

linxon



Railway Reference Booklet

Key projects across the globe



North South Commuter Rail, Philippines

Customer: Hitachi Rail **End Customer:** Department of Transportation
Location: Manila, Philippines — Completion in 2027

The challenge

→ Linxon has been commissioned by Hitachi Rail to deliver electrification package on design and build basis which includes traction substation, power distribution and overhead catenary at 1500 VDC for Phase 1 of North South Commuter Rail (35.4 kms from Solis to Malolos) located in densely populated city of Manila.

Scope

→ The project scope involves the engineering, project management, supply, erection, testing and commissioning for the complete power supply and distribution scope. This includes traction substations, auxiliary substations, a 1500 V DC overhead catenary system and a supervisory control and data acquisition system for the electric traction power.

Benefits

→ Linxon is improving connectivity within City of Manila and integrate into the regional rail network, ensuring a reduced carbon footprint and greenhouse gas emissions over the years.



Tanzania Standard Gauge Railway (SGR), lots 3 and 4

Customer: Yapi Merkezi, Turkey
Location: Tanzania, Africa — Completion in 2027

The challenge

→ Linxon has been commissioned by Yapi Merkezi, a Turkish-based EPC company, to deliver electrification package for lots 3 and 4 of Tanzania's Standard Gauge Railway (SGR) project.

Scope

→ Linxon will deliver various 220/2x25 kV traction substations, 2x25 kV double auto transformers and 2x25 kV single auto transformers, as well as the substation control and protection system for these substations. We will also carry out various design and simulation studies for the project.

Benefits

→ Linxon in a single package offers complete power supply solution for lots 3 and 4 which is the backbone of the power infrastructure for these lots.



Chennai Metro Mass Urban Transit System

Customer: Chennai Metro Rail Limited (CMRL)
Location: Chennai, India — Completion in 2027

The challenge

→ Metro rail has one of the lowest carbon emission rates among mass transport systems. The need to cut congestion on roads, reduce journey times and provide meaningful sustainable solutions has seen a focus on moving people, not vehicles. Access to mass public transport is key to improving city livability throughout the Indian state of Tamil Nadu.

Scope

→ Design, manufacturing, supply, installation, testing and training, and commissioning of the power supply system for Phase 2 Corridor 3 (from Sholinganallur to Sipcot 2) & corridor 5 (from CMBT to Sholinganallur).
 → The project scope includes traction substations and auxiliary main substations, along with wayside substations and power cables, overhead catenary systems and a supervisory control and data acquisition system.

Benefits

→ This contract is part of Phase 2, which will significantly increase ridership and reduce congestion, particularly around Chennai's expanding IT hub.



BMRC Urban Transit System

Customer: The Bangalore Metro Rail Corporation
Location: Bangalore, India — Completion in 2026

The challenge

→ Supply of the complete power supply package (including third rail) for the new lines of the Phase II corridor Urban Mass Rapid Transit System in the city of Bangalore, India

Scope

→ The project scope involved the engineering, project management, supply, erection, testing and commissioning for the complete power supply scope; traction substations, auxiliary substations (along with power cables), a 750 V DC third rail system and a supervisory control and data acquisition system for the complete electric traction power, as well as the maintenance planning system installed at BMRC's operation control centre and integrated with the supervisory control and data acquisition system.

Benefits

→ Linxon has improved the efficiency of power supply by almost + 10% compared with competitors, while ensuring a reduced carbon footprint and greenhouse gas emissions by around 17 million metric tons over a lifetime period of 25 years.



Kochi Metro Mass Urban Transit System

Customer: Kochi Metro Rail Limited (KMRL)
Location: Kochi, India — Completion Date: 2022 and 2023

The challenge

→ Working on operating lines for extension for existing power supply network for new stations and the Integration of existing system by third party and new system supplied by Linxon.

Scope

→ Design, engineering, project management, supply, erection, testing and commissioning for the complete power supply scope for the expansion; traction substations and auxiliary substations, the power rings for the new systems, as well as a 750 V DC third rail system – basically a conductor rail providing electric traction power to railway trains and is placed outside of running rails.

Benefits

→ Single supplier which takes overall responsibility of complete traction power supply system for extension package.



Kolkata Mass Rapid Transit System (MRTS)

Customer: Rail Vikas Nigam Ltd. (RVNL)
Location: Kolkata, India — Completion Date: 2022

The challenge

→ For an old metropolis like Kolkata with lingering issues of over population, congestion as well as environmental pollution, ideal transportation solution is MRTS along with supplementary feeder bus service and adequate first and last mile connectivity.

Scope

→ Linxon turnkey scope involves project management, engineering, supply, erection, testing and commissioning of complete power supply scope for the two corridors. The project consists 13 traction substations and auxiliary substations and a 750 V third rail system, basically a conductor rail providing electric traction power to railway trains and is placed outside of running rails.

Benefits

→ Once operational, the system will nourish this public-transport oriented transit feature of the city and will cater the expectation and demand of the people by providing fast, reliable, safe and modern mass transportation mode.



Pink and Yellow monorail network

Customer: MRTA of Thailand

Location: Bangkok, Thailand — Completion Date: 2021

The challenge

→ Linxon was commissioned by Alstom to deliver electrification package on design and build basis which includes traction substation, power distribution for two monorail projects in Bangkok, which transport millions of city commuters in the Greater Bangkok area, while reducing air pollution and easing traffic congestion.

Scope

→ The project scope involved a bulk substation, traction and service substations, as well as critical equipment. Linxon provided a complete turnkey solution which includes engineering, supply, installation, testing and commissioning of the 115 kV AC/22 kV AC/750 kV DC.

Benefits

→ The substation package helps power both monorail projects, thus bringing respite to millions of commuters in Bangkok, easing traffic congestion and reducing pollution. This encourages a shift from road transport to more sustainable urban rail commuting.



Bangalore Metro phase I, India

Customer: Bangalore Metro Rail Corp.

Location: Bangalore, India — Completion Date: 2017

The challenge

→ Turnkey power supply for the first phase of the modern Bangalore Metro, comprising two corridors – the East-West corridor of 17.9 km length with 17 stations and the 20.8 km long North-South corridor with 21 stations.

Scope

→ The project scope involved the design, supply, installation and commissioning of four distribution substations rated at 66/33 kV, 38 auxiliary and 27 traction substations, transformers, switchgear, capacitors, relays and the associated cables and the SCADA system.

Benefits

→ Efficient and seamless management of various parameters of the power network, high system reliability and space saving design with compact gas-insulated and air-insulated switchgear.



Delhi Metro Rail Corp, phase 1 and 2

Customer: Delhi Metro Rail Corp

Location: Delhi, India — Completion Date: 2013

The challenge

→ Reliable partner for the electrification of metro line 1, 3, 4, 5 and 6 (phase I and phase II of DMRC).

Scope

→ The project scope involved the turnkey delivery of the complete electrification system, comprising design supply, installation, testing and commissioning, 370 track km of 25 kV overhead contact line and related 25 kV switching posts, three traction substations feeding the lines with one AC 25 kV and 150 auxiliary substations for the railway infrastructure, the SCADA system including asset and building and management systems.

Benefits

→ Reliable system completed ahead of schedule.



Great Western Electrification Plan

Customer: Network Rail Infrastructure Ltd.

Location: Southern England, United Kingdom — **Completion Date:** 2020

The challenge

→ In 2014, ABB Grid Integration (ABB EPC projects now delivered by Linxon) and UK Power Networks Services joined forces in a consortium to deliver a turnkey project for the creation of the new autotransformer feeder substations (25-0-25 kV) to deliver trackside power for Network Rail's Great Western Route Modernisation (GWRM) programme.

Scope

→ Engineering/design, manufacture, installation and commissioning of 25 kV substations (switchgear, transformers and automation including IEC61850 solution) along the 190 km route.

Benefits

→ The project is a critical element in the electrification of the Great Western railway to make travel more reliable, greener and smoother for passengers, as well as quieter for people living near the railway.

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