Gilles Trystram – CEO, Genopole



Genopole not only sustains research excellence but also accelerates innovation

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Genopole stands as one of France's leading bioclusters, seamlessly integrating world-class research, entrepreneurship, and industrial engagement to support over 80 companies across health and the bioeconomy. Under Gilles Trystram's leadership, the cluster nurtures innovation from start-up creation to scaling, leveraging strategic partnerships with institutions like Université Paris-Saclay and specialised platforms such as GATEX and Protopia.

What is Genopole today, and how has your professional background shaped its missions and operations?

I spent many years at AgroParisTech, specialising in process control, process engineering, and biotechnology, and I chaired the institution for ten years. Since joining Genopole as CEO in 2022, I have drawn on this experience to guide the cluster's development while ensuring it remains among the leading bioclusters globally. Genopole integrates scientific excellence, industrial engagement, and entrepreneurship. It comprises 17 research laboratories with around 1000 scientists, conducting both fundamental and applied research in biology and genomics. Approximately half of our activity focuses on health, including diagnostics, vaccines, and therapies, while the remainder supports the bioeconomy, spanning food, cosmetics, energy, and new materials.

The cluster also hosts a Biopark of roughly 80 companies, a number that has grown steadily as we attract new projects and support scaling. To strengthen their development, we launched Upscale

Bio, a programme that helps companies enhance operations, access new markets, and accelerate technological, industrial, and commercial growth. Supporting innovation and entrepreneurship remains central to our mission: we help transform ideas from conception into start-ups by providing funding, laboratory space, and facilities, and continue to assist them in market access and securing investment once established. In this way, Genopole functions as an integrated biocluster, combining world-class research, a vibrant company ecosystem, and the infrastructure and support needed to translate ideas into market-ready solutions.

How does Genopole sustain itself financially while supporting research and fostering start-ups?

Genopole operates on a combination of public support and internally generated revenue. The bulk of our funding comes from the French government and the Île-de-France Region, which have backed the cluster since its inception. Approximately 30 percent of our budget is derived from our own programmes and infrastructure, including training and development initiatives designed to strengthen the capabilities of start-ups and entrepreneurs.

A defining aspect of our approach is our commitment to the public interest. We select ideas and start-ups without taking equity or claiming intellectual property, which allows us to offer guidance, resources, and mentorship freely. This independence enables founders to develop their operations, access new markets, and scale effectively, while preserving the objectivity and credibility of our support. Although this model limits direct revenue generation, it remains a cornerstone of Genopole’s ethos, fostering collaboration and innovation across the cluster.

In research, we work closely with national institutions and universities, particularly Université Paris-Saclay and Université Évry Paris-Saclay, to ensure that projects achieve the highest standards. We provide additional funding when research directors are appointed by organisations such as CNRS or INSERM, enabling them to rapidly launch or strengthen projects in biotechnology, genomics, and their applications.

Each year, we also invest in technology and infrastructure through a dual approach. First, competitive calls allow us to identify and fund the most promising proposals for new equipment or technology, which is then placed in laboratories or companies under conditions of shared access and knowledge transfer. Second, we operate several dedicated infrastructures, including a platform for in vivo experimentation supporting preclinical health studies, a digital and software scale-up facility for medical applications in partnership with the nearby hospital, Centre Hospitalier Sud

Francilien (CHSF), an industrial biofoundry that screens and engineers microbial strains for production potential and scales from millilitres to industrial volumes, and a formulation laboratory that validates molecules and ingredients derived from fermentation for applications in food, cosmetics, and fine chemicals.

Through this integrated model, Genopole not only sustains research excellence but also accelerates innovation, providing start-ups and companies with the expertise, infrastructure, and guidance needed to translate ideas into scalable, market-ready solutions.

What types of companies operate within Genopôle, and how does the cluster foster their growth and integration into a broader ecosystem?

Genopole hosts a wide spectrum of companies, most of which are born here, evolving from initial ideas into start-ups through our annual competitions and support programmes. Alongside these, we accommodate larger European and international organisations, including L’Oréal and Illumina, as well as specialised entities such as Cell Environment and GenoSafe. Our collaboration with AFM-Téléthon and its pioneering gene therapy research centre, Genethon, has also produced spin-offs like GenoSafe, which specialise in quality control and validation for gene and cell therapy products. Larger companies, such as YposKesi, contribute to the health sector by developing viral vectors essential for next-generation vaccines and cell therapies.

At the core of our approach is the creation of an ecosystem that integrates scientific expertise, infrastructure, and human capital. We equip companies, whether start-ups or established firms, with access to skilled personnel, targeted training, and networks that facilitate industrialisation, scaling, market access, and strategic partnerships with larger organisations. This support enables smaller companies to validate ideas, confront alternative approaches, and scale efficiently, while maintaining flexibility and innovation.

Collaboration with major pharmaceutical firms is encouraged where it accelerates growth, particularly in health, food, or cosmetics. By providing access to specialised tools, demonstration capabilities, and guidance on regulatory pathways, Genopole ensures that companies can operate successfully both locally and internationally, reaching markets across Europe, the United States, Asia, and Africa. In this way, the cluster not only nurtures start-ups but also strengthens the broader innovation ecosystem, connecting science, industry, and talent in a way that drives sustainable growth.

What opportunities do you see in gene and cell therapy, and how does Genopole support their translation from research to application?

Gene and cell therapies have been a cornerstone of research at Genopole for many years, with extensive work conducted across our laboratories and in collaboration with leading centres such as Genethon and I-Stem. Companies here focus on assessing cell viability, developing new products, and validating innovative manufacturing approaches. While diagnostics have historically provided a clear entry point, the rapid growth of gene- and biotech-based therapies has markedly increased the number of products under development, creating significant opportunities to move research toward practical applications.

In 2022, the France 2030 plan launched a national initiative to establish world-class bioclusters, and by 2023, three major projects were selected: the Paris-Saclay Cancer Cluster (PSCC), Brain & Mind, and Genother, a gene therapy initiative led by Genethon. Genopole plays a central role in Genother, providing the necessary infrastructure and platforms to support fundamental and applied research, ensuring that the equipment and expertise required to demonstrate, validate, and scale innovations are in place.

We also support the creation and growth of companies in gene and cell therapy. Through initiatives such as Genother, multiple new ventures in gene therapy may emerge. Where appropriate, we facilitate collaboration with larger pharmaceutical companies to validate therapies, reduce development risks, and accelerate scaling. While there is no single blueprint for translating research into market-ready solutions, Genopole adds value by enabling demonstration, validation, and practical implementation, bridging the gap between scientific discovery and applied therapy development.

What are GATE^{X} and Protopia, and how do these infrastructures support start-ups and innovation at Genopôle?

Genopole operates two main types of platforms. Some are located within research laboratories or companies, where R&D is carried out and intellectual property can emerge, as is typical for many gene therapy projects. GATE^{X}, our in-house biofoundry, is directly operated by Genopole. It enables us to screen combinations of microorganisms and substrates, including sugars and other feedstocks, and to modify strains through genome editing, identifying the most effective

performers. Production is then validated at scales from one to twenty litres, demonstrating yield and performance before scaling to industrial production.

Alongside GATE^{X}, Protopia serves as a prototyping and pre-industrialisation hub, designed to help start-ups in the bioeconomy, food, cosmetics, and biomaterials sectors accelerate the transition from laboratory research to market-ready products. Together, these platforms allow Genopole to support the full innovation continuum, bridging fundamental research, technological validation, and industrial application, and providing companies with the infrastructure and expertise required to scale successfully.

What differentiates Genopole from other international bioclusters, and what are its unique strengths?

Genopole is a dynamic and evolving biocluster that integrates scientific excellence with practical application across both health and bioeconomy sectors. One of our defining strengths is the ability to translate insights from one domain to another, fostering innovation that connects fundamental research with real-world applications.

A cornerstone of our ecosystem is our collaboration with Université Paris-Saclay, one of the world's leading life sciences universities. This partnership enhances the quality and impact of our research, leveraging a large pool of skilled scientists to strengthen the cluster's overall capabilities and drive innovation across multiple domains. Equally important is our focus on bio-production and scaling. We guide ideas from initial conception through industrialisation, ensuring that promising innovations are developed efficiently and can be scaled into practical solutions.

Looking ahead over the next three years, what are Genopole's strategic priorities?

Over the coming years, our primary focus is to identify and support the most promising ideas and enterprises, ensuring they have the guidance and resources needed to succeed. At the same time, we recognise the broader challenges within the biotech and health sectors, particularly the difficulty of securing funding and attracting individuals willing to take the necessary risks to advance innovative solutions. To address these challenges, we are exploring new ways of collaborating with investors, larger companies, and other key stakeholders, enabling start-ups and research projects to scale effectively. By fostering these partnerships and adapting our approaches, Genopole aims to continue driving innovation and translating scientific discoveries into

tangible, real-world impact.

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