

smaXtec - Cow Monitoring Technology



Name of the Organisations Involved

• smaXtec animal care GmbH, Austria (Headquarters)

Challenges Identified

Farmers face a myriad of challenges that significantly impact the health, productivity, and overall wellbeing of their cow herds. One of the primary concerns is the early detection of diseases among cows. Identifying health issues at their inception is crucial for preventing the escalation of diseases and minimizing their impact on farm operations. The conventional approach often falls short in providing timely alerts, resulting in severe courses of diseases and potential economic losses for farmers.

Moreover, the overuse of antibiotics poses a considerable problem in the industry. Excessive antibiotic usage not only raises concerns about the health of the animals but also contributes to escalating treatment costs. Farmers grapple with the need for a more sustainable and proactive approach to managing cow health that minimizes the reliance on antibiotics while maintaining optimal herd performance.

Reproductive success presents another significant challenge in dairy farming. The subtile signs of heat in cows, coupled with variations in behaviour, make it difficult for farmers to pinpoint the ideal time for insemination. Missed heats can incur substantial costs, both in terms of reduced pregnancy rates and increased insemination expenses. This challenge calls for a solution that enhances the accuracy of heat detection and improves overall reproductive efficiency.

In essence, the interconnected challenges in dairy farming revolve around the timely detection of health issues, sustainable disease management as well as optimizing reproductive and calving processes. Addressing these challenges requires innovative technologies, such as smaXtec's, that provide continuous monitoring, early alerts, and comprehensive data sharing to empower farmers in making informed decisions for the well-being of their herds and the sustainability of their operations.

Goals and Solution

smaXtec's primary goals in dairy farming technology are to proactively manage the health of cow herds. This involves early disease detection, reducing the severity of illnesses and minimizing antibiotic use. The technology aims to optimize reproductive success by precisely identifying the ideal times for insemination, resulting in shorter calving intervals and improved fertility rates. Early calving detection ensures timely support during and after birthing, while comprehensive data sharing with veterinarians provides a holistic view of cow health for effective treatment and monitoring.

Overall, smaXtec seeks to enhance the well-being of dairy herds and promote sustainable practices in cow farming.

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Short description of the technology and the beneficiaries

smaXtec's cow health system is a transformative technology for global dairy farmers, offering valuable insights directly from within their herds. At the core of this innovation is the *smaXtec bolus technology*, a small and advanced device that is ingested by the cows. This bolus, equipped with sensors, continuously measures the inner body temperature of the cows. What sets it apart is its connection to the internet, allowing for real-time data transmission and providing continuous insights into the health and well-being of each individual cow. This connectivity enables farmers to receive instant alerts and updates, ensuring early response to emerging issues and contributing to reduced disease severity. The smaXtec bolus empowers dairy farmers with a reliable and efficient tool for making informed decisions based on scientific data, ultimately elevating the overall health, reproduction, and performance of their herds.



Actions Taken

By using a smart and connected bolus technology, smaXtec tackles dairy farming challenges by providing real-time, internet-connected insights into cow health. This enables early disease detection, minimizes antibiotic use, optimizes reproductive success, and enhances overall herd well-being, empowering farmers with proactive, data-driven decision-making for sustainable and productive farming.

Benefits and Impact

- 24/7 monitoring of cows' health
- Early detection of health problems
- Recommended actions in case of need via artificial intelligence
- Optimized herd health
- Monitoring of recovery
- Improved cow fertility
- Calving detection & monitoring
- Feeding optimization

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Contact Information

Website: www.smaxtec.com

smaXtec animal care GmbH (Headqurter)

Sandgasse 36/2, 8010 Graz, Austria T +43 316 46 15 88 Email: <u>info@smaXtec.com</u>

smaXtec Limited

4 Michael Street, Limerick, V94 V184, Ireland T +353 61 410 879

smaXtec GmbH

Salzburger Straße 10, 83404 Ainring, Germany T +49 6021 43 763 0

smaXtec AG

Kantonsstrasse 35, 8807 Freienbach/SZ, Switzerland T +41 (0) 55 560 11 00

Prepared by

Mihail Stanev (INI-Novation GmbH)

Application Area

 Digital Technology in the Value Chain

 Image: Agromonic Services
 Image: Agricultural Input and Services

Digital Technologies ⊠ IoT ⊠ Sensors

Sensors Artificial Intelligence

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