

SAME TRACK

THE CULTURAL NEWSLETTER FOR WABTEC EMPLOYEES

Competitive Edge

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Leader's Letter

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Managers' Roundtable

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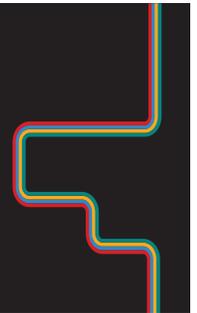
Frontline Spotlight

Rick Osborne and his manager, Alex Dobry, discuss Rick's approach to solving problems, which has helped his team adapt to the new demands of MNR locomotives.



Picture This

See how we transformed work locomotives for New York City Transit from a health risk into low-emission hybrids to make workers and commuters safer.



Leader's Letter

We Are Problem Solvers

Leaning on the legacy of ingenuity

Justin Downs explains how the history of Wabtec has been built on solving problems — and how that identity will shape our future, too.



Team,

Wabtec's success is rooted in our team's ability to overcome challenges and solve problems. It started with our founder, George Westinghouse, who solved the best way to stop a train efficiently and safely by introducing the air brake. For more than 150 years, we followed in his footsteps by bringing solutions that address challenges facing the industries we serve.

Each day we face problems, big and small, to providing the products and services our customers need to succeed. In this edition of the *Same Track* newsletter, we focus on how our team tackles problems to deliver for our customers. The stories will demonstrate the qualities that make these teams and individuals successful problem solvers — adaptability, creativity, collaboration, persistence, and a positive attitude.

All those attributes will prove useful when tackling never-before-experienced business challenges, like how to launch a new product innovation with speed, scale, and quality to tackling global challenges including inflationary and supply chain pressures, labor challenges, a war in Ukraine, shortages in energy supply, and a lingering pandemic.

Our motto in Global Operations is "We Deliver." As we take on these challenges, our team must be proactive in identifying problems and roadblocks, creative in developing solutions, and collaborative in our approach. This is important to our customers and shareholders and will position the company to be more flexible and cost-competitive, which attracts more work and accelerates growth. Ultimately, everyone will benefit as our team strengthens our ability to solve problems.

The stories in this newsletter are just a small sample of the great work our teams around the world are doing to overcome challenges. There are many examples of this great work happening every day across our function. I encourage you to share your stories with us. It is an opportunity for all of us to benefit from our collective experiences and lessons learned.

Thanks for your hard work and dedication,

Justin

JOIN OUR GLOBAL EDITORIAL BOARD

We're seeking employees from all regions to serve on the editorial board for this publication. You'll build global connections and help make the people in your plant or facility more visible. The time commitment is just one 30-minute meeting per month. If you're interested in joining, please email WabtecCommunications@wabtec.com.

Competitive Edge

Expecting the unexpected

Solving problems with an adaptable team

Vimlendra Yadav and his cross-functional team in Bihar were able to overcome an unexpected price hike in APUs by bringing the build in-house.



Many of our biggest successes come when our original plans fall through and we have to adapt. From an unexpected price hike to the onset of COVID-19 regulations, Vimlendra Yadav, Manufacturing Operations & Technology Transfer Lead in Bihar, India, and his team had a lot to handle to get the auxiliary power units (APUs) they needed. Here, he explains the different levels of challenges, as well as how a cross-functional team came together to overcome them.

Bringing it in-house

During Q1 of 2020, Vimlendra's team learned that the APUs they were planning to source from Molinari, a German supplier, were going to increase in price by more than 64%, which would be a huge hit to the bottom line. "To mitigate the risk to

the locomotive delivery schedule and optimize cost, we decided to modify the plan and insource," Vimlendra says.

Groups across the whole facility had to come together to find a way to build the APUs. "We worked as a cross-functional team, including Sourcing, Engineering, Manufacturing, Fulfillment, Tech Transfer, Supply Quality Engineers, and Finance," Vimlendra says. "Together, we brainstormed and came up with a solution to move out from Molinari and start manufacturing APUs in Marhowrah, India."

Moving this process over to Wabtec facilities and resources was no small feat, with challenges and roadblocks at each step. The original Molinari purchase was designed against specifications, with the design owned by Molinari. The design

team at Wabtec ended up transferring and tweaking the Molinari design instead of creating a new one altogether.

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When the world shut down

Once the design was laid out, the manufacturing challenges began. “Due to COVID-19, the team couldn’t travel to the Molinari site to look at their manufacturing setup, which would help them understand the work process,” Vimlendra says. “Instead, they had Molinari develop manufacturing instructions with visuals and went through step-by-step virtual walk-throughs.”

The team also knew that they would have to make process adjustments and improvements all along the way if they wanted to reach the level of efficiency that they projected with Molinari. Vimlendra explains: “Several of our teams collaborated to set up the supply chain for parts fulfillment. They started by using mostly Molinari-approved sources, then localizing to bring down the cost once they became more familiar.”

Gradual efficiency improvements were also necessary when it came to labor. “We started the APU build with 145

manufacturing hours — significantly higher than the estimate of 90 hours,” Vimlendra says. “The team worked to optimize the process flow and remove waste, eventually bringing it down to 105 hours.”

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Since this crisis, the team has worked towards a dual-sourcing strategy to mitigate risk on critical parts.

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Planning for problems

Vimlendra sees this experience as a valuable learning opportunity to be more prepared for the unexpected in the future. “We are investing more into business

continuity planning for all critical parts, especially with purchase spec items,” he says. “Since this crisis, the team has worked towards a dual-sourcing strategy to mitigate risk on critical parts.”

This whole endeavor was a challenge, and Wabtec workers had to learn a whole new sets of skills, including what was required for testing once the build was complete. “I’m so proud of the teamwork that went into this,” Vimlendra says. “So many people went above and beyond, including Rodger Pillay (TTA), Gaurav Mukherjee (Operations), Giri Balu (Engineering) and Abhishek Nirmal (Materials), along with guys from the shop floor, like Rishi and Rakesh.”

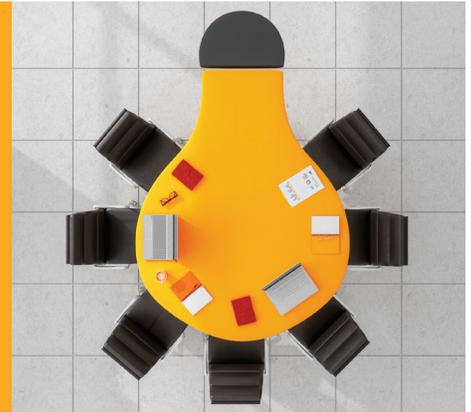
Overall, despite all the challenges, Vimlendra and the team were able to stay on time. “We’ve been able to meet the loco delivery schedule without any fulfillment hurdles related to APUs,” he says. “Because of this insourcing, we even brought more work to Bihar.”

Managers' Roundtable

Turning Problems into Opportunities

Using our challenges as a chance to grow

Managers from Erie and Bihar share how Wabtec employees are solving the world's biggest problems by working together.



Why is problem-solving important if we want to move and improve the world?

Christopher: Everything we do deals with problems of one kind or another. In Erie, PA, we deal with supply chain issues, labor issues, and quality issues every day. If we can't come to an agreement on what the problem is and come up with a resolution for it, we're going to be at a standstill — and that's not going to be good for our customers.

Shivam: In our day-to-day routines, we have problems in our work, from our families, or with our friends. Developing the skill of problem-solving is important because it means we can find an opportunity to move and improve the world anywhere we look.

Lokesh: For a customer, a problem is going to lead to a loss of efficiency, productivity, revenue, or safety. For Wabtec, a problem is an opportunity to work, provide a solution, and make the customer happy.

Joshua: If we don't tackle the big problems that are in front of us, or even the small ones on a day-to-day basis, we'll never really make that progress toward our overall goals.



How is Wabtec taking on some of the big problems that the world is facing?

Christopher: This year alone, we're going to build two FLXdrive platforms, which are battery operated, and that's really exciting for us. We're also looking at building chassis trailers for the intermodal hubs industry to help out with shipping the containers from the ports into the intermodal facilities within the country.

Shivam: Problems come with opportunity. The digital team in India is working on one solution, called Smart Yard, for Indian Railways where we can perform some in-service inspections on wheels and bearings on the locomotive.

Lokesh: Innovation is in the DNA of Wabtec. We've been constantly improving our products by using new technologies. Right now, as the industry is trying to improve conservation with new battery electric technologies, we have a technology which has already been demonstrated successful, the FLXdrive, which is a 100% battery electric locomotive. With that interaction, we are showing we can lead the way for the industry going forward.

Joshua: I think with some of the new technology that we're working on, like the hybrid locomotives and the electric storage that are big in the news now. On the less publicized side, we're solving different problems on the labor aspect of things, working to get the right people in the right jobs and delivering products that our customers can use.



For Wabtec, a problem is an opportunity to work, provide a solution, and make the customer happy.



Christopher Curtis
Lead Operation
Management Specialist



Joshua Hugo
Material Technical Advisor,
Light Fabrication Cab Area



Lokesh Ramanna
Engineering Program Manager,
Controls and Software



Shivam Soni
Lead Manufacturing Engineer



How can other managers help their teams solve big problems?

Christopher: Don't be afraid to reach out for help. Use your network of people that you know have had similar experiences. A lot of different eyes on one problem could come up with many different solutions. When you reach out, you can get multiple different frames of mind thinking about the problem, come up with different solutions, and pick the right one that gets you to where you need to be.

Shivam: Identifying the real root cause and defining the problem are the most important things. If we are defining any problems with the proper research, then the best possible solution is near. We must also think about why some problems keep coming back up. If we are seeing the same problem repeat itself, then we need to look at things with fresh eyes.

Lokesh: Every problem is unique. Every situation is different. And the ways that individuals handle those problems



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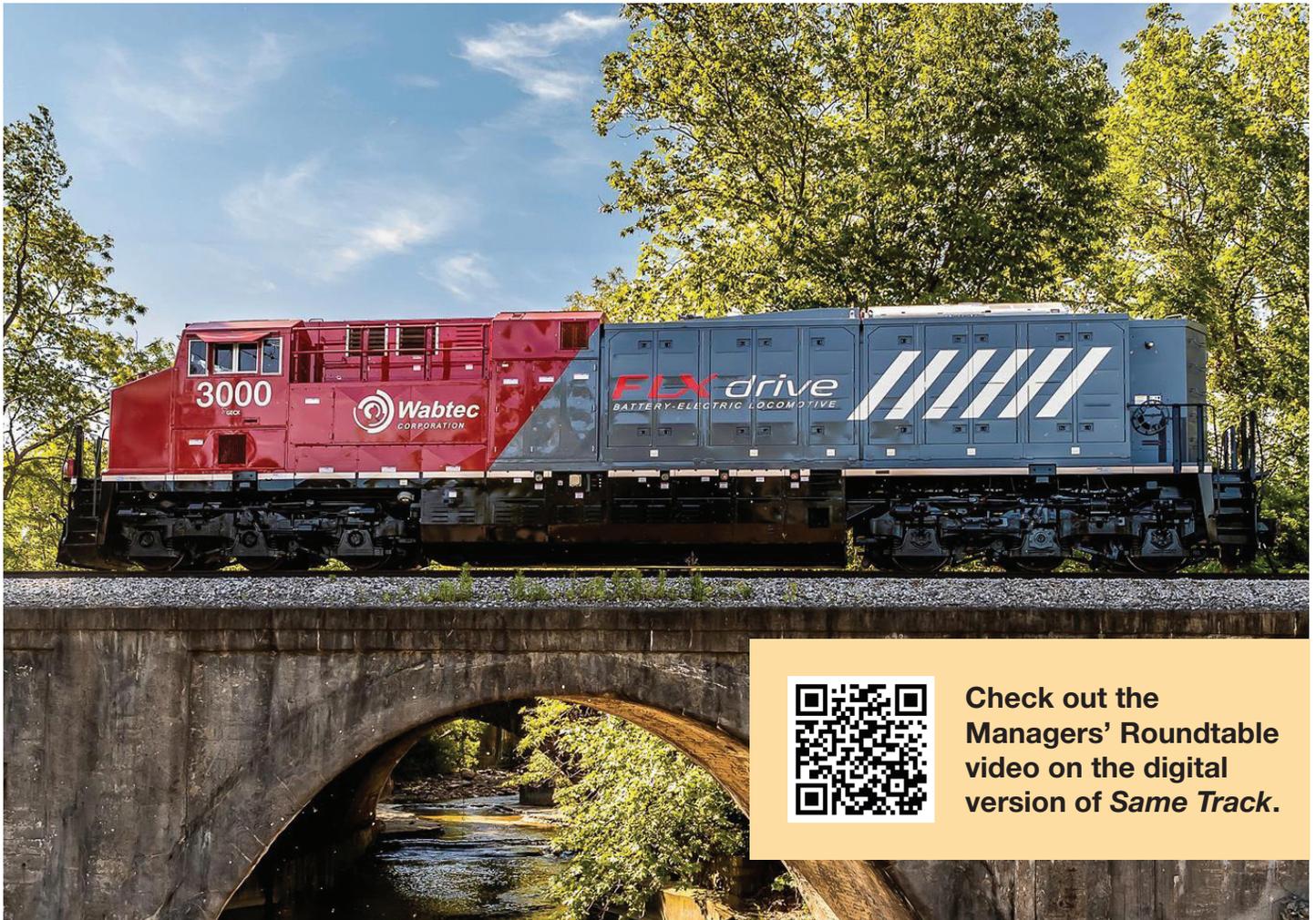


are different. From my perspective and experience, I'd encourage other managers to take every problem as an opportunity. Take the lead. Enable people to succeed. Be very straightforward, open, and transparent with your teams. And don't be a manager who manages; try to be a leader who shows the way. And when you challenge your team, also make sure that you reward them and recognize them in the appropriate forums.

Joshua: It's important to get everybody involved, making sure everyone's on the same page with the end goals, whether it's operators on the shop floor or other salaried people that you're working with on a day-to-day basis. Rely on where people have their different strengths, and make sure everyone's aligned. We really want to make sure everybody's tied together, working toward the same goal at the end of the day.



Take the lead. Enable people to succeed. Be very straightforward, open, and transparent with your teams.



Check out the Managers' Roundtable video on the digital version of *Same Track*.

Frontline Spotlight

Rick Osborne

Solving problems with curiosity

Rick Osborne and his manager, Alex Dobry, discuss Rick's approach to solving problems, which has helped his team adapt to the new demands of MNR locomotives.



When building and doing remodels for locomotives all over the world, engineering challenges inevitably arise that take curiosity, creativity, and diligence to overcome. Here, we're taking a closer look at how Rick Osborne, Test Technician, solves problems in his work every day and how that makes a positive impact on the business.

Learning opportunities

In his time at Wabtec, Rick's manager, Alex Dobry, LEAD Program Member — Operations, has seen a number of qualities that make Rick such an outstanding problem solver. "Rick likes to find an answer for everything. He's a very curious and determined person," Alex says. "If he comes across a problem, he wants to completely understand it, including the source of the problem, why it occurs, and the solution."

This curiosity inspires Rick to take advantage of learning opportunities. "When I'm working with someone with a lot of knowledge, I will ask a lot of questions," Rick says. "There are a lot of smart people I can go to, from other test techs to electrical engineers, PTAs, and business leaders."



Alex Dobry

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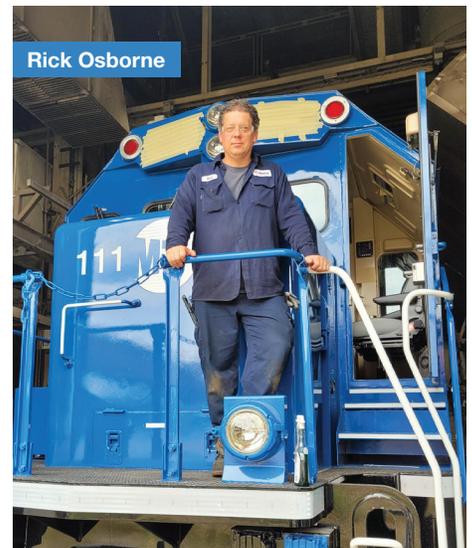
Rick believes that some of his good habits came thanks to the people he works alongside every day. "The lead electrical engineer here is very good, and I've learned a lot from him. He's shown me how to troubleshoot in different ways."

Keeping the project on the rails

Rick's growth mindset has been important as new locomotives, with new sets of problems, have come to Erie. "Normally, we troubleshoot and repair electrical problems, but with the messenger locomotives we've been working on, we've seen miswires, oil leaks, fuel leaks, and diesel engine issues," says Rick. "For repeat defects that we've repaired before, we know how to fix them, but lately we've had to go back to the schematics for answers."

The technical challenges are significant, but Alex is proud of how Rick and the rest of the team have responded. "With a brand-new product coming into the shop, Metro North Rail (MNR), that no test crew has seen before, Rick has used his previous experiences to adapt," Alex says. One of the specific challenges with the new locomotive is that customer inspectors witness all of the tests. Alex continues, "He does a good job of explaining his resolutions to the customer so we can proceed to the next steps."

Alex sees that these challenges — from the technical differences to the increased customer involvement — have only raised the bar for Rick. "His ability to learn from previous issues and fix them before they come up again on the next unit has had a huge impact on the business," Alex says. "The first MNR unit was in test for over a year. The third unit will have a total time in test of six months. That's a huge improvement of over 50%!"



Passing it on

Rick also extends this problem-solving mindset to the rest of the team — even going up to management. Alex says: "Rick has a great ability to teach fellow test crew members. He can explain issues and teach crews to resolve these problems, but he can also teach management how to fix problems and prevent them in the future."

For Rick, the motivation to solve problems on the job is clear. "It's satisfying to be able to repair something as complicated as a locomotive. I know the other test techs here in Erie as well as myself are all very proud of our work: building and shipping the best locomotives in the world."

Picture This

New York City Transit

Next Stop: More business, thanks to our problem-solving

In August 2020, we won a contract to supply 25 work locomotives for New York City Transit (NYCT) that will run on 100% battery power during critical intervals of operation. Wabtec engineering and manufacturing teams in Erie, PA, and abroad solved problems at every step of the way, turning these challenges into strong examples of what we can achieve when we collaborate.

Running without emissions was the highest priority because NYCT workers and users are in close proximity to these trains in tunnels, and high emissions present a health risk. This is one of the first times we've ever developed a battery hybrid system and adapted it for this type of use case in the passenger transit sector.

1

Unique Design

The design team needed to work with the customer to operationalize the hybrid system to accommodate the three modes of control — full diesel, full battery, and hybrid — based on duty cycle, location of operation, and state of charge of the battery. A GPS-based tunnel detection system was developed to automatically limit the operation of the diesel engine in the subway tubes.

2

Battery Life

To achieve eight hours of full-performance, zero-emissions operations, lithium-ion cells are used in the Wabtec batteries — similar technology being used in the FLXdrive locomotives with customers like Roy Hill, Rio Tinto, and BHP.

Tunnel Emissions

With the innovative battery technology and T4 diesel engine, particulate emissions are reduced by 93%.

3

Prospective Business

Deals like this one, which include Wabtec air compressors, control systems, brake equipment, and couplers, allow us to highlight One Wabtec as we prove ourselves to be the industry leader in efficient, low-carbon rail solutions.

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