



NEXSYS™ advanced applications

Proven Control Systems and Connectivity Solutions for all areas of your operation.

Whether you are rebuilding your locomotive or simply upgrading the electrical systems, NEXSYS III-i will give you the best value for your investment in locomotive improvement. This microprocessor-based locomotive control system features a reliable, compact design, locomotive adhesion improvement, and integrated AESS technology. Beyond the standard applications, ZTR can customize NEXSYS III-i control to advanced applications that demand more complicated applications and additional accessories.



For **Mother-Daughter** (MD) applications, an accessory kit can help extend NEXSYS level control from the NEXSYS-equipped mother unit to the daughter unit. This allows a unit to deliver more tractive effort during slow speed switching operations.

For **Rotary Snow Plows** (RSP), applying NEXSYS automates the control of the plow to ensure reliable and consistent performance under critical operations.

For **Maintenance-of-Way** (MOW) trains, applying NEXSYS and a custom accessory kit can give you control, diagnostics and connectivity throughout your train.

Improve the reliability and availability of your locomotives, even in advanced applications, with a locomotive control system you can trust and a provider that's proven in critical applications.

Proven NEXSYS benefits

- Improve dry-rail adhesion performance by up to 44%*
- Improve wet-rail adhesion performance by up to 29%*
- Increase free space in your high voltage cabinet by over 60%**
- Proven microprocessor technology replaces old relay logic or modules
- Powerful on-board diagnostic display
- Integrated with SmartStart®, the most trusted AESS on the market
- Improve reliability and eliminate extra modules with an integrated voltage regulator including battery charging and current limiting features

* Independent testing by TTCL, a wholly owned subsidiary of AAR

** Based on a typical SD40-2 locomotive

Advanced applications

Mother-Daughter train sets

The improved control and other NEXSYS III-i benefits can be applied to mother-daughter applications with the NEXSYS III-i MD module. Outfit your pair with the whole system or add the MD module to the daughter unit of a NEXSYS III-i equipped mother locomotive. The NEXSYS III-i and the NEXSYS III-i MD are a winning combination that will extend the life of your locomotives and greatly improve overall reliability and performance.



Improved adhesion

The traction motor limiting and stall protection features of the NEXSYS III-i offer wheel slip detection and control, as well as specific sending control for the daughter unit.



Advanced diagnostics

NEXSYS III-i diagnostics and feedback on operating parameters for the daughter unit to allow better performance and operation of the slug.



Simple assembly

This innovative, modern design provides greater control of the daughter over Ethernet, while being flexible to configure the system to your specific requirements.



Increased battery reliability

NEXSYS III-i controls light load shedding on the daughter unit to conserve overall power.

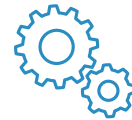
Rotary snow plow

The rotary snow plow is a critical element of a fleet for heavily snow covered routes. The NEXSYS III-i RSP ensures high asset availability and improves reliability using an advanced and customized control system.



Advanced operational efficiency

A NEXSYS III-i control system reduces the complexity from manual control by enabling a single engineer to operate and monitor parameters including ground speed, blade rotation speed, and tractive effort.



Improved tractive effort

By applying NEXSYS III-i level tractive effort control, rotary snow plow applications have demonstrated increases 5 times the original speed, even in mountain pass routes.



Increased reliability

Even during slower peak periods, a Rolling Stock Programme (RSP) locomotive is in high demand, so reliability is crucial. Replacing the control system with a NEXSYS III-i delivers highly reliable components, a compact design and ZTR 24/7 service to improve the uptime and availability of the RSP.

Maintenance-of-way train

ZTR is experienced in providing advanced locomotive control and connectivity to improve the reliability and availability of your fleet. You can apply our expertise to more advanced applications including MOW work trains to give full, end-to-end control, integration with existing systems, more connectivity to your locomotive, and more.



End-to-end control

Application of a NEXSYS III-i Control System to a MOW work train provides NEXSYS-level control from one end to the other and back. You can install one control system with some additional sensors and displays for the same control at both ends without buying multiple systems.



Advanced operator display

Beyond the standard Human Machine Interface (HMI) with the control system, additional Integrated Locomotive Displays (ILD) provide insights at both ends of the train to operating parameters, head-of-train/end-of-train systems, electronic airbrake connectivity and more.



Integration with on-board systems

The NEXSYS III-i MOW solution allows for improved control with the ability to run the locomotive off a belt pack and Remote Control Locomotive (RCL) system. ZTR also provides its proven slow speed control to further improve locomotive control on RCL applications.



Railway IoT remote monitoring and diagnostics

Advanced diagnostics and connectivity improve the reliability and availability of a locomotive. With ZTR, you can go beyond health diagnostics with advanced fault, information, troubleshooting, utilization data and more, available through an easy-to-read onboard display.

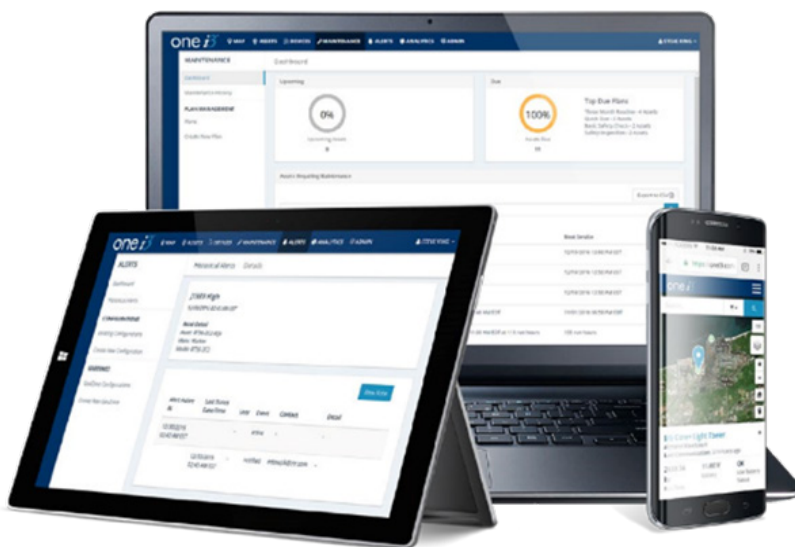
Beyond control to advanced connectivity

Why partner with ZTR?

As experts in locomotive modernization and Railway IoT, we're dedicated to creating solutions for improving the control, reliability and connectivity of your fleet.

Benefits of working with ZTR

- Nearly 30 years as locomotive modernization experts
- Over 400,000 assets monitored worldwide
- Customized solutions backed by 24/7 technical support
- Multiple solutions to meet the needs of your locomotive fleet and railway equipment
- Proven applications of NEXSYS III-i control systems in advanced applications including mother-daughter, MOW train and rotary snow plow locomotive applications



Integrated. Intelligent. Interactive.

Contact your ZTR Account Manager today for more details.