



Case Study: Managing Smart City Cybersecurity

Over The Air IoT Fleet Configuration and Updates for LoRa based Networks and Devices at Digitale Heimat Paderborn



Solving the customer challenge

Managing LoRa WAN Nodes

Digital Heimat Paderborn representing one of Germany's Smart Cities lighthouse regions. By that, smart services are rolled out to optimize citizen services and sustainability with support of Internet of Things (IoT). The majority of IoT devices are connected via a LoRaWAN low power network infrastructure provided by The Things Network and Westfalen Weser Netze. IoT devices are distributed on wide range and different applications over the entire region. The onboarding and management of the IoT device fleet must be done secure and reliable via remote services.

Whitelisting and Blacklisting IoT Devices to Protect the Open Data Platform

There is a continuous need to onboard new devices and maintain the existing devices in the Smart Region infrastructure.

asvin provides essential tools and service to maintain the LoRaWAN powered IoT device fleets: secure protocols for onboarding new devices, procedures for whitelisting or blacklisting devices from pushing data into the Open Data Platform via public LoRaWAN network infrastructure.

Monitoring Low Power IoT Devices

Large fleets of devices are monitored towards malfunctions or suspicious device behavior. **asvin** is proactive alarming on irregular device activities for instant risk mitigation.



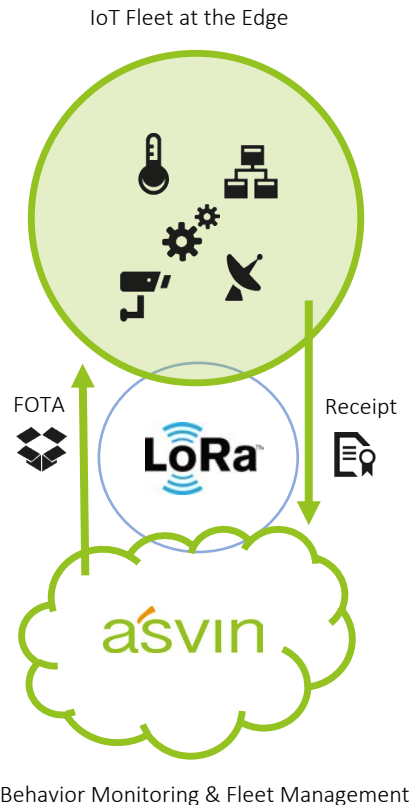
Mass Configuration via LoRaWAN®

Based on LoRaWAN® Class A standard Device groups or single devices can be served with remote configuration on scheduled maintenance slots. asvin organizes the planned roll out for devices just in time.

FOTA - Over the Air Firmware Updates

Devices supporting LoRaWAN® Class C standard can be served with Firmware Updates Over the Air (FOTA) using the asvin OTA distribution services. Updates can be scheduled for device groups or on a target single device.

All distributed changes and firmware actions are logged in the distributed ledger (DLT / Blockchain).



About asvin



Founded in September 2018, Stuttgart-based asvin GmbH provides a platform-as-secure-solution based on Distributed Ledger Technology (DLT) for managing the software product life cycles associated with networked devices used in the Internet of Things. The applications and services support trace software, detect security vulnerabilities in IoT and IIoT to mitigate risk and ensure uninterrupted business processes. asvin was awarded the Best Cybersecurity Startup in Central Europe in 2020 by it-sa

Contact

asvin GmbH
Schulze-Delitzsch-Str. 16
70565 Stuttgart
Germany

Tel +49 711 220409338 0
info@asvin.io
www.asvin.io

Publisher

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