

Tangerine transforms the asset tracking and transportation industry with Arm Pelion Connectivity Management

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Case Study

Company snapshot

Name: **Tangerine**

Industry: **Smart Mobility**

Founded: **2018**

Tangerine is an AI-powered data analytics company for smart mobility, offering solutions for fleet management, shared mobility, and insurance telematics. Tangerine's products and services for planning, diagnostics and analytics are designed for commercial fleets, insurance, and automotive OEMs to manage their heterogeneous mobile assets, from bikes and cars to trucks and trailers.

<https://tangerine.ai/>

Data analytics provider Tangerine has overcome the challenges of managing connectivity globally.

- + Up to 50% savings on connectivity costs
- + Simplified connectivity management
- + Improved reliability
- + Enabling to scale up to other regions

Business objective

Tangerine offers an AI-powered data analytics platform, which combines in-vehicle smart data collection devices with mobile and web-based services to provide actionable insights for fleet management, vehicle health, shared mobility and insurance telematics applications.

The key platform capabilities include real-time vehicle and asset tracking, route planning, driver behavior analytics, predictive and preventative maintenance, vehicle diagnostics with alerts and other data driven tools. The company's mission is to draw on the latest innovations in IoT, edge computing, AI and machine learning to improve vehicle safety and operational efficiency through powerful and actionable data insights. The company's innovation extends far beyond tracking. For example, Tangerine created an industry first AI-enhanced product to characterize and analyze motor vehicle accidents from dash cam feeds, which allows their customers to reduce risks and fraudulent claims. Another example is their AI powered smart dual camera that provides audio warnings for drowsiness detection, distracted driving and pre-collision warnings, thus preventing accidents and boosting overall safety and performance for fleets.

Tangerine supports a wide range of different industries such as car leasing and rental, trucking and logistics, car sharing and ride hailing, last mile delivery, school transportation and many more. Launched in 2018, this start-up is already working with market leaders in insurance and smart transportation across North American and South East Asia regions including US, Canada, Singapore, Indonesia, Vietnam and others.

Challenge

“It became quickly apparent that connectivity was going to be a huge bottleneck because traditional SIMs were not only expensive but they failed miserably whenever a user crossed geo-political boundaries, which was happening often between the US and Canada or similarly in Singapore and Malaysia.” Sunija Rishi, Co-Founder & COO

Reliable, secure and ubiquitous wireless connectivity is a key pre-requisite for the efficient collection and transfer of data that Tangerine must rely on to deliver their innovative solutions. Cellular networks answer all these requirements, providing a stable, proven, and global service, with a history of strong security. Unfortunately, international deployments mean high roaming costs. For example, when considering a trucking company that traffics frequently between the US and Canada, based on the different applications in use, the roaming cost for a single truck could be \$200 per month.

Another challenge that the team at Tangerine faced was tackling the SIM supply chain logistics to enable their devices to work seamlessly across boundaries. They discovered that some countries had legislative restrictions in place on the ownership of SIMs by foreign companies, requiring them to search for a partner that could deliver reliable connectivity, regardless of device location.

Swapping out or installing new SIMs and configuring the device in the field was not an option for Tangerine’s non-tech savvy end users. They’re looking for a product that works directly out of the box, avoiding technical tasks like deploying the device or changing settings.

By leveraging [Arm Pelion Connectivity Management](#), Tangerine found the perfect solution. They can support their customers deployments globally, while also enabling them to monitor and manage their connectivity remotely, greatly simplifying the admin burden for both Tangerine and their end users.

Solution

“A global footprint brings its own logistical and legislative challenges in deployment, the Arm Pelion platform with its flexibility of any device, any data, any network, any cloud makes these hassles vanish from day one and is really delivering on their promise of future proofing the IoT for our customers.” Sunija Rishi



Streamlined, powerful management tool

Streamlining their supply chain has been a top priority for Tangerine as they navigate the intricacies of being a device OEM as well as an AI-driven data platform company. Arm Pelion, which provided global cellular connectivity services for all of the regions through a single vendor, offered both a reduction in supply chain complexity as well as better visibility and control over their connectivity management. An alternative to local connectivity agreements and complex local SIM logistics, Pelion's global roaming is a single SIM solution for global IoT deployments that offers enhanced coverage, cost savings and simplicity of deployment. It allows Tangerine and their customers to manage their device connectivity through a single pane of glass, which is integrated with the Tangerine platform.

Single SIM greatly simplified the process of SIM stocking, installation and activation, making their service more productive and efficient and less expensive. Retrofitting technology into an OEM platform is always a difficult task, so the ability to provide a connectivity solution that works with any type of device, on any network and with any kind of data was a huge win for them.

Tangerine could also take over the administration hassle from the customer, safe in the knowledge that support from Arm was always available. They found that the Arm Pelion platform helped them scale their business, with easy remote provisioning of their devices as well as monitoring alerts and thresholds that improved their customers' experience, enabling them to build a stronger relationship.

“Arm Pelion IoT Platform is a transformative Device-to-Data platform for connected IoT that offers tangible benefits across the board for enterprises, Mobile Network Operators (MNOs), and device manufacturers. Arm Pelion is able to do it all.” Sunija Rishi

Reliable and cost-effective connectivity anywhere in the world

By offering high quality and reliable global connectivity, Arm Pelion is enabling Tangerine to access new end markets and verticals, while eliminating the risk of operator lock-in and supporting their customers ambitions in deployments around the world. “The cost of international roaming and the competitive data rates provided by Arm were far better than the regional carrier, which meant that we could pass some of those benefits back to the customer, with up to 50% savings on connectivity costs,” said COO Sunija Rishi. “This also enabled us to scale our business in the Americas, South East Asia and Japan.”

Reliability is key, as Tangerine's vehicle tracking solutions provide a near constant connection with the vehicle as it is in transit. One of their main verticals and markets, the trucking industry in the US, were especially satisfied to finally have access to devices with endurance that would work for them, no matter where they were located or which borders were crossed. Trailer theft is a fairly common occurrence and results in huge costs and liability issues for their fleet management customers. Equipped with a single SIM that works across the borders, Tangerine's asset trackers can connect via the best network in range, providing invaluable real-time data to their end customers.

Future plans

“We benefit tremendously from the eSIM as our devices can now ship around the world and be remotely provisioned based on its final destination. Another advantage of eSIM is the ability to swap out network providers as needed.” Sunija Rishi

Tangerine has ambitious expansion plans that cover new customers segments and new territories, and they see Arm's connectivity solutions as an important enabler of this growth.

Tangerine is in the process of replacing their existing installations to eSIM-enabled devices and all of their current pilots are using eSIM and taking advantage of the smaller form factor, remote SIM provisioning capabilities and protection from the elements that embedded form factor brings. [Remote SIM provisioning](#) has added another layer of flexibility to managing connectivity remotely. The smaller form factor allows Tangerine to optimize their tracking device design and – with the strong trend to device miniaturization – to keep ahead of competition. In addition, eSIM offers more protection from the harsh environments and eliminates the risk of the SIM being dislodged, which are important requirements for the transportation industry.

Another innovation that the team at Tangerine are looking at is [integrated SIM, or iSIM](#). iSIM would allow further device design optimization and potential cost savings on hardware, whilst offering the same remote SIM provisioning capabilities as eSIM.

To learn more about Arm Pelion Connectivity Management, visit www.arm.com/products/iot/pelion-iot-platform/connectivity-management.

