

Adisseo Takes Research and Innovation to the Next Level – INDUSTRY PERSPECTIVES

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Of course, keeping up with the rapidly changing pace of technological change requires serious commitment. For Adisseo, this has meant a total transformation of its Research and Innovation (R&I) activities. While the company has long prided itself on its science-based solutions, it has recently taken research and innovation to another level. As a result, compared with even ten years ago, its R&I team is significantly larger, has a wider geographic spread and a much broader research portfolio, and is more deeply networked with partners around the world. Today, we are joined by Jean-François Rous, EVP Research & Innovation at Adisseo, to better understand the company's big bet on innovation.

[Feedinfo] In what ways are research, development, and innovation different from when Adisseo first entered the animal nutrition space?

[Jean-François Rous] Adisseo, as a major animal nutrition company, has always been at the forefront of innovation and science in our industry, whether it is in the chemistry, nutrition, or animal health aspects of our business. In recent years, Adisseo has resolutely reinforced its ability to deliver innovative technologies to our customers in the form of new products, molecules, services, etc.

New technologies have transformed every aspect of the feed additive industry, from how they are deployed to how they are manufactured, all the way to how they are developed. New tools or practices such as high-throughput screening and digitalisation are allowing companies which can properly harness them to deliver better and more sustainable solutions.



Jean-François Rous
EVP Research & Innovation
Adisseo

Several of our innovations have indeed built off our core identity as a methionine manufacturer. For example, we are a leader in the ruminants' category thanks to our intensive work on rumen-protected additives (our SmartLine™ portfolio), and have brought to the industry Selisseo®, a hydroxy-selenomethionine (OH-SeMet) which serves as a selenium source to help fight oxidative stress.

The major shift in recent times is toward much more specialties-oriented solutions, such as Rovabio®, our enzymes line, or Alterion®, our probiotic. Acquisitions have also played an important role in our evolving R&I priorities, as we have added palatability solutions, aqua products, and mycotoxin management products to our line-up, and correspondingly grown our expertise.

Besides this, Adisseo is strengthening its value to customers through a range of nutrition services and tools whose mission is to find the best way to achieve expected performance. This involves exploring the variability of your raw materials with PNE (Precise Nutrition Evaluation), formulating with analytical data enriched with ADICT (a calculator which transforms your analytical results into nutritional values), controlling these real energy needs using NESTOR, or even predicting and then managing the effects of mycotoxins with MYCOMAN.

[Feedinfo] Can you talk about the specific investments, capabilities, or R&I programmes which are helping Adisseo remain at the cutting edge of innovation in the animal nutrition space?

[Jean-François Rous] We are well aware of the need to develop innovative and competitive technologies to face the challenges of animal nutrition. Our goal is to be at the forefront of innovation, and to promote the fruits of that research in order to get promising technology into the hands of those who can use it.

Expenditure on R&I at Adisseo represents 3.6% of its revenues and has doubled in 5 years in volume. Over the last four years, we have set up four new Research Centers:

- Research station for aquaculture (ASA) in Singapore
- International Research Center (RICA) for analytics, biotechnology, process chemistry, process engineering & nutrition in Nanjing, China
- European Research Center (ELISE) for analytics, nutrition, process chemistry & process engineering in Saint-Fons, France
- Formulation Research Center (CAPSULAE) at La Rochelle, France.

All of these complement our existing Biotechnology Center (CINABIO) in Toulouse, France and our monogastric Research Station (CERN) in Malicorne, France.

These sizeable investments show Adisseo's strong commitment to establishing research teams under the best conditions to successfully meet the industry's challenges.

Moreover, I think it is also important to mention that Adisseo is investing not just in its own capabilities, but also in the general interest, with the Adisseo Research Grant, which finances early-stage innovations at the university research level, to support constant innovation. Under this framework, nearly two million euros were distributed over three years to five collaborative projects.

[Feedinfo] What is Advancia, and what role does Advancia play in helping Adisseo progress on the practical issues faced by the animal protein industry?

[Jean-François Rous] Adisseo aims to play a key role in supporting the development of science and innovation in our industry. For more than 15 years, Advancia events have been one of our key contributions to developing collective knowledge and spreading innovations in the market. Every year, we invite the scientific community to share its new insight with customers and Adisseo peers, and to benefit from collaboration in roundtables and workshops.

[Feedinfo] What does it mean to have science-backed innovation? Tell me about the processes Adisseo uses to demonstrate the value that its innovative solutions can provide in a particular animal production context.

[Jean-François Rous] Adisseo has its own test facilities research station for monogastric (CERN) and for aquaculture (ASA) where we do continuously develop our knowledge and specific protocols based on rigorous scientific

approaches in line with the development of understanding within the industry. We also rely on several partners around the world to locally test and confirm the performance of these new products.

Indeed, Adisseo is committed to extensively testing each product before submitting its dossier for market launch. Trials are done in different environments, either within Adisseo's own research stations or externally (partnerships with universities, institutes, etc.)

[Feedinfo] Can you give any examples of how partnerships - with customers, industry experts and key opinion leaders, or research institutions - have helped amplify the research and innovation efforts of Adisseo and improved the final products brought to market?

[Jean-François Rous] As an example, in 2023, Adisseo published a scientific review on net energy formulation along with Dr. Pairat's team from Charoen Pokphand (CP), as well as the highly recognized subject-matter expert, Dr. Jean Noblet from INRAE.

Moreover, Adisseo has recently signed a new partnership with Prof. Li Defa from the Ministry of Agriculture Feed Industry Centre (MAFIC), an eminent swine nutrition specialist and member of the Chinese Academy of Engineering. Indeed, this is just the latest of the many partnerships with different well-renowned experts around the world, spanning different parts of our portfolio. Other key opinion leaders we are working with include Prof. Peter Surai from Vitagene and Health Research Centre (UK) to support Selisseo®, Prof. Mike Kidd from Arkansas University on feed digestibility, as well as many scientists from INRAE, Wageningen, Schothorst Feed Research, and several others.

To amplify our scientific reach, Adisseo takes pride in sharing scientific content among the industry. In 2023, over a hundred contributions were shared during scientific congresses (abstracts, posters, presentations, etc.) These can be viewed here. <https://www.adisseo.com/en/the-adisseo-way-innovation/#booklet>

[[Feedinfo] Why does Adisseo believe that high levels of investment in R&I are worthwhile? What are some of the most important challenges you are dedicated to helping address?

[Jean-François Rous] Our research teams have grown and diversified over the years, and in 10 years we have gone from 30 people, based mainly in France, to almost +300 people spread all over the world. Today, the department brings together the expertise in analytics, biotechnology, process chemistry, process engineering, formulation process (encapsulation), and nutrition (monogastrics, dairy & aqua). It is a truly international organization with two large research platforms in China and in France, as well as two internal research stations for monogastrics (France) and for aqua (Singapore). Finally, it includes two transversal structures with the Applied Nutrition & Feed technology department and the Innov'l@b.

But because you cannot go as far on your own as you can with others, Adisseo works cross-functionally with an international scope. In collaboration with our customers, research partnerships (universities, institutions, associations, etc.) and our strategic partners (Syensqo, Innov'ia, Technip etc.). To innovate further and faster, Research & Innovation has structured its assets and working methods around multiple collaborations.

From ongoing research projects on new products and manufacturing processes to nearly 400 active patents and the sharing of science at scientific conferences, Adisseo is unquestionably committed to innovation in the animal health and nutrition sector.

[Feedinfo] Is it possible to give any sort of sneak peek at what your R&I teams are focusing on in 2024? What are the most exciting areas where we should expect papers and trials from Adisseo's R&I team?

[Jean-François Rous] I'd say the most important one is sustainability of our processes, as well as research focusing on the impact of our products when used.

Adisseo is of course engaged in reaching carbon neutrality by 2050 as per the Paris accord, and therefore has the ambition to go further, along with its technology partners, on finding potentially disruptive solutions to do so. For example, a new project will include innovative downstream technologies to improve the sustainability of powder methionine.

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