

Edge Use Case Directory - Update

At STL Partners, our Edge Use Case Directory documents the top 50 use cases we have encountered across our work. We are constantly updating this to reflect the use cases which are garnering the greatest demand, and we have recently introduced three innovative use cases: High Frequency Trading (HFT), Smart ATMs and Sustainability Monitoring/Mapping. These cutting-edge applications highlight how edge computing is driving rapid transformation in financial transactions, banking security, and environmental surveillance.

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March 2023

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Introduction:

As the practical applications of edge computing expand, the industry continues to search for the 'anchor' use case that will propel edge into commercial scale. Whether it be use case specific video analytics for process monitoring, or the more horizontal capabilities of edge such as data localisation, the ecosystem is watching closely for the demand to grow.

Figure 1: New edge computing use cases summarised

Use Case	Description	Edge Benefits	Potential Partners	Case Study
High Frequency Trading (HFT)	AI algorithms that buy and sell volumes of shares at high turnover rates.	Low latency required for HFT, quicker data distribution with local processing.	MEC platform providers, ISV vendor and Systems integrators	Argo Software Engineering - HFT enabling platform.
Smart ATMs	Digital transformation of banking system, advanced ATMs with new capabilities and security features.	Real-time biometric technologies implementation, sensitive data remains secure and private.	ATM OEMs, ISV vendors and Systems integrators	InHand Networks - Smart ATM solution.
Sustainability Monitoring / Mapping	Use of satellite and sensor data to monitor human and physical impacts on environmental conditions.	Processing large volumes of geospatial data, enabling high performing applications without significant investment.	Satellite monitoring stations, data analytics platforms, governments, NGOs and cloud providers	Descartes Labs - Tropical Deforestation Monitoring solution.

Source: STL Partners

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High Frequency Trading (HFT):

High Frequency Trading (HFT) was initiated in the 1930s with traders using high-speed telegraphs to communicate with other exchanges whilst buying and selling on the physical exchange floor. Modern HFT is now conducted by advanced AI computer algorithms that buy and sell volumes of shares at high turnover rates. Firms invest into compute technology, seeking to optimise their HFT output.

Edge enables the low latency required for HFT and is particularly relevant to smaller firms that may not be able to invest in high specification dedicated infrastructure. Edge permits quicker data distribution with local processing coupled with the minimisation of dependence of external networks, harnessing its latency and data localisation capabilities.

Potential ecosystem partners for this venture are MEC platform providers, ISV vendor and Systems integrators. The Edge Use Case Directory takes a deep dive on Argo Software Engineering's HFT enabling platform, on top of providing further use case examples. The use of edge with HFT is in early stages of development, but its potential is exciting!

Smart ATMs:

Banks are hunting digital transformation, with many of their existing systems operating on dated technology they are looking to deploy smart ATMs, which carry numerous new capabilities and counter current risks.

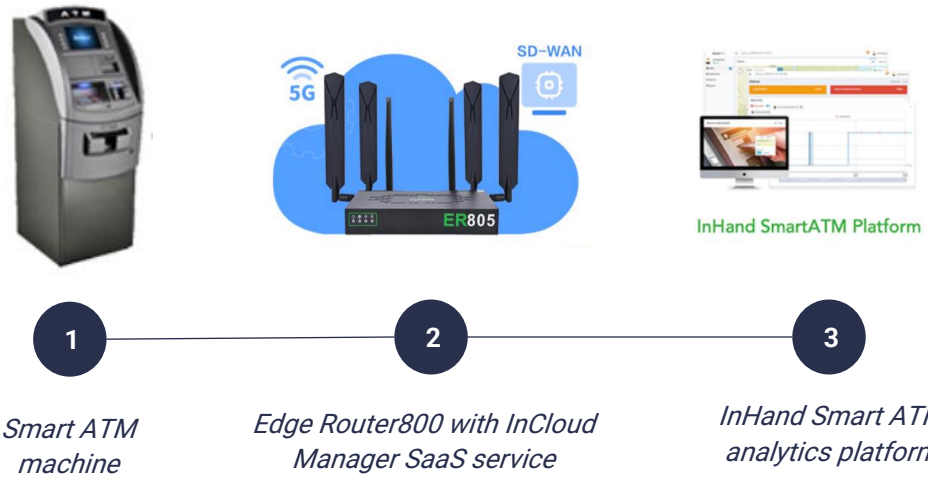
Cybersecurity is a prevalent concern in the modern day, and smart ATMs can combat this with security and fraud detection applications. Furthermore, banks have started trialling camera facial recognition as a second-factor biometric authentication that could remove the need for physical debit cards. More advanced ATMs can also bring new revenue opportunities for targeted loans and retail offers.

Edge enables real-time biometric technologies to be implemented with its low latency capability, allowing sensitive customer data to remain secure and private on site. At the edge applications run locally with more potent workloads depending less on external networks. Edge also lessens the need for onsite visits with immediate troubleshooting and fault location.

The partners within the ecosystem that could participate in this venture are ATM OEMs, ISV vendors and Systems integrators. The combination of both on-premise and network edge deployment would fully utilise Smart ATMs. InHand Networks launched a Smart ATM solution; further details can be found on the Edge Use Case Directory.

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Figure 2: InHand Smart ATM Network



Source: STL Partners

Sustainability Monitoring / Mapping:

We are witnessing everchanging environmental conditions caused by the coupling of human driven processes and climate change. Satellite and sensor data can be used to monitor both human and physical impacts on environmental conditions. With conclusive statistics, NGOs and governments can quantify progress toward emission commitments, such as the Sustainability Development Goals.

Network edge can be harnessed to process large volumes of geospatial data reducing the volume travelling through the backhaul network. The need for dedicated infrastructure is removed by the leveraging of network edge enabling a high performing application to be deployed. A solution can be deployed for monitoring and mapping without the requirement of significant investment.

Satellite monitoring stations, data analytics platforms, governments, NGOs and cloud providers are potential ecosystem partners in this proposition. Descartes Labs have developed a Tropical Deforestation Monitoring solution that is powered by remote sensing, machine learning and a fusion of numerous datasets. The Edge Use Case Directory contains the full details on this case study partnered with other examples of this use case by others.

Final thoughts

These are just a few of numerous use cases edge computing enables across multiple industries. At STL Partners, we are striving to help companies with their edge computing strategy. Discover the best edge monetisation possibilities, understand the key players, and inform your go-to-market strategy through our Edge Use Case Directory.

To subscribe, or simply find out more, feel free to click here to arrange a call with our team.

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