

Interview: Aptar Pharma Expansion With New R&D Center

In this interview, **Christophe Pierre** of **Aptar Pharma**, introduces the company's new R&D Center in France, and outlines how the new facility will assist the development of smarter, more integrated drug delivery solutions, facilitating progression from concept to full-scale industrialisation across multiple therapeutic fields.

Q Aptar Pharma has just opened its expanded R&D Center in France – how does this facility enhance your global innovation footprint and reinforce your focus on patient-centric drug delivery?

A In a healthcare landscape increasingly shaped by precision, speed and sustainability, innovation in drug delivery has never been more critical. Aptar Pharma's recent expansion of its R&D Center in Le Vaudreuil and Val-de-Reuil, France, marks a strategic step in its global approach to meeting these evolving demands. As part of the company's innovation network, the upgraded facility is designed to accelerate the development of smarter, more integrated drug delivery solutions – supporting progress from concept to industrialisation across therapeutic areas.

The expanded R&D Center in Le Vaudreuil reflects Aptar Pharma's commitment to strengthening our

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innovation infrastructure in Europe. It complements our global network of innovation hubs and gives us additional capacity to support development programmes across multiple therapeutic areas. The facility is designed to enable faster iteration and deeper collaboration with our partners, particularly in developing solutions that improve treatment accessibility, usability and therapeutic outcomes for the patients. It allows us to localise development efforts while maintaining alignment with global standards and regulatory expectations.

The building spans more than 3,000 square metres, with dedicated areas for device development, testing and simulation,

as well as collaborative workspaces. It was designed from the outset to support sustainability goals, integrating features that reduce its carbon footprint and enable more efficient operations. This physical setup directly supports our ability to accelerate innovation and deliver high-impact solutions to the market.

The facility also reflects Aptar Pharma's long-standing presence in France, where we've built deep technical expertise over several decades. With this expansion, we are now better positioned to support the development of advanced drug delivery systems that serve over 1.6 billion patients annually.

Q How does the Le Vaudreuil R&D Center integrate with Aptar Pharma's global innovation network – particularly with the hubs in North America and Asia?

A The Le Vaudreuil R&D Center operates as a fully integrated part of Aptar Pharma's global innovation network, which spans North America, Asia and Europe. This integration allows us to co-ordinate development efforts across regions, share data and insights in real time, and align on platform technologies and regulatory strategies.

For example, our teams in France collaborate closely with their counterparts in the US and Asia to ensure consistency



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Christophe Pierre, Vice-President Global R&D – Prescription at Aptar Pharma, is an engineer and a biomedical sciences postgraduate. He joined Aptar in 2001 and has over 25 years of experience across the pharmaceutical, beauty and food & beverage industries. Throughout his career, he has led international R&D teams and global portfolios, championing innovation, digital transformation and operational excellence to deliver impactful and sustainable results.

in device performance and quality, while also adapting to local market needs. The Le Vaudreuil R&D Center's expanded capabilities in rapid prototyping and digital simulation enable us to contribute more actively to global programmes from early feasibility studies through to industrialisation.

With engineering, testing, simulation and regulatory functions all housed in one location, the facility fosters seamless collaboration and faster decision-making. It's where deep technical expertise meets advanced development tools – making it a strategic hub for prescription drug delivery innovation. In many ways, this is the place to be for prescription R&D globally.

Q How are the R&D Center's advanced capabilities transforming the way Aptar Pharma designs and develops next-generation drug delivery platforms?

A Our new capabilities are helping us move from traditional, sequential development to a more integrated and predictive model. For example, digital simulation and predictive modelling allow us to assess performance variables early in the design phase, reducing the need for physical iterations. Rapid prototyping shortens the feedback loop with customers and partners, while artificial intelligence (AI) tools are increasingly being used to optimise device geometry and material selection. These technologies not only accelerate speed-to-market but also play a critical role in de-risking development by enabling earlier validation, reducing reliance on physical iterations and improving predictability throughout the design cycle.

Q What are the regulatory or quality advantages of having an R&D Center in France, especially for EMEA-focused drug delivery programmes?

A Our location in France gives us proximity to key regulatory bodies and partners in the EMEA region. It allows for more direct engagement with the EMA and national regulatory agencies, which can be particularly beneficial during early-stage development, submission planning and regulatory alignment.

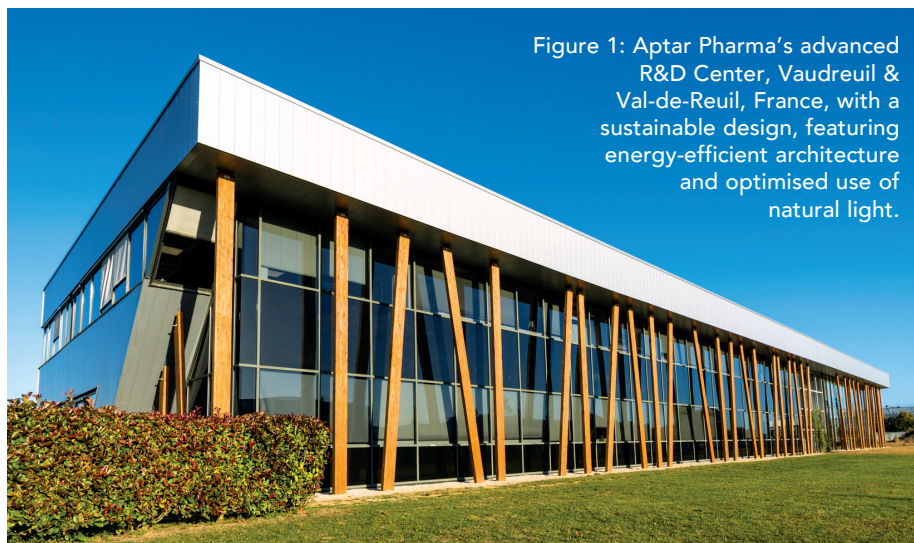


Figure 1: Aptar Pharma's advanced R&D Center, Vaudreuil & Val-de-Reuil, France, with a sustainable design, featuring energy-efficient architecture and optimised use of natural light.

The facility also supports quality compliance with European standards, which is essential for lifecycle management and post-market surveillance.

An additional advantage is that our services – spanning device design, testing and regulatory support – are physically close to one another and to many of our customers. This proximity enhances responsiveness and fosters more agile collaboration. It reinforces our ambition not just to be a supplier but a trusted and preferred partner in the development of complex drug delivery solutions.

Q How does this facility reflect Aptar's broader commitment to sustainable innovation?

A The building was designed from the ground up with sustainability in mind, incorporating infrastructure and systems specifically aimed at reducing its carbon footprint. From the outset, the facility was equipped with solar panels, heat recovery systems and rainwater

harvesting – all of which contribute to lowering energy consumption and minimising its environmental impact.

Beyond the physical infrastructure, the facility supports Aptar Pharma's long-term environmental, social and governance roadmap by enabling the development of drug delivery solutions that are both effective and environmentally responsible. This includes innovations such as recyclable components and metal-free pumps, which align with our goal of reducing material waste and improving product sustainability across the lifecycle of our products (Figure 1).

Q What role do you see the new R&D Center playing in strengthening Aptar's partnerships across EMEA and attracting top regional scientific and engineering talent?

A The R&D Center is already helping us deepen relationships with academic institutions, research consortia and regional biotech companies.

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It provides a physical space for joint development and technical exchange, which is essential for building trust and accelerating innovation.

One of the key strengths of the facility is that it brings together a wide range of capabilities under one roof – including mechanical and chemical engineering, analytical testing and regulatory expertise – enabling us to support the full development cycle from formulation through to patient use. This integrated setup allows for more efficient collaboration and faster problem-solving, which is particularly valuable in co-development projects with external partners.

From a talent perspective, having a modern, well-equipped facility in France makes us more attractive to engineers and scientists who want to work on meaningful healthcare challenges with global impact. It's a place where they can contribute to high-value innovation while being part of a multidisciplinary team that's shaping the future of drug delivery (Figure 2).

Q Can you share any early-stage projects or therapeutic areas that are already being supported by the new R&D Center?

A We're currently supporting several programmes focused on nasal and pulmonary delivery, including platform enhancements for chronic respiratory conditions and emergency-use nasal sprays. The facility is also contributing to exploratory work in connected devices and digital health integration. While many of these projects are still in their early phases, the facility has already proven valuable in accelerating feasibility studies and prototype validation.

One example that illustrates our innovation approach is Aptar Pharma's contribution to the development of a glucagon nasal spray – a life-saving emergency treatment for severe hypoglycaemia. This project successfully repurposed an existing molecule into a needle-free format using our proprietary delivery system, demonstrating how device innovation can unlock new therapeutic value and improve treatment accessibility.

Another strong example is the ZEN30 Futurity™ valve platform, developed



Figure 2: FabLab at Aptar Pharma's R&D Center – a collaborative space designed to inspire creativity and hands-on innovation.



Figure 3: Testing nasal spray system for vaccine delivery at Aptar Pharma's R&D Center.

"THE FACILITY'S EXPANDED CAPABILITIES ALLOW US TO SUPPORT MORE PROGRAMMES IN PARALLEL, TO SCALE PROMISING CONCEPTS MORE QUICKLY AND TO MOVE FASTER FROM CONCEPT TO INDUSTRIALISATION."

to support the transition to low-global warming potential propellants in pressurised metered dose inhalers. Produced entirely in our Normandy (France) facilities, ZEN30 Futurity™ is compatible with both HFA-152a and HFO-1234ze and is designed to ensure robust performance while reducing environmental impact. The valve's optimised geometry and proprietary elastomer technology help to minimise extractables and leachables, supporting regulatory compliance and reliable supply chains.

Together, these examples highlight the breadth of innovation supported by the R&D Center – from life-saving emergency treatments to sustainable respiratory platforms. The expanded infrastructure allows us to pursue these opportunities more systematically, especially in areas where ease of use, rapid onset and environmental responsibility are critical to therapeutic success (Figure 3).

Q How will this investment help to accelerate the development of next-generation drug delivery systems across a broader range of therapeutic areas?

A The facility's expanded capabilities allow us to support more programmes in parallel, to scale promising concepts more quickly and to move faster from concept to industrialisation. Pulmonary and nasal delivery are key focus areas, and the facility is equipped to

handle the specific technical and regulatory demands of these platforms. It also supports our work in connected devices and digital health.

Importantly, the new facility enables us to advance combination product development – where drug and device must be optimised together – by providing the infrastructure and expertise needed to manage integrated design, testing and compliance workflows. One of the key advantages of the new R&D Center is having all core competencies under one roof. By combining the flexibility and experience of our multidisciplinary teams with advanced technologies, such as digital simulation and predictive modelling, we're able to streamline development cycles and make faster, more informed decisions. This co-location of talent and tools is a major enabler for accelerating innovation across a broader range of therapeutic areas.

Q What excites you most about this new investment and how it facilitates Aptar's role in shaping the future of drug delivery?

A What excites me most is the ability to bring together multidisciplinary teams under one roof and give them the tools they need to solve complex problems. The facility is not just about infrastructure – it's about capability. It allows us to be more responsive to market needs, more

collaborative with our partners and more ambitious in our innovation goals.

Thanks to this expanded R&D Center investment, we're now positioned as a preferred partner for pharmaceutical companies seeking to co-develop advanced drug delivery solutions. Having all core competencies – device design, simulation, prototyping, testing and regulatory support – co-located in one building enables us to move faster and with greater confidence. It allows us to accelerate and de-risk development, thanks to tighter integration across disciplines and earlier visibility into potential challenges.

This setup not only improves execution but also strengthens our ability to deliver robust, scalable solutions that meet both therapeutic and operational requirements. It's a tangible step forward in Aptar Pharma's mission to shape the future of drug delivery through practical, reliable and impactful innovation.

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