

Connected cows join the internet of things

- **Business needs** – Better ways to monitor dairy cow health and increase farms' operational efficiency.
- **Networking solution** – Dairy cows swallow smart sensors that provide farmers with data on their inner body temperature, rumination, drinking cycles, and movement.
- **Business value** – Healthier dairy cows, well managed farms, reduced bills, and optimized production.
- **Industry focus** – Technology
- **Size** – 200,000 connected dairy cows

About smaXtec, Inc.

smaXtec is a proven solution that helps dairy farmers better understand their cows. With smaXtec sensors, dairy farmers can easily monitor their animals' health, reproduction, and feeding management. The company currently monitors 200,000 dairy cows worldwide with a goal to reach 1 million connected cows within the next few years.

The situation

After achieving success in their home country of Austria, smaXtec founders began marketing their solution to other European countries, creating interest from dairy farmers across the globe. International expansion required a reliable connectivity provider with global reach and deep Internet of Things (IoT) experience to power smaXtec's innovative devices.

Solution

smaXtec chose AT&T Business to enable its smart sensors in the United States and other parts of the world. Highly reliable AT&T connectivity lets farmers easily monitor the health of their herds and helps them calculate the best time to inseminate the animals. It also informs them when calves are about to be born, enabling the farmer to monitor the process and intervene if necessary to support the safe arrival of a healthy animal. Farmers can access this valuable information about their herds and get recommendations in real time with their computers or by using the smaXtec cellphone app.

Smart technology delivers valuable information

smaXtec gives dairy farmers a unique and secure system that sets a new standard in early detection of their animals' health, reproduction, and feeding management. The company name comes from the intersection of the words "smart" and "technology," and the X stands for the crossover of two disciplines, which company founders consider the basis of smaXtec's success.

"The company began as a university project to give farmers information at each stage of the animals' lives," said smaXtec Chief Marketing Officer Maria Leitner. "Our founders developed the bolus that the cow can swallow effortlessly. The device does an amazing job of measuring the temperature, activity, and rumination of the cow and provides data in real time."

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Chief Marketing Officer
smaXtec, Inc.

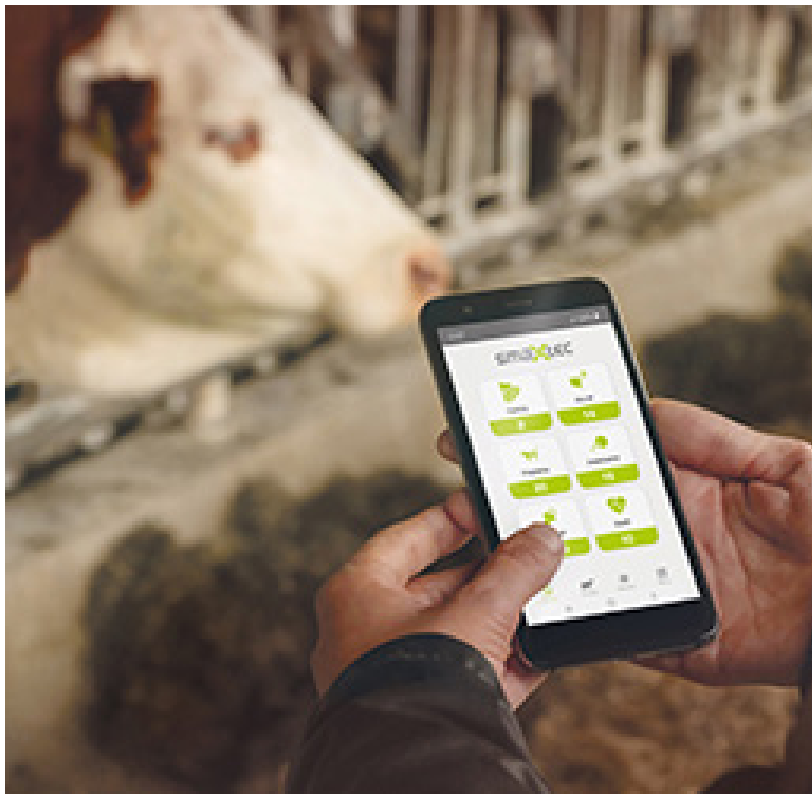
The sensor remains in the first of the cow's multiple stomachs. "The smaXtec device uses its proven algorithms and AI applications to analyze data and transform it to valuable recommendations for action," Leitner said.

Farmers can access the clearly structured information and to-do lists on their smartphones and computers to learn exactly what's going on with each cow, as well as with the whole herd. "Our alarms are the earliest possible health indicators in dairy cows," Leitner said. "We detect diseases up to four days before clinical signs. Farmers can act earlier than ever before to preserve the health of their livestock. They can treat the cow with low-impact medicine rather than antibiotics."

Farmers try to limit the use of antibiotics, because prescribing them means the cow must be removed from the production process. Before it can return to the herd, the cow must be certified as safe by a veterinarian.

Improving farmers' quality of life

Predicting when calves will arrive is another big benefit of the smaXtec solution. The sensor alerts the farmer when the cow's temperature decreases, which signals that calving is imminent. "Our system will send an alarm to the farmer on an average of 15 hours before calving," Leitner said. "This gives the farmer time to separate the cow from the herd. Because of the lead time, it's a very calm process, and the cow has enough time and space to prepare for the birth. The farmer can intervene in case of emergency and reduce risks for cow and calf."



A better life for cows

As helpful as smaXtec has been to farmers, Leitner is more impressed with the benefits it delivers to cows. She is a seasoned marketing officer who spent much of her career providing limited-term consultations to corporations. Leitner originally agreed to a short-term engagement at smaXtec but found the work so rewarding that she has stayed with the company.

“Every day I can help cows worldwide to have better welfare—a higher quality of life,” Leitner said. “I also feel that I help farmers worldwide with the pressure they have every day in being responsible for the well-being of these animals as

they produce quality products for the population. It’s fun to work for a company that makes things more sustainable and more profitable. I always feel like we only have wins.”

The sensor also eliminates the need for farmers to check pregnant cows every two hours, day and night, for up to two weeks before the birth. “Farmers have told us that our system has absolutely changed their quality of life,” Leitner added.

smaXtec also lets farmers know cows’ optimal insemination window. “Reproduction management is a vital indicator or tool regarding farm profitability,” Leitner said. “The solution has helped the farmers to increase their profitability and manage their farms in a very tight manner.”

Digitization is nothing new in agriculture, but it has mostly been used with crops. “You can digitize crop farming quite easily, but we work with living animals,” Leitner said. “And our goal is to make this living creature better understood, so farmers can provide the conditions that give it a better life.”

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Worldwide connectivity for new markets

As smaXtec’s success in Austria led to quick growth in European countries, officials began planning to expand into other parts of the world. Leitner said the company’s success in Germany led officials to begin moving into the U.S. market. “We have seen similarities between the German and American way of farming,” she said. “With the American dairy market feeding such a big population, it was clear to us that this was a step for us to take.”

In Europe smaXtec used different local providers to deliver the connectivity its sensors required. As it planned to move to the United States, New Zealand, Australia, and other markets, the company was intent on working with a single provider that could deliver the worldwide connectivity it needed.

After completing a comprehensive appraisal of available carriers, smaXtec chose AT&T Business to deliver the robust and highly reliable connectivity its groundbreaking sensors deserved. “We always do due diligence on the companies or suppliers that we work with,” Leitner said. “We found that AT&T had the combination of really good coverage in the areas we needed, good service, and a commitment to the market. That led us to feel that AT&T Business is a quality provider that we can work with long term.”

Simple deployments, proactive support

Leitner credits the far-reaching experience of AT&T Business with the Internet of Things (IoT), making the deployments simple and easy. “The consumers of our product already have trust in AT&T,” she said. “Everyone knows AT&T Business provides good, customer-centric service.”

The AT&T Business account team that serves smaXtec provides excellent, proactive support, according to Leitner. “Every time we call there is a fast and buttoned-up response,” Leitner said. “It’s been amazing. It’s been a premium work relationship.”

She expects that the relationship with AT&T Business will help smaXtec continue to grow. “The collaboration has definitely helped us deliver our solution on a global scale—something we could not have done without AT&T Business.”



Working with AT&T Business has helped smaXtec spread the word about its product faster and to a larger audience. “Consumers learn about our product faster—and adopt it sooner,” Leitner said. “We must have fast connections to our farmers and the cows because we collect knowledge that we then provide back to the farmer to optimize their daily work.”

smaXtec compares and shares relevant data to farmers around the world. “If there’s a herd or individual cow health event in New Zealand, we compare it to the events in all the other countries,” Leitner said. “And then we make sure that other dairy farmers get that knowledge. That requires a company that connects us to all those different countries.”

The company is well on its way to making farmers’ lives easier and their farm business more profitable while improving the welfare of their animals through the smart use of data.