Customer Stories:
SODAQ

AT&T Business

Smart connectivity choice for smart-sensor IoT

- **Business needs** - Dependable global connectivity for Internet of Things (IoT) innovations.
- **Networking solution** - AT&T IoT Global SIM delivers international, end-to-end connectivity.
- **Business value** - Worldwide coverage, ease of provisioning, and control with the AT&T Control Center SIM management platform.
- **Industry focus** - IoT tracking and sensing solutions provider
- **Size** - 42 staff

About SODAQ

SODAQ, an acronym for Solar Powered Data Acquisition, is a world leader in sustainable Internet of Things technology. Based in the Netherlands, SODAQ produces durable, solar-powered IoT tracking and sensing hardware designed for large-scale, enterprise-sized deployments. SODAQ Engineering acts as an extension of clients' engineering departments in producing hardware, software, and industrial design solutions.

The situation

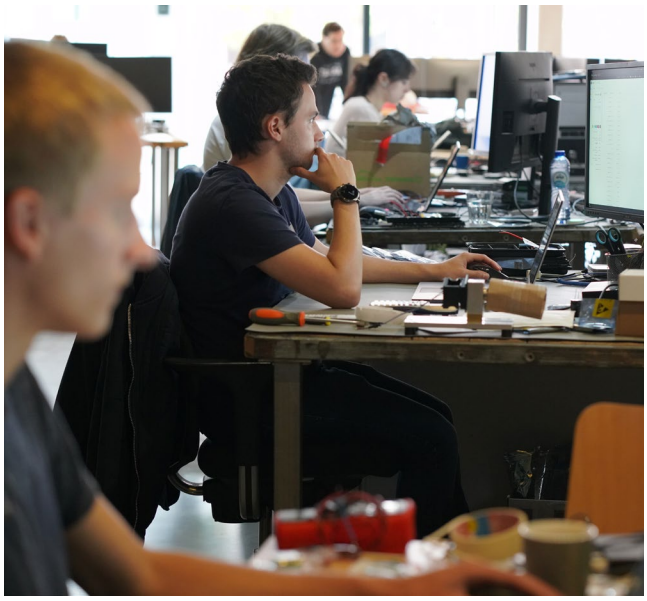
As SODAQ introduced its smart solutions around the world, it needed an international telecommunications provider that could deliver the truly global connectivity its innovations merit.

Solution

SODAQ equips its sensors with AT&T Global SIM cards that automatically and remotely connect to the network. AT&T IoT LTE International Data Plans enable provisioning in multiple countries through a flexible, easy-to-use platform.

Smart, sustainable solutions

Internet pioneer Jan Willem Smeenk, co-founder of Booking.com, and his son Ollie Smeenk founded SODAQ in 2012 to bring smart and sustainable communications solutions to developing areas.



More than a decade earlier Jan Willem's brother became an aid worker in Africa, which inspired Jan Willem to devise a way to deliver connectivity to remote locations. Long before smart solutions revolutionized the way residents in industrialized nations today live and work, the Smeenks set out to connect people in developing countries.

Jan Willem accepted a mission from the Dutch Ministry of Foreign Affairs and spent 12 years in Africa, working to bring the internet to Tanzania. "I had a vision about what could be done," Jan Willem said. "We effectively connected the whole country to the internet with satellite dishes and a fiber optic network."

Solving problems with the Internet of Things

Upon his return to the Netherlands, Jan Willem began pondering what to do next. "The first wave was the internet of computers," he said. "Then the second wave was the internet of smartphones. The third wave would be the Internet of Things. Industry analysts were predicting that basically everything from your fridge to your car and lawn mower would be connected to the internet. That caught me in the same way the early internet did. I wanted to be a part of it."

He and Ollie created SODAQ to explore the possibilities. "The goal was to create a company where we could be involved in this new upcoming thing," Jan Willem said. "We wanted to use IoT to solve real life problems. From day one the only thing we did was the Internet of Things."

SODAQ developed and began deploying one of the world's first Internet of Things solutions: low-energy, solar powered weather stations across rural Africa. Since then, SODAQ has also helped cattle ranchers keep track of their herds by adding sensors to the livestock's ear tags. "There are enormous ranches in Australia that could be easily 50 by 50 kilometers—that's about 30 by 30 miles—in size," Jan Willem said. "Ranchers used a helicopter or an airplane to see where the cows were."

The smart tags SODAQ designed saves time and money. Ranchers can use a computer or smartphone to see the location of each cow. What's more, it's environmentally responsible. "It's a carbon-neutral footprint during use," Jan Willem said of the IoT smart tags.

Millions of data points from sensors on bicycles

SODAQ also helped the Netherlands find a better way to measure air quality. The country already had several stationary facilities to test the air. SODAQ suggested adding mobile sensors to bicycles. Cycling is wildly popular in Holland. "We have more bicycles here than people," Jan Willem said.

Many people wanted to know the air quality before they took a bike trip. The stationary monitors could only provide readings for limited areas. "The ideal way of finding out if a cycling route is healthy is by putting the air quality monitoring system not on a pole somewhere along the road, but on the bicycle so that people measure the air quality wherever they go while cycling," Jan Willem said.

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> **Jan Willem Smeenk,**
> Chief Architect, SODAQ

SODAQ developed sensors that attach easily to bicycles. "In no time, we created more than 1,000 mobile cycling stations," Jan Willem said. "People started cycling around and all of a sudden, we started creating an air-quality map that covered the whole country, rather than just a few spots. We had millions and millions of data points."

Cyclists liked having more accurate air quality information and were proud to be part of the solution. "People got so excited about the fact that they were contributing to the air quality measurement that they actually started cycling more than they used to and began to get more fit," Jan Willem said.

Building for an improved future

Jan Willem is proud of another initiative he's working on. It's an initiative he believes will have a significant positive impact by reducing the number of lithium-ion batteries that end up in landfills. By 2050, experts predict people will be using about 100 billion connected smart devices. The used AA batteries from the devices would fill approximately 500 Olympic-size swimming pools with batteries per year, according to Jan Willem.

"We are trying to make devices that contain no batteries," Jan Willem said. "We want to power these devices smarter by using the abundance of energy around us while making the device extremely low-power. We are building for an improved future."

The company is one of the first to begin replacing lithium-ion batteries with supercapacitors. These supercapacitors have the same functionality but none of the disadvantages of batteries. "We can make devices that virtually live forever and therefore have a smaller environmental footprint," Jan Willem said. "And we are happy to say that we already have three such devices in our portfolio that don't use batteries. That number is only going to grow."

Robbert Woltering, SODAQ Co-CEO and Chief Commercial Officer, said the company hopes to multiply the impact of these solutions in the business-to-business (B2B) arena. Deploying some solutions with supercapacitors instead of lithium-ion batteries adds value and is a good start for SODAQ. "But we also want to make a positive impact with larger numbers in the supply chain and the logistics world," Woltering said. "We can make our products responsible and sustainable by choosing the right partners and manufacturers throughout our supply chain."

Woltering continued, "Deploying 100,000 shipping containers or 250,000 truck trailers with autonomous solar power trackers will increase efficiency by over 25 percent. That's really the major impact we want to have."

Expertise and global reach

As SODAQ introduced its smart solutions throughout the globe, it tapped local providers to deliver the necessary connectivity. "For all our track-and-trace solutions, we want to make something that preferably works everywhere, Jan Willem said. "We aren't there yet because the network technologies that we have been using, narrow band IoT, or NB-IOT, and long term evolution for machines, or LTE-M, haven't been deployed in every country in the world yet."

Jan Willem wanted to work with an international telecommunications provider that could deliver the truly global connectivity its smart solutions require. He chose AT&T Business to connect SODAQ's sensors today and far into the future. "We see that AT&T Business is a major stakeholder in the industry," Jan Willem said. "It gives us the best possibility to work in as many countries as possible."

SODAQ uses highly reliable AT&T Global SIM cards in its IoT innovations, from asset recovery and fleet visibility solutions to utility monitoring and process automation.

He said his decision was influenced by the knowledge and experience AT&T Business has demonstrated with IoT innovations. "AT&T Business is one of the organizations that adopted IoT technology earliest," Jan Willem said. "What I definitely see in all of my communication with AT&T is that they do have the expertise and are keen to get this growing to the size we all want."

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A smooth ride

AT&T Business enables SODAQ to achieve the widest possible global presence. "We created a coverage map of wherever we found our devices working, and slowly we're filling in the dots in all the different countries in the world," Jan Willem said. "There may be agreements with other telcos across the globe, but not in the order of magnitude that AT&T has."

Jan Willem finds the AT&T IoT Global SIMs to be highly dependable. He also appreciates the control that AT&T Business gives SODAQ with the AT&T Control Center global SIM Management Platform. "AT&T Business

provided us indispensable tools to monitor, manage, activate, and deactivate the SIMs through a web browser in the cloud," Jan Willem said. "It's a smooth ride."

The relationship he and his company have developed with AT&T Business is important. "There are a lot of business opportunities in the United States," Jan Willem said. "It's probably the biggest market globally at the moment, so it's good to have an operator that can provide the highest level of service there. And that's what we've seen. The coverage and the operation of the devices that we have in the United States are exceptional."

> "We are in a lot of talks with other customers of AT&T Business that can benefit from our expertise and engineering services. We would have never connected with these businesses without AT&T."
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> **Jan Willem Smeenk,**
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He considers AT&T Business more than a service provider, noting that it has opened some doors to potential new business for SODAQ. "We are in a lot of talks with other customers of AT&T Business that can benefit from our expertise and engineering services. We would have never connected with these businesses without AT&T," Jan Willem said.

Global impact

SODAQ continues to reach for solutions that will help people in underserved parts of the globe. "The market is producing much more price-efficient modules," Jan Willem said. "We've started making a product that from a price point of view, we couldn't have made five years ago. It's definitely going to help us deploy solutions in places like Latin America."

The company's innovations are designed to have a far-reaching, global impact. They can fully deliver on that promise with the right connectivity. "We need to have SIMs that can roam globally," Jan Willem said. "And that is something that AT&T Business is giving us. Eventually we will have a device which will work in essentially every country in the world."