



TRANSPORTATION AND
LOGISTICS DIVISION



Sustainable Transportation

Issued April 2022



TRANSPORTATION AND
LOGISTICS DIVISION

Connecting You To The World

All your transportation solutions, under one roof.

Rail Operations



nbmrailways.com

Eastern
Maine
Railway

Maine
Northern
Railway

NB
Southern
Railway

Trucking Operations



rsttransport.com

sunbury.ca



Marine Operations



atlantictowing.com



harbourdev.com



kentline.com

Service Operations



jdilogistics.com



universaltruckandtrailer.com





TRANSPORTATION AND
LOGISTICS DIVISION

CONNECTING YOU TO THE WORLD

The **Transportation and Logistics Division** within **J.D. Irving, Limited** contains one of the widest arrays of logistical service providers in the global market today.

Our division includes ten unique businesses, including three marine service providers, two trucking operations, three short-line railways and two service companies. Each of these operations is connected by a common goal: to keep our customers' supply chains moving by providing innovative logistics solutions.

We have more than 1,500 employees working across Canada, the United States, the Caribbean and Europe. We are changing our industry, challenging the way we operate, and driving digital transformation in all our businesses.

Founded in 1882, J.D. Irving, Limited has operations in Canada and the United States, spanning agriculture, construction and equipment, consumer products, hydro energy, food, forestry and forestry products, retail, shipbuilding, and transportation. Over 18,000 full time employees ensure we deliver exceptional products and services. For more information, visit jdirving.com.

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Where We Stand

Pursuing Sustainable Transportation

I am proud to launch the inaugural sustainability report for J.D. Irving, Limited's Transportation & Logistics Division. The transportation sector is responsible for approximately 30% of Canadian greenhouse gas emissions; I believe we bear a collective responsibility, with other businesses in our sector, to make necessary changes to protect our environment, operations, jobs, communities and economies in the years to come.

Fortunately, we are well positioned to make changes. Our operations are more efficient than the industry average by design. We have made deliberate investments and changes to the way we operate over decades to optimize fuel consumption, empower diverse teams, invest in new technology and greener assets.

Despite the COVID-19 pandemic, we have seen our businesses grow. Our trucks and trains continue to keep goods flowing to markets; our vessels move vital supplies and ensure ships move safely in and out of ports. We will continue to prioritize the health and safety of our people, customers and communities.

Our teams have a lot to be proud of, and a lot to be excited about. I thank our teams on the roads, rails, seas, in the shops and in the offices for their resilience and dedication. I congratulate everyone on the progress we have made to-date. We recognize that sustainability is a mindset, not a destination. The goal posts are moving constantly, and we will adjust, move and innovate in turn. By road, rail and sea, we always deliver.



Andrew Fisher, Group Vice President, J.D. Irving, Limited Transportation & Logistics Division

Report Highlights



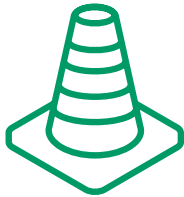
Atlantic Towing, NBM Railways, RST and Sunbury achieved a **2.00%** improvement in fuel efficiency in 2021 due to improved efficiency and planning.



The Lancaster Logistics Park opened in Q1 2022, providing **increased intermodal capacity** and reduced reliance on long haul trucking in favour of greener train transportation.



Over 570 employees advanced their careers with the Transportation and Logistics Division in 2020 and 2021, including new hires, promotions, lateral moves, and student opportunities.



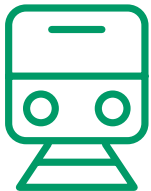
The Transportation & Logistics Division achieved a world-class safety performance in 2021, with a combined **RIR of 0.82**.



The Transportation & Logistics Division averaged more than \$100 per person in community donations, sponsorships, and scholarships in 2021.



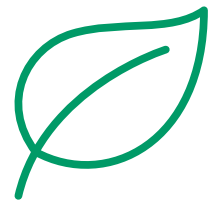
An Atlantic Towing Platform Supply Vessel is being retrofitted with **zero emissions** battery technology.



Six new locomotives added to NBM Railway's fleet in 2021 are up to **30% more efficient** than prior models.



Fleet renewal at **Atlantic Towing** has led to a reduction in emissions intensity. New vessels are up to **29%** more efficient than previous generations.



The Transportation & Logistics Division is working toward reducing emissions intensity by up to **30%** by 2030.

Sustainable Transportation

What Does It Mean?

More than ever, our stakeholders - our customers, employees and communities - demand environmental accountability and responsibility. In the Transportation & Logistics Division, we are working to create a culture of sustainability around our *Climate*, *People* and *Innovation*. We understand and value the intersectionality of the three: By optimizing our fuel costs and expenditures, we can both reduce our carbon footprint and invest more in our people. We are making decisions rooted in the longevity of our business, specifically to protect and preserve our supply chains for generations to come.

We are a proud member of the J.D. Irving, Limited (JDI) family of businesses, an organization that has planted over one billion trees to date. With over 18,000 full-time employees operating across North America and beyond, JDI employs best practices, continuous improvement and innovation to deliver top tier products and services to valued customers every day. Together, we strive to make a positive difference in our communities, prioritizing social, corporate and environmental sustainability.

Climate

People

Innovation



Commitment To Customers

Since J.D. Irving, Limited's establishment as a small family business in 1882, our shared values and work ethic have matured into a commitment we make to all key stakeholders. These core values permeate our operations, employees, management teams and systems to guide our actions and behaviors. Eight values form the foundation of who we are and how we operate. We call this "The Irving Way". These include:



These core values also guide our thinking and approach to sustainability. Managing our operations sustainably is not new to us; it has been the hallmark of our company since we began planting trees in the mid 1950s to ensure the longevity of our forestry operations. What started with managing our forests has expanded to all aspects of our operations.

In the Transportation & Logistics Division, we are committed to keeping supply chains intact, providing our customers with competitive pricing so their businesses can remain sustainable. We know a precedent of ethical and profitable management extends to our customers.

We believe in the communities where we operate, our people and our future. At JDI, we believe we all have the potential to be better every day and know we can be a part of the solutions to some of today's most pressing challenges.



A Red Seal Truck and Trailer Mechanic,
recently promoted to Team Lead.



PAUL A. SACUTA

RESCUE ZONE

Climate

As we contend with a changing climate, our division is taking action to reduce our environmental impact, educate our teams and prepare for increasingly unpredictable operating conditions. We remain committed to protecting and preserving our supply chains for our customers and communities for generations to come.

Our efforts are focused on:

- Reducing waste to landfills,
- Optimizing fuel efficiency,
- Protecting our oceans and the ecosystems in which we operate, and
- Reducing our carbon footprint in the long term.

We belong to an organization that prioritizes environmental stewardship, having planted over 1 billion trees to date. For 140 years, J.D. Irving Limited has operated with sustainable business practices; its forestry and forest products operations are a net carbon sink, sequestering 92 million tonnes of carbon by 2070.

As our understanding of climate change continues to evolve, we will continue adapting our practices to both improve efficiency and cement our longevity. This includes investing in our people and culture, sharing best practices and maintaining a sustainable state of mind.

Highlights



Launching The Lancaster Logistics Park

Opening in Q1 2022, the Lancaster Logistics Park is a new facility in Saint John, New Brunswick, that greatly expands rail intermodal capacity for NB Southern Railway and 'final mile' container delivery for Sunbury Transport. It will reduce the region's dependency on long haul trucking in favour of leaner, and more sustainable, train transportation.



Investing In Greener Assets

In 2021, NBM Railways purchased six SD70 M2 locomotives for its operations across New Brunswick and Maine. These powerful units boast over 4,000 horsepower and are much more efficient, emitting up to 30% less green house gasses than their predecessors. Railway and intermodal continues to be one of the most cost effective and sustainable means of transportation in the region. The increased power per unit allows for more freight capacity for every train.



Deploying Novel Battery Technology

Nearly \$5 million in funding has been secured to implement novel battery technologies onboard the Atlantic Shrike, a diesel electric hybrid vessel operating in Newfoundland and Labrador. This will reduce the ship's current emissions by up to 800 tonnes of CO2 equivalent per year. The upgrades are on track for completion in July, 2022.

Fuel Prevention:

Atlantic Towing's harbour and coastal fleets achieved a 4.27% improvement in fuel efficiency in 2021, totalling over 180,000 litres in estimated fuel savings.

In 2021, our **trucking operations** achieved a combined **2.94%** increase in fuel efficiency over 2020, creating 965,000 litres in fuel savings.

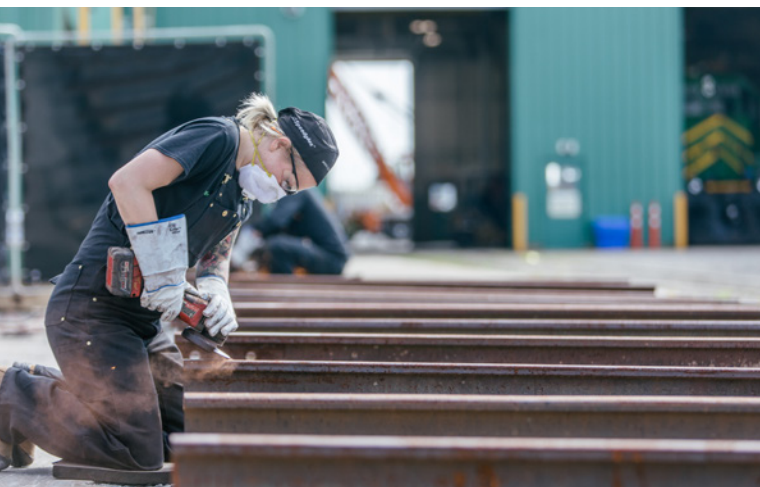
NBM Railways operations saw a **4%** improvement in fuel efficiency in 2021, equivalent to over 443,000 litres saved.

Reducing Waste

Wherever possible and safe, our teams reduce, repurpose and recycle to ensure we don't contribute to landfills unnecessarily.

Key Initiatives

- Atlantic Towing has committed to a new ship recycling program as part of its Green Marine certification; policies for ship recycling and Inventory of Hazardous Materials (IHM) for its existing fleet are currently in development. Onboard the vessels, all waste (garbage/solid waste, hazardous waste, operational waste, recycling etc.) produced on board is managed to comply with Canadian and International requirements and to minimize the impact of company operations on the environment. Each vessel has a Vessel Specific garbage management plan (VS GMP).
- NBM Railways has recycled 2,333 tons of scrap metal to date and reused over 31,680 feet (6 linear miles) of track across its operations.
- RST and Sunbury Transport implemented a lithium battery recycling pilot program in 2021 to reduce the volume of single use batteries entering local landfills. This program is being expanded in 2022.
- Universal Truck and Trailer recycles over 12,500 parts annually including batteries, brakes, parts, engines, transmissions and more. More than 160 net tons of scrap metal have been recycled to date. Parts that can no longer be used or recycled are often donated to local colleges for instructional use. In addition, the company reuses and recycles rags in its automotive shops, uses tablets in place of paper and embroiders names on uniforms to reduce plastic consumption.



Repurposed track pictured at NB Southern Railway.



A Universal Truck and Trailer apprentice reviews a work order.

Improving Fuel Efficiency

For the time being, transportation is largely dependent on fossil fuels to deliver goods to market. For decades, we have striven to optimize fuel consumption, initially to reduce costs and more recently, to reduce emissions.

Key Initiatives

- Assets across our rail, road and sea operations have been equipped with the tools and technology to measure fuel consumption, often in real time. Insights gleaned from this data are used to improve performance, understand operating conditions and optimize asset usage. This includes engaging in preventative or predictive maintenance and providing real time coaching to operators working directly with these assets.
- Atlantic Towing vessels are equipped with Vessel Ship Energy Efficiency Management Plans (SEEMPs) to identify optimal engine speed/engine load for fuel efficiency. All Atlantic Towing tugboats connect to shore power at two docks (Saint John, NB and Halifax, NS), which allows auxiliary engines to be turned off while docked, thereby decreasing diesel fuel consumption. Two of the company's offshore vessels also draw on shore power while docked in Victoria, BC.
- Harbour Development employs low sulphur marine fuels to reduce air contaminants and continually investigate fuel efficacy measures that go beyond the International Marine Organization (IMO) standards. Additionally, Harbour Development replaced two of its older diesel powered cranes with two more environmentally friendly, fuel efficient hydraulic cranes in 2019 and 2020.
- NBM Railways has implemented mother daughter locomotive units, which have proven to be more fuel efficient within switching and transfer operations. Due to observed success, the company plans to increase the utilization of these diesel electric units going forward.
- RST and Sunbury Transport continue to investigate aerodynamic technology, including trailer skirts, trailer tails, high rise roofs fairings and aerodynamic bumpers. The company is continuing its integration of Automated Manual Transmissions, which have a demonstrated impact on fuel efficiency of 1.3%. By December 2021, AMTs were installed on 54% of company trucks. The companies closely follow the development of alternative fuel technologies within the trucking industry, with a particular focus on Commercial Battery Electric Vehicles (CBEV). In 2021, Sunbury issued a purchase order to Daimler Trucks to reserve one of three eCascadia models for delivery in 2023.



A newly purchased locomotive, part of a more efficient mother-daughter pair.



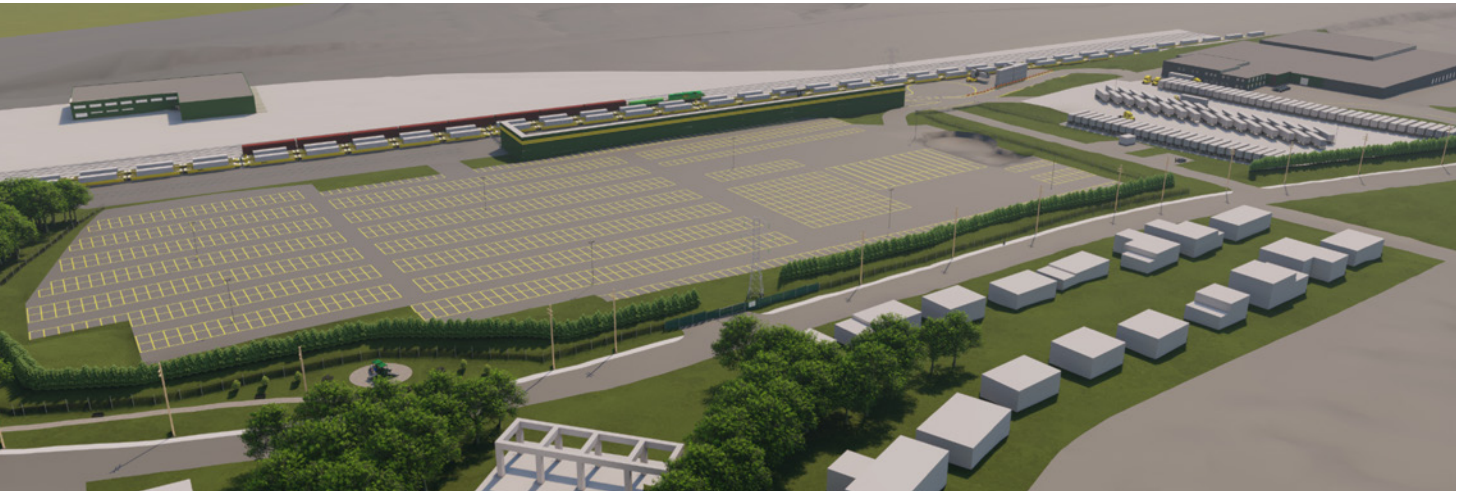
Sunbury CBEV illustration.

Protecting Ecosystems

We operate in complex and varied environments, particularly in the marine sector. It's vital that disruptions to the natural habitats in which we operate are minimal.

Key Initiatives

- Over its 14 year tenure as a Green Marine organization, Atlantic Towing has increased efforts to drive environmental performance, specifically relating to marine wildlife awareness and reducing underwater noise.
- In 2020, Atlantic Towing issued a Marine Mammal Management Plan across all areas of operation. Each vessel in the company's fleet tugboat or offshore vessel is equipped with a copy of A Mariner's Guide to Whales in the Northwest Atlantic, a guidebook that helps crew members identify and steer clear of whales, dolphins and other marine mammals they might encounter while at sea. Large posters provide additional information, like common whale population distribution maps, critical habitat zones and contact numbers for reporting marine mammal observations, incidents or sightings to the Department of Fisheries and Oceans. The company also meets the International Organization of Standardization (ISO) 14001, ISO 9001 and ISO 450001, strict voluntary standards that specify requirements and a framework for effective environmental management and safety systems.
- Underwater noise from vessels has the potential to disturb marine mammals, fish, and other marine fauna. On the west coast of Canada, Atlantic Towing works with the Vancouver Fraser Port Authority to estimate relative ship noise levels for two emergency towing vessels. Additionally, our vessels slowdown in certain regions in BC to reduce effect noise on cetaceans.
- For years, the Atlantic Condor, an Atlantic Towing Offshore Supply Vessel, has partnered with Marine Environmental Observation, Prediction and Response (MEOPAR) and Environment and Climate Change Canada to complete atmospheric and oceanic research off the coast of Nova Scotia. The research vessel is equipped with interchangeable modular laboratories and research infrastructure, and able to conduct offshore research 3 kilometers below the surface.



A digital rendering of the Lancaster Logistics Park, featuring a park, walking trail and noise dampening berm.



Marsh creek tree planting, courtesy of Atlantic Coastal Action Program (ACAP).



An RST Emergency Response Services training exercise in Saint John, NB.

- As we grow and take on new business, we want to operate in a way that will minimize disturbances. The recently constructed Lancaster Logistics Park features noise dampening berm and beautification elements to minimize disruptions to our neighbours.
- In 2020, Universal Truck and Trailer worked with the Atlantic Coastal Action Program (ACAP), Saint John branch, to protect a segment of land along the city's Marsh Creek from erosion. ACAP is a community based NGO dedicated to restoring and sustaining local watersheds and adjacent coastal areas. Together, teams planted 50 native tree and shrub species along the water banks to help mitigate erosion and stabilize the area.
- RST's Emergency Response Services (ERS) team has been nationally recognized for its knowledge, skill and experience in responding to hazardous and non hazardous product releases. With a 24/7 emergency call center, this team deploys across Atlantic Canada to contain spills and leaks, supported by a fleet of sophisticated equipment.

Thinking Ahead

We believe in continuous improvement.

As we work to reduce our environmental impact, our parameters for success are continually shifting. We recognize that sustainability is a journey, not a destination. Our strategies will continue to evolve and shift as we create a culture of sustainability that extends not just to our planet but encompasses our people and profitability.

On The Horizon

- Beginning in 2022, all business improvement proposals across the Transportation & Logistics Division must include a climate impact statement. The potential to reduce emissions will be a critical factor informing decisions to grow and reinvest in our businesses, technology and development.
- Construction and renovation projects will be designed to reduce environmental impact and power consumption, including the broad use of LED lighting, renewable energy sources, recycled materials, and energy efficient building techniques.
- We will maintain all existing partnerships with environmental governance bodies and regulators such as SmartWay and Green Marine. Further, we will continue exploring new partnerships and certifications to better inform our efforts and decisions.
- RST and Sunbury Transport will expand their lithium battery recycling program in 2022 and explore a new initiative to optimize its trailer fleet to reduce empty miles.
- JDI Logistics is exploring new avenues to share carbon emissions data and estimates with its customers, sharing data to allow environmental impact to help inform customer shipping decisions.
- Following the installation of novel battery technologies on the Atlantic Shrike and subsequent performance evaluation, Atlantic Towing will be exploring further opportunities to retrofit its three remaining PSV 5000 vessels with similar, greener technologies. This work is expected to begin in 2023.
- The Transportation & Logistics Division is working toward reducing emissions intensity by up to 30% by 2030.



A former seafarer, now part of Atlantic Towing's senior leadership team.





People

The most important thing we cultivate is our people. Across the Transportation & Logistics Division, we provide dynamic, diverse and fulfilling environments where employees can grow personally and professionally. With more than 1,500 people working across our 10 businesses, our impact extends beyond our teams to their friends and families, to our customers and our communities. We proudly support the communities in which we operate, exceeding \$150,000 in annual giving.

Our efforts are focused on:

- Employee engagement and retention
- Diversity, equity and inclusion ,
- Leadership and development,
- Students and scholarships,
- Community engagement, and
- Health, safety and wellness.

The emergence of COVID 19 tested our people and operations like never before, and our teams rose to the challenge. When most people were staying indoors, our teams continued to deliver and experienced significant growth as a result. For that, we are truly appreciative.

Highlights



Opportunities For All

In recent years, we have established a robust Diversity, Equity & Inclusion program, invested in training, and work actively to promote diverse thought across our operations. Our efforts have been recognized with three federal Employment Equity Achievement Awards, four consecutive Top Fleet Employer Awards from Trucking HR Canada and numerous recognitions from the Trucking Human Resources Sector Council.



Driving Kindness In Communities

During pandemic lockdowns, RST and Sunbury's annual Driver Appreciation events were cancelled. Since our teams couldn't be together in person, they decided to give back to their communities, calling the program "Driving Kindness". The companies called for drivers to nominate charities, and then made donations on the drivers' behalf. Over \$15,500 has been donated since the program's founding in 2020.

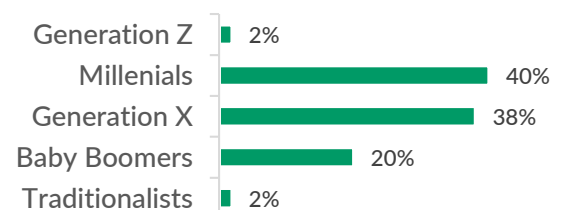
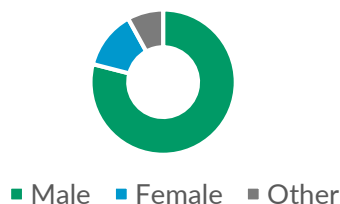


Best Safety Performance To Date

Across JDI's Transportation Division, employees take an active role in identifying hazards, implementing corrective actions, and completing required safety training to ensure everyone goes home safely. In 2021, we saw an overall divisional Recordable Incident Rate (RIR) of 0.82, far below the industry average. While we celebrate the decline, we are leveraging data and analytics to further mitigate injuries going forward.

Our People:

- Over **40 PT, 570 FT** opportunities created between 2020 and 2021.



Employee Engagement

We listen, learn and act on employee feedback. This allows us to benchmark against world-class organizations

Annually, employees across J.D. Irving, Limited participate in a third party administered employee engagement survey. The survey has approximately 60 questions and articulates employee perspectives across a wide range of topics including: continuous improvement, safety, training, teamwork, values, leadership, communications, and most recently, the impact of the coronavirus pandemic.

In 2020, we added four new voluntary self select demographic questions to our employee engagement survey to better understand the needs of our diverse workforce. These questions centered around self identification of visible minority groups, persons with disabilities, and members of the LGBTQ+2 community.

2021 Key Survey Findings:

- Overall engagement score across JDI's Transportation & Logistics Division: 83%
- 89% of employees reported they had a clear understanding of their employer's efforts to minimize health risks during the COVID 19 pandemic.
- 87% of employees reported they are treated with respect by their managers.
- 87% of employees reported that they plan to stay with their company for at least a year.
- 86% of employees believe their workplace is a safe place to work.
- Employees believe our greatest strengths are our people, culture and efficiency.
- 94% of employees participated in the 2021 survey.



Diversity, Equity & Inclusion

We strive to create and sustain working environments, on land and sea, where everyone has the opportunity to thrive.

Key Initiatives

- In 2019, the Transportation Division launched Women Driving Forward intended to empower women in the transportation sector to connect, build networks and grow competencies. In addition, the division established an employee led Diversity, Equity & Inclusion Committee, which meets regularly to plan events, education and enact change.
- Diversity, Equity, and Inclusion training, including cultural/implicit bias training and Indigenous cultural awareness training, is offered to employees as part of our ongoing employee development activities.
- Efforts to promote diversity and inclusivity have led to multiple awards and recognitions from third parties, including three federal Employment Equity Achievement Awards in the categories of Industry Leadership and Innovation.
- We know representation matters. Two years after Atlantic Towing announced its first all female tug crew in Halifax, NS, the number of women employed by the company has increased to 10.8% in 2020, an increase of 4% over 2019. Representation of visible minorities and persons with disabilities has also increased in recent years.
- Sunbury Transport has a long history of supporting newcomers to Canada, having assisted more than 50 professional drivers, and many of their families, come to Canada since 2020. More than 10 languages are currently spoken across its fleets.
- While logistics is a traditionally male dominated sector, JDI Logistics fosters female talent with a 55% female workforce, and offers development, certification and upskilling opportunities for employees to grow.



Diversity, Equity & Inclusion Committee members.



Seafarers promoting Women Driving Forward.

Indigenous Partnerships

We celebrate the accomplishments, heritage and diverse cultures of the First Nation, Inuit and Métis peoples across Canada.

With operations throughout the Maritimes, Newfoundland and Labrador, the North Atlantic and in British Columbia, Atlantic Towing has cultivated partnerships with Indigenous Canadian communities from coast to coast. These relationships are based on mutual respect, cooperation and an appreciation for the vital contributions Indigenous Peoples have made, and continue to make, to the regions where we live and work.

“Through our partnerships with several Indigenous communities, we have seen increased access to training and opportunities for youth and young adults,” writes Sheldon Lace, General Manager of Atlantic Towing. “The marine sector needs them. It needs people who can bring diverse experiences and perspectives to the industry. We will continue working with local communities and educational partners in an ongoing effort to protect our oceans for generations to come.”

Key Initiatives

- In April 2019, ATL announced that conversations with Coastal First Nation Communities had resulted in three new relationships: a Joint Venture Agreement between Songhees Events and Catering and ESS-Compass Group Canada; a contract with Salish Sea Industrial Services; and a plan to implement Bridgewatch and Culinary training programs for local students via Camosun College. This partnership was established to support a three-year contract to Atlantic Towing for the provision of two emergency offshore towing vessels that operate in BC coastal waters. These vessels –the Eagle and the Raven –are capable of towing large commercial ships in distress, helping to prevent potential marine pollution incidents, assist with search and rescue operations, and contributing to Canada’s Oceans Protection Plan.
- Camosun College operates two campuses on the Traditional Territories of the Lekwungen and WSANEC peoples on Vancouver Island, and its Camosun Coastal Centre housed on Songhees Nation Territory. The establishment of the Bridge Watch Rating and Culinary programs allows potential cadets (Indigenous and non-Indigenous) to stay on Vancouver Island to complete their training. Previously, students interested in seafaring or marine services must leave the island to receive necessary training.

Indigenous Partnerships

- In 2021 Atlantic Towing Limited was pleased to announce two recurring \$6,500 financial awards for Indigenous students enrolled in Camosun College's Bridge Watch Rating and Culinary programs. Camosun College is a community college located in Greater Victoria, BC serving approximately 19,000 students. The awards will provide financial assistance with tuition and living expenses, work placement opportunities and full time employment with ATL upon graduation. This announcement follows a \$700,000 commitment to support a new, state of the art marine simulator for Camosun College in March 2020, a joint endeavor by Atlantic Towing and Irving Shipbuilding Inc. The simulator was installed in the Fall/Winter of 2020 and allows Camosun to offer a wider range of programming for marine professionals entering a vital industry.
- The Tim Brownlow Marine Award was created in 2021, named for the Atlantic Towing's Director of Industry Relations. The Nova Scotia Community College award celebrates Brownlow's dedication and commitment to supporting NSCC students and the work of the college, in addition to his forty years of experience in the offshore oil and gas sector. Students attending the NSCC Nautical Institute's Strait Area Campus are eligible to apply for the \$1,000 award in September of 2021, and in the years to come. Preference will be given to Indigenous applicants at the request of Brownlow, who has devoted years to cultivating strong Indigenous partnerships on both the East and West coasts.



Crew members in Victoria, BC participating in Orange Shirt Day.



A tugboat flying the Mi'kmaq flag in Halifax, NS.



Participating members of the Joint Venture, announced in 2019.



Announcing the simulator upgrade at Camosun College, 2020.

Leadership & Development

We listen, learn and act on employee feedback.

Key Initiatives

- Our businesses rely on skilled trades to deliver. Across our road, rail and sea operations we support dozens of apprentices, employ more than 50 Red Seals, and have partnered with New Boots –Progressing Women in Trades and the New Brunswick Teen Apprentice Program (NBTAP) to encourage more women and students to pursue careers in trades.
- New graduate and future leader development is offered through structured programs, including NextGen Talent, which provides a foundation of core skills required to progress into general leadership at J.D. Irving, Limited. These programs focus on early career development, expectations, and the organization's culture and values.
- JDI's Leadership Fundamentals Program provides tools and resources to best prepare front line leaders for people management. By embracing a safe learning environment, participants learn leadership theory and application, from each other and from experts (mentors) in the field. Leaders are equipped to drive productivity, reduce waste, and develop their people.
- As employees shifted to remote work during COVID-19, J.D. Irving, Limited partnered with Skillsoft, an online learning platform, to provide accessible and effective online learning resources to all employees. Having online and on-demand learning available anywhere –on any device –at any time, employees will develop their skills to further enhance their experience and grow their careers.
- In addition, employees often access company support to pursue professional designations, courses and certifications. We firmly believe that investing in our people is just as vital as investing in our businesses.
- No matter their fields or seniority, all employees have opportunities to cultivate new skills and grow. From self-directed learning, to formalized education and an Executive MBA program, we are committed to helping our people reach their full potential.

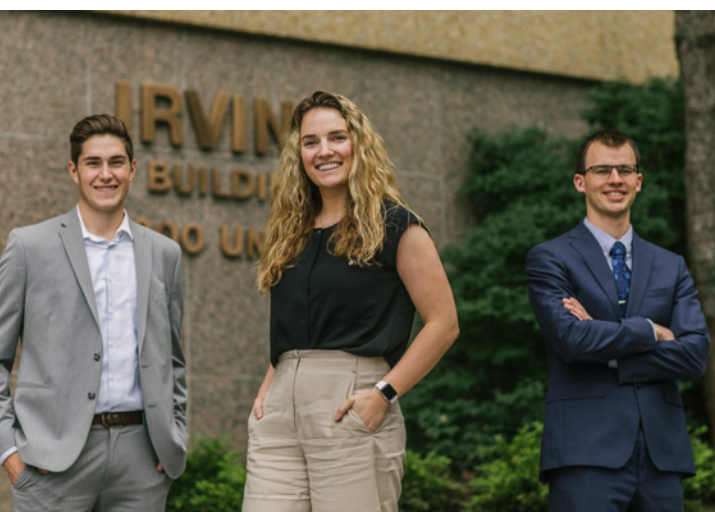


Student Success

We're supporting the next generation.

Key Initiatives

- Our Transportation Division has a robust student work program, Careers In Motion, with business and engineering streams that empower students to own their own projects and make meaningful contributions to our business. Many former Careers In Motion students are now thriving in full time roles, which they often secure before graduation. Typically, between 15 20 students are employed across the division each year. Despite COVID 19 pandemic restrictions, we were able fill 12 student roles in 2021. On average, J.D. Irving, Limited employs over 700 students every year.
- Atlantic Towing employs marine cadets for both long and short sea terms to help fulfill graduation requirements and source future employees. The company currently partners with Nova Scotia's Nautical Institute, Newfoundland and Labrador's Marine Institute, Ontario's Georgian College, and British Columbia's Camosun College. In addition, Atlantic Towing offers two \$1,000 scholarships for students attending the Memorial University of Newfoundland's Marine Institute, and two \$6,500 scholarships for Indigenous students enrolled in Camosun College's Bridgewatch or Marine Culinary programs.
- Universal Truck and Trailer participates in a High School Co op Program to provide secondary students with exposure to the skilled trades and career options. Similarly, NBM Railways has participated in the NB Teen Apprenticeship Program (NBTAP), which provides work placements for secondary students interested in the skilled trades.
- We provide over \$12,000 in annual scholarships for employee dependents pursuing post secondary education, allowing them more financial freedom to concentrate on their studies and better prepare for their future careers. Across J.D. Irving, Limited, over \$100,000 in funding was allotted to support employees and their children in 2021.



Community Engagement

We are part of something bigger. Supporting our communities and the regions where we operate ensures we're all positioned to grow.

Key Initiatives

- PALS (Partners Assisting Local Schools) is a corporate initiative founded by J.K. Irving that creates and facilitates partnerships between businesses and local schools. Together PALS Partners work with schools to implement programs that focus on academic achievement, student enrichment and positive learning environments. In 2021, our businesses contributed to a major breakfast food drive, collecting over 2,000 pounds of food items and nearly \$5,000 in cash donations, delivered lunches to schools, participated in reading and tutoring programs, and filled holiday hampers for over a dozen families in need.
- In 2020, RST and Sunbury Transport launched #DrivingKindness, a program allowing its drivers to nominate causes and programs for company support. The initiative was intended to support communities in need during COVID 19 lockdowns but proved so successful the company evolved the program into an annual giving campaign. To date, over \$15,500 has been donated to charitable organizations in Ontario, Quebec, New Brunswick, Nova Scotia and Newfoundland and Labrador.
- Atlantic Towing supports the Canadian Cancer Society's Daffodil Place in St. John's Newfoundland with annual donations of \$5,000 and is actively involved in the St. John's youth sports community, sponsoring the Paradise Soccer Club's U9 girls' team in 2021, an annual rowing regatta in St. John's and sponsoring the Howie Centre Recreation Association.
- In 2021, NBM Railways, J.D. Irving Limited and CP jointly announced a \$100,000 donation in support of the historic McAdam Railway Station in McAdam, New Brunswick. Built in 1900, the McAdam Railway Station is a national and provincial historic site and designated heritage railway station. The funds will support ongoing restoration work led by the McAdam Historical Restoration Commission.
- Universal Truck and Trailer partnered with Daimler Trucks North America to refurbish and donate a 2020 Western Star 4900SA heavy duty truck to New Brunswick Community College (NBCC) in 2021, supporting its Truck and Transport Program and students.
- Our employees are active in the communities where we live and work too. Hundreds volunteer independently in many capacities: coaching sports teams, helping in classrooms, fighting poverty, advocating for public safety, and working as volunteer first responders.



An RST driver presents a #DrivingKindness donation to the Salvation Army in Port Aux Basques, NL.



Universal Truck and Trailer donation to New Brunswick Community College.



A Partners Assisting Local Schools (PALS) Program food drive staffed by volunteers.

- Holiday giving is a celebrated tradition across our businesses, with annual events and fundraisers taking place across our operations. Recurring activities include:
- While unable to participate in 2020 and 2021 due to pandemic restrictions, NBM Railways usually partners with Make A Wish New Brunswick to host special Believe In Wishes train rides for the community. The 2019 fundraiser raised over \$95,000 for wish recipients and the event is expected to return in 2022.
- RST, Sunbury Transport and Universal Truck and Trailer each celebrate a 12 Days of Cheer campaign leading up to the holidays. Each of the 12 days is associated with a game, giveaway or activity that support local businesses and charities, totaling thousands of dollars in annual giving.



Members of the Transportation & Logistics Division participate in an annual employee softball tournament.



J.D. Irving, Limited participates in the Saint John Pride Parade in New Brunswick.



Sunbury and RST trucks participate in the Parade for James, a 2021 event supporting a Make A Wish recipient.



Children participate in NBM Railway's Believe In Wishes train rides.

Health, Safety & Wellness

Delivering safer and healthier working environments, every day.

Key Initiatives

- Our teams employ a robust approach to workplace safety. We leverage technology to document leading safety indicators, including hazard identification, completion of corrective actions, and completion of required safety training. In addition, Recordable Incident Rates (RIR), Lost Time Injuries (LTI) and Critical Injury Rates (CIR) are tracked and analyzed over time to measure progress.
- Across the Transportation & Logistics Division, our businesses achieve safety results significantly above industry averages. The combined 2021 divisional RIR of 0.82 was a record performance for the division and a milestone on our 'journey to zero' approach. Employees across our operations are provided with PPE, uniforms, and equipment with strict safety and quality requirements. In 2021, we implemented Ingenium Safe Choice training across the Transportation & Logistics Division. Safe Choice is a program focused on decision making, mitigating biases, self awareness and maintaining presence of mind.
- Like all businesses we adapted quickly to implement COVID 19 safety measures in all workplaces. These differed slightly by business and region, but best practices including screening questions, physical distancing, mask wearing, capacity limits, remote work and vaccine mandates were observed across all areas of our operations. In the summer of 2021, J.D. Irving, Limited partnered with Pharmacy For Life to host employee COVID 19 vaccine clinics, delivering over 3,500 doses.
- In addition, J.D. Irving, Limited established a partnership with Maple Health, a leading tele-medicine provide, in response to the COVID 19 pandemic. Through Maple, Canadian employees and their families have access to medical care professionals 24/7 via phone or mobile applications.
- Atlantic Towing employs Formal Risk Assessments prior to specific jobs, particularly before non routine or high risk work. In addition, the company maintains a Joint Occupational Health and Safety Committee and Policy Committee for oversight of safety policies and procedures. A vessel management program, UNISEA, is also used to document safety observations from the front lines of the operation.
- NBM Railways engages in community outreach each year to promote rail safety, partnering with Operation Lifesaver and local first responders. Employees complete daily Field Level Hazard Assessments and are provided with specialized equipment including carbon dioxide monitors and G7c gas detectors as needed. The company actively maintains and refines its emergency response planning and tests response competencies with mock incidents.
- RST and Sunbury Transport maintain a joint Safe Driving Program that has resulted in a best in class safety performance, low injury and incident rates (top decile in the trucking sector). The companies achieved a combined RIR of 0.97 in 2021 against the industry average of 2.5.



Various PPE required across our road, rail and sea operating environments.



A J.D. Irving, Limited employee vaccine clinic.



An employee fitness centre.

- Our Employee and Family Assistance Program (EFAP) is available to all employees and provides resources, tips, and training to manage mental, physical and financial wellbeing. Through the EFAP, employees were also granted access to fitness content and resources, intended for at home use.
- In the early stages of the pandemic, J.D. Irving, Limited established a partnership with Maple Health, a leading telemedicine provider. Through Maple, Canadian employees and their families can access 24 hour access to a medical care professional by phone or mobile apps.
- We believe maintaining a connection to the workplace is essential for successful recovery from injuries or illness. Our team of disability case managers provides support with the shared goal of safely returning our employees to meaningful work as quickly as possible.



A new employee uses Microsoft HoloLens technology to communicate with a more experienced technician in real time.

Innovation

Our businesses are transforming their operations through digitization and technology, finding new ways to streamline costs, improve safety performance, and gaining deeper understanding of how we interact with our environments. Continuous Improvement is one of our core values and tied to both commercial excellence and sustainability.

Our efforts are focused on:

- Advanced analytics and machine learning,
- Deploying novel tools and technology to improve
- employee and customer experiences, and
- Reducing waste across operations.

We have teams with exceptional talent and skillsets who work to advance our understanding and grow our businesses through intelligence, data and applied insights. We have always believed that you can best manage what you can measure.

Highlights



Applying Machine Learning To Marine Giants

Atlantic Towing has equipped its Platform Supply Vessel, the Atlantic Shrike, with over 100 machine sensors to collect data and help create a digital twin, or smart ship. This allows both crew and shore staff to better understand engine configuration and make decisions that will optimize fuel consumption and improve vessel efficiency.



A True Information Highway

A new in cab tablet solution has been deployed across RST and Sunbury Transport's fleets. The system offers a variety of benefits including optimized routing based on real time weather and traffic, automated workflows, and digitized proof of delivery. Additionally, the tablets are configured to provide access to safety documents, training videos, and online programs, revolutionizing the way a remote driver workforce operates.



Augmented Reality Pilot A Virtual Success

In 2020, Universal Truck and Trailer piloted the Microsoft HoloLens 2, a tool to connect mobile technicians to senior technical experts in real time. Even in remote locations, technicians could call in to their Dieppe or Saint John shops for a second opinion, diagnostic assistance or other insights using augmented reality and view sharing.



Growing Mobile Service Offerings

NBM Railways and Universal Truck and Trailer maintain a fleet of Mobile Repair Units that respond to customer and equipment issues directly, reducing customer and equipment downtime. Mobile truck and trailer technicians provide 24/7 roadside assistance and parts delivery, while offsite train and railcar maintenance can reduce wasted miles and generate fuel savings.

Advanced Analytics

We are employing machine learning, statistics and data analysis to transform our operations, finding a 'better way every day.'

Key Initiatives

- Atlantic Towing is leveraging hybrid battery technologies, fuel optimization and machine learning to reduce the carbon footprint of its fleet, enable zero emissions transit and provide power redundancy during dynamic positioning (DP) operations.
- In addition, the company has implemented energy management systems aboard its four PSV 5000s (Platform Supply Vessels) and all harbour tugboats to capture real time analytics and help optimize fuel, employ predictive maintenance and ensure efficient vessel operations.
- Using a combination of equipment sensors and Trimble Marine Construction software, Harbour Development has gained the ability to view a virtual, real time display of the sea floor and built new dashboards that give insight to crane engine utilization, fuel use and dredging productivity.
- NBM Railways has deployed an onboard locomotive sensor system to provide real time coaching and feedback to train operators and support staff. The locomotive's 'digital twin' functions as a tool to optimize train configuration within a set of operating conditions and inform asset maintenance planning. A fully integrated and computerized maintenance management system is currently in development and is expected to deploy in 2022.



The Atlantic Shrike's digital twin.



A dashboard providing dredging insights.

- As part of its precision railroading strategy, NBM Railways employs mCrew , an application that allows crews to report train and railcar movements from the field in real time. In addition, daily KPI's including train speed, fuel efficiency, on time performance, uptime, etc. are broadcast to employees via monitors in key high traffic locations.
- A new Track Inspection App is live in NBM Railways, allowing track inspectors and roadmasters the ability to log and track defects in real time. The ESRI based geocentric application was designed and built in house to eliminate paper and improve communication with regulators
- RST and Sunbury Transport leverage Omnitracs One technology for both improved fuel efficiency and driver behavior telematics. With full order integration, the company received in depth performance and telematics data, fault codes, and critical event reports associated with each leg of a trip. This segmentation allows for better insights, incident management, risk assessment and coaching.
- In addition, RST and Sunbury utilize Blackberry Radar tracking devices to access full trailer fleet visibility, allowing a deeper understanding of asset utilization and enhanced ability to improve empty miles by providing an easily navigable database of empty trailers.



Novel Tools & Technology

We're finding creative solutions and building on ideas that work to ensure the best possible outcomes for our businesses.

Key Initiatives

- Universal Truck and Trailer has expanded its use of the Microsoft HoloLens 2. Initially, the technology was deployed to enable technicians to contact experts directly when looking for a second opinion or to troubleshoot an issue with a vehicle. New applications in 2021 included the development visual training and instructional sequences developed by experienced technicians that more junior technicians could watch and then follow step by step while wearing the HoloLens. In addition, the company's 2021 Elite Support recertification was conducted via HoloLens due to pandemic restrictions preventing the auditor from travelling to Canada.
- NBM Railways began a discovery process in 2022 to explore possible use cases for the HoloLens in its operations. Possible avenues of utilization include developing locomotive maintenance guides, training and troubleshooting with customers.
- One key learning from the COVID 19 pandemic was the need to keep employees informed, connected and ensure information cascades were functioning properly. With a significant portion of our divisional employee base working in remote environments, we deployed the JDI Talking Points mobile app in 2020 to provide supervisors with consistent operational, safety and community messages to share with their teams during weekly huddles and toolbox talks.



Reducing Waste

We're making technology more accessible, digitizing our operations and going paperless where possible.

Key Initiatives

- JDI Logistics is currently automating 50% of its billing processes, with full automation expected in 2022. In addition, the business is adept at identifying alternate lanes and options for its customers to either reduce costs or carbon emissions generated via transport.
- NBM Railways is exploring new ways to digitize customer interactions via Shipper Connect, a platform that would provide customers with full visibility to their railcars and the ability to release cars automatically. The system eliminates the need for customer emails, phone calls and faxes and the company provides training to customers prior to onboarding. In addition, the company has digitized work orders. Employees are provided with tablets to record and submit inspection notes and reports, rather than traditional paper forms.
- NBM Railways, RST, Sunbury Transport, Universal Truck and Trailer have each installed employee information terminals in easily accessible areas for employees without regular access to a computer. At these terminals, employees can log into their HR systems, access email, check the company intranet, apps and much more.
- In recent years, RST and Sunbury Transport have implemented electronic billing and approval processes with affiliates, and express write up systems.





Thank You

Our businesses are growing. Sustainably.

We face many challenges in the years ahead: climate change, the economy and sustainable jobs, population growth, innovation and discovery. At J.D. Irving, Limited (JDI), the maintenance of natural systems and biological networks is key to sustainable forest management and the legacy we leave for future generations. With 65 years of tree-planting experience, and over one billion trees planted to-date, we recognize that our relentless commitment to sustainability is a journey, not a destination. It is central to all that we do, and there is no end-state. As much as our customer and stakeholder interests change, so too does the natural environment around us. We adapt to changing stakeholder priorities and a changing climate by ensuring we are using the best available science and technology along with robust stakeholder and community relations programs.

As we work to reduce our environmental impact, our parameters for success are continually shifting. Our strategies will continue to evolve and shift as we create a culture of sustainability that extends not just to our planet but encompasses our people and profitability. Investing in our people is an investment in our future, as well as theirs.

Thank you for taking the time to learn about our Transportation & Logistics Division's approach to sustainability, people and innovation. We believe we all have the potential to be better every day and know we can be part of the solution to some of today's most pressing challenges.



Jim Irving, Co-CEO,
J.D. Irving, Limited



Recognition

Select awards and certifications.

Atlantic Towing:

- Green Marine Certified, Re-certifies Annually (2008 2022)
- Federal Employment Equity Achievement Award (EEAAs) for Industry Leadership (2020)
- Turning the Tide 'Industry Leadership and Excellence' Award (2018)
- Federal Employment Equity Achievement Award (EEAAs) for 'Innovation' (2018)
- ISO 45001, 9001 and 14001 Accreditations by DNV GL

NBM Railways:

- Various certifications including: (eRailSafe , Partners in Protection (PIP), American Railway Engineering and Maintenance of Way Association (AREMA), Association of American Railroads, Customs Trade Partnership Against Terrorism (C TPAT).

RST and Sunbury Transport:

- Trucking HR Canada 'Top Fleet' Award (2018, 2019, 2020, 2021)
- Trucking HR Canada 'Top Medium Sized Fleet' Award of Excellence (2021)
- Trucking Human Resources Sector Council (THRSC) 'Building a Diverse Fleet' Award (2019, 2020, 2021)
- National Tank Truck Carriers Association (NTTC) Grand Award (1st) in North American Safety Contest, Phase 1 and Finalist didn't win top prize (2020)
- THRSC Employer of Choice Award (2020)
- Federal Employment Equity Achievement Award (EEAAs) for Industry Leadership (2020)
- SafeWay High Performer Award (2020)
- RST Emergency Response Services Re-certifies With ERAC Annually
- ERAC National 'Training and Learning' Award to RST ERS Team (2019)

Universal Truck and Trailer:

- Daimler Elite Certified, Re-certifies Annually (2015 2022)



Our Partners:







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LOGISTICS DIVISION



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