begin commercialisation for cosmetic industrialists.

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

The company has announced that [TP ICAP Midcap](#), a division of the [TP ICAP](#) group (a world leader in brokerage activities) specialising in the segment of small- and mid-capitalisation companies, had initiated its share coverage

(Euronext Growth: ALGBE). TP ICAP Midcap has also published a detailed analysis for its clients, describing the Group's business strategy and outlook.

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

The company has raised €14.5 million as part of a private placement, including one leg open to private individuals, on the PrimaryBid platform. This round involved issuing 3,510,000 new common shares at a unit price of €4.13. The operation represents 30.9% of the company's existing capital prior to the operation. To break it down, 50% of the funds raised will go towards speeding up production of biobased isododecane aimed at the longwear makeup market, by finishing the construction of a production plant in particular. A further 25% will then enable a future scale-up, with a long-term objective of 1000 tonnes of isododecane to supply the skincare and haircare markets. Finally, the remaining 25% will go towards R&D campaigns aiming to reduce the operating cost of the process, in view of applications such as sustainable aviation fuels or commodities, within a five year timescale. The company's assets now stand at €21.2 million, allowing it to *'ensure visibility beyond the first half of 2023.'*

Info: L'Oréal's investment fund, Bold Business Opportunities for L'Oréal Development, made a 13.3% contribution to the fundraising. With this latest investment, the group has committed a total of €9 million to the company. In addition, Cristal Financière, holding company of Cristal Union, with which Global Bioenergies had created a joint venture to build industrial-size isobutene units, contributed 1.5% to the operation.

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

Following the results of new toxicological studies, Global Bioenergies has announced that its first cosmetic ingredient, naturally sourced isododecane, can now be used in the markets of skincare and haircare. Because isododecane is used in much higher volumes in these sectors than in the makeup sector, Global Bioenergies intends to increase production volumes at its plant in Pomacle-Bazancourt, France, starting this year. Nevertheless, a larger-capacity production plant will start operating in order to fully serve the skincare and haircare markets in late 2024.

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

3905 - Lantana Bio

The [start-up](#) that patented a process that uses yeast to produce flavonoids in bulk is planning its first fundraising operation for around €200,000 this year. The extra funds should allow it to scale up and produce its first batches in 2023.

Recap: Flavonoids are used mainly in food production, cosmetics and health.

En savoir plus : [La lettre M.fr](#)

3906 - L'Oréal & Veolia

The French cosmetics group and the French multinational specialising in water, waste and energy management have signed a partnership agreement whereby Veolia will supply high-quality recycled plastic for L'Oréal's cosmetic packaging worldwide. The recycled plastic, which is of equivalent quality to virgin plastic, will be obtained after processing the plastic material present in waste derived from consumer packaging, especially plastic bottles. This new plastic, which is subject to very demanding certifications, complies with food industry requirements. According to the partners: *'making cosmetic packaging with recycled plastic can avoid 50%-70% of CO₂ emissions compared to a standard bottle.'*

Recap: The group predicts that 100% of the plastic used in packaging will come from recycled or biobased sources by 2030.

More information: [Press release](#), [Packaging Gateway.com](#)

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

3907 - LVMH & Avantium

The French luxury group and the Dutch chemicals company have agreed to further explore the potential of Avantium's 100% plant-based, recyclable polymer polyethylene furanoate (PEF), as a sustainable packaging solution for LVMH beauty brands. To this end, LVMH Beauty will be the first luxury cosmetics company to join the PEFerence consortium, further enabling the commercial introduction of PEF to the cosmetics market.

Recap: PEFerence consortium members aim to build an innovative value chain for 2,5-furandicarboxylic acid (FDCA) and PEF.

More information: [Press release](#)

3908 - Maybelline New York

The cosmetics brand belonging to the L'Oréal group has announced the launch of its sustainability programme, Conscious Together, which aims to create a more responsible business model for the brand by transforming its processes, innovations and mindset to reduce its impact on the planet. The new programme sets out four objectives for Maybelline to achieve by 2030:

- Sustainable packaging: all Maybelline plastic packaging will be made from 100% recycled plastic.
- Innovative recycling: Maybelline will invest to help develop makeup recycling technologies, in partnership with global sustainability consultancy [South Pole](#).
- Green production: by 2025, the brand wants to achieve carbon neutrality in all its sites by improving energy efficiency and using 100% renewable energy. By 2030, it intends to reduce carbon emissions from its full product lifecycle by 50%.
- Ecological formula: 95% of ingredients will be biobased, derived from abundant minerals or circular processes.

More information: [Press release](#)

En savoir plus : [Le Lezard.com](#)

3909 - EcoBeautyScore Consortium launched with the aim of developing an environmental impact assessment and scoring system for cosmetic products.

The consortium of 36 cosmetics companies and professional associations, *'regardless of their size or resources'*, aims to help consumers make more sustainable choices through an environmental impact assessment method and scoring system which will take into account the cosmetic products' formula, packaging and use. To achieve this, members of the consortium will work with Quantis, a sustainable development consultancy. The aim is to co-build an assessment methodology and scoring system guided by and articulated around the following principles:

- A common method for measuring environmental impacts throughout the lifecycle of products, backed by the principles of the “Product Environmental Footprint” (the European Union’s PEF scientific method based on life cycle assessment (LCA) for quantifying the environmental footprint of products).
- A common database listing the environmental impact of standard ingredients and raw materials used in formulas and packaging, as well as during product usage.
- A common tool that enables the assessment of the environmental impact of individual products, usable by non-experts.
- A harmonised scoring system that enables companies, on a voluntary basis, to inform consumers about the environmental footprint of their cosmetic products. The methodology, database, tool and scoring system will be verified by independent parties.

Operationally, the EcoBeautyScore Consortium is also supported by Capgemini Invent (project management) and Mayer Brown (legal counsel). A footprinting and scoring prototype is targeted for the end of 2022, providing the environmental scoring for a selection of product categories at first. It will then be verified by independent parties. The EcoBeautyScore Consortium intends to be *‘global and inclusive’*, and remains open for other companies and associations to join.

More information: [L'Oréal's press release](#)

En savoir plus : [Communiqué de presse de L'Oréal](#), [Premium Beauty News.com](#), [L'Usine Nouvelle.com](#), [LSA Conso.fr](#)

Other

3910 - European Circular Bioeconomy Fund (ECBF)

The ECBF, which aims to fund innovative circular economy projects and companies in the European Union and countries participating in the Horizon 2020 programme, has announced the completion of a €300 million fundraising operation, exceeding the planned €250 million. Landwirtschaftliche Rentenbank, Allianz France, Invest NL, GCV, Firmenich, Stellar Impact, Dr. Hans-Riegel Holding and Bellevue Investments are the new investors of note participating in the operation. The venture-capital fund now has 25 shareholders.

More information: [Press release](#)

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

3911 - Lesaffre

The fermentation specialist Lesaffre and **INRAE** have signed a new framework agreement to extend their collaboration to all of the company's fields of activity. Their goal is to encourage innovation in food production, agriculture and nutrition/health. Indeed, the two partners work together on the use of ferments and probiotics for human and animal nutrition or the development of new eco-designed fermentation processes. In addition, more generally, they are conducting joint research projects in the field of biocontrol of plant and/or animal diseases, alternative sources of energy and new tastes and flavours. With this agreement, Lesaffre is now collaborating on more than 20 research projects with several scientific departments of INRAE.

More information: [Press release](#)

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

The group has announced the appointment of Christine M'Rini Puel as Chief R&D Officer. She succeeds Carmen Arruda, who is taking over the management of Biospringer, following the appointment of Brice-Audren Riché as CEO of Lesaffre (see below.) With a doctorate in medicine and a doctorate in science, Christine M'Rini Puel started her career in 1990 at the Faculty of Medicine and Rangueil Hospital in Toulouse, France. In 2006, she became Deputy and then Director of the Science and Technology Department at the French Embassy in China. In 2008, she joined Institut Mérieux, a holding company of five companies including

BioMérieux, the world leader in infectious disease diagnostics, as Scientific Director. In 2013, she joined Danone as R&D manager in the fresh dairy division. In 2017, she was appointed Vice President Research and Innovation of the Medical Nutrition division in Utrecht, the Netherlands. In 2019, she became Vice President Research and Innovation for all Health & Science topics in the Specialised Nutrition division (Infant Milk and Medical and Specialised Nutrition). She joined the Group's Executive Committee on 1 January 2022.

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

Lesaffre has announced the appointment of Brice-Audren Riché as the Group's new Chief Executive Officer from 1 January 2022. He succeeds Antoine Baule, who has reached the end of his mandate. A graduate of the Ecole Polytechnique, Brice-Audren Riché began his career with Ernst & Young in 1997. In 2001 he joined Lafarge and held various finance positions in Europe, Asia based in Kuala Lumpur, Latin America based in Santiago, as well as operational positions as Deputy Managing Director Algeria and then Managing Director Indian Ocean and Turkey. He joined Lesaffre in 2017 as Global General Manager of Biospringer. He also oversees Procelys, Ennolys and LIS since 2018. As of 1 July 2021, he has been appointed Deputy Managing Director of the group. Brice-Audren Riché will continue Lesaffre's development in the fields of baking and nutrition and health.

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

3912 - AgriO label for agri/agro-start-ups looking for investors.

This French Tech Seed label is awarded by agricultural, agro-industrial and agri-food experts to young companies with big potential. It is the finishing touch to a bespoke support package provided by specialised structures (incubators, accelerators, competitiveness clusters, etc.) that have pooled their expertise. The label targets companies that:

- Are less than three years old.
- Offer highly technological innovation and well-defined intellectual property in the agricultural, agro-industrial and agri-food sectors.
- Have completed (or are in the process of completing) a fundraising operation of at least €25,000 in the last three months with well-informed investors.

The following are members of the AgriO consortium: INRAE (involving TWB, MGP and CVT AllEnvi) and its knowledge transfer subsidiary INRAE Transfert; AgroParisTech and its contract research company AgroParisTech Innovation; Institut Agro via its internal school Montpellier SupAgro; Agronov; Vitagora; IAR; and Agri Sud-Ouest Innovation.

En savoir plus : [AGRI Sud-Ouest.com](#)

3913 - Trophées des Étoiles de l'Europe: two of INRAE's bioeconomy research projects win awards.

The two projects are a crossover between circular economy and bioeconomy principles, valorising agricultural and agri-food waste. The first is the [Zelcor](#) project, "*Towards zero-waste lignocellulosic biorefineries, valorising lignins*", winner of the jury's choice award, enabling the development of new products and processes, from laboratory to pilot stage. The multidisciplinary knowledge generated by the project has been passed on to the industry across five promising value chains. Among its main feats are the production of a new enzyme for increasing the solubility of lignins; the creation of insect-repellent food packaging; the creation of fully biobased nano-composites; the demonstration of the potential of lignin and humin derivatives as active cosmetic ingredients (anti-UV, antioxidant); and the design of a termite bioreactor fed with lignocellulosic residue, an innovation that has fuelled the dynamic of the "insect" industry and should generate economic returns in the next five to ten years. The second award-winning project is [NoAW](#): "*Transforming farm and food waste into ecological and economic resources*", which received the open science commendation. The project resulted in a multitude of prototypes (49), and pilot-scale demonstrations

(113) of which 3 are now being developed and commercialised by SMEs. One of the major advances is the development of a pilot two-stage methanation unit at an agricultural plot in Verona, Italy. The unit converts manure, straw and vine residue into biogas for the automobile sector or natural gas network, into digestate fertiliser and into volatile fatty acids for the integrated production of a polyester that can biodegrade in nature.

Recap: Inaugurated in 2013, the Trophées des Étoiles de l'Europe are awarded to women and men coordinating European research and innovation projects led by French organisations. They therefore reward teams who “choose Europe” for research and innovation.

En savoir plus : Inrae.fr

Industrial biotechnology services

3914 - Berkem

The French group specialising in plant extraction has announced that it has co-opted Eric Moussu as Sales Director for the group. Since September 2021, his area has covered the activity of four subsidiaries: Berkem, Adkalis, Eurolyo and Lixol. With thirty years' experience in chemistry, Eric Moussu joined specialist in pine resin derivatives DRT in 1989 as Head of Applications & Developments. In 1996, he became key account manager before joining the board of directors in 2006 as Sales & Marketing Director and Director of Regulatory Affairs.

En savoir plus : L'Usine Nouvelle.com

3915 - BioC3

The [start-up](#) specialising in the microbial synthesis of organic compounds has announced that it has been granted €1.5 million in funding from Bpifrance as part of their aid to developing Deeptech. The fresh funds will be used to intensify its R&D activities around its MetaCell biomanufacturing platform.

Recap: MetaCell is a technology that offers a quick, practical and easy alternative to current biomanufacturing processes. Using a modular approach, the technology is used to assemble and test innovative metabolic pathways for producing high-added-value molecules, from millilitres to litres, in a matter of days. By speeding up development, MetaCell can quickly validate or invalidate the feasibility of a metabolic pathway.

En savoir plus : L'Usine Nouvelle.com

3916 - Biosyntia & Lantana Bio

The Danish biotechnology company and the [French start-up](#) which develops bioprocesses for producing bioactive compounds used as functional ingredients for healthcare and food supplements, have signed a licensing agreement to jointly develop sustainable production processes for flavonoids (active ingredients present in plants). In this agreement, Biosyntia will be responsible for bringing the processes into production and commercialising the ingredients in the nutrition and beauty markets. The flavonoids are to be produced in Europe. The first flavonoid being developed is kaempferol, an ingredient currently used in treatments for viral infections, inflammation and cancer. It will be the first fermented version on the world market.

More information: [Press release](#)

3917 - DMC Biotechnologies

The American biotechnology company, which uses microbial fermentation to produce biobased chemical intermediates with high added value, has announced that it has obtained \$34 million (€30.1 million) from series B fundraising, led by Cibus Enterprise with investment from Capricorn Partners, Sofinnova Partners, Breakthrough

Energy Ventures, SCG, Boulder Ventures, Solvay Ventures and Michelin. The new funds will be used to boost its growth.

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

3918 - Evonik

The German chemicals company has announced the investment of hundreds of millions of Euros in the construction of an industrial-scale plant for producing rhamnolipids (biosurfactants with a glycosylated head (rhamnose group) and fatty acid tail (3-hydroxydecanoic acid)) by sugar fermentation. The future plant, due to be built on the site of Slovenská Lupca, Slovakia, should enter into service within two years. The investment strengthens Evonik's partnership with the Unilever group while broadening its position in this high-growth market.

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

3919 - IAR becomes Bioeconomy For Change (B4C).

According to its President, Christophe Rupp-Dahlem, *'our new name fulfils three major objectives: to clarify what we are and what we believe in; to speak as a group, to unify and attract people; to be easier to read and more of a leading light at international level.'* The new brand, which has the ambition of making France a world leader in the valorisation of biomass, will be built on four pillars: Climate, Citizens, Competitiveness and Connecting stakeholders. B4C has also announced that it has redefined its service offer, which is now articulated around four important needs expressed by its membership base of around 500: developing networks (meeting days, conferences, international delegations), informing decisions (monitoring, strategic consultancy, market studies), bringing innovation to life (conceptualisation, expertise, financial help) and promoting their actions (influential lobbying, deciphering, administrative and legislative guidance).

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

3920 - Zymoptiq

The [start-up](#) from Lille, France, which patented an enzyme sensor technology that aims to democratise and simplify enzyme activity measurement, has announced the close of a €3 million fundraising operation. The investors are [Captech Santé Nutrition](#), Swiss fund [Thia Ventures](#), regional funds Nord Création and Nord France Amorçage, a private investor with expertise in the field and Bpifrance. The fresh funds will boost the commercialisation of its first product in France and Europe, then on an international scale, via a network of commercial partners. An extension of the range of enzyme activities compatible with this technology has also been announced, to cover the entire spectrum of analytical needs from different targeted industrial sectors.

En savoir plus : Gazette Nord Pad de Calais.fr

3. PUBLIC POLICIES & REGULATIONS

In France

3921 - France 2030: the first committee meeting has taken place.

On 1 February, French Prime Minister Jean Castex chaired the first France 2030 committee meeting in the presence of ministers charged with implementing the plan, ecosystem representatives, enterprise and research representatives, social partners and operators. The meeting was the opportunity to establish governance of France 2030, and introduce the new Secretary General for Investment, Mr. Bruno Bonnell, who will be responsible for steering the execution of the plan and achieving the objectives. France 2030's governance should ensure that the plan's targets are met, which will involve extra support for technological breakthroughs and concrete support for industrialising innovation, within a European vision especially. Built upon three principles (namely procedural clarity; trust in the emergence of start-ups, SMEs and ISEs; and accepting to take risks), the plan's governance, closely tied with future investment governance, will draw on the strength of innovation ecosystems to track, boost and assess its implementation. A strategic guidance council at French Presidential level, made up of top-level experts, will monitor and revise the strategic priorities in view of how the economic and technological landscape evolves and the effect the investments have. Ministerial steering committees chaired by ministers will define deployment strategies by priority sector (energy, digital, training, etc.) at interministerial level and regularly report on the results, with independent experts from the world of research or enterprise. The France 2030 Committee will be supported in its duties by the France 2030 supervisory board charged with assessing all investments made, with recourse to external assessment bodies where necessary. The meeting was also the occasion to give an initial report, three months after the plan was announced.

[Info] Olivier Rolland, Managing Director of TWB, was named on the Ministerial steering committee as an expert in the field of sustainable materials. On his appointment, he declared, *'it is an honour for me to join the France 2030 Ministerial committee. In this context, I hope to be able to advise the government in matters of research, development and industrialisation of original, sustainable solutions. Biotechnologies have various applications in many different sectors of activity. They have a major part to play in the development and deployment of sustainable materials, biobased products, and, more generally, ecofriendly solutions currently laid out in the France 2030 plan.'*

En savoir plus : [Gouvernement.fr](https://www.gouvernement.fr), [Dossier de presse](#), [Toulouse White Biotechnology.com](https://www.toulousewhitebiotechnology.com), [ToulEco.fr](https://www.touléco.fr), [L'Usine Nouvelle.com](https://www.usine-nouvelle.com)

3922 - France 2030: action plan announced to speed up the decarbonisation of French industry, and a public consultation launched.

The new plan, which will have a budget of €5.6 billion, is split into two parts:

- €610 million will be invested in innovation and rolling out technology for a low-carbon industry. This innovation support aims to back all initiatives for researching and developing industrial prototypes and demonstrator plants, which will be key to transforming our industry. Means will also be provided to support local diagnostic schemes, in order to form partnerships in industrial areas that host multiple large emissions sites and identify the infrastructure that needs adapting.
- €5 billion will be invested in the provision of direct aid to the rollout of decarbonisation solutions at industrial sites, both for the big emitters and for all other levels of business in every region. To break it down, €4 billion will be allocated to innovative technologies like hydrogen or carbon capture, to decarbonise sectors with the most emissions (such as chemistry, steelworks, aluminium and building materials) by way of innovative concurrent support mechanisms built in association with the European framework. A €1 billion package will be allocated to mature technologies, supporting all companies in every region.

En savoir plus : [Ecologie.gouv.fr](https://www.ecologie.gouv.fr), [Dossier de presse](#)

The government has announced the launch of a public consultation to help it *'draft and implement support measures that meet the needs and expectations expressed by stakeholders to guarantee success in climate and industrial objectives.'* After recapping the current context linked to decarbonisation, the consultation asked questions around the potential decarbonisation support measures and their conditions (nature of the measures, their target, the form of aid given, their selection criteria), for both parts of the plan. The questionnaire is available [here](#). Industrial players are also invited to submit a [form](#) detailing their future decarbonisation projects. They can help steer the scheme's creation.

The public consultation is open until 1 April 2022.

En savoir plus : [Entreprises.gouv.fr](#), [Dossier de presse](#)

3923 - France 2030: launch of the “Biotherapies and biomanufacturing of innovative therapies” acceleration strategy and a new call for proposals.

With an €800 million budget, this strategy should help double the number of jobs in the sector and produce 10 biopharmaceuticals in France by 2025 and 20 by 2030, as well as generate 1 unicorn and 5 ISEs in biotechnology. To achieve this, France will have to gear up in four areas in particular to get ahead in the world race for biotherapies:

- Biotechnology in oncology, especially in monoclonal antibodies or CAR T-cells targeting the malignant cells in certain cases of leukaemia or lymphoma, for example.
- Innovation in gene or cell therapy, separate from oncology, which would help cure or improve the lives of patients with rare diseases.
- New biological systems for producing these therapies, such as bioreactors.
- Development of better production plants and optimisation tools for biomanufacturing processes and growth systems.

The strategy will draw on an €80 million priority research equipment and programme, entrusted jointly to INSERM and the CEA. The aim is to develop future biotherapies, anticipating the conditions by which they can be produced, while speeding up the industrialisation of current biotherapies.

On launching the strategy, the French government announced a “Biotherapy innovation” call for proposals. With a budget of €300 million, the call for proposals is aimed at companies and consortia developing biotherapies or tools for speeding up their development, and is split into two themes:

- Development of biotherapies in human or animal health (where an impact on human health is foreseen).
- Development of R&D tools for developing biotherapies.

The call for proposals will run until 21 November 2023, and its specifications are listed [here](#).

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

3924 - France 2030: “Industrial and deep tech start-ups” strategy launched.

With €2.3 billion available over 5 years, the strategy should help *'remove obstacles to development, funding and industrialisation of start-up projects that are developing breakthrough technology on our territory.'* There are three parts to the strategy:

- A plan dedicated to funding and industrialising innovative start-ups and SMEs. To achieve this, a call for proposals entitled “[First factory](#)” will run until 2026. With an allocated budget of €550 million, it aims to encourage the emergence of first industrial success stories among industrial start-ups or innovative SMEs and ISEs. Loans of between €3 million and €15 million will be launched in early March 2022 to fund the industrial demonstration phase or pilot factory phase and thus support the transition from functional prototype to production plant. This path also involves creating a fund to succeed the SPI2 Industrial project company fund. This fund will amount to €1 billion (compared to €700 million for the first part) and will help directly finance the initial industrialisation of an innovative technology with an equity investment. This fund could also finance pre-industrialisation projects costing less than €5 million. Finally, a National industrial venture fund of €350 million will also be created to encourage the emergence of venture-capital funds to support start-ups in their industrialisation.

- Further backing to encourage deep tech start-ups (€275 million), through the [French Tech emergence bursary](#) which will see its means increase by €50 million for the next 5 years (2022-2026). This support will also come via the [Deep tech development aid](#), which should see its budget increase by €150 overall for the next 5 years (2022-2026).
- The creation of a unique [helpdesk](#) steered by Mission French Tech and dedicated to industrial start-ups to help them access State support and get information about public funding programmes.

[Info] By 2025, the French government hopes to see 500 deep tech start-ups set up per year (compared to 250 currently) and 100 new industrial sites appearing on French soil per year (compared to 84 currently).

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

3925 - French national “Biobased products and industrial biotechnology” strategy linked to “Sustainable fuels” to receive €420 million in backing.

Introduced by the General Secretariat for investment directed by Guillaume Boudy as part of the fourth Investments for the future programme (PIA4) and the “France Relance” plan, the acceleration strategy aims to develop French industrial biotechnologies and the manufacture of biobased products, notably those replacing fossil-based products. It includes fuels from sustainable resources: biofuels (from agricultural, forest or algal biomass) and synthetic fuels produced using renewable energy. The strategy will see a French industrial network develop around biobased products and sustainable fuels, one that is competitive both domestically and on the export market, and a driver for greater independence, creating jobs and promoting sustainable development from an environmental point of view. It will also take care to implement sustainable deployment conditions by working simultaneously on demand for biobased products and the development of France’s offering. It is structured around five objectives covering the whole innovation chain, to ensure a continuum of funding. The state aid covers:

- R&D, from academic research to valorisation, to strengthen the scientific and technological foundations of the biobased product sector, bring about the breakthroughs required for its industrial development and become a major player in the European ecosystem.
- Innovation, to see the consolidation and emergence of French players in molecules and biobased materials, and optimise the use of resources.
- Industrial deployment, through support to first industrial plants to reduce the costs of industrial biotechnology, or through the introduction of a favourable regulatory economic framework by actioning various levers (public orders, standards and labels, national and international levers or tax schemes to help develop markets in favour of sustainable aviation fuel).
- Training and alignment with the human resources needs of economic players.

[Info] This acceleration strategy is eligible for the French national resilience and recovery plan, which itself falls under the NextGenerationEU European recovery plan.

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

3926 - Call for proposals launched: “Biobased products and industrial biotechnologies”.

This new call for proposals aims to support innovative projects that accelerate the market release of technologies and/or ambitious sustainable solutions, from industrial research to first-scale demonstration of a solution’s advantages in its operating environment. It also aims to support the industrialisation of innovations in the field of biobased products and products manufactured using industrial biotechnology. The projects should prioritise:

- The expansion of biomass sources in line with sustainability criteria, with the aim of supplying ready-to-use biomass or molecules from the first conversion.
- The demonstration of biomass conversion processes or products from the first conversion.
- Help with industrialisation, consisting in supporting the industrial-scale rollout of biobased molecule production plants and their conversion to molecules of interest or innovative materials with high added value.

This call for proposals is eligible for the French national resilience and recovery plan, which itself falls under the NextGenerationEU European recovery plan. It will run until 15 January 2024, with a first review on 31 May. Project specifications are listed [here](#).

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

3927 - PIA investments for the future programme: ninth edition of the i-Nov innovation contest for start-ups and SMEs launched.

The i-Nov call for proposals is designed to select innovation projects that carry particularly strong potential for the French economy. It exists to co-finance research, development and innovation projects costing between €1 million and €5 million in total and lasting between 12 and 36 months. Four themes are set out for this edition:

- Digital.
- Health.
- Sustainable buildings, cities, mobility and transport.
- Natural environments, resources and energy.

The application deadline is 22 March 2022 at 12pm (Paris time). Applications must be exclusively submitted [here](#).

En savoir plus : [Communiqué de presse](#), [Bpifrance.fr](#)

3928 - French National Council for a Circular Economy (CNEC) created.

The CNEC is a representative authority established by the French Climate and Resilience Law which takes the place of the National Waste Council and the Circular Economy Roadmap (FREC) steering committee in guiding the development of a circular economy in France. Its sphere of action goes much further than the National Waste Council as it encompasses questions of sustainable product design, function-based economy, repair and reuse. Its president is appointed by the French Environment Minister. The CNEC constitutes 47 seats and 6 colleges (State representatives, local councillors, civil society associations, companies, employees and members of parliament). It has expanded to allow associations working for a circular economy (INEC, donations associations, responsible digital associations, OREE, HOP) and companies specialising in reconditioning and reuse to join its governance. Social and solidarity economy players also enjoy greater representation with three seats (Envie, UDES, donations associations). Following the meeting to formally establish the CNEC, eight working groups were formed, each with its own topic:

- FREC progress monitor, Anti-waste laws for a circular economy, Climate and resilience and National Waste Council activity report.
- Circular economy and public and private purchases.
- Contribution to the 3R strategy to end single-use plastic packaging.
- Environmental impact of the digital world.
- New circular economy models (repair, reuse, function-based economy, etc.).
- Funding and innovation.
- Consumers and the circular economy (awareness campaigns and effects on behaviour).
- Assessment.

En savoir plus : [Communiqué de presse](#), [Novethic.fr](#)

3929 - New framework agreement signed by the CNRS and INRAE.

With this new five-year framework agreement, the two institutes aim to emphasise the strategic coordination of their research policies and join their disciplinary and multidisciplinary research efforts, in the fields of life sciences, the universe, the environment, human and social sciences; or even engineering, mathematical, information and chemical sciences. These common skills should help bring about responses to the major societal challenges of the UN 2030 sustainable development goals: limiting and adapting to climate change, preserving and restoring biodiversity and soil, protecting water resources, public and environmental health, circular bioeconomy and risk

management (natural, economic and social risks, among others), land use and the agroecological transition. This closer cooperation pertains in particular to:

- Joint scientific steering of Priority Research Equipment and Programmes entrusted by the DGRI and SGPI as part of the recovery plan and the fourth PIA Investments for the future programme,
- Support to joint action that aims to unify French research guided by the UN sustainable development goals, and in particular into its environmental impact, such as GdR Labos1.5,
- Creation of joint interdisciplinary incentives, run by the Mission for Transverse, Interdisciplinary Initiatives (MITI) for the CNRS and the Metaprogrammes Unit for INRAE, especially in the following fields: natural resource and ecosystem characterisation and management; understanding, preserving and restoring biodiversity; food mutations; human, animal and plant health and biology; predictive approaches to biology and ecology; biotechnology and biomanufacturing; green chemistry; bioeconomy; digital and robotics; public action and policy,
- Joint representation on an international level, as well as the creation and implementation of joint international deals, and structural resources such as international research laboratories,
- Valorisation of common work, in collaboration with socio-economic partners.

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

In Europe

3930 - Denmark: fossil fuel-free domestic flights by 2030.

During her New Year's address, Denmark's prime minister, Mette Frederiksen, shared that she wants to '*make flying green.*' To achieve this, she declared that the government had a mission to make sure all domestic flights were fossil fuel-free by 2030, though she concedes that '*the solutions to reach this goal have not yet been implemented.*'

More information: [Simple Flying.com](#)

En savoir plus : [Tribune de Genève.ch](#), [Forbes.fr](#), [Journal du geek.com](#)

MARCH 2022

16th International Conference on Genome Engineering and Synthetic Biology

28-29 March 2022. Paris (France).

More information: [Website](#)

BIO-Europe Spring

28-31 March 2022. Online.

More information: [Website](#)

Bio360 expo

30-31 March 2022. Nantes (France).

More information: [Website](#)

APRIL 2022

In-Cosmetics Global

5-7 April 2022. Paris (France).

More information: [Website](#)

SynBioBeta

12-14 April 2022. Oakland (United States).

More information: [Website](#)

16th International Conference on Biobased Materials and Composites

14-15 April 2022. Paris (France).

More information: [Website](#)

16th International Conference on Industrial Biotechnology and Synthetic Biology

14-15 April 2022. Venice (Italy).

More information: [Website](#)

MAY 2022

30th European Biomass Conference & Exposition.

9-12 May 2022. Online & Marseille (France).

More information: [Website](#)

5th Commercializing Industrial Biotechnology

9-10 May 2022. San Diego (United States).

More information: [Website](#)

16th International Conference on Synthetic Biology and Metabolic Engineering

26-27 May 2022. Barcelona (Spain).

More information: [Website](#)

JUNE 2022

25th BIO International Convention

13-16 June 2022. San Diego (USA).

More information: [Website](#)

Vivatech

15-18 June 2022. Paris (France).

More information: [Website](#)

TWB START-UP DAY

21 June 2022. Toulouse (France).

More information: [Website](#)

Plant BioProTech

28 June-1 July 2022. Reims (France).

More information: [Website](#)

JULY 2022

24 Hours of Bioeconomy For Change (formerly IAR)

7-8 July 2022. Beauvais (France).

More information: [Website](#)

25th International Symposium of Plant Lipid

10-15 July 2022. Grenoble (France).

More information: [Website](#)

16th International Conference on Synthetic Biology and Metabolic Engineering

19-20 July 2022. Paris (France).

More information: [Website](#)

16th International Conference on Industrial Biotechnology and Synthetic Biology

19-20 July 2022. Toronto (Canada).

More information: [Website](#)

AUGUST 2022

14th Global Bioprocessing Summit

15-18 August 2022. Boston (United States).

More information: [Website](#)

ACHEMA

22-26 August 2022. Frankfurt (Germany)

More information: [Website](#)

SEPTEMBER 2022

BIO IMPACT

19-22 September 2022. Omaha (United States).

More information: [Website](#)

14th Carbohydrate Bioengineering Meeting (CBM)

25-28 September 2022. Norefjell (Norway).

More information: [Website](#)

OCTOBER 2022

NutrEvent

4-5 October 2022. Nantes (France).

More information: [Website](#)

11th symposium of the Association Française des Biotechnologies Végétales (AFBV)

11 October 2022. Paris (France).

More information: [Website](#)

Les rendez-vous Carnot

12-13 October 2022. Paris (France).

More information: [Website](#)

Cosmetic 360

12-13 October 2022. Paris (France).

More information: [Website](#)

Annual Biocontrol Industry Meeting (ABIM)

24-26 October 2022. Basel (Switzerland).

More information: [Website](#)

European Forum of Industrial Biotechnology and the Biobased economy (EFIB)

26-27 October 2022. Vilnius (Lithuania).

More information: [Website](#)

16th International Conference on Biobased Materials and Composites

27-28 October 2022. Los Angeles (United States).

More information: [Website](#)

DECEMBER 2022

16th International Conference on Genome Engineering and Synthetic Biology

9-10 December 2022. New York (United States).

More information: [Website](#)

MAY 2023

17th International Conference on Synthetic Biology and Metabolic Engineering

24-25 May 2023. Barcelona (Spain).

More information: [Website](#)

JUNE 2023

18th Conference on Renewable Resources & Biorefineries (RRB)

1-3 June 2023. Bruges (Belgium).

More information: [Website](#)

Metabolic Engineering Conference

11-15 June 2023. Singapore.

More information: [Website](#)

JULY 2023

17th International Conference on Synthetic Biology and Metabolic Engineering

19-20 July 2023. Paris (France).

More information: [Website](#)

17th International Conference on Industrial Biotechnology and Synthetic Biology

19-20 July 2023. Toronto (Canada).

More information: [Website](#)

JUNE 2024

European Congress on Biotechnology

30 June-3 July 2024. Maastricht (the Netherlands).

More information: [Website](#)