

**Interview with Olivier Ludemann-Hombourger, Ph.D.
Global Director Innovation & Technology of PolyPeptide Group**



Q: Who are you?

PolyPeptide took the decision to create a new Global Position to lead Innovation and Technology and I got the opportunity and the trust of the Group to take this new role a few months ago.

I am a Process Engineer by education; I worked for more than 10 years as head of R&D in a CDMO/Engineering organization mainly focused on drug substance purification processes.

I have been involved in the peptide business for more than 10 years. I worked for seven years as General Director of the PolyPeptide site in Strasbourg and prior to that, I spent three years at our PolyPeptide Belgium site as Head of Operations.

Q: Why is PolyPeptide focusing on innovation? Why is it so important?

PolyPeptide is a recognized market leader. The manufacture of synthetic peptides is based on specific technologies developed over the last decades, in order to serve the growing demand of the market. Processes today are well established and able to serve the market demand. However, we are convinced that we cannot afford to be satisfied with the available solutions, and that we need to anticipate the future challenges to better serve our customer's needs.

There are major challenges in front of us: emerging therapeutic challenges like personalized therapy, improving the environmental impact of our processes, improving the robustness and performance of our processes to manage increasing quality standards, etc..

PolyPeptide intends to be the influencer and the leader of the future process development for peptide therapeutics.

Q: What are the focus areas for your innovation strategy? What are the innovation trends in the CMOs and pharma industry?

Our innovation program is both pragmatic and ambitious.

PolyPeptide's goal is to improve the existing technologies, but also to look at new ways of producing peptides.

Our strategy is focused on a single goal: serving our customers and offering the best solution for their needs.

The pharma industry is facing key challenges: control of the costs to manufacture more and more complex APIs, control of the quality to avoid any risk for the patients, control of the environmental impact, etc.... CDMO's must adapt their current practices to tackle those challenges. PolyPeptide is taking a leading position to set the future standard.

For example, PolyPeptide is strongly engaged to become the greenest peptide drug substance supplier in the market.

In the short term, all PolyPeptide sites are engaged in an ambitious program to reduce the global DMF (Dimethylformamide) consumption by more than 30% in 3 years, this is a shared global objective for the entire organization. In parallel, PolyPeptide is developing greener but also more efficient processes based on alternative solvents. In the long term, alternative disruptive technologies are also being investigated. One example is the development of mechanochemistry to further reduce the solvent consumption; PolyPeptide initiated an exclusive collaboration program with the research institute IBMM in Montpellier, France.

PolyPeptide is promoting a collaborative and open approach, through scientific publications and communications on the latest advancements. We recently joined the “ACS Green Chemistry Institute, Pharmaceutical roundtable”, sharing the value of this group to promote sustainable chemistry.

Another key area is related to Digitalization. PolyPeptide has a long experience in the development of automation and advanced control. Over the last years, efficient tools have been developed to improve the existing technologies. These tools are now deployed both in our development labs and in the manufacturing environment. The development in this area will clearly influence the manufacturing practices in the coming years. It will not only help to improve productivity, but also the quality by a better process control and reproducibility.

Process Modeling is also a valuable tool to assist the peptide chemist in his development. The practical experience in peptide & process chemistries, gained over the last decades is of high strategic value to our customers. New tools are developed to gather the gained expertise and to combine it with unique numerical models able to search for the best process with the fastest and most cost-effective development work.

We are continuously assessing new technologies and new practices, in order to answer the future challenges of the market. The development tools, the manufacturing process and the analytical tools must evolve to follow the new market challenges and PolyPeptide is clearly intending to lead these changes.

Q: How is innovation handled and implemented within the Group?

PolyPeptide is a multinational organization with several development and manufacturing sites around the world. This structure offers a unique flexibility to answer the market demand.

My role at PolyPeptide is to ensure the global coordination of our innovation programs from the initial assessment and feasibility study to the final deployment in production.

An innovation program is defined according to the global vision and strategy, together with the management of the Group and in close interaction with the Operations team. The research activity is supported by internal resources fully dedicated to innovation or by external collaborations, based on our strong international network. When the development of a new concept is completed, the deployment plan is defined across all sites, with global coordination, promoting interactions and secondments between the different teams. The innovation projects are a great source of motivation for our chemists and are excellent to cross-fertilize interaction in our organization.

Q: What is the added value to your customers?

Our customers are in the center of this strategy!

We promote close collaboration with a single common goal: ensure the success of any new development program, offering the most efficient service to serve the development strategy. We listen to the customer, to adapt the proposed services. Every demand is specific and we cannot afford to propose standard pre-established rigid solutions.

We enjoy complexity and the great challenges of the emerging market demands; our goal is to propose a broad toolbox and the best tools to solve any demand of the peptide market from the challenge of personalized therapy to the production of metric tons of APIs.

Q: What makes PolyPeptide unique? What is the innovative potential and capacity that you see in the Group?

PolyPeptide has a strong entrepreneurial culture and every site around the globe manages to offer the agility of a small entity with the support and the strength of a global organization.

We are promoting innovation in all positions of our organization. We also promote continuous improvement of the existing practices, involving the key strength of our Group: our employees and their unique expertise gathered over the last decades.