

Pelion Connectivity Management helps Sensize deliver full supply chain visibility.

Case Study

Company snapshot

Name: **Sensize**

Industry: **Retail and logistics**

Size: **Startup**

HQ: **Cambridge, UK**

Founded: **2016**

www.sensize.net



- ✚ Global federated network allows Sensize to scale to clients' global distribution networks
- ✚ Streamlined activation and management of thousands of SIMs
- ✚ Pelion Connectivity Management flexibility helping to create new business models

Sensize develops IoT-enabled nodes that are pioneering better visibility for reusable packaging in the supply chain. The concept involves adding the latest tracking technology to humble pallets, crates, and containers that are shipped in their millions by retailers, fast-moving consumer goods (FMCG) and logistics companies. These nodes feature thermal sensors to alert retailers to temperature excursions, accelerometers that record impact, and timers to log periods of refrigeration, all of which helps depict the current state and location of a consignment.

Opportunity

The Cambridge-based start-up had already developed a proof of concept with two of the UK's largest grocery retailers and was about to win a major contract with a global courier distributing to UK, Italy, Austria, Germany, China, and Russia.

Sensize had concerns over their existing connectivity provider's network coverage and their ability to support clients responsible for shipping 1.8 million consignments globally every day. With operations in the US, Europe, and Asia, Sensize required a cost-effective connectivity partner with global coverage to reflect the global distribution network.

The scale of the opportunity presented by this major contract also required a step-change in Sensize's process for onboarding and managing SIMs. Its global scope presented the additional hassle of dealing with supplementary networks to guarantee coverage where it was needed.



“Pelion’s global bootstrap profile allowed us to incorporate a live cellular connection into our manufacturing test program. Every device we make is put through its paces on a local Chinese cellular network at our factory in Shenzhen. This way we can guarantee 100% reliability for our devices before we ship them to customers for deployment.”

Luke D’Arcy- Director, Sensize

Solution

Arm’s managed IoT connectivity service, comprising of access to over 600 networks globally meant that Sensize could confidently deploy tracking nodes and maintain visibility of a consignment without having to manage various Mobile Network Operator contracts and monitor associated bills. This expansive network was combined with Pelion’s multi-network global roaming SIMs to offer high availability and reliable tracking.

The Pelion Connectivity Management platform allowed the Sensize team, led by Director Luke D’Arcy, to bulk activate batches of thousands of SIMs using a single command, within minutes of receiving them. This streamlined approach to SIM activation and ongoing management will prove particularly valuable as the number of tracked objects increases to millions of units in the coming years. But the management platform was not the only benefit that surprised Luke and his team. Other features included:

- ✚ Device security
- ✚ Lifecycle management of deployments on a vast scale
- ✚ Wireless connectivity
- ✚ Real-time billing data collection

Arm’s support and Mbed OS acted as an extension to their small team and helped facilitate rapid progression from prototype to production phase. Luke commented; ‘Coding and test time were reduced by leveraging Mbed’s readily available Ublox drivers. The support offered by Arm equates to man-years for our small team, meaning we could bring our proof of concept to market sooner.’

Where to Next?

The commercial realities of the supply chain mandate that Sensize uses the most cost-effective, energy-efficient cellular technology. That might be CAT-M for high-performance tracking of U.S consignments, NB-IoT in parts of Europe and Asia, or even legacy 2/3G. Pelion supports all of them in a single SIM.



Pelion SIM flexibility allows Sensize to switch networks to suit their requirements



Luke highlighted that while most initial enquiries come from manufacturers and retailers looking for better visibility of reusable packaging, the same system can be used to monitor products carried on tracked pallets, crates, and boxes. This generates valuable data about the location and condition of goods, and the effectiveness of promotional activities, leading to product insights, operational efficiencies, and smarter marketing.

'FMCG brands spend millions on in-store product placement and promotions. Measuring effectiveness has always been a challenge due to the difficulty of gathering data about footfall and consumer engagement. Data from Sensize sensors, relayed by Pelion, will allow brands to make smarter decisions about their promotions and deliver a better return on investment.'

To learn more about Arm Pelion Connectivity Management, visit
www.arm.com/products/iot/pelion-iot-platform/connectivity-management
Or email us at PelionCM@arm.com

