America’s railroad business is changing. The overall demand for more flexibility, shorter transportation times and increased safety calls for innovative system solutions to keep your trains at speed.

With more than six decades of train control experience, Siemens offers you tailored solutions for your complete production chain; from intelligent IT-based applications for control centers over vital train control systems down to in-tie switch machines and fail-safe speed sensors for locomotives.

As one of our signature products, Trainguard PTC, the Siemens solution for Positive Train Control, is your choice for maximum safety without operational compromises. Since Siemens understands your business and your priorities, we deliver more than just hardware. Our solutions come with integration services, proven interoperability and best-in-class maintenance support.

With Siemens you make your decision for secure investments and for a strong partner for your challenges ahead. Experience the Siemens experience!
Vital PTC solutions for North America

Fully tested, reliable and proven PTC design

PTC is the train control system of the future. Reducing the need for maintenance-intensive trackside infrastructure and increasing the safety level, PTC features the perfect cost-benefit balance for every railroad.

As an experienced system provider and integrator, Siemens offers you individual PTC solutions tailored precisely to your demands:

- Our powerful SCADA-platform is the key to your individual back-office solution. Siemens Rail-IT solutions in operation today control everything from small local railroads up to high-traffic, highly dynamic metropolitan commuter lines with 90 second headways.

- Trainguard PTC OBU keeps your train on track, safely and with precise location determination and superior braking algorithms for operations without compromise. Of course, we are also uncompromising when it comes to safety: Our vital, fail-safe OBU follows the tradition of its siblings Trainguard ETCS and Trainguard MT (Mass Transit), which achieve SIL-4 safety standards.

- Siemens is used to successfully integrating various communication systems (e.g. GSM-R or Wi-Fi) and all kinds of trackside beacons. So whatever WIU manufacturer or CDM provider you prefer, Siemens Trainguard PTC will seamlessly integrate and make your PTC installation operational.

Mature solutions, tested in labs and on site

An important success factor for systems integration is a comprehensive lab environment. The Siemens PTC lab therefore allows for fully-automatic and reproducible tests for various purposes:

- Real Hardware-in-the-Loop tests of subsystems to check system behavior. Comes together with reality-like interfaces on all system levels.
- Tests on component level, subsystem level or system level for verification and validation of requirements.
- Integration of genuine components (e.g. WIU) to achieve reality-like simulation conditions.
- Sophisticated simulation of train dynamics and dynamic train behavior (including slip & slide effects and GPS failures) based on a 20-year data pool of real sensor data.

This PTC lab environment, which stands on the shoulders of test and simulation environments for ETCS, Trainguard MT and the Transrapid MagLev train, enables us to minimize on-site testing. Thus our customers benefit from a shorter time-to-market, minimized costs and highly mature systems upon delivery.

Interoperability proven, not assumed

In more than 20 years of ETCS development and deployment, Siemens gained unequaled experience in providing interoperable systems that work with multiple vendors in multiple countries for multiple railroads. As interoperability has become our daily business, we are ready to prove technical and operational compliance with all applicable specifications, either in the lab or in the field. Bit by bit. Scenario by scenario. Together with the railroads.

Vendor neutral, built-in scalability

As interoperability has become our daily business, we are ready to prove technical and operational compliance with all applicable specifications, either in the lab or in the field. Bit by bit. Scenario by scenario. Together with the railroads.

Trainguard PTC OBU

The ruggedized onboard unit for your rough daily business

The onboard unit Trainguard PTC OBU is the heart of our PTC system and beats with the rhythm of your daily operation. Providing proven interoperability and the highest safety standards it is the first choice to set your locomotives on track towards federal mandate compliance.

The OBU uses the same SIL-4 hardware platform which has been deployed in hundreds of installations of Trainguard ETCS and Trainguard MT. To meet all environmental requirements of American railroads, we clad our proven hardware with an LSI-compliant, dust-proof, fan-free, conduction-cooled housing.

Vital location determination

The OBU comes with the Siemens speed sensor and a diverse GPS solution for vital location determination:

- The speed sensor can safely distinguish broken cables from locomotive standstill.
- The GPS solution uses diverse GPS signal sources to rule out systematic failures.
- Interoperable systems integrations, the OBU dynamically calculates the precise braking distance to the next signal or speed restriction. Together with our vital location determination, this brings you closer to the next stopping point than ever.

Built-in scalability

The OBU features powerful computer platforms for vital and non-vital applications. The non-vital platform has been especially designed with future expansions in mind. We understand PTC as the first step towards a computerized, highly automated and efficient way of freight train operation. Therefore our computer platforms provide sufficient reserves to run additional applications such as automatic train control. This makes Trainguard PTC OBU a secure investment for the railroad operations of tomorrow.

Everything you want. And more.

Siemens is your competent partner for every aspect of train operation and control. The spectrum of our services range from pure hardware deliveries to the execution of complete retrofit projects for locomotive fleets including installation, commissioning and approval. We will help you to define the level of service that best fits your situation.

When it comes to customer-specific developments, our US team of train control experts is ready to create your individual, interoperable solution; the same team that implemented the Trainguard PTC OBU, so minimal efforts and tight integration are guaranteed for your solution.
The information provided in this brochure contains merely general descriptions or characteristics of performance which in case of actual use do not always apply as described or which may change as a result of further development of the products. An obligation to provide the respective characteristics shall only exist if expressly agreed in the terms of contract.

All product designations may be trademarks or product names of Siemens AG or supplier companies whose use by third parties for their own purposes could violate the rights of the owners.