AntTail delivers more effective medicine, with Vodafone IoT

AntTail is a Ready Business

Vodafone
Power to you

Strengthening the weakest link in the pharmaceutical supply chain

Pharmaceutical supply chains are typically long and fragmented – making medication vulnerable to temperature variation. Current temperature monitoring systems only deliver part of the puzzle. The full view from manufacturing to patient is not available.

AntTail has a solution for the weakest link in the chain: the last mile. It is helping make medicines more effective, and improving patient health in the process.

The challenge

Closing a gap in the last mile of the pharmaceutical supply chain

The pharmaceutical industry has a problem. It has a problem with patients.

Despite the best efforts of doctors and pharmacists, as much as one third of medication is corrupted by the time it is used. The poor storage of temperature-sensitive medicine makes it less effective. This is partly an issue with supply chain – it is not unusual for medicines to see as many as 30 handovers on their way from factory to warehouse to patient, but it is also an issue with patients. Many fail to store their medicines correctly.

"The biggest problem is with the last mile," says Mark Roemers, CEO and Founder of AntTail, "From the pharmacist to the patient. Patients know they have to store their medication in the fridge, but they are not always as rigorous as they should be."

Recent research with the University of Maastricht suggests less than 10% of medicines are being stored correctly. A further 10% was stored so poorly as to render it useless.

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"This has a huge cost to insurance companies and to patients," says Roemers. "The patient may think they're storing the medicine correctly, when in fact they've been injecting ineffective medicine for the last six months. And doctors will have no idea why the medicine is not working."

In a heavily regulated industry, with lives at stake, this situation is intolerable. "The pharmaceutical industry is governed by quality," says Roemers. "They will spend money on quality issues and compliance because the risks of not doing so are huge. There were big questions around gaps in the supply chain, and no answers. AntTail wanted a solution to this."

For Roemers, the opportunity lies in fixing the last mile. AntTail is the product of more than 10 years' experience in the remote monitoring business. It was created to fix this specific problem within the pharmaceutical industry.

The AntTail solution is to attach a 6cm x 2cm sensor to the medicine's packaging. This sensor can detect changes in temperature, movement and light.

To work, Roemers needed a connectivity platform capable of delivering a robust network, with the means to scale quickly. He wanted to allow patients, pharmacists and logistics customers to access and interpret the sensors' data, from anywhere. He also needed the price consistency to plan a commercial roll-out across Europe.

The solution

Robust coverage with the means to scale quickly

AntTail uses Vodafone's Managed IoT Connectivity Platform. "I've worked with Vodafone since 2003," says Roemers, "It was an obvious choice. Not many companies can provide coverage from Norway to Southern Spain and across to Russia. Our idea was never going to stay local."

AntTail

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The Vodafone Managed IoT Connectivity Platform allows AntTail to install the SIM during production, to be activated by customers as required. "AntTail sensors monitor medicines and send alerts," says Roemers. "If the temperature deviates, the pharmacist is notified. They can then call the patient or send new medicine."

Above all, he continues, it is a business analytics tool. "We are sitting on a rich source of data. Logistics companies can track a package throughout the supply chain and meet any compliance issues. Doctors can see when patients take the medicine. There is a huge amount of data to analyse, and the Vodafone platform allows us to create cloud-based access for different types of user.

"We're in a position to design innovative solutions for our customers based on the strengths of the wireless capabilities of our sensors and flexibility of the back-office. Everything is securely hosted in the AntTail cloud. Local software, local storage and docking stations we do without thanks to our cloud infrastructure."

Initial trials suggest the AntTail solution is working. "We've been working with 100 patients and, so far we have completed over 700 shipments," says Roemers. "From a 10% success rate to 90%, that's not bad. We are still working to improve the last 10%."

AntTail has 4,000 SIMs on order for the Netherlands. Roemers says he has received interest from seven other European markets including Germany who would require 20,000-plus SIMs.

"We have everything we need to grow the business. We use Amazon to store the data and Vodafone IoT for the SIMs and the platform," Roemers says. "The platform stays the same whatever the size, the rest is just a question of dialling up. It is the ideal set up to accelerate the business."

The bottom line

- Establishes global connectivity from one SIM, with price consistency, simplifying European go-to-market activity
- Ensures the scalability to cope with international roll-out
- Single platform can be customised for different customers

About AntTail

- Dutch monitoring services provider, focused on the pharmaceutical industry
- Launched in the Netherlands, plans to roll-out across Europe
- www.anttail.com

vodafone.com/iot