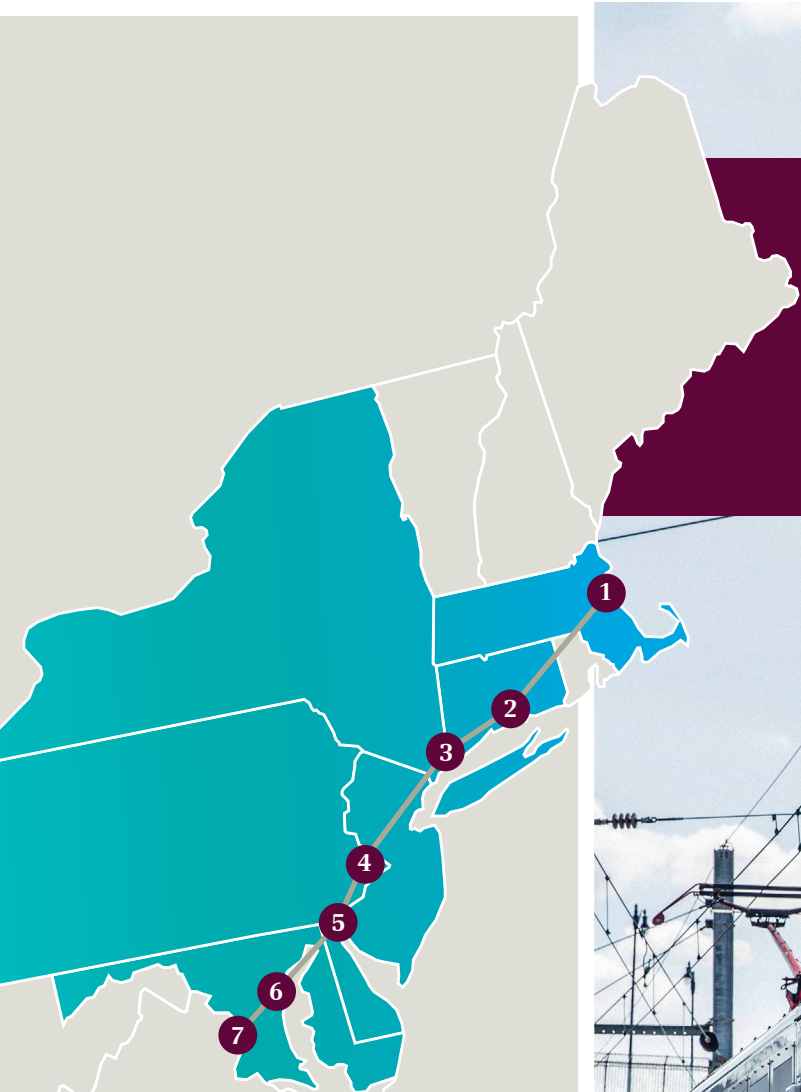


*Manufacturers from across  
the Northeast Corridor  
contribute components to the  
ACS-64 Electric Locomotive*



- 1** BOSTON, MA  
Rubber Parts
- 2** NEW HAVEN, CT  
Lighting
- 3** NEW YORK, NY  
Plastic Parts
- 4** PHILADELPHIA, PA  
Handrails, Seats,  
Event Recorder/ LDVR,  
Wheel Set Assembly
- 5** WILMINGTON, DE  
Paint, Insulation
- 6** BALTIMORE, MD  
Brakes
- 7** WASHINGTON, DC



Published by  
Siemens Industry, Inc. 2018

Mobility Division  
498 7th Avenue  
16th Floor  
New York, NY 10018  
United States

*Contact for information:*  
Rolling Stock Business Unit  
7464 French Rd  
Sacramento, CA 95828  
(916) 681-3000  
[mobility.communications.ic@siemens.com](mailto:mobility.communications.ic@siemens.com)

Printed in the USA on 50% Recycled Paper

Subject to changes and errors. The information given in this document only contains general descriptions and/or performance features which may not always specifically reflect those described, or which may undergo modification in the course of further development of the products. The requested performance features are binding only when they are expressly agreed upon in the concluded contract.



The Siemens logo is displayed in a bold, teal, sans-serif font. It is positioned in the upper left corner of the image, within a white rectangular box. The background of the entire image is a photograph of an Amtrak train crossing a stone bridge over a river. The train is white with blue and red accents and features the Amtrak logo and the number 503. The bridge is made of large, dark stone blocks and has several arches. A large tree trunk is visible on the right side of the frame. The sky is blue with some clouds. The overall scene is bright and clear.

**SIEMENS**

*Ingenuity for life*

# Amtrak Cities Sprinter

Built across America by Siemens

[usa.siemens.com/mobility](https://usa.siemens.com/mobility)



Siemens and more than 60 manufacturers in over 20 states are part of a national community building state-of-the-art (ACS-64) electric locomotives.

The next era of high-performance, energy-efficient electric locomotives will enable Amtrak to provide improved performance, reliability and mobility for regional and intercity routes along the country's heavily-traveled corridors.

A true "Made in America" manufacturing and technology transfer story, Siemens—a global leader in rail innovation—is producing the locomotives at its solar-powered rail manufacturing plant in Sacramento, Calif., with major components sourced from more than 60 suppliers, manufacturers and distributors from more than 50 cities and over 20 states.

#### Economic Growth

Amtrak is modernizing its equipment fleet to meet growing demand and help America compete in the global marketplace. The new locomotives will power the economic future of the Northeast region when they enter revenue service on one of the busiest rail segments in the world.

#### Mobility

The new ACS-64 locomotives will operate on Northeast Regional trains at speeds up to 125 mph on the Northeast Corridor (NEC) along the Washington—New York—Boston route and on Keystone Service trains at speeds up to 110 mph on the Keystone Corridor from Philadelphia to Harrisburg, Pa. In addition, all long-distance trains operating on the NEC will be powered by the new locomotives.

#### Reliability

The new equipment will be replacing locomotives that have been in service between 25 and 35 years with average mileage of more than 3.5 million miles. In total, the current fleet has traveled more than 200 million miles.

*70 new locomotives*  
new electric locomotives are  
replacing ones that have been in  
service from 25 to 35 years

# State-of-the-Art Features & Benefits

## Power

The ACS-64 locomotive will have a peak of 8,600 horsepower (6.4 MW) with excellent acceleration capabilities to attain revenue service speeds of 125 mph pulling up to 18 Amfleet coach cars, while at the same time providing up to 1,000 kVA (1 MVA) of head-end power for auxiliary train equipment such as interior lights, electrical outlets and air conditioning and heating for passengers.

## Regenerative Braking

The electro-dynamic brake system of the ACS-64 has the ability to put a maximum of 5 MW of electricity back into the catenary overhead power source during regenerative braking. The regenerative braking can feed up to 100 percent of the energy generated during braking back to the power grid.

## Safety

The Amtrak-specific design meets the latest Federal Railroad Administration (FRA) safety requirements including crash energy management components like front-end strength and a crumple zone for collision with large objects, in addition to an enhanced safety cage, push back couplers and anti-climber functionality.

## Maintenance

The ACS-64 locomotive has been designed for improved safety and reliability. Its enhanced design also allows for more efficient and cost-effective maintenance to ensure locomotives are returned to service as quickly as possible.

## Smart Technology

The state-of-the-art microprocessor system installed in the locomotive allows for self-diagnosis of technical issues. The on-board computer system can notify the engineer and operator of any maintenance issues and can take self-corrective action to maintain operation of the locomotive and ensure safety. For example, the computer may identify a technical issue and can automatically notify the engineer, switch to a back-up or redundant system or decrease speed and operational performance if necessary.

## Redundancy

The ACS-64 is based on Siemens' newest platform, the Vectron. For example, dual auxiliary inverters provide redundancy to ensure that heating and cooling systems, lighting and door systems remain in service should one inverter fail.

## Energy Efficiency

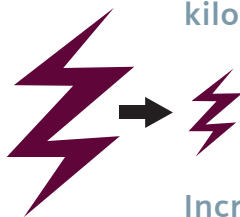
The 70 new locomotives are equipped with regenerative braking, which allows energy to be fed into the power system for use by other trains. The manufacturer estimates that when fully deployed and operated as designed, the regenerative braking feature may result in the generation of 3 billion kilowatt hours of energy.

At an estimated 10 cents per kilowatt hour, the energy generated equals \$300 million in electricity being returned to the power system for use by other trains. This is compared to locomotives that do not have this state-of-the-art regenerative capability.

## The 70 new locomotives

could save over

**3 billion**  
kilowatt hours of energy



## Increased energy efficiency

could result in more than

**\$300 million**  
in savings over 20 years



Regenerative  
braking  
can feed up to



of the energy generated  
during braking **back**  
to the power grid

## Performance on the Move

### Offering tailored service

Efficiency counts – everywhere in the United States. As an operator, you are completely focused on the business of service and transportation. You not only need easy-to-maintain vehicles, but an expert service partner.

Effective operations require maximum availability, which can only be ensured through service and maintenance, precisely tailored to your needs. Siemens customer service and maintenance programs will support all the operations and service plans your business requires. After all, putting great things in motion means having reliable vehicles available – at all times.

To ensure the locomotive engineers and mechanics are properly trained, Siemens and Amtrak have developed a multi-pronged approach that includes classroom and instructional time, software-based training and simulation, and hands-on training in the field at Amtrak's Wilmington test track. With more than 2,000 course hours slated as part of the program, Siemens and Amtrak began training on the electric locomotives in spring 2013. This will continue through 2014 and as Siemens completes delivery in 2015.



## Manufacturing in America

### Supporting a comprehensive domestic supply chain

The Amtrak locomotives are being assembled at the Siemens Sacramento, Calif., rail manufacturing plant powered by renewable energy, with parts built from its plants in Norwood, Ohio, Alpharetta, Ga., and Richland, Miss., and provided by more than 60 suppliers, representing more than 50 cities and 20 states. The locomotives are being built in excess of Amtrak's Buy American standards which require 51% of components come from "local" or U.S. suppliers.



Building the ACS-64 is providing work for:

- Over **60** suppliers
- More than **20** states
- Over **50** cities

*"The new Amtrak locomotives will help power the economic future of the Northeast region, provide more reliable and efficient service for passengers and support the rebirth of rail manufacturing in America," said Amtrak President and CEO Joseph Boardman. "Built on the West Coast for service in the Northeast with suppliers from many states, businesses and workers from across the country are helping modernize the locomotive fleet of America's Railroad."*