WHY SMS IS PURPOSE BUILT FOR IOT

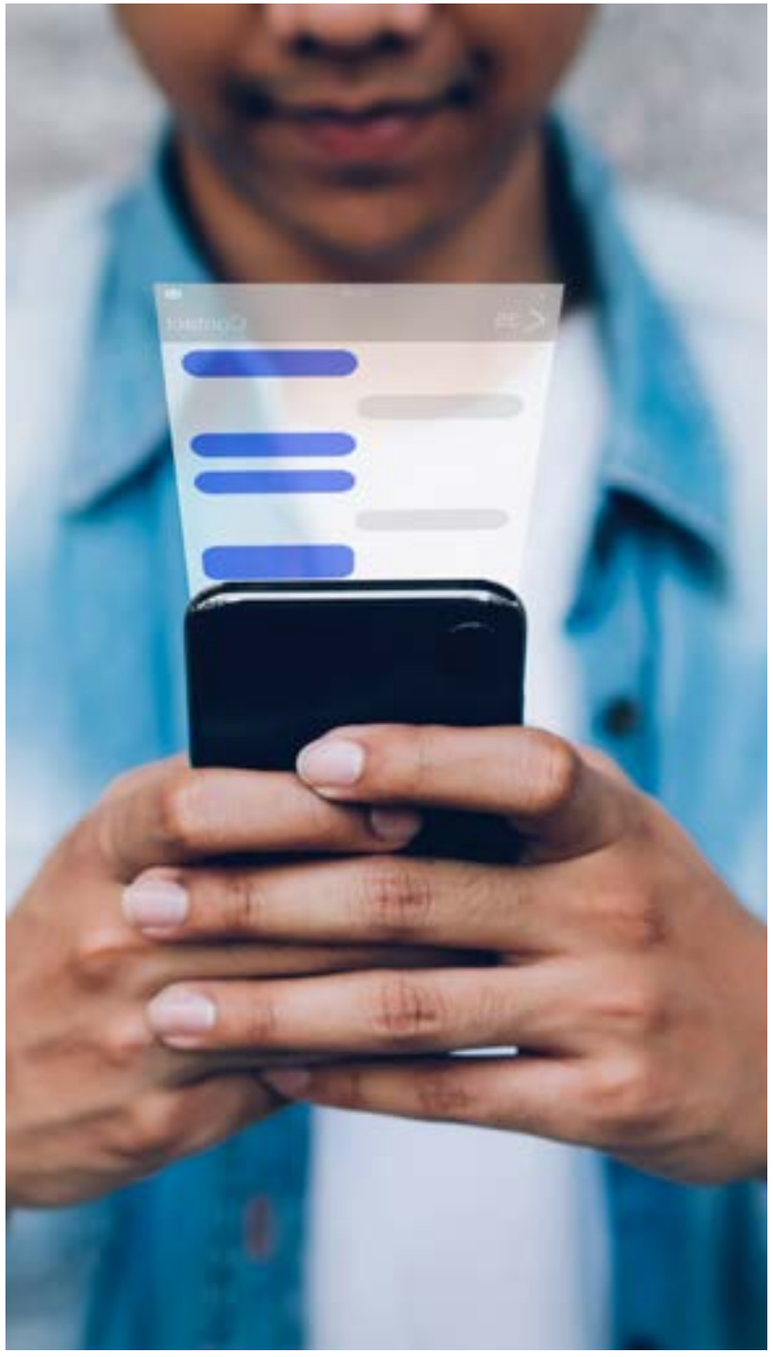
squire technologies

Why SMS is purpose built for IoT

SMS might have lost its cool factor among consumers who increasingly use OTT messaging apps like WhatsApp, Signal and Facebook Messenger, but for IoT it's an absolute game changer.

While the OTT players are dead in the water without a data connection, it's the very fact that SMS can be used over a cellular network, without a data connection, that makes it a powerful tool for IoT devices. This ensures that some 30 years after the first 'txt' was sent SMS still remains relevant today.

Just like your mobile phone, remote IoT devices connect to long range cellular networks. In days-gone-by mobile devices relied upon removable SIM cards configured to connect with specific mobile operators. But with IoT has come embedded SIM technology or eSIM for short. Here an eSIM is permanently built into an IoT device at the point of manufacture. This improves reliability and security, while also reducing space. Crucially for IoT providers, eSIM's can be provisioned and configured remotely over a mobile network, and this is where SMS is being leveraged.



How does SMS make a difference to IoT devices?

While IoT devices can be fully configured from when they leave the factory, suppliers want to be able to offer customisable solutions to their customers. To do this, moving the configuration to the point of sale is best. And this can be done by using SMS.

Configuring connectivity

Here are some examples of what SMS is used to configure and action:

- Set an Access Point Name (APN)
- Assign your device to an application server
- Trigger a remote reboot
- Change or add a mobile provider
- Trigger a software or security update

Building IoT devices to accept SMS parameters makes it easier to configure the initial connectivity and to change the configuration in the future. It also opens the door to a host of opportunities, with IoT service providers using SMS as part of their service delivery.

Why SMS is the right choice for IoT

Global coverage

Perhaps the most obvious practical reason why SMS is perfect for IoT is the near universal coverage offered by mobile networks, on which SMS is transported. Between them 2G, 3G, 4G and now 5G networks reach every corner of the globe, including areas with unreliable or no internet coverage.

Reliability

2G, 3G and 4G networks are mature networks deployed over decades, and SMS traffic has close to 100% delivery rates. It's robust, reliable and it works. This high degree of reliability is essential for remote IoT devices. Even in the event of power cuts or when mobile data is unavailable an SMS notification will reach its destination.

Energy efficiency

Maintaining an active mobile data connection sucks the life out of batteries, a huge consideration for remote IoT devices. By eliminating the need for a permanent data connection, transmitting data via SMS helps to extend the battery life and in-turn the life of the device itself.

Why SMS is the right choice for IoT

Data

SMS carries a 140 byte payload, which for the vast majority of remote telemetry-based applications like sensors, is more than enough. Of course, more data can be sent over multiple SMS messages.

Cost savings

Utilising SMS for configuring an IoT device in the field not only helps to extend the life of the product but also lowers the cost of manufacture by reducing the need to add costly interface technology. IoT uses bulk SMS to send data, which operators and service providers offer at low cost.

Ecosystem

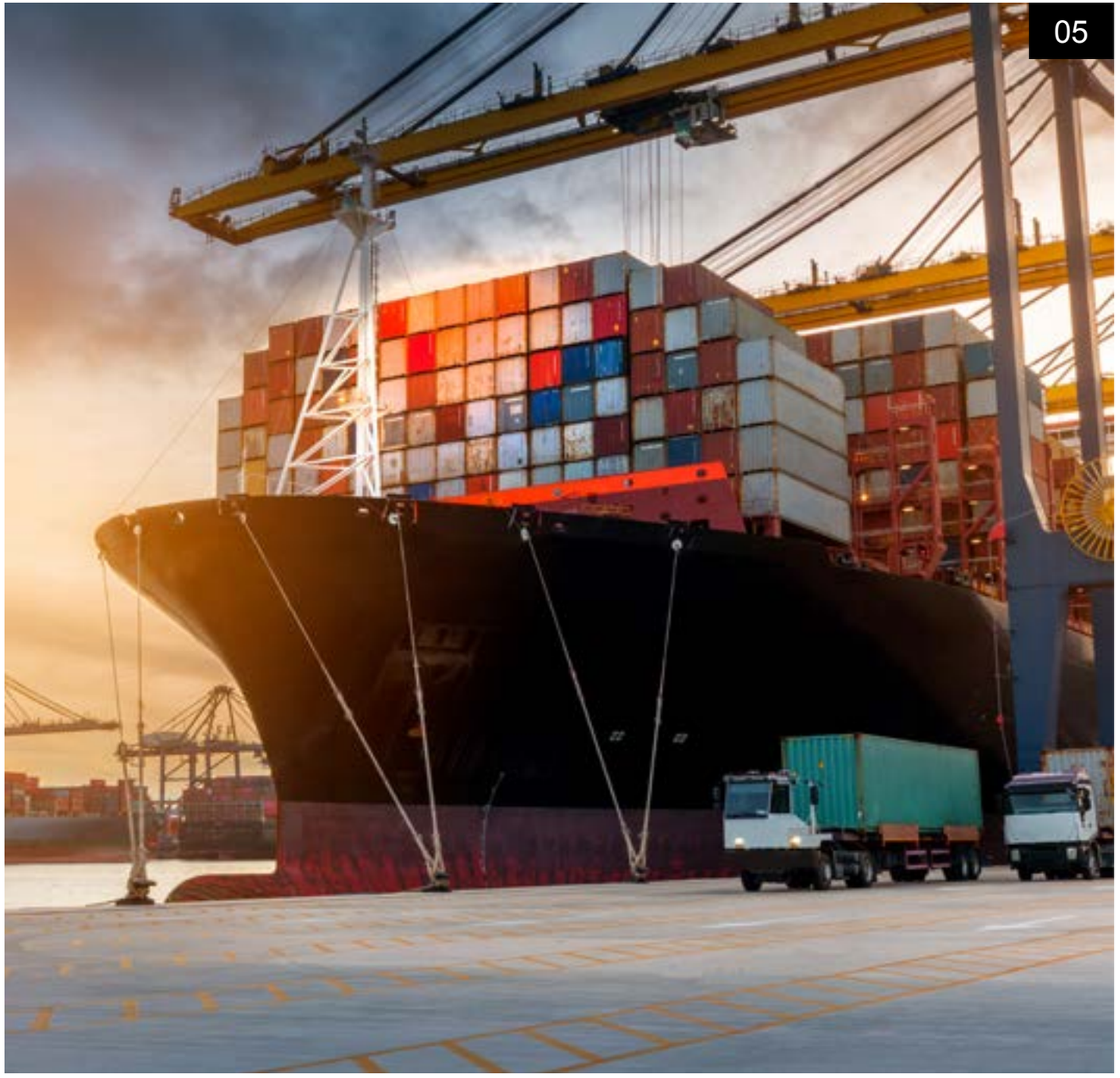
There is a thriving ecosystem of vendors and service providers delivering SMS solutions. If an IoT developer is looking to deliver services over SMS, they can choose from a range of providers offering hosted API's like Twilio, or alternatively connect to mobile networks directly with flexible next generation SMSC vendors.

SMS use cases in IoT

Asset trackers in global logistics and supply chains

Asset Trackers used in the global logistics industry are a perfect example of where power must be preserved for as long as possible due to the compact nature of devices.

Users of asset trackers can send SMS messages to devices to discover their location, upon which the device will return the unit's GPS coordinates via SMS. Configurations can also be set to send SMS alerts if an asset tracker stops for too long in one location.



SMS use cases in IoT

IoT sensors used to track climate change and pollution

Many cities have employed IoT sensors to track urban air quality. These sensors track temperature, humidity, altitude, atmospheric pressure, carbon dioxide levels, and pollutants like methane, carbon monoxide, and ammonium.

Crucially, IoT sensors can be used to send SMS notifications as urban pollution increases to dangerous levels. These notifications can be configured to rapidly share data among relevant authorities, who in turn can implement measures to protect residents.

SMS use cases in IoT

EV charging

As the Electric Vehicle revolution speeds up, the EV charging industry looks at innovative ways to make charging more efficient and convenient. One way they are doing this is by enabling customers to initiate a charge directly from their phone via SMS, as well as the cost of the charge being added directly to their phone bills.

Conclusion

The ubiquity of SMS is what makes it perfect for IoT communication. In fact, regardless of whether an alert or notification needs to reach an IoT device in the home, on the factory floor, reach a human, or another machine, SMS remains the best choice in terms of reach.

By using cloud-based platforms, businesses are making smart use of SMS in their IoT deployments. For industrial IoT suppliers, SMS provides a seamless channel between their back-office application servers and remote IoT devices in the field. While in the consumer market, SMS has become a familiar and reliable interface between users and their IoT gadgets.

The origin of what we know as SMS or 'Short Message Service' came in the form of Franco-German R&D trials in the early 80's which became part of the development of the first GSM (Global System for Mobile Communications) networks several years later. It remains the only communication channel that works on every cellular device and every network. While new communication methods come and go, there's a good chance SMS will still be reliably delivering short bursts of data from one point to another for many years to come.

To find out more about our SMS Messaging Platform visit Squire-Technologies.com

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