



MOXA®

Customer Success Story – Transdev Sverige AB

Embark on a Pleasant Journey

A new era in public transportation

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At a Glance



Connecting Every Node in Northern Europe's Largest Urban Transport Network

Sustainable Mobility to Empower Freedom to Commute

Transdev, a global public transportation operator based in France, prioritizes sustainable mobility for safe, reliable, and eco-friendly transportation worldwide.

Synchronizing Bus Services with Rail Networks for Seamless Urban Mobility

In Stockholm, home to Northern Europe's largest urban rail network, commuter ferries and buses perfectly complement the extensive rail system, forming a seamlessly integrated city transport network. With 480 routes and 5,000 stops, Stockholm's bus system strategically links urban mainline, suburban mainline, non-mainline routes, community service buses, and night buses. By minimizing overlap with rail lines, this intricate bus network ensures efficient and flexible operations that synchronize with the transportation network, resulting in a smooth travel experience.

As part of the Transdev group, Transdev Sverige AB, a major Swedish public transportation operator, collaborates with the government and transportation federation to streamline bus services. With over 1,600 buses, Transdev Sverige AB aims to enhance efficiency by syncing real-time data, optimizing routes, and improving the overall customer experience.



Stockholm's integrated transit: Featuring Northern Europe's largest urban rail network and an efficient bus system.



Transdev Sverige AB
Founded in : 1940
Headquarter: Stockholm, Sweden
Industry: Public Transportation
Website: <https://www.transdev.se/>

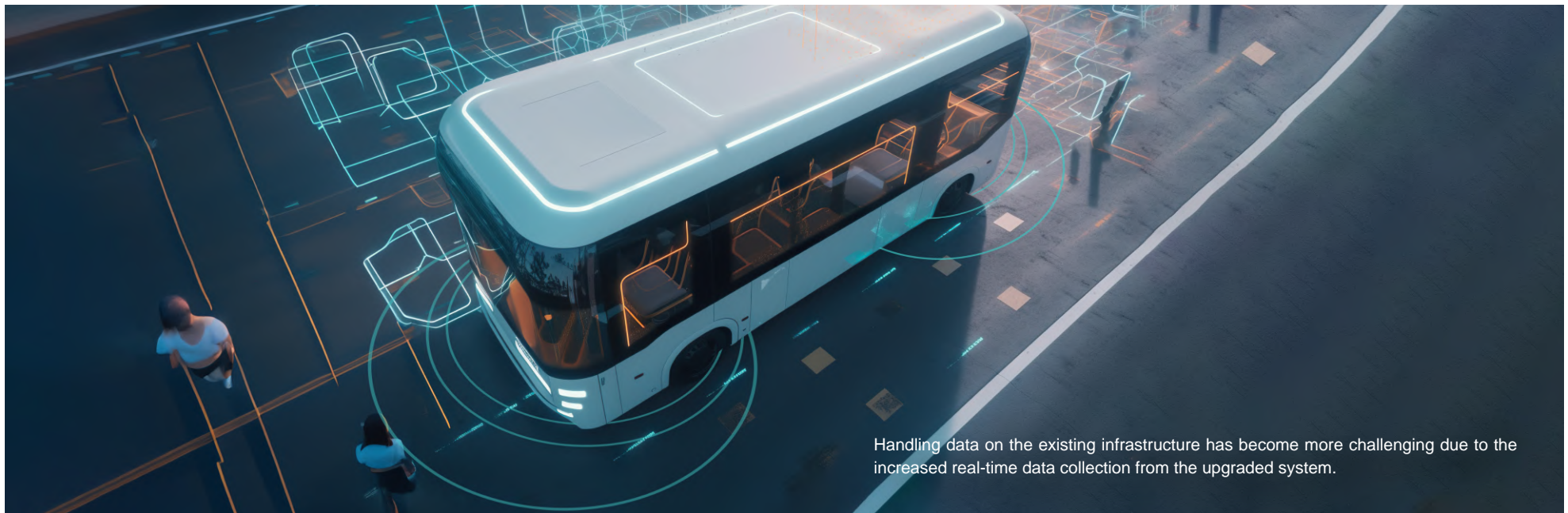
Business Challenge



Overcoming Data Overload: Scaling Up for Increasing Bus and Passenger Data

"Buses today not only transport passengers but also data. It is important to consider factors such as traffic disruptions and timeliness. As soon as the doors close, real-time data on the number of passengers is transmitted," explained Anders Bergstrom, Chief Architect at Transdev Sverige AB. He added that buses in the greater Stockholm area transmit data every second. Transdev has developed a data management and information processing system that integrates "Design Time" and real-time "Runtime" information.

Because of the surge in real-time data volume, the existing infrastructure could not handle it efficiently. "The solution we had was not scalable," said Adam Fall, CIO at Transdev Sverige AB. To process the growing amount of real-time data, Transdev Sverige AB required a scalable infrastructure that could handle data overload.



Handling data on the existing infrastructure has become more challenging due to the increased real-time data collection from the upgraded system.

Solution

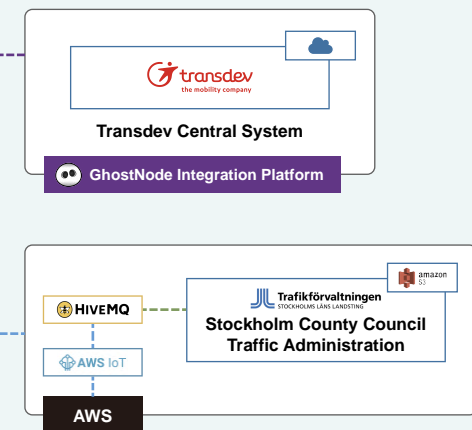
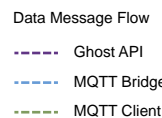
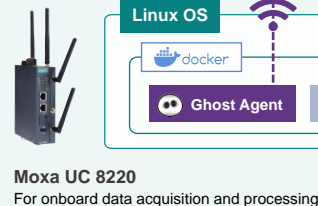
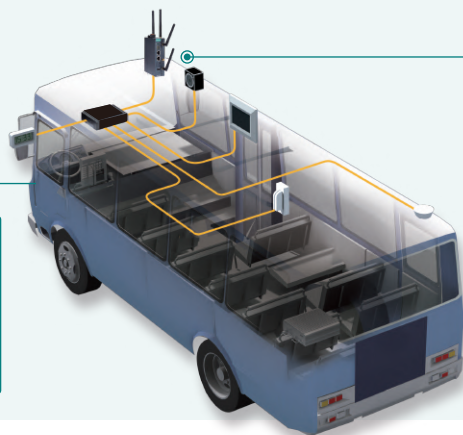
Riding the Wave of Real-time Data: Reliable Onboard Data Acquisition and Processing

To acquire and process data from multiple sources and analyze onboard information on their moving buses, Transdev sought a dependable and powerful onboard computer. Transdev teamed up with CatAB, Moxa's local representative, known for delivering top-notch industrial data communication boards and equipment since 1988. Moxa and Cat AB worked together to support Transdev throughout the entire process, from pre-configuration and solution design to final deployment. Moxa's UC8220 computer is specially designed for embedded data acquisition applications, featuring a variety of connectors and interfaces that can easily adapt to the complex communication requirements of buses.

Moxa partnered with software provider GHOST Labs to enable full control and monitoring capabilities on the bus. GHOST Labs correlated, adjusted, and monitored data from all systems and computers on the bus, sending consolidated information to the Transdev's AWS and Public Transport Administration (TF) per government requirements. Integrating Moxa's industrial computer with the GHOST IIoT platform enabled reliable and secure data acquisition, processing, and analysis of onboard information on the buses. The end result was a fully functional onboard system that Transdev can remotely monitor, gaining valuable insights and making informed decisions to enhance their services.

Moxa and CatAB partnered with GHOST Lab to provide an integrated solution. Moxa's computer, when integrated with the GHOST IIoT platform, ensures secure and reliable data acquisition, processing, and analysis of onboard bus information, ultimately delivering the data to the Transdev Central System and Stockholm County Council.

- Example of bus data collected:
- Internal Signage
 - External Signage
 - Sensor data
 - Position data
 - Equipment data
 - Spatial data



Results

Transforming Commuting: Enhancing Customer Experience in Public Transit

Transdev has transformed the public transport experience by capturing vehicle and passenger events on a second-by-second basis.

Thanks to the real-time data, there has been a remarkable improvement in the customer onboard experience, making buses a more appealing transportation option in Sweden and encouraging people to ditch their cars. Integrating this technology has allowed Transdev to offer a significantly more dependable and efficient service to its customers, greatly enhancing the quality of public transport in the region.

“ Transdev Sverige AB and Moxa are collaborating to elevate the local transit experience in Stockholm by providing a seamless and convenient passenger experience that benefits both commuters and the environment. Through this partnership and the integration of cutting-edge technologies, we aim to increase efficiency, reduce operational costs, and expand the transportation network. The future of mobility looks brighter than ever before. ”

Adam Fall, CIO at Transdev



The Greening of Public Transportation

Transdev is using technology to improve fuel efficiency and reduce the carbon footprint by dispatching buses according to passenger needs. This not only enhances the service's reliability and efficiency, but also realizes Transdev's vision of a greener public transportation network. Transdev's renewed commitment to sustainability is transforming the transportation industry and working towards a greener future.

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