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Gene Therapy

Genethon and Thales collaborate on artificial intelligence tools for improving bioproduction efficiency

Genethon, a pioneer and leader in gene therapy research and development for rare genetic diseases and Thales, a European leader in artificial intelligence for mission-critical systems, are combining their know-how to develop first of its kind efficient digital models for improving bioproduction yields in the field of gene therapy.

Producing gene therapy treatments is an extremely, complex, time-consuming and particularly costly process. Major challenges include reducing the production time and costs. In order to improve the productivity and the quality of gene therapy products, **Genethon and Thales are working together to develop a digital model that will use artificial intelligence to model bioproduction processes and optimize yields.**

"Genethon's Bioprocess Development team develops viral vector production processes from the laboratory up to industrial scale. The aim of this collaboration is to evaluate what digital solutions can bring to a bioproduction process to develop one or more efficient digital models of this process (digital representations or digital twins)," said *Patrick Santambien, Ph.D. Technological Development Director at Genethon. "This will ultimately allow us to decipher the impact of certain production parameters on productivity and the quality of the bio-drugs, without having to resort to systematic experimentation and also make it possible to reduce certain current analytical delays," Santambien added.*

"This project is in line with our objective of improving production yields and thus reducing the production costs of innovative therapy drugs, which can reach several hundreds of thousands of euros per patient. This is a major challenge for guaranteeing access for patients to these treatments," emphasized Frédéric Revah,Ph.D. CEO of Généthon.

"This collaboration between Genethon and Thales is a source of great pride for our teams. We are putting our expertise in artificial intelligence applied to healthcare and our ability to innovate into this great project to improve bioproduction yields. This completely unprecedented project combines the worlds of research, industry and digital services to deliver joint innovative solutions," said Lilian Seigneur, Head of Healthcare- Public Sector Business Unit – Critical Information Systems, at Thales.

About Genethon

A pioneer in the discovery and development of gene therapies for rare diseases, Généthon is a unique non-profit organization created by a patient association, the AFM-Telethon. A first gene therapy drug, to which Généthon contributed, has obtained marketing for spinal muscular atrophy. With 200+ scientists and professionals, Généthon is pursuing its mission to bring life-changing therapies to patients suffering from rare genetic diseases. 13 products resulting from Généthon's research are in clinical trials for eye, liver, blood, immune system and muscle diseases. A further 6 products are in the preparation phase for clinical trials over the next five years.
Find out more: genethon.com

About Thales
Thales (Euronext Paris: H°) is a world leader in high technologies specialized in three business sectors Defense & Security, Aeronautics and Space and Cybersecurity. It develops products and solutions that contribute to a safer, more environmentally and more inclusive world. The Group has a Research and Development budget of €4 billion in particular in the key sectors of innovation such as quantum systems, Edge computing, 6G and cybersecurity.Thales has 77,000 employees in 68 different countries. In 2022, the Group has an annual turnover of €17.7 billion.

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