Dairy products

Tasting the future OF FOOD AND BEVERAGE

We all have that one favourite food or drink item. Every time you open that bottle, or tear open that packet, you expect that item to look, smell and taste a particular way. Alpha MOS is the leading provider of the technology that ensures that that item is exactly as you expect it to be, every single time. Pierre Sbabo, CEO of Alpha MOS, spoke to Richard Hagan about the role played by the company's proprietary food and beverage testing technology.

Edible oils and fat products

Bakery products

HERACLES Electronic Nose (Alpha MOS)

Listed on the Euronext stock exchange, Alpha MOS was established in 1992 in Toulouse, France, with the invention of the world's first electronic nose ('e-nose') entering the market a year later. For the past 29 years, the company has been investing heavily in further research and development which not only cemented its position as the global leader in e-noses, but also yielded its electronic taster known as ASTREE, and IRIS – which handles colour and shape analysis.

By 2017 the company experienced a change of ownership in which two major investors took over Alpha MOS. It also increased its focus on the food and beverage industry at that point.

Today, Alpha MOS is regarded as an industry-frontrunner in sensory analysis solutions and is a global leader of smell, taste and visual industrial analysers. It has installed more than 1,200 instruments worldwide across the food, beverage and packaging industries.

Pierre Sbabo took over leadership of the company in January 2020, shortly before the coronavirus pandemic hit. He immediately set about implementing an aggressive marketing strategy that would see heavy investment in new products and services that fully utilised the small but nimble company's full resources.

Fast, flexible corporate structure

Alpha MOS has its headquarters in its birthplace of Toulouse, with satellite laboratory offices in Baltimore in the US, and in Shanghai, China. With 35 staff in France and eight at each of the two remote offices, the company is relatively small from a staffing standpoint. However, according to Mr Sbabo, this is far from a hindrance.

"All three of our locations have lab facilities that allow us to run tests with our customers. This is important because when they approach us, prior to appointment, they want proof of concept. So they'll send us samples, we'll conduct the tests with them and show them how it all works. At each location we have commercial, technical and sales staff, and backing them up is a broad network of approved distributors globally," he said.

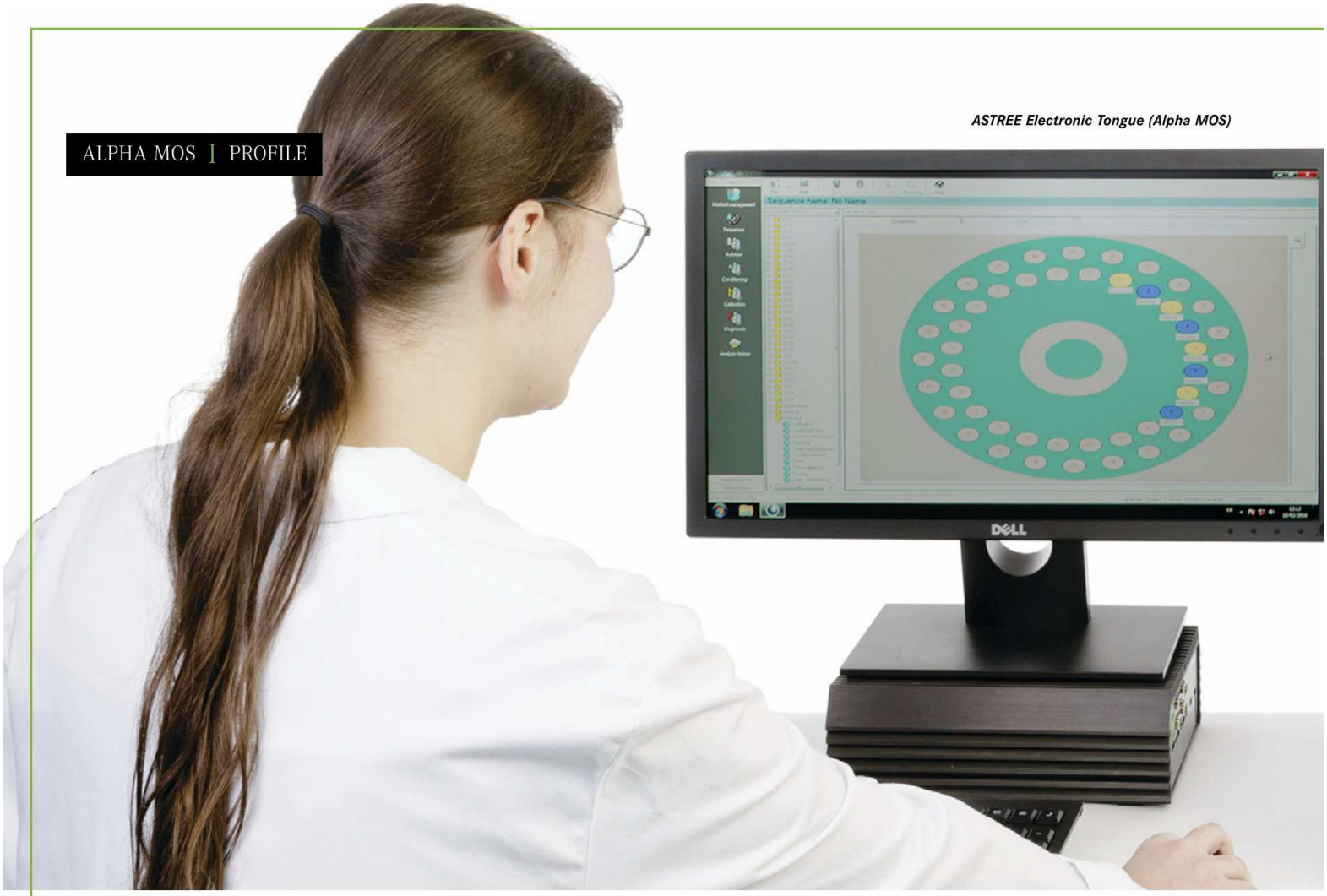
The company's aggressive marketing strategy since early 2020 has paid off: "In the first half of 2021, our business doubled versus the same period last year," noted Mr Sbabo.

While Alpha MOS has some business in cosmetics, its primary focus is on the food and beverage industry. "This laser-like focus has been key to our success in food and beverage in terms of understanding what applications really deliver value to our customers," Mr Sbabo noted.

Those applications are in equal parts both fascinating and impressive

Improving human senses with AI

Mr Sbabo was clear on the company's offering. "We bring technology to our customers based on AI that mimics, replaces and improves human senses. There used to be taste testers doing this job every day, but our instruments are faster, more precise, and



ASTREE Electronic Tongue (Alpha MOS)

can run 24 hours a day. So we really deliver a bandwidth to our customers, many of whom are amongst the top 100 food and beverage companies in the world."

The intention, however, is not to try and replace humans completely, clarified Mr Sbabo: "We're just augmenting their capacity."

He added: "In the end, people are buying and consuming the products, so you still want humans to taste and test the items at some point. The human testers just don't have the bandwidth to cope with the total global demand for tasting. One e-nose does the work of ten human testers 24 hours a day, and with complete precision. Humans can then be used as a safety net after that point – either for testing new products off the production line, or as a general precaution."

According to Mr Sbabo, the smell of an item is vital for the customer's enjoyment of that product, and this has driven the company's e-nose to be its best-selling product.

"Our electronic nose is our most popular product. It replaces human testers for both the smell and taste of products. It's crucial for companies to get the smell, in particular, right, because a large part of the taste you experience comes from your nose," he said.

The company offers testing at both ends of the production line.

"The key applications for the e-nose would be quality control at the end of the production line, for example ensuring that Coke Zero tastes and smells the way that it should. But we also help customers upstream, for example by checking that raw ingredients and raw materials are correct and within specification. We also help them create new products faster, with a higher rate of consumer success."

As with any technology, the success of Alpha MOS's e-nose and its other devices, is driven by the information inputted into it and in this sense, the company has an advantage over its competitors.

"We have the hardware but also the AI tools, the statistical analysis tools and most of all, a giant database of chemical and sensory compounds," listed Mr Sbabo. "We have over 100,000 chemical and/or sensory attributes in that database, which we're constantly adding to as a result of our studies.

"While we have a few competitors, and though it's still an emerging industry, we're clearly the technology leader. Nobody else has our 30 years of research."

Sustainable testing for the future

As a tech company, Alpha MOS is keenly aware of the relevance that comes from constant market research, product research, and customer feedback.

"We spend a lot of money on research and development to ensure that we have the knowledge, products and services to cover our customers' needs," Mr Sbabo continued. "We also do quite a bit of work on marketing and we watch the consumer front very closely because in the end, changes in consumer trends will dictate the direction that our business takes."

Consumers are also increasingly demanding more sustainable and/or plant-based food options and the food industry is listening.

"Customers approach us with needs, like having to make a product greener, or more sustainable, or that it must be plant-based with no meat. We then do the tests with them and through that, we learn a lot," he said.

But with all of these demands on the food producers for new products, there's an issue: a shortage of taste testing capacity.

Mr Sbabo explained: "Over the past ten years, the rate of requests for new products from consumers has more than doubled; in fact, in some segments it could have climbed by as much as five times its original rate. Consumers want plant-protein based steaks, for example, and food companies must then adjust because that's where they make money.

"But they have an issue – there are not enough tasters for all of those new products. And a human cannot professionally test so many products in a day. A person can't test a steak, and then ketchup, and then a soda and then cookies. It just doesn't work. That's where our testing equipment delivers real value."

The taste of a food or beverage item is determined not only by its production, but by its packaging too, and Alpha MOS is able to deliver solutions to ensure that packaging is within specification.

"We do lots of business with packaging companies who are trying to improve the recyclability of their plastics. All of the food producers require the packaging to be 100% recyclable. It's a trend; consumers want to see it happen. But when you use recycled plastic, it can leave the food with a smell, so it's actually a big market for us to test the plastic and ensure that it won't alter the taste of the food products that they're protecting."

Alpha MOS is adamant that it has a role of growing importance to play in the future of food.

"We're very optimistic. The AI support-to-human trend is only going to grow, and the food and beverage industry has accepted that. We intend to remain fast and nimble enough to continue to adjust to changes in our industry in the food and beverage segment because it's only going to accelerate," concluded Mr Sbabo. ■