

## World First: Data4 and the Université Paris-Saclay Foundation transform waste heat into algae biomass

*This pioneering project will capture up to 13 tonnes of CO<sub>2</sub> per year per data center, i.e. a potential of 3,900 tonnes per year for the data centers installed in France.*

Paris, May 21st, 2025 – [Data4](#), leading European data center operator, and the [Université Paris-Saclay Foundation](#) today announced the launch of a groundbreaking proof-of-concept project aimed at transforming heat from its servers into biomass. This ambitious project, deployed at its Marcoussis (France) site, paves the way for a new generation of bio-circular data centers.

Installed on the roof of a French datacenter, the heat recovery and biomass production system features a **unicellular algae production module with an absorption capacity that is 20 times greater than that of trees for an equivalent surface**. The algae are intended for reuse in short supply chains for agri-food or pharmacology industries.

Created by a multidisciplinary team of experts including the start-up [Blue Planet Ecosystems](#), and the Conseil Départemental de l'Essonne team, this large-scale project is the result of a partnership between private and public players including the Université Paris-Saclay Foundation and Data4. It is part of a global approach aimed at designing the world's first bio-circular data center, a technological feat serving the ecological transition.

A second project to install algal modules on data center facades is under development, with the **goal of scaling up to produce 20 kg of algae and capture 36 kg of CO<sub>2</sub> daily**.

*"Nearly 18 terawatt-hours of energy are available in our data centers in France, but are currently unused," explains Linda Lescuyer, Head of Innovation for the Data4 group. "Through this project, we aim to transform this heat into energy. Thanks to the biocircular data center module, we have the opportunity to create a new ecological and economic resource for the region, and therefore jobs, that can develop with the data centers."*

*"We are delighted that the first bio-circular data center to reconcile digital transformation and the ecological transition has come into being thanks to the ABIOMAS chair supported by the Université Paris-Saclay Foundation. The aim of this innovative chair is to develop biomass, in the Essonne (Paris) region, in all its forms and for all types of use. It has brought together the university's scientific expertise in physics, chemistry, agriculture and digital technology, which has helped to remove fundamental obstacles," said Patrick Duvaut, Vice-President at Université Paris-Saclay and President of the Université Paris-Saclay Foundation.*

### Data4: a strong commitment to sustainable development

Data4 is committed to designing, building, and operating data centers that minimize their impact on the environment, adopting an ambitious policy articulated around three pillars: maximum energy efficiency, massive integration of renewable energies, and a significant reduction in carbon footprint. This commitment translates concretely into the implementation of innovative and sustainable solutions, such as in-depth analysis of the life cycle of data

centers, the development of pioneering bio-circular data centers, the use of low-carbon concrete to reduce the impact of construction, and intelligent optimization of server energy consumption through artificial intelligence.

### About Data4

*Data4 is a major European operator and investor in the data center market. The Group finances, designs, builds and operates its own data centers. Data4 Group has pioneered an ultra-connected, resilient and sustainable data center campus model, with the aim of supporting its customers' digital growth over the long term by providing them with scalable and secure hosting solutions for their IT servers, ranging from a single rack to a dedicated building. The Group is committed to a proactive approach to sustainable development through its Data4 Good program, which is based on 4 main pillars: environment, people, community and governance. Data4 Group operates some of the most powerful data center campuses in Europe, with land and electricity reserves that are unique on the European market. Data4's data centers in France, Italy, Spain, Poland, Germany and now Greece are home to international cloud operators and major telecoms providers, as well as innovative tech companies and multinationals.*

For more information: [data4group.com](https://data4group.com)

### Media contact:

PR Data4

Rebecca Birna

[rebecca.birna@data4group.com](mailto:rebecca.birna@data4group.com)

+33 637 033 299

### About Université Paris-Saclay

*Université Paris-Saclay was born from the shared ambition of French universities, grandes écoles and national research organisations. As a leading university in Europe and the world, it covers the fields of science and engineering, life sciences and health, and humanities and social sciences. The university's science policy closely intertwines research and innovation, incorporating both basic and applied science to tackle major societal challenges. Université Paris-Saclay offers a varied range of undergraduate to doctorate level degrees, including programmes with its grandes écoles, all of which are focused on achieving student success and employability. The university prepares students for an ever-changing world where the ability to think critically, remain agile and renew one's skills are crucial. Université Paris-Saclay also offers a comprehensive range of lifelong learning courses. Located to the south of Paris, the university extends across a vast and rich local area. Its location strengthens both its international visibility and its close ties with its socio-economic partners (major companies, SMEs, start-ups, local authorities, charities).*

For more information: [www.universite-paris-saclay.fr/en/](https://www.universite-paris-saclay.fr/en/)