RAILWAY SUPPLY INSTITUTE
Support, Connection, Advocacy

50 F Street, NW | Suite 7030 | Washington, DC 20001 | phone (202) 347-4664 | fax (202) 347-0047 | www.rsiweb.org

"Great Recession" slows rail traffic, but not supplier innovation

By Tom Simpson, RSI Executive Director

Even as the "Great Recession" has curtailed rail traffic, railroads are working with rail suppliers to test and deploy new systems. While Positive Train Control (PTC) garners most of the headlines, innovations in information technology, energy conservation, and refinements in equipment are steadily making rail operations more efficient and effective:

- Electronically-controlled pneumatic (ECP) brakes enable longer trains to stop faster, brake more precisely, save fuel, reduce wear and tear, and travel farther between inspections.
- Computerized camera inspection systems monitor railcars, wheels, and track for defects, reducing downtime and improving safety.
- Engineer assist systems provide engineers with brake and throttle settings for optimal operation, reducing fuel use and improving on-time arrival.
- Better materials, unique coatings, monitoring devices, and improved valves and fitting protection are increasing the safety and security of tank cars transporting hazardous and toxic materials.

Rail suppliers partner with their railroad customers to deliver the innovation they need, but to what extent? To find out, the Railway Supply Institute (RSI) surveyed our membership to find out who is spending how much on what kind of research and development.

Twenty-eight suppliers responded to our e-mail survey, identifying themselves as locomotive, freight car, or passenger car builders, component suppliers, or as working in communications and signaling or maintenance of way (some have multi-discipline research and development efforts):

- Nearly half of our respondents said that more than half of their R&D is driven directly by their customers' requests.
- Ten of our respondents are "big spenders" on research and development, laying out more than $1 million a year on new technologies. Five spend more than $5 million annually.
- Despite the recession and downturn in operations, only two respondents have reduced their research and development spending over the past five years, and 11 are increasing their investments.

"These results are extremely positive," said Bob Pokorski, director of engineering for Miner Enterprises. "This survey was done in February and even then, in a down economy, with the downturn in car orders, rail suppliers are still optimistic about their future. It points to a healthy rail supply industry."

Locomotives

Of the sixteen companies that build or supply components for locomotives, five spend more than $5 million a year on research and development and six are increasing their investment in new technologies. Component suppliers are particularly aggressive in their R&D efforts.

Nine of the sixteen said that more than half of their research work is driven directly by their customers. The results? Again, Positive Train Control is mentioned most often, but work in other areas continues. Emissions control and silencers will increase "greenness." Fuel efficiency, friction management, and better wheels and components will improve efficiency. Finally, locomotive suppliers reported that they are responding to recent investments by improving their high-speed rail portfolios.

Cars

Twenty companies building or providing components for freight cars responded to our survey and, given the projected new car builds, we should not be surprised to learn that they are being more cautious than those supplying locomotives. Three suppliers spend more than $5 million per year on new products and innovation. However, more than half of those responding reported a budget of less than $500,000 for R&D and no increases in these budgets over the past five years.

Eleven companies reported that their customers' needs drive most of their product development work. They report that they are working on interior linings, valves, and gauges for safer tank cars, exterior paint and improved car designs that last longer, and load securement systems to reduce freight damage.

The RSI's tank car committee works regularly and closely with the Department of Homeland Security (DHS), the Department of Transportation, and Transport Canada on new product specification, according to William Finn, vice chairman of the Railway Supply Institute's Committee for Tank Cars. "Right now, we are looking at roll-over protection to prevent fittings from being damaged and potentially leaking commodities, and self-sealing valves in case the fittings do get damaged. But this is an ongoing dialog and what's evolving is a more safe and secure tank car."

Finn pointed to the recent AAR announcement noting that 2009 was the safest year ever for railroads. "RSI members are a big part of that. We are doing the research and bearing the costs. Since the 1970s, for instance, the tank car committee has spent more than $500,000 a year to work with first responders, the DHS, and the FRA to improve tank cars by collecting data on the causes and results of tank car damage and derailment."

On the passenger side, five suppliers reported their research work. As with the locomotive suppliers, they are doubling down on the recent investments and interest in high-speed rail – all are either maintaining or increasing their R&D budgets. These budgets tend smaller than those of other suppliers. Customers drive most of this work for four of five.

"In transit, a lot of the development is done by the customers and the innovations are shared among the major systems," said Charles Wochele, vice president, industry and government relations for Alstom Transportation. "You find New York's MTA sharing ideas with the Paris Metro, for example."

Maintenance of Way/Communications and Signaling

Increased speed and reliability are the foci for the six reporting maintenance of way suppliers; the four C&S companies are looking at technologies to use solar and fuel cell energy in isolated, dark territory applications. These companies' research and development budgets are smaller than those in other categories – five spend less than $100,000 a year – and only three of ten have increased that number over the past five years.

"Signaling companies are largely international companies," Wochele said. "Some of this research and development is being done overseas and imported to the US."

Going Forward

Rail suppliers continue to make a significant investment in their customers' futures, banking their own survival on the expansion of the AAR market and the continued willingness of those railroads to innovate. And they understand that the only rational way to go forward is to work directly with their railroad partners in making new technologies work in the real world, and giving their customers significant control over the direction of their new product development. Even in the downturn, things are looking up.

Tom Simpson is the executive director of the Railway Supply Institute; for more information about the Railway Supply Institute, go to www.rsiweb.org.