



# Connected Infrastructure for Electric Buses

2nd Edition

*Connected Infrastructure for Electric Buses is the second consecutive report from Berg Insight analysing the latest developments on the intelligent transportation system and charging station market for public transport in Europe and North America. This strategic research report from Berg Insight provides you with 210 pages of unique business intelligence, including 5-year industry forecasts, expert commentary and real-life case studies on which to base your business decisions.*

# The ITS solution and charging station market for electric buses in Europe and North America to reach € 1.4 billion by 2027

The number of battery-electric buses has grown significantly in the last years. Berg Insight estimates that the number of electric buses in Europe and North America increased from about 1,000 in 2016 to around 16,000 in 2022. The growing fleets of electric buses have created new challenges for public transport operators and agencies. Limited driving range and the need to integrate charging stations have expanded the demand for intelligent transport systems (ITS) that bring together all the necessary infrastructure, including electric buses, charging stations and depots. The term ITS refers to information and communications technology applied to transport infrastructure and vehicles. Berg Insight's definition of ITS for public transport for the purpose of this report includes systems for communication between dispatchers and vehicle operators, automatic vehicle locator systems and automated dispatching systems. Other associated back-office IT systems are also part of the definition, including depot management, driver monitoring, scheduling and planning tools for vehicles and personnel, vehicle maintenance and charging station management software.

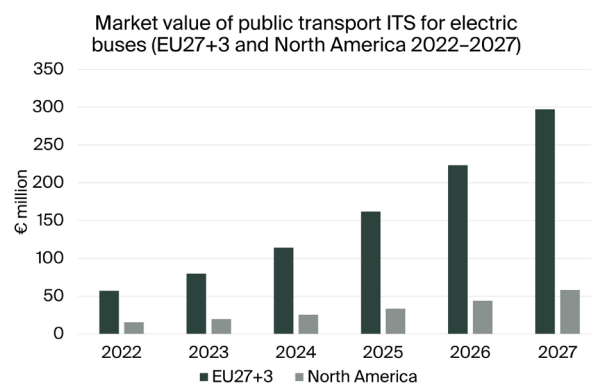
Berg Insight is of the opinion that the market for ITS solutions for electric buses is in a growth phase which will last for several years to come. Mega-challenges such as urbanisation, climate change and traffic congestion continue to encourage investments in electric buses and ITS, contributing to a positive outlook for the market. The increased energy prices following Russia's invasion of Ukraine and the supply chain issues following the COVID-19 pandemic have had limited adverse effect on the electrification of public transport. The total market value of public transport ITS for electric buses in Europe is forecasted to grow at a compound annual growth rate (CAGR) of 39 percent from € 57.1 million in 2022 to reach € 297.2 million by 2027. Vehicle and driver monitoring software as well as vehicle gateways are together estimated to account for € 15.6 million of the market value in 2022, while the corresponding number for charging station management software is € 10.6 million. In North America, the total market value of ITS solutions for electric buses is forecasted to grow at a CAGR of 30 percent from € 15.5 million in 2022 to reach € 58.2 million in 2027. Vehicle and driver monitoring software and vehicle gateways are estimated to account for € 4.1 million of the market value in 2022, while the corresponding number for charging station management software is € 2.9 million.

Some ITS players offer complete turnkey solutions including functionality for most of the ITS applications for electric buses utilised by public transport operators, but many vendors on the market are also specialised ITS players focusing on a few subsystems. Major international ITS players such as INIT, IVU, Trapeze and Clever Devices can provide complete turnkey solutions. INIT and IVU have customers mainly in Europe, while Clever Devices and Trapeze have stronger

presence in North America. Trapeze launched its solution for electric buses in 2020 and announced its first deployment in 2021. EQUANS is also a major global player and its CAD/AVL systems have been installed on electric buses both in Europe and North America. One of the leading telematics providers for electric buses is ViriCiti, which was acquired by ChargePoint in August 2021. Under the ChargePoint brand, the company offers hardware and software for the management of buses and charging stations in addition to a complete portfolio of charging hardware and software. Other important providers serving public transport companies with different types of solutions for electric buses include the Scandinavian companies Consat Telematics, FARA and Saga Tenix. The Canadian company GIRO is an important player in the scheduling and planning segment, while PSI Transcom is a prominent provider of depot and charging management software in Europe.

Most of the bus OEMs on the market offer conventional telematics solutions, but the strategies in the area of electric bus specific solutions vary between the players. The European market for electric buses is served by a variety of manufacturers. The Chinese company Yutong reached the highest number of registrations in 2022, followed by BYD ADL, Mercedes-Benz, Iveco Bus, VDL and Solaris. In North America, Proterra holds a leading position, and other notable players include BYD and New Flyer (NFI Group).

Charging stations play a significant role in the electrification of bus fleets. Berg Insight estimates that the charging station market value for buses in Europe and North America was € 160 million in 2022. Growing at a CAGR of 46 percent, the total market value is expected to reach € 1.1 billion in 2027. A group of vendors have emerged as leaders on the market for bus chargers. Examples of major charging station providers active in both Europe and North America include ABB, Efavec, IES Synergy, Heliox and Siemens. In Europe, Polish Ekoenergetyka is also an important provider.



# Table of contents

## Executive Summary

### 1 Public Transport in Europe and North America

- 1.1 Modal split of passenger transport
- 1.2 Bus fleets and public transport utilisation
- 1.3 Market shares for bus and coach OEMs
- 1.4 Electric vehicle types and electric bus fleet statistics
  - 1.4.1 Hybrid electric vehicles
  - 1.4.2 Plug-in hybrid electric vehicles
  - 1.4.3 Electric vehicles
  - 1.4.4 Electric bus fleet statistics
- 1.5 Organisation and contracting in public transport
  - 1.5.1 Legal framework in Europe
  - 1.5.2 Legal framework in North America
  - 1.5.3 Organisational forms and regional differences

### 2 ITS Technologies and Solutions

- 2.1 Public transport ITS infrastructure
  - 2.1.1 Vehicle segment
  - 2.1.2 Roadside segment
  - 2.1.3 Back-office segment
  - 2.1.4 Traveller segment
  - 2.1.5 GNSS segment
  - 2.1.6 Network segment
- 2.2 Public transport management
  - 2.2.1 Planning and scheduling tools
  - 2.2.2 Computer aided dispatch systems
  - 2.2.3 Traffic signal priority
  - 2.2.4 Depot management
- 2.3 Traveller management
  - 2.3.1 Passenger information
  - 2.3.2 Entertainment
  - 2.3.3 Fare payment
- 2.4 Driver management
  - 2.4.1 Driving data registration and analysis
  - 2.4.2 Video-based driver monitoring
  - 2.4.3 Insurance risk management
- 2.5 Vehicle management
  - 2.5.1 Vehicle diagnostics and maintenance planning
  - 2.5.2 On-board security solutions
- 2.6 Charging station management
  - 2.6.1 Station management
  - 2.6.2 Energy management
  - 2.6.3 The Open Charge Point Protocol (OCPP)

### 3 Charging Technologies and Standards

- 3.1 Electric vehicle charging
  - 3.1.1 AC and DC
  - 3.1.2 Charging modes and levels
- 3.2 Connector standards
  - 3.2.1 Type 1/SAE J1772
  - 3.2.2 Type 2
  - 3.2.3 Combined charging system (CCS)
  - 3.2.4 CHAdeMO
  - 3.2.5 North American Charging Standard (Tesla)
  - 3.2.6 GB/T
- 3.3 Electric bus charging
  - 3.3.1 OppCharge
  - 3.3.2 Depot charging
  - 3.3.3 Opportunity charging
  - 3.3.4 Battery capacity and charging time

### 4 Market Forecasts and Trends

- 4.1 Market analysis
  - 4.1.1 Electric bus forecast
  - 4.1.2 Market value forecast – public transport ITS for electric buses
  - 4.1.3 Market value forecast – bus charging stations
- 4.2 Value chain analysis
  - 4.2.1 Automotive industry players
  - 4.2.2 ITS and telematics industry players
  - 4.2.3 Charging station industry players
- 4.3 Industry trends
  - 4.3.1 Open architectures alter the ITS value chain
  - 4.3.2 Connected charging stations a requirement for public transport operations
  - 4.3.3 The future of opportunity charging remains uncertain
  - 4.3.4 The major bus OEMs have entered the electric bus market
  - 4.3.5 Standards improving interoperability essential for the electric bus market
  - 4.3.6 The electric bus market continues to grow in the aftermath of COVID-19
  - 4.3.7 Energy supply will be increasingly important issue for electric bus fleets
  - 4.3.8 Centralised power cabinets may save space and money in electric fleet depots

### 5 OEM Products and Strategies

- 5.1 Alexander Dennis (NFI Group)
- 5.2 Bluebus (Bolloré Group)
- 5.3 BYD
- 5.4 CaetanoBus (Salvador Caetano Group)
- 5.5 Daimler Truck Group
- 5.6 Ebusco
- 5.7 Gillig
- 5.8 Irizar e-mobility (Irizar Group)
- 5.9 Iveco Group
- 5.10 MAN Truck & Bus
- 5.11 New Flyer (NFI Group)
- 5.12 Proterra
- 5.13 Rampini
- 5.14 Scania
- 5.15 Solaris Bus and Coach
- 5.16 Switch Mobility
- 5.17 Van Hool
- 5.18 VDL Bus and Coach (VDL Groep)
- 5.19 Volvo Group
- 5.20 Yutong Group

### 6 Aftermarket Solution Providers

- 6.1 Actia
- 6.2 Allego
- 6.3 Atron
- 6.4 BP Pulse Fleet
- 6.5 Clever Devices
- 6.6 Consat Telematics
- 6.7 EQUANS
- 6.8 FARA (Ticketer)
- 6.9 GIRO
- 6.10 INIT
- 6.11 IVU
- 6.12 Optibus
- 6.13 Pilotfish (Voith)
- 6.14 PSI Transcom

- 6.15 Saga Tenix
- 6.16 Telia Company
- 6.17 Questar Auto Technologies
- 6.18 Trapeze Group (Modaxo)
- 6.19 Twaice
- 6.20 Verkehrsautomatisierung Berlin (Hanning & Kahl)
- 6.21 Webfleet
- 6.22 ZF Bus Connect

### 7 Charging Station Providers

- 7.1 ABB
- 7.2 BTC Power (Innogy)
- 7.3 ChargePoint
- 7.4 Circontrol
- 7.5 Efacec
- 7.6 Ekoenergetyka
- 7.7 Heliox
- 7.8 IES Synergy
- 7.9 InCharge Energy (ABB)
- 7.10 Kempower
- 7.11 SBRS (Shell Group)
- 7.12 Siemens
- 7.13 Tritium
- 7.14 XCharge

### 8 Case Studies: Electric Bus Projects

- 8.1 Arriva
- 8.2 Association du Transport Urbain du Québec (ATUQ)
- 8.3 Berliner Verkehrsbetriebe (BVG)
- 8.4 Keolis
- 8.5 Metropolitan Transport Authority (MTA)
- 8.6 Nobina
- 8.7 Qbuzz
- 8.8 RATP Group
- 8.9 Toronto Transit Commission (TTC)
- 8.10 Transdev
- 8.11 VR Group

### Glossary



## Highlights from the report

**Insights** from 30 new executive interviews with market leading companies.

**New data** on electric bus fleets in Europe and North America.

**Comprehensive description** of the electric bus ITS value chain and key applications.

**Profiles** of 22 aftermarket ITS solution and 14 EV charging hardware vendors.

**Summary** of 20 OEM propositions from electric bus brands.

**Case studies** of 11 electric bus initiatives.

**In-depth analysis** of market trends and key developments.

**Updated** market forecasts lasting until 2027.

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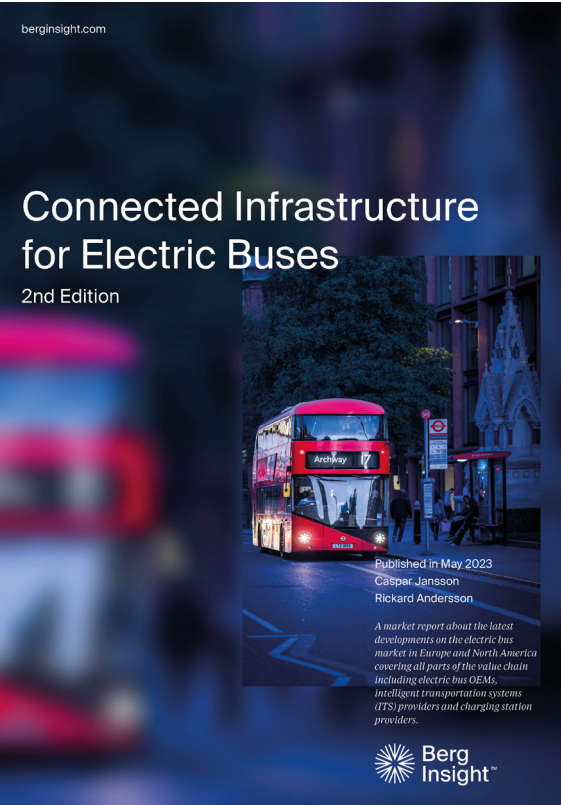
## This report answers the following questions

- What is the current state and size of the electric bus market?
- Which are the leading providers of public transport ITS solutions for electric buses?
- What offerings are available from vehicle OEMs?
- What equipment and service offerings are available from EV charging station vendors?
- What are the key drivers behind the adoption of electric buses?
- How are the regulatory developments affecting the electric bus industry?
- How will the electric bus and public transport ITS industry evolve in the future?



## About Berg Insight's IoT market research

Our market reports offer comprehensive information and analysis on key IoT technologies and markets, addressing important concerns including total addressable market, market penetration, market shares, industry landscape, regulatory environment, market trends and forecasts. Our research portfolio today comprises more than 60 items, where each market report focuses on a specific vertical application area or cover horizontal themes. All market reports come with complementary data sets in Excel format that can be easily analysed and converted into tables and charts. We offer a range of different license options together with bundled packages and subscriptions to suit your specific needs.



TRANSPORT & LOGISTICS

# Connected Infrastructure for Electric Buses

This strategic research report from Berg Insight covers the latest trends and developments on the intelligent transportation system and charging station market for electric buses in public transport. The total market value of public transport ITS for electric buses in Europe and North America is forecasted to grow from € 72.6 million in 2022 to reach € 355.4 million by 2027. Berg Insight at the same time estimates that the charging station market value for electric buses to grow from € 160.7 million in 2022 to € 1.06 billion in 2027. Get up to date with the latest information about vendors, products and markets.

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## Who should read this report?

Connected Infrastructure for Electric Buses is the foremost source of information about this market. Whether you are an ITS and telematics vendor, vehicle manufacturer, EV charging station vendor, telecom operator, investor, consultant, or government agency, you will gain valuable insights from our in-depth research.

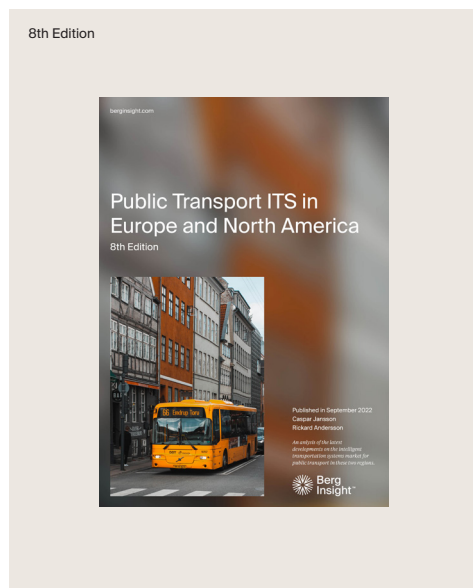
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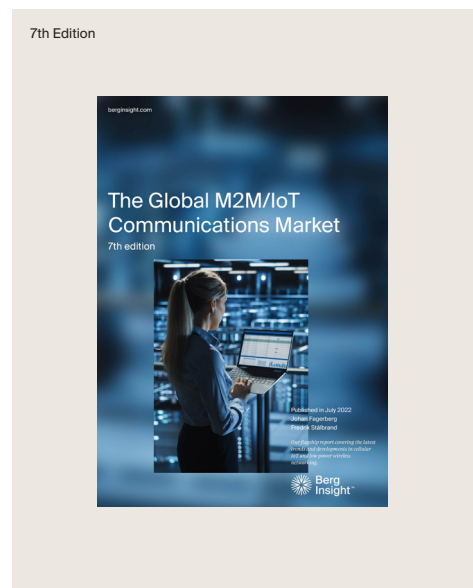
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