Antelliq's role as a first-mover in technology gives it significant advantage

03 Sep 2019
INTERVIEWS

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Earlier in 2019, Merck Animal Health gained the digital technology expertise of Antelliq through the largest deal to date in this emerging part of the industry. Animal Pharm editor Joseph Harvey spoke to Eli Kamhine – chief technology officer of Antelliq Innovation Center – about the major differentiators for companies in the digital animal health arena.

Eli Kamhine is a prime example of a new type of expert that is being attracted to the animal health industry.

With the uptake of more digital technologies on farms and by pet owners, animal health companies are increasingly stepping outside their usual realm of capabilities by adding people with backgrounds not usually associated with the veterinary medicine world.

Via a multi-billion-dollar acquisition, Merck Animal Health now has a whole new operating unit comprising tech-focused backgrounds.

Mr Kamhine spent over 25 years working in the telecommunications industry for both start-ups and large corporations. He first entered the wider animal health sector when he joined SCR – an Israeli dairy monitoring company that was acquired by Allflex (the precursor to Antelliq before a rebrand last year).

"After many years on connecting people to people, over the last six years I've worked for Antelliq – connecting animals to people," he told *Animal Pharm*. "So, I've been transferring insight into an emerging animal health space."

The growing importance of this sector was strongly underlined when Merck acquired Antelliq. Mr Kamhine said one of the key characteristics that attracted Merck to Antelliq was the latter's scale, experience across all species and leadership – it is the largest business of its type in the digital animal health sphere.

"Originally, Allflex had strong innovation related to identification technology," he explained. "But Allflex's success was beyond innovation. It had very good operational capabilities and a lot of automation in its production – making half a billion tags a year is a tough exercise. The combination of SCR – identification with monitoring – produced real-time actionable data and insights for the farmers.

"There is a very strong need to improve productivity and efficiency, and to get everybody better connected. The key to that is primarily digital technology. We will need: sensors to know what's going on; the internet-of-things to deal with connectivity; algorithms to capture and extract insights into animal activity, animal behavior, feeding management and disease detection; and machine learning and artificial intelligence to make sense of all these datapoints that are collected.

"In livestock, it takes a really large and long-term investment to create a scalable technology or platform. It's not just a tag or an algorithm, it's the whole process of

analytical tools and data analysis across multiple disciplines. You need to offer an end-to-end solution because the farmers don't care so much about technology but about actionable outcomes that can improve their work and the health and wellbeing of the animals.

"You will find a lot of different sensors and different types of equipment and mobile applications in our portfolio for livestock – a full span of products that enable the outcomes. This is our key advantage because we have been in the market for so many years and we have developed a depth of experience and knowledge in these capabilities.

"A newcomer can come along with a nice sensor or a part of this puzzle but the scale only comes from having all of these parts working together seamlessly."

In fact, the company's Biomark aquaculture brand tracks millions of migratory fish patterns at over 1,000 aqua monitoring stations – including tagging 20,000 sea turtles.

Eli Kamhine: "A newcomer can come along with a nice sensor or part of this puzzle but the scale only comes from having all these parts working together seamlessly."

"When you look at companion animals, it is a different philosophy. The main idea here is putting one, two or three animals you have at the center of all these connected devices. With our Sure Petcare brand, you may have a connected door flap, a connected feeder and an activity/behavior monitor – all of these are helping the pet owner not only have a much better connection with their pet but it also improves the pet's health and lifestyle. We track about 150,000 behavioral events in pets every day."

Mr Kamhine suggested pet owners will get used to having multiple devices in their home. As this familiarity grows, so does the benefits of the technology and the pet owners' desire to install more.

Mutual benefits

Mr Kamhine said there is a notable mutual benefit behind the Merck transaction. Despite having the same target customers – farmers, veterinarians, producers, nutritionists and pet owners – the two firms have complementary portfolios with no overlap.

He added: "Even with the sensors we have today and the data we already collect now, combined with the advanced state-of-the-art artificial intelligence, the market is immense. Now, we are teaming up with Merck – with its pharmaceuticals, vaccines and scientific methodologies – it's a big jump for us going forward. I have no doubt this market will continue to evolve very rapidly and even accelerate."

The customers of both companies now receive access to a combined offering of products, services, deep technical expertise, experience across all species, strong technology capabilities, large amounts of animal activity and outcomes data, R&D trial capability, proven algorithms and applications.

The Merck acquisition will help Antelliq accelerate R&D for new products and services, Mr Kamhine said. While it was already a global company, the Merck deal will also allow Antelliq to expand its geographic sales horizons.

Animal understanding and infrastructure

Another aspect of Antelliq that sets it aside from other technology companies targeting animal health is its deep knowledge of the industry.

"The algorithm is key for us," Mr Kamhine explained. "Many companies are working on algorithms and machine learning techniques but, in our industry, it's even more complex because you are dealing with living creatures. So, it's about the ability to combine the physiological and behavioral understanding of the animal with the mathematical models, machine learning and artificial intelligence to make sense of all these data points that we

collect. This requires a lot of competence and vast access to different types of farms in order to collect quality data. This kind of infrastructure is hard to do, while providing value across the entire ecosystem."

He predicted the speed of which digital technologies are adopted across both livestock and companion animal sectors will continue to accelerate. This will see an increasing number of new players in this space – particularly start-ups.

"Start-ups have two huge challenges," Mr Kamhine warned. "The first movers – like Antelliq – are starting at a better point to get to the scale and the rich functionality we have today. It is hard to set up all the routes to market, with so many partners and resellers. The second thing is the up-front investment to get the full working, reliable and scalable system or platform. This is something start-ups will find hard to fund.

"Some of these start-ups will gain some traction but there is a glass ceiling they find hard to break. We've been in the market for so many years and we have all these partnerships in place. So, it's much easier for us to accelerate and Merck will support this."

Do not rule any type of technology out

Mr Kamhine continued: "Maybe 50 years ago, there would be a farmer with 30 cows and they would know each one by name. There wasn't much need for technology back then. Perhaps that farm was in a family and now the owners want to enjoy life and have workers running the farm for them.

"We've also seen farm consolidation. It's very hard to keep a 30-cow farm highly profitable. It is easier with 100 or 150 cows. It's becoming more complex and, at a higher scale, technology becomes critical – you can't work without it.

"When I visit farms, I sometimes ask the farmers what they would do if I took out our system. They never say they would go back to watching their animals to see if they are sick. They usually say they would buy one of our competitor's technology. So, it has become obvious to farmers' they need the technology."

In terms of the future development of the digital animal sector, Mr Kamhine said – like most other technology industries – the goal is richer functionality, cheaper and smaller products.

He also said: "I think the next step for the industry is utilizing the data we collect. We are analyzing a huge amount of data that is being collected among millions of cows, fish or pets. When you add additional sources of information and partnering with others, you are able to provide value not only to the farmer or the nutritionist but to the whole ecosystem.

"Our customers today are primarily the farmers but now you can imagine genetics companies, artificial intelligence companies, governments, institutes, national databases, meat and dairy retailers and distributors, animal nutrition companies are all interested too. We play the pivot in all of this because the data is coming from us 24/7."

He said Antelliq currently has around 5.5 million cows in its databases. Of these, about 1.5 million provide data every several hours. Mr Kamhine said Antelliq follows the legal and compliance frameworks that allow all stakeholders to benefit from the value of this type of data.

He added: "There is a huge trend towards the Internet-of-Things and connectivity, more effective sensors, artificial intelligence, computer vision and augmented reality. These are the same types of technology everyone in other markets is talking about and can be applicable to this market. There is no need to rule any of them out – 10 years ahead, these technologies could be in our portfolio."

Antelliq is making sure its customers are not overwhelmed by this influx of technology by investing in the integration of its technology with third-party systems such as standard health management systems and national databases.

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