

**Success Story:**  
Beijing subway

**Markets Served**  
Transportation

*As a result of the successful implementation of the new subway line's power distribution system, Eaton has become recognized as an experienced, high quality resource for power management expertise.*

## Eaton Provides Value-Added Solution For Fastest Subway Line in Beijing, China

**Location:**

Beijing, China

**Segment:**

Transportation

**Problem:**

Provide optimal safety and reliability of the power system for the city's fastest and longest subway line.

**Solution:**

Eaton medium voltage switchgear and services.

**Results:**

Eaton has become recognized as an experienced, high quality resource for power management expertise and is expected to play a key role in future expansion projects.

**Background**

With an annual ridership of its subway system at 2.46 billion and growing rapidly, the government in Beijing recognized that the system required expansion to meet commuters' needs. The government knew that enlarging its subway system would reduce traffic congestion and lengthy commuting times, as well as decrease fuel consumption and air pollution.

A new subway line was designed to be Beijing's fastest (average speed of 100 km/h), longest (41.2 km from the east to west of the city) and provide the largest passenger carrying capacity (64 trains with eight cars each transporting 2,000 passengers every three minutes). To ensure the line's safety and reliability, the government required a state-of-the-art power distribution system from a supplier that could provide full coordination of the system.

**Challenge**

While the government wanted to accelerate the development and construction of the new subway line, it also needed to ensure that the power distribution equipment it selected would provide optimal safety and reliability. As it reviewed its requirements and suppliers' offerings, robust electrical distribution equipment from an industry leader and turnkey engineering services were top priorities.

**Solution**

An important selection criterion for this project was finding a supplier with expertise and experience in providing turnkey solutions and, most importantly, a track record of success.

Eaton medium voltage (MV) product line technical experts, service engineers and the sales team worked together to demonstrate the high quality of its broad product offering, as well as its extensive engineering capabilities. This included holding seminars to showcase its products, technology experience

and competitive strengths in power management, in addition to reviewing the overall product portfolio, advanced production techniques, and professional service capabilities.

After considering several international solution providers, Eaton was awarded the contract based on its ability to provide a complete, reliable power distribution solution using its 12 kV ET1 and E-VAC MV products, as well as technical and engineering expertise.

Eaton discussed its solutions with the engineers from the Design Institute, which was certified by the city's government to design the application, and the end user. By working together to identify needs and concerns, an optimal solution was developed.

As a result, the new 41.2 km subway line, which has 33 stops, uses 500 MV ET1 assemblies to distribute and supply electrical power for train transportation, communication, control management, lighting, air conditioning and heating.



Powering Business Worldwide

The ET1 is characterized by a high level of operational safety and reliability. It has a modular structure, compact and flexible design, is maintenance free and environmentally friendly.

### Results

As one of the few global, fully integrated manufacturers of MV equipment, Eaton provided a safe, reliable and efficient solution to meet the city of Beijing's power distribution needs.

With Eaton's ability to provide full coordination of the entire power distribution system, the government has the assurance that all equipment, from components and assemblies to control and monitoring systems, communicate with each other. The products are built to work together, effectively and efficiently, and the entire system has one interface, demonstrating Eaton's ability to supply a complete solution.

As a result of the successful implementation of the new subway line's power distribution system, Eaton has become recognized as an experienced, high quality resource for power management expertise. With the burgeoning expansion of the Chinese subway system, it is anticipated that based on the company's ability to provide an optimal solution for the new subway line, Eaton will play a key role in future projects.



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