Empowering Drug Delivery at Scale:
How Ypsomed's Platform Approach Advances Self-Injection Globally

From Drug Complexity to Delivery Strategy

As pharmaceutical innovation has accelerated over the past several decades, one reality has remained constant: the more advanced the molecule, the more sophisticated the delivery solution must be. Biologic drugs, ranging from peptides and monoclonal antibodies to novel protein-based therapies, cannot be administered orally. They require precise, parenteral delivery, and increasingly, subcutaneous injection has become the preferred route due to its patient-friendliness and clinical flexibility.

This shift has transformed the landscape for drug delivery devices. What once were basic, functional tools, often treated as secondary packaging, are now central components of pharmaceutical product strategies. Self-injection systems, in particular, enable decentralised care, improve adherence, and help differentiate therapies in increasingly competitive markets.

Ypsomed recognised this transformation early. With decades of experience in injection systems and a focus on patient-centric subcutaneous delivery, the company has developed platforms and capabilities that meet the evolving needs of both drug developers and end users. Today, as the requirements for combination products grow more complex, the delivery device is no longer a technical afterthought – it's a critical success factor. Designing for success means building with flexibility, scalability, and strategic alignment from day one.

The Rise of Self-Injection: A Technological and Healthcare Shift

The evolution of self-injection began with a simple yet powerful idea: if patients could reliably administer their own medication, care could move closer to where people live. Early examples emerged in the treatment of diabetes, where insulin pens – designed with familiar, intuitive formats resembling ballpoint pens – enabled patients to inject themselves safely and discreetly.

These early devices were typically reusable and relied on prefilled cartridges, designed for frequent dosing over long periods. But as more complex biologics entered the market, the requirements changed. Many of these new therapies demanded single-dose delivery, due to their preservative-free formulations and less frequent dosing regimens. This transition ushered in the widespread use of prefilled syringes and disposable autoinjectors which simplified administration and supported a broader range of therapeutic indications.

At the same time, the healthcare system itself was shifting as a result of availability of at-home treatment options. Chronic disease management relying on novel biologics increasingly relied on treatment models that extended beyond the clinic. Subcutaneous self-injection emerged as the key enabler of this decentralisation, offering flexibility for patients and cost efficiency for healthcare systems.

For pharma and biotech companies, this shift meant that the delivery system could no longer be treated as a downstream consideration. Instead, it became a central part of the therapeutic product, and a critical determinant of market readiness, user acceptance, and lifecycle success.

From Niche to Necessity: Devices Become Strategic

In the early years of self-injection, devices were often seen as accessories – necessary for drug administration, but peripheral to the therapy itself. Initially, demand was driven by a small number of use cases, and most systems were designed to be reused over long service lives. For pharmaceutical companies, device development was often handled internally, with minimal specialisation, and the primary goal was to improve upon conventional vial-and-syringe handling.

As drug portfolios evolved, this view changed dramatically. The rise of biologics, the need for convenient dosing of larger volumes, and the push toward at-home treatment shifted devices from the periphery to the core of product strategy. Apart from meeting pharmacological requirements and regulatory expectations, many additional considerations such as usability, sustainability, product safety and commercial differentiation goals turned into core elements of the product strategy.

Today, self-injection devices are recognised as integral to therapy design, market access, and long-term adherence. They influence patient experience, impact outcomes, and carry substantial weight in payer and provider assessments. As such, pharma and biotech companies increasingly seek partners with the device expertise, industrial scalability,

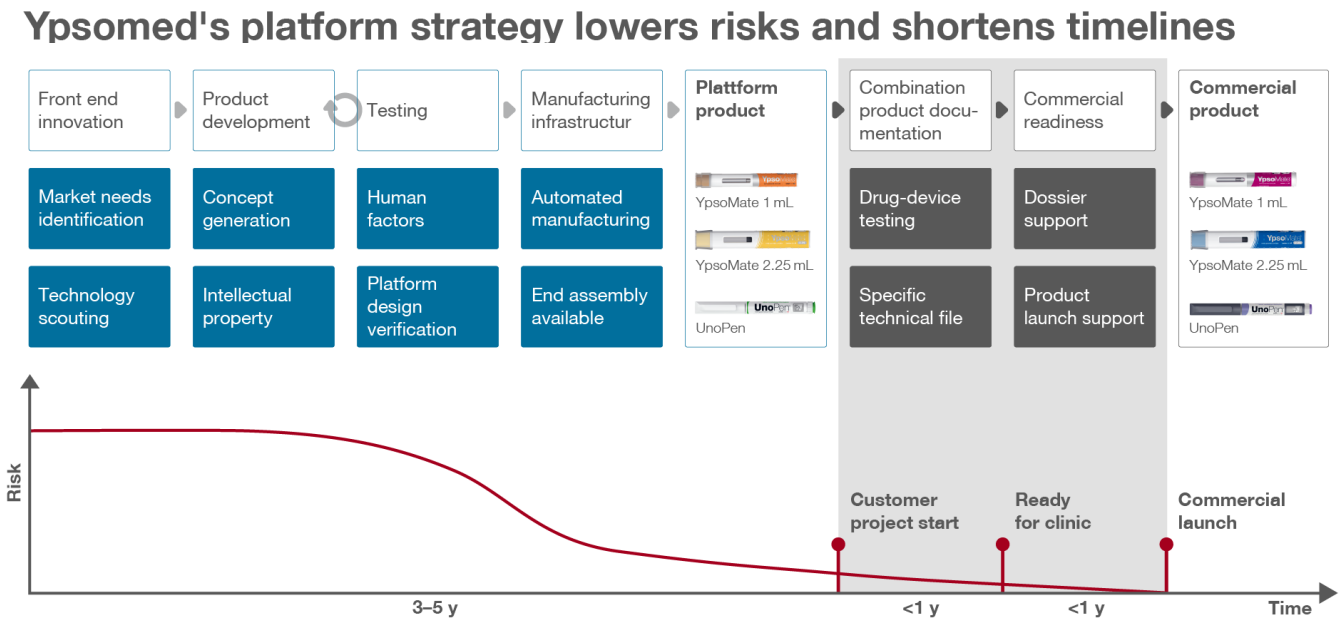

Figure 1: Ypsomed's platform strategy accelerates time-to-market, leveraging modular autoinjector components that are adaptable for diverse drugs and patient needs

and platform flexibility required to support combination product development from early-stage trials through global commercial rollout.

This shift defines the current era of self-injection device development. And it is precisely where Ypsomed has positioned itself: as a reliable partner that helps drug developers meet these new expectations with speed, scale, and confidence.

Ypsomed's Platform Approach: Speed, Flexibility, and Customisation

In a landscape where drug development timelines are accelerating and product requirements are diversifying; pharma and biotech companies need device solutions that offer both reliability and adaptability. Ypsomed addresses this need through a modular, platform-based approach to self-injection systems – one that balances industrial maturity with customisation flexibility.

Rather than designing bespoke devices for each project, Ypsomed builds on proven platforms – such as YpsoMate – that support a wide range of drug formulations, primary container types, and injection requirements. These platforms have been industrialised, validated, and used successfully across multiple therapeutic areas, allowing new projects to start with a solid foundation. The result: reduced development risk, accelerated regulatory alignment, and faster time to clinic or market.

This approach also enables Ypsomed to tailor its offering to each stage of the drug lifecycle. For early clinical programmes, platform devices can be adapted with minimal lead time. As products move toward commercialisation, the same platform can scale up with higher volumes, added customisation.

Critically, this model supports both flexibility and compliance. It accommodates the technical demands of a broad range of biologics and the usability expectations of diverse patient populations, while adhering to evolving regulatory standards for combination products. Whether the need is for rapid prototyping or global commercial launch, Ypsomed's platform-based development ensures that delivery systems keep pace with pharmaceutical innovation.

Global Footprint and Industrial Scale: Manufacturing Without Compromise

Delivering innovative self-injection systems at scale requires more than platform flexibility. It demands industrial infrastructure that is global, resilient, and aligned with the operational needs of pharmaceutical partners. Ypsomed has built a manufacturing network designed precisely for this purpose, with production facilities in Switzerland, Germany, China, and soon the US, and a clear commitment to quality, redundancy, and supply chain robustness.

This geographic footprint offers multiple strategic advantages. It enables local-for-local manufacturing models that reduce logistics complexity. It supports dual-sourcing strategies that mitigate risk and improve business continuity. It ensures that capacity can be ramped up efficiently in response to growing demand, whether for high-volume commercial launches or regionally distributed clinical supply. All sites operate under harmonised quality systems and are fully compliant with international standards for medical device and combination product manufacturing. Vertical integration and customised manufacturing solutions with a high degree of automation further ensure control over key processes such as injection moulding, printing, assembly and packaging. For pharma and biotech companies navigating increasingly complex product pipelines and global distribution needs, Ypsomed's manufacturing capabilities provide a foundation of industrial reliability.

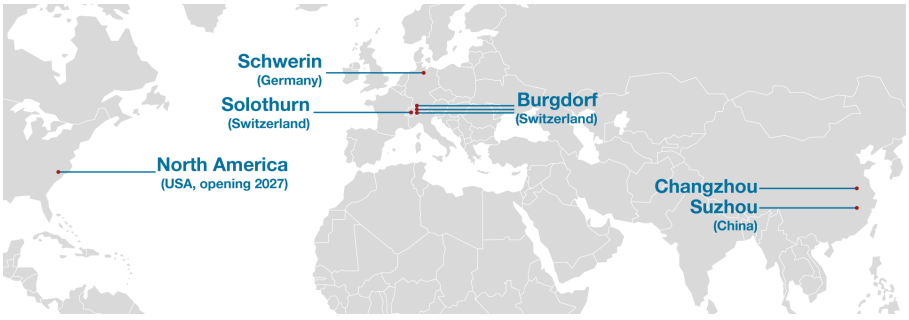

Figure 2: Ypsomed's manufacturing sites are strategically located to ensure global access and supply chain resilience

The ability to support everything from small-batch clinical runs to multi-million-unit global supply programs, without compromising quality or timelines, is a critical enabler of successful drug delivery strategies.

Enabling Partnerships Across the Lifecycle

Pharmaceutical and biotech companies require more than just a device supplier; they need a partner who understands the full scope of combination product development and can support it at every stage. Ypsomed has built its operating model around this need, offering flexible collaboration frameworks that adapt to both clinical and commercial requirements.

For early-stage programmes, Ypsomed provides ready-to-use platform solutions with short lead times, allowing developers to integrate self-injection systems quickly into clinical trials. These devices are designed to meet usability, safety, and regulatory expectations while minimising development overhead. This enables pharma teams to generate meaningful data on human factors and user handling without committing to full customisation upfront.

As programmes advance toward market readiness, Ypsomed supports the transition to commercial scale with responsive project management and support for industrialisation. Partners benefit from deep expertise in regulatory submissions, risk management, and device-specific quality systems, all critical elements for successful combination product approval.

Beyond technical execution, Ypsomed's approach is grounded in long-term collaboration. The company works closely with partners to align on project goals, manage lifecycle changes, and address emerging market needs – whether that involves introducing new container formats, adjusting to regional requirements, or incorporating optional features like connectivity.

This partnership model reflects the reality of modern drug development: timelines shift, product strategies evolve, and scalability must be built in from the start. Ypsomed's ability to support this dynamic process, through both flexible business engagement and robust technical delivery, has made it a trusted partner to pharma and biotech innovators worldwide.

Conclusion: The Future of Drug Delivery is Built on Platforms

The pharmaceutical industry continues to advance, from increasingly complex biologics to personalised therapies and decentralised care models. Now the importance of self-injection devices has never been greater. These systems are no longer just delivery tools; they are foundational components of a product's success, directly influencing patient experience and commercial performance.

Ypsomed has spent decades anticipating this shift. With a modular platform strategy, a globally scaled manufacturing network, and business models tailored to both early-stage and commercial needs, the company has positioned itself not only as a device innovator, but as a strategic enabler of drug development.

For pharma and biotech partners, this means more than access to best-in-class autoinjector platforms. It means a collaboration built around speed, reliability, scalability, and long-term adaptability. From initial evaluations to global product launches, Ypsomed supports the journey with technical depth, regulatory alignment, and industrial strength.

As drug development accelerates and delivery expectations grow, the industry needs partners that can deliver not just devices, but certainty. Ypsomed is ready.

Figure 3: Ypsomed's platform approach minimises risk, accelerates time-to-market and scales globally – from clinical trials to commercial launch

Philipp Richard

Philipp Richard has been with Ypsomed since 2009, holding various roles in product and key account management. With a background in electrical engineering from EPFL, he previously worked in contactless bearing technology. Since 2011, he has focused on platform-based and customised self-injection systems, managing projects from development to market launch. He supports Ypsomed's mission to advance next-generation drug delivery devices and digital therapy solutions.