

Seamless Ticketing Experience for Swedish Passengers

MODULSYSTEM
SWEDEN



edvántis

Intro

Edvantis and Modul-System Sweden AB jointly delivered a connected portable conductor device and ticketing POS app for Greater Stockholm Local Transit Authority.

Challenge

Storstockholms Lokaltrafik AB (SL, or Greater Stockholm Local Transit Company) is a city-owned public transit company, **providing all land transportation services in Stockholm** county. Every day, SL serves over 2.8 million passengers, traveling on bus, metro, tram, and suburban rail lines.

As part of their vision of developing a “sustainable and attractive transport system that would contribute to making Stockholm Europe’s most attractive metropolitan region”, SL was seeking a technological partner to create a new portable ticketing device for conductors.

Main Goals:



Replace the previously used SK-20 ticketing device and application with a **newer Android Famoco model** — offering more convenient dimensions, a bigger screen and up-to-date UI.



Preserve functionality from the earlier app, plus incorporate **extra integrations of third-party products** into the handheld conductor device.

Modul-System – a market leader in ticketing and payment systems in Scandinavia – and **Edvantis** was selected among several candidates to deliver the project, based on our prior experience with BKU.



Meet BKU (Bärbar Konduktör Utrustning) – a **Connected Ticketing Device** Delivered by Edvantis

The new device serves as a cash register, e-ticketing machine, and validator for SL's transport cards, meeting all the needs of passengers and conductors.



It comes **equipped with:**



A wide 5" inch screen



An 8MP rear camera



Long-lasting battery of 4000mAh

In addition, the ticketing device has universal connectivity — NFC, 4G. Bluetooth 4.2 BLE and GPS — so that it can work properly in the field at all times.

Device **Specifications:**

NFC	ISO14443 A/B Felica, Mifare
Screen	5" HVGA (854x480 pixels)
Camera	8 MP
Wifi	Dual-band (2.4 & 5Ghz)
Communication	2G & 3G & 4G
Bluetooth	4.2, BLE
Dual SIM	2 SIM slots
SAM slot	1 slot 2FF



Solutions Delivered by Edvantis

Modul-System contributed a wealth of product knowledge, while Edvantis provided software engineering services, namely:



Developed xBKU on Android mobile app and helped integrate the solution into the SL Access infrastructure.



Worked closely with Famoco to **custom-tune Famoco Firmware.**



Leveraged our UX/UI design expertise to deliver a user-friendly and ergonomic solution that adheres to Swedish Work Environment Authority requirements.



Provided a flexible xBKU application architecture so that the solution could be easily adopted by other transport operators with little-to-no-customization.





We Achieved **Great Results Together!**

We have helped SL meet all the governmental requirements and pioneer a new connected ticketing device, offering a top-notch experience to passengers and conductors.

“Edvantis produced streamlined deliverables that generated positive reception from internal stakeholders. The team is ambitious and engaged in the projects, enabling minimal oversight and effective collaboration.”

Torbjörn Henryson,
Business Developer, Modulsystem

The updated solution of xBKU has been introduced also for Waxholms Ångfartygs AB (WÅAB) – a shipping company responsible for seaborne public transport in Stockholm archipelago and harbor.



Technical Product Specifications

Processor	Type	Quad-core ARM@Cortex-A53
	Speed	1.3GHz
OS		Secure Android (8.1)
Memory	RAM	2GB
	Mass Storage	16GB
Display	Characteristics	5" FW (960x480 pixels) IPS
	Touch Panel	5 Points Multi Touch
Secure Elements	Embedded SE	NXP TDA8029
	Removable SE	SAM slot (2FF format)
NFC	Operating modes	Reader/writer/peer-to-peer Card emulation (ISO 14443-A)
	Supported tags	NFC Forum 1,2,3,4. MIFARE
Connectivity	2G/GPRS/EDGE	850/900/1800/1900 MHz
	3G	850/900/1900/2100 MHz
	4G	FDD: 700a/700bc/700c/850/1700/1800 /1900/2600 MHz TDD: 2500/2600MHz
	Wi-Fi	Dual-band (2.4GHz and 5GHz) 802.11 a/b/g/n
	Bluetooth	4.2
Camera	Rear camera	8 MP with auto-focus, flash
	Front camera	5MP fixed focus
Speaker, Microphone, Accelerometer		Yes
Size	L x W x H	146*68*15.5mm
Weight		137g
Battery		4000mAh
Power supply		USB Type C DC Jack charger