

HATCH

Performance
INNOVATIONS

Accelerating action through **positive change**



A message from our Chairman and CEO

We're delighted to bring you this year's annual review, a reflection on the past year and the people and projects that are defining positive change in our world.

When I look at the work that is underway, I'm in awe of the collective response our industry is making to what can only be called a global emergency. The galloping effects of climate change have awakened even the most cynical, and how we respond—the solutions we bring—will be the very definition of our legacy.

I believe in the power of people. In diverse thoughts. In new perspectives. The challenges of the day demand that we break from tradition, finding ways to resource global needs with responsibility, unearthing sustainable solutions that nurture and protect. It is a privilege to walk alongside our clients in this quest.

As we prepared for this report, speaking with colleagues around the world, we heard one consistent answer to the question, "What defines Hatch?" Overwhelmingly, we heard "our people" in relation to our ability to bring the right minds and personalities to the work that is needed. And we heard about the power and importance of strong client relationships.

Einstein once said, "Those who have the privilege to know have the duty to act." The shared responsibility and gravitas that we collectively bring reminds us of the very reasons we went into our chosen fields.

The opportunity to create exceptional solutions is a driving force, one that we are obligated to pursue as an essential aspect of our duty of care.

From the spark of an idea through project execution and into the life cycle of an operation, our commitment to you is one of excellence. We promise to deliver projects exceptionally well with the forethought that is essential to protecting people and places, critical to embracing communities, and necessary to create solutions the world needs.

We will embrace emerging technologies with the same determination, finding increasingly better ways to deliver projects—safer, faster, and with incomparable quality. Data-driven solutions that empower are here. This is not something new to Hatch. For decades we have been evolving digital solutions, and the relationships we have built with technology partners have never been more valuable. Standing shoulder to shoulder, we are fearlessly pursuing better ways of doing things.

We will be unapologetically idealistic. We will be relentlessly optimistic. And with firm belief that change is possible, together we will harness the power that intelligence generates, pioneering for positive outcomes.

This will be our legacy. Together.



John Bianchini
Chairman and CEO, Hatch

HATCH

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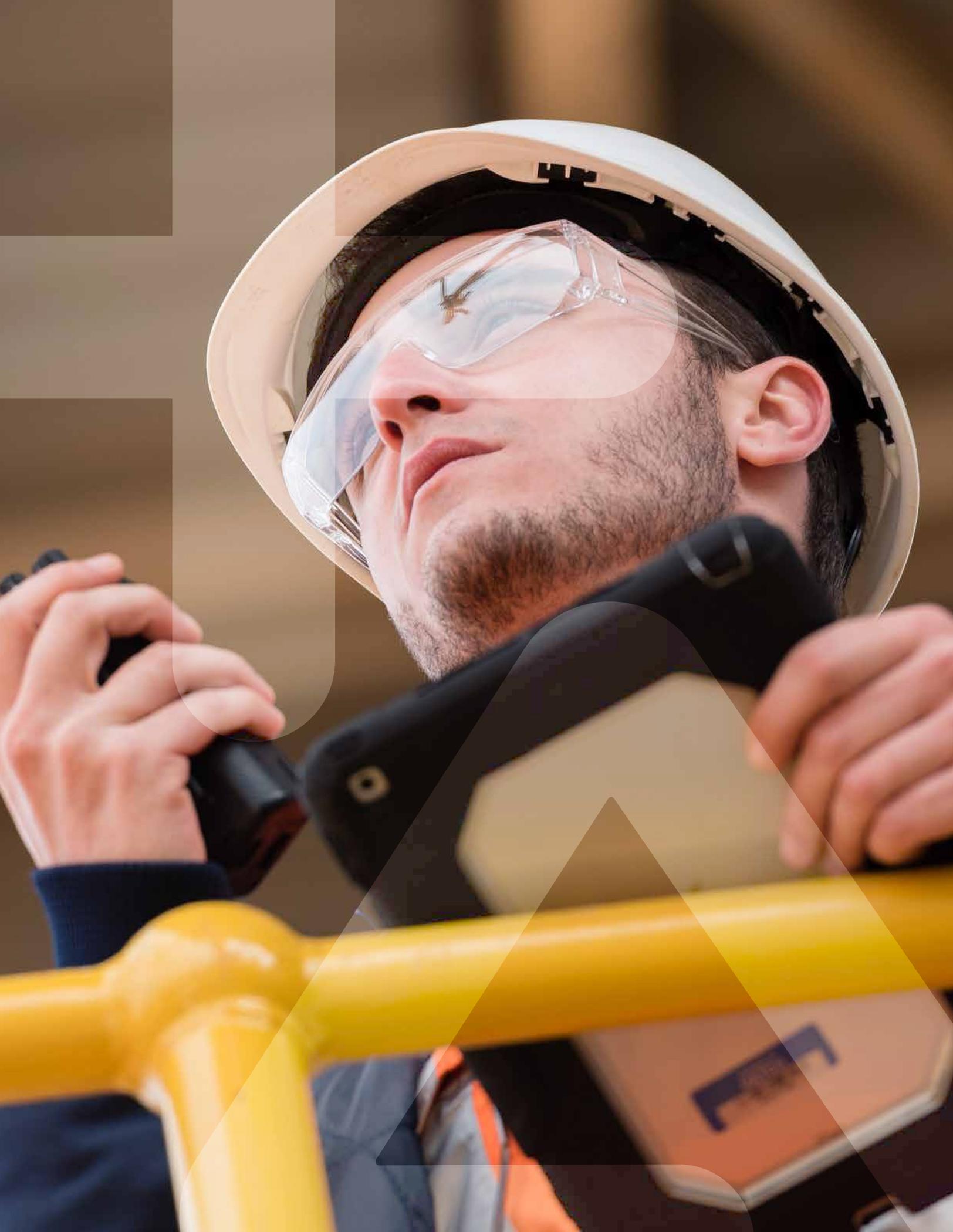


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upliftment



Project delivery
EXCELLENCE

Bringing projects to market with sound fundamentals and innovation.





A balancing act: Navigating risk mitigation and outcome optimization in capital projects

KEITH JOINER, Managing Director, Engineering Delivery

STEVEN PERRY, Managing Director, Project Management and Construction Development

When it comes to capital projects, there's an interesting dichotomy between risk mitigation and outcome optimization. One considers effective schedule, cost, and quality while the other tends to slow the process. With this in mind, we must ask ourselves: *How do we marry sound capital project delivery with the speed-to-market our clients need?*

Capital projects demand careful planning, resource allocation, and effective execution. To be successful, the pursuit of project delivery excellence must be balanced with thorough quality and safety controls.

Together with our clients, we're leading with an approach that fuses innovation—emerging digital tools and capabilities that allow us to move faster—with the fundamentals: strong people, teams, work culture, and a deep understanding of industry and project objectives. As your partner, we inject fresh perspectives and entrepreneurial practices into capital project delivery, resulting in project excellence and innovative approaches.

Digital tools give us the power of data-driven insights and real-time project management intelligence, providing a centralized hub of information accessible to all stakeholders. Through insight and analysis,

we gain a comprehensive view of project health, enabling timely interventions and informed decisions. These tools foster a culture of continuous learning and improvement, and allow us to analyze successes and failures, identify potential bottlenecks and risks, and inform best practices for future projects.

Our rich digital toolset supports projects from planning to construction and then into the full project life cycle. Digital tools enable interpretation and execution—not just reporting. Our project control teams analyze the data that our digital tools provide, making procurement faster and taking us out of the 2D space by creating projects that are interconnected.

While digital tools offer efficiency and insight, strong teams lie at the heart of our successful capital projects. We prioritize selection of the right minds and teams for projects. We ensure an unmatched level of global interconnectivity by integrating in a way that allows us to truly know our partners and their projects.

Our in-office work model is leveraged by offering the same closeness in proximity and communication style to our clients. With all major projects, our management co-locates to work in the same space, whether in-office or on-site, forming a performance-based relationship rooted in trust. By working this way, client review isn't an intimidating process—it's routine and embedded in our best practices. Issues are brought to light early through open and frequent communication, applying a "no surprises" approach to manage scope creep.

As a flat organization, our top leaders are project and technical experts, and by engaging experts who can regulate a project and apply the necessary practical experience, we identify and correct issues using a top-down approach. Our leaders are walking sites, getting to know the teams, and forming connections.

With this level of care at the core of all we do, our fundamentals can seem juxtaposed with current industry trends to move fast, build quickly, and get to market as rapidly as possible. But we won't skip steps or take on risk in the name of being fast-moving. We build efficient teams, leveraging emerging digital technologies and tools to keep us forward focused.

When it comes to capital project delivery, the best change is no change—in other words, the most powerful transformation lies in clear communication and a steadfast course. Our exceptional teams and emerging digital capabilities are rising to the challenge of bringing projects to market more efficiently without compromising quality, cost, or safety. Working together in partnership with our clients and remaining committed to the same principles and values, we're ensuring that we shape the capital project landscape the way our clients envision.





On-Corridor Works project

The On-Corridor Works project exemplifies innovation within the historic GO Rail Expansion program, representing the largest capital infrastructure endeavor in Ontario, Canada's most populous province. Encompassing a collaborative approach, it pioneers a progressive design-build-operate-maintain model, redefining the conventional public-private-partnership approach for public projects. Metrolinx's vision to create a transformed transportation network in the Greater Toronto and Hamilton Area over the next decade is revolutionary, with two-way, all-day rail service every 15 minutes.

Incorporating groundbreaking elements, the project emphasizes social mobility, connectivity, and sustainable design, aligned with electrification goals. Unprecedented in scale, it leverages our global expertise, uniting a team of 1,000 across continents to create an integrated force, demonstrating our organization's values.



Process Gas and Particulate Emissions Projects

The Process Gas Project (PGP) and the Particulate Emissions Project (PEP) are vital components of Glencore's long-term strategy to ensure the sustainability and viability of their Sudbury Integrated Nickel Operations (INO). In response to the government-mandated SO₂ and emissions-reduction requirements, Glencore entrusted us with the responsibility of managing both projects, which began in 2010.

We played a pivotal role in this transformative endeavor, providing comprehensive engineering, procurement, and construction management (EPCM) services for process-gas upgrades and particulate emissions reduction. Our team has worked diligently to bring the Sudbury smelter into compliance with the new provincial regulations, effectively reducing

allowable emissions of SO₂ gas and heavy metals such as nickel, cadmium, lead, and cobalt air emissions.

The PGP involved a significant upgrade to the smelter's process-gas systems, including gas cleaning, heat recovery, and heat exchange systems. By optimizing these critical components, we successfully enhanced operational efficiency, reduced energy consumption, and minimized environmental impact.

In the PEP, we employed advanced technologies to reduce the release of particulate matter into the atmosphere. This included the implementation of high-efficiency dust collection systems and the installation of state-of-the-art filtration equipment. These measures have significantly improved air quality and mitigated the impact of heavy metal emissions on the surrounding environment.

Process Gas and Particulate Emissions projects



Digital construction management for underground copper mine

To extend the life of an underground copper mine in Chile's Andes Mountains, we were hired to provide detailed engineering and construction management for the mine infrastructure and material handling contracts. The project required precise planning to minimize disruption to ongoing mine operations. To meet the client's building information modeling (BIM) and advanced work package (AWP) requirements, we established an integrated technological solution to improve coordination and decision-making.

We developed a 3D model and collaborative digital platform, providing a single source of project truth for the engineering, contractor, and construction management teams. We eliminated information silos and created a digital twin that supported BIM and AWP methodologies, as well as digital construction planning. Working in an open digital platform improved collaboration, quality, and efficiencies. It also optimized the construction schedule to save time and achieve a sustainable design in a zero-harm digital environment.

The Réseau express métropolitain project

The Réseau express métropolitain (REM) project, led by CDPQ Infra, marks Québec's most significant public transit endeavor in half a century. This pioneering initiative involves a fully automated, electric light metro spanning 67 km with 26 stations across Greater Montréal. By integrating seamlessly with existing transit lines, REM aims to enhance urban mobility, offering reliable service 20 hours a day, seven days a week. Notably, the project includes modernizing the Mount Royal Tunnel, constructing a new 70 m deep shaft to reach a new underground station—the second deepest station in North America—and creating a new tunnel on the Montréal airport route. It also addressed environmental concerns through a comprehensive impact study.

Adapting to the challenges of working in a densely populated urban setting, CDPQ Infra enlisted Hatch as part of a joint venture to oversee preliminary studies, environmental considerations, design work, construction, and commissioning.

The discovery of century-old leftover explosives in the Mount Royal Tunnel prompted us to adapt the rehabilitation design work required by using remote-controlled equipment and additional safety standards. We also developed a sequential demolition approach to create a vault above the existing double arch of the tunnel under Montréal's downtown streets. As a result, our team won the Tunnelling Association of Canada's Under \$100 Million Project of the Year Award.

We also proudly supported the work related to the Alice tunnel boring machine, which bored 2.5 km of new tunnel, passing under the tarmac of the Montréal airport to join the future station.

Preserving heritage sites and minimizing environmental impact underscore the project's commitment to sustainability. Despite obstacles, REM launched its initial routes in July 2023, with further expansions planned in 2024, as well as the airport connection in 2027.

The Réseau express métropolitain project
Photo credit: NouvLR



A large, terraced open-pit mine at dusk or dawn. The terraces are illuminated by warm, golden light, creating a dramatic, layered effect. In the lower right, a small structure is brightly lit, contrasting with the darker surroundings. The sky is a deep blue, and the overall scene conveys a sense of industrial scale and natural beauty.

Modernizing MINING AND METALS

Responsibly resourcing essential metals and minerals—the lifeblood of our world's progress.





Leading the way toward safe and sustainable mining solutions

TINA ARMSTRONG, Managing Director, Base Metals

IAN DUCKWORTH, Global Sector Practice Lead, Mining

Fusion of progressive technology and environmental innovation has given rise to a new era in mining. With the integration of advanced technologies such as artificial intelligence, autonomous vehicles and tools, and data analytics into traditional mining processes, we are paving the way toward optimized mining operations, enhanced productivity, minimized environmental impact, and the improved health and safety of workers.

We're working with mining partners to mitigate and eliminate hazards through a systems-safety approach to risk. One way we're promoting enhanced safety is through tracking personal devices to display the location of workers for support messaging and emergency response, collision avoidance, and to monitor alertness and fatigue levels of workers. We are also using dashboard cams on vehicles and sensors to transmit data about equipment health, seismic activity, structural integrity, and air quality.

As we ramp up the extraction of critical metals and minerals needed to supply the global transition from fossil fuels to renewable energy, the industry

faces the dual challenge of meeting burgeoning demand while addressing pressing environmental and sustainability concerns. With these metals and minerals at the backbone of the technologies driving this transformation, we can't overlook the potential consequences of increased extraction. It's imperative that as we increase production, we also prioritize responsible and sustainable practices.

ESG is a critical component of doing business for any mining company. We're partnering with our clients to navigate technical complexities, regulatory hurdles, and resistance to change in a traditional industry. Together with our clients, we effectively communicate and obtain input and participation from Indigenous and local communities. By leading with a community-first approach, we bring populations to the forefront of the decision-making process and treat them as equal stakeholders. By doing this, we develop inclusive, win-win solutions that provide jobs, protect the environment, and benefit all stakeholders.

Beyond environmental and social benefits, smart mining will also decarbonize operations while fully considering other business drivers such as production, quality, and efficiency. We're optimizing production and investing in efficient operations by automating and electrifying mining fleets to reduce emissions, implementing alternative energy sources such as solar, wind, biomass, green hydrogen, small modular nuclear reactors and geothermal, using digital systems and



data to reduce the risk of tailings storage failures, and utilizing digital twin modeling to provide simulations and real-time monitoring.

As with mining, technological advancements and risk management are front of mind for us and our clients as mined materials are processed and tailings and residues are generated. The combination of our world-class tailings, project delivery, and digital teams offer comprehensive services for the development of new tailings and impoundment facilities, and the management of existing operations.

Smart mining represents a groundbreaking opportunity for us. Our clients understand that traditional mining is a complicated, multifaceted industry with many challenges that we must address with extensive expertise and cross-sector capabilities. By combining strategic thinking and advancing technologies to tailor forward-thinking solutions, we're embracing innovative, sustainable practices that mitigate risks and pave the way for a safer, greener future.



Scaling the value chain in the new wave of electrification

ANDREA DE MORI, Managing Director, Minerals and Batteries
SIDDARTH SUBRAMANI, Global Director, Lithium

The shift to a battery-centric economy has been driven by the urgent need to curb carbon emissions and transition to sustainable alternatives. With governments and organizations setting ambitious targets to reduce greenhouse gas emissions and increase the adoption of electric vehicles and renewable energy, battery production is experiencing a seismic shift.

The battery market is undergoing a significant transformation, reshaping established mining and manufacturing value chains. Multiple stakeholders are evolving in this dynamic landscape, including established producers, mining and technology startups, traders, and government agencies that are driven by cutting-edge technologies in the race toward rapid implementation.

To navigate this complex ecosystem, a comprehensive and integrated approach is essential. It necessitates a deep understanding of natural resources, battery materials, cell manufacturing, and recycling, encompassing battery supply as well as the full battery life cycle. Organizations benefit from strategic partners capable of bridging the gaps between mining,

processing, and manufacturing, all while facilitating the relationships between miners and the original equipment manufacturers in the automotive industry.

Amid the current wave of electrification, a challenge has arisen—a surge in demand for battery materials that outpaces supply. This scenario mirrors the commodity boom from the early 2000s, an era we can draw from these learnings to address the urgent needs of the battery market. The industry is adjusting to the current surge of investment across various metals, including lithium and nickel, but is hindered by a reduced collective capacity to develop projects, which stems from the latest pandemic as well as the 2013–2017 market downturn.

One way to address this capacity challenge is by redefining industry engagement, execution methods, traditional processes, and workforce structures. A valuable lesson learned from the 2000s commodity boom centers on the importance of meticulous design, efficient execution, and tailored solutions as the recipe for success. Employing an EPCM approach that places process engineering at its core ensures successful project delivery by emphasizing tailored execution and a preservation of the technology intent. Striking the right balance between speed and safe, sustainable development is something that leading industry players need and value.

Battery chemicals, cell manufacturing, and recycling are industries that are bringing new partners together, creating a culture of collaboration. These emerging markets offer an exciting opportunity for innovation and the development of novel approaches, particularly in the realm of design-supply models. These models empower organizations to make informed decisions, even in the face of calculated risk, with the potential to achieve improved outcomes for all parties.

Effective communication and thought leadership play a crucial role in times of transition. When tough business choices need to be made, it is essential that solutions consider multi-faceted perspectives, including strategic advisory, technology, engineering, and project delivery, centered around the clients' business cases. This comprehensive approach ensures no critical aspect is overlooked, facilitating more holistic and effective problem-solving.

The journey toward sustainable electrification will not be easy; there is a hunger for metals and batteries, and there is limited global expertise to meet the current demand. As leaders, we are continuously developing skillsets and nurturing new partnerships across the entire battery market supply chain to ensure the development of holistic solutions. Scaling the industry remains our top priority.

We continue to push the boundaries of critical minerals extraction, battery chemicals production, cell manufacturing, and recycling, balancing performance with sustainable practices. In the true spirit of our founder, Gerry Hatch, who married market understanding with technical expertise, innovation, and project management discipline, we are deploying our creativity to prioritize speed-to-market. With this approach, we remain meticulous and safe as we unravel the full potential of electrification and pivot toward a greener, more sustainable world.





Navigating challenges and embracing innovation in the transition to green metal

JOE PETROLITO, Managing Director, Bulk Metals

PETER WEBER, Director, Metals, Europe

The metals industry faces aggressive environmental targets, significant investment challenges to implement transformational technologies, and global competition that drives tight margins. To thrive in this rapidly evolving landscape, industry leaders must understand and align themselves with market transitions and leverage the best technologies to stay ahead.

The challenge is clear: How do we implement significant technology change while balancing this with market and social expectations? In a conservative and capital intensive industry, perceived process risk hinders the acceptance of new technologies. But with mounting pressure to decarbonize, a shift is occurring. Global metal producers are seeking greener pathways and recognizing the need for specialized expertise in technology design, process scale-up, and low-emission green production technologies.

The commitment from responsible corporations to decarbonize has accelerated the advancement of electric furnace technologies and alternative production flowsheets that can take advantage of renewable energy. From steel to aluminium, we are

partnering with clients and stakeholders to leverage our unparalleled expertise and resources to provide sustainable solutions that address the industry's toughest challenges.

We've been ahead of the technology curve for years, as is evidenced by our electric smelting furnaces (CRISP and CRISP+ furnaces), which are now being adopted by the steel industry. When combined with direct reduced ironmaking technologies, the CRISP and CRISP+ smelting furnaces can decarbonize the iron and steel value chain by replacing fossil carbon with low-emission electrical power.

CRISP was developed nearly two decades ago to produce low carbon liquid steel from direct reduced iron (DRI) in one step, replacing carbon-intensive blast furnaces and basic oxygen furnaces. When coupled with the latest DRI technologies, CRISP can replace almost all the carbon to produce liquid steel with hydrogen. The newer CRISP+ furnace produces carbon containing hot metal that replaces blast furnace hot metal in basic oxygen furnace steelmaking or produces green pig iron for merchant sales.

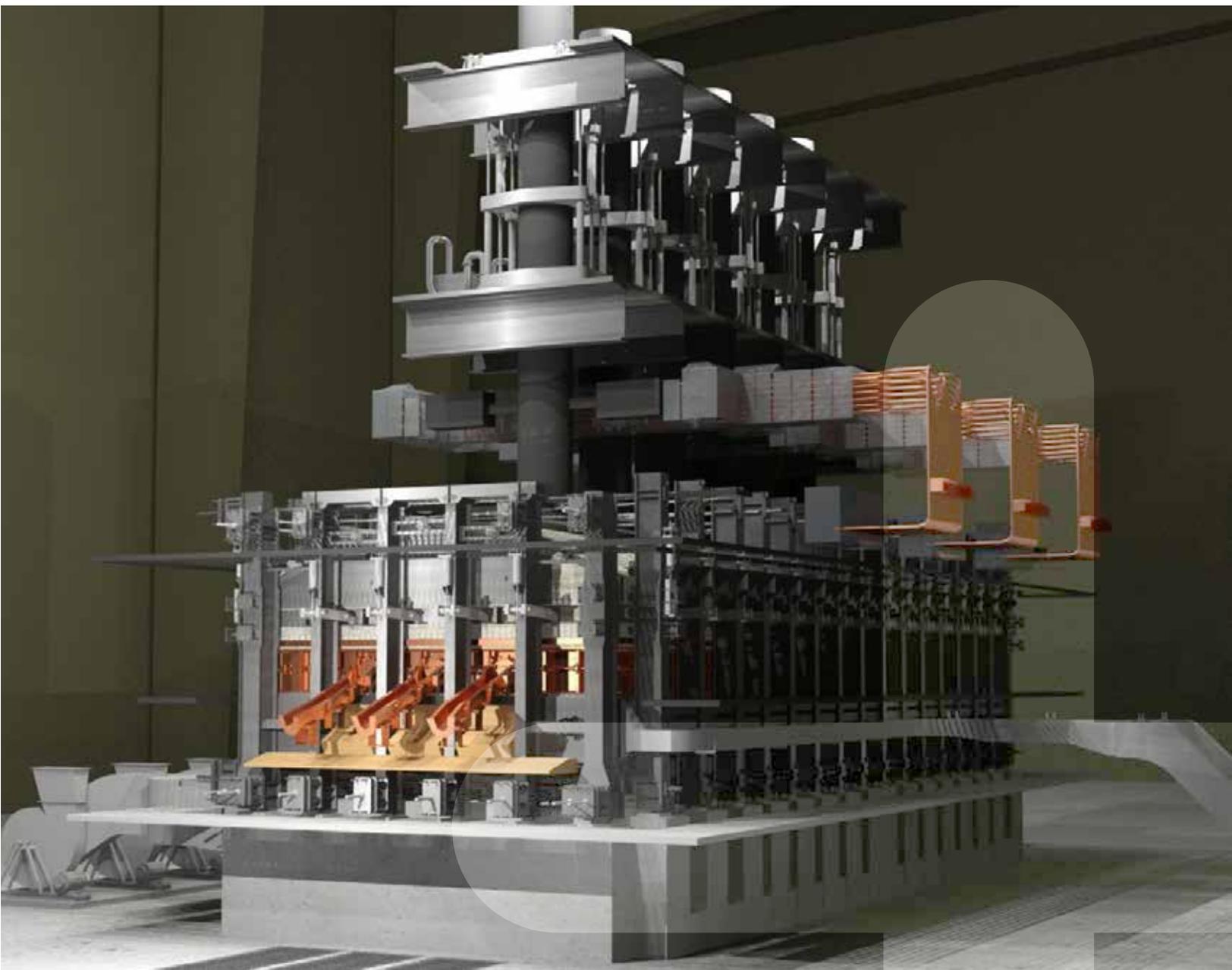
The transition to green metals isn't just about adapting new technologies; it's a comprehensive transformation across the entire value chain. From initial concept design and implementation to asset management post start-up, our EPCM approach plays a pivotal role. Digital project delivery streamlines our design and planning phases, ensuring efficient resource

allocation and waste reduction, especially for multi-billion-dollar investments. With the metals industries facing transformational change, project development requires a holistic approach that considers the entire value chain from feed to the final product portfolio. This is where our technological advantage, combined with deep subject matter and project implementation expertise, is most valuable.

The heart of green metal lies in electric furnaces powered by renewable energy sources. Our process experts work collaboratively with our climate change practice to align with global climate goals, develop

competitive strategies, and ensure comprehensive global connectivity with other industrial sectors such as the automotive and battery industries.

For our green metal experts, it's not speed to market that matters most, but speed to innovation and successful new technology implementation. We're addressing the most daunting global challenges by consistently taking a forward-thinking approach and fostering solutions in all we do. With foresight and intention, together we're leading the way to a cleaner, more sustainable future.



Li-Cycle Rochester Hub

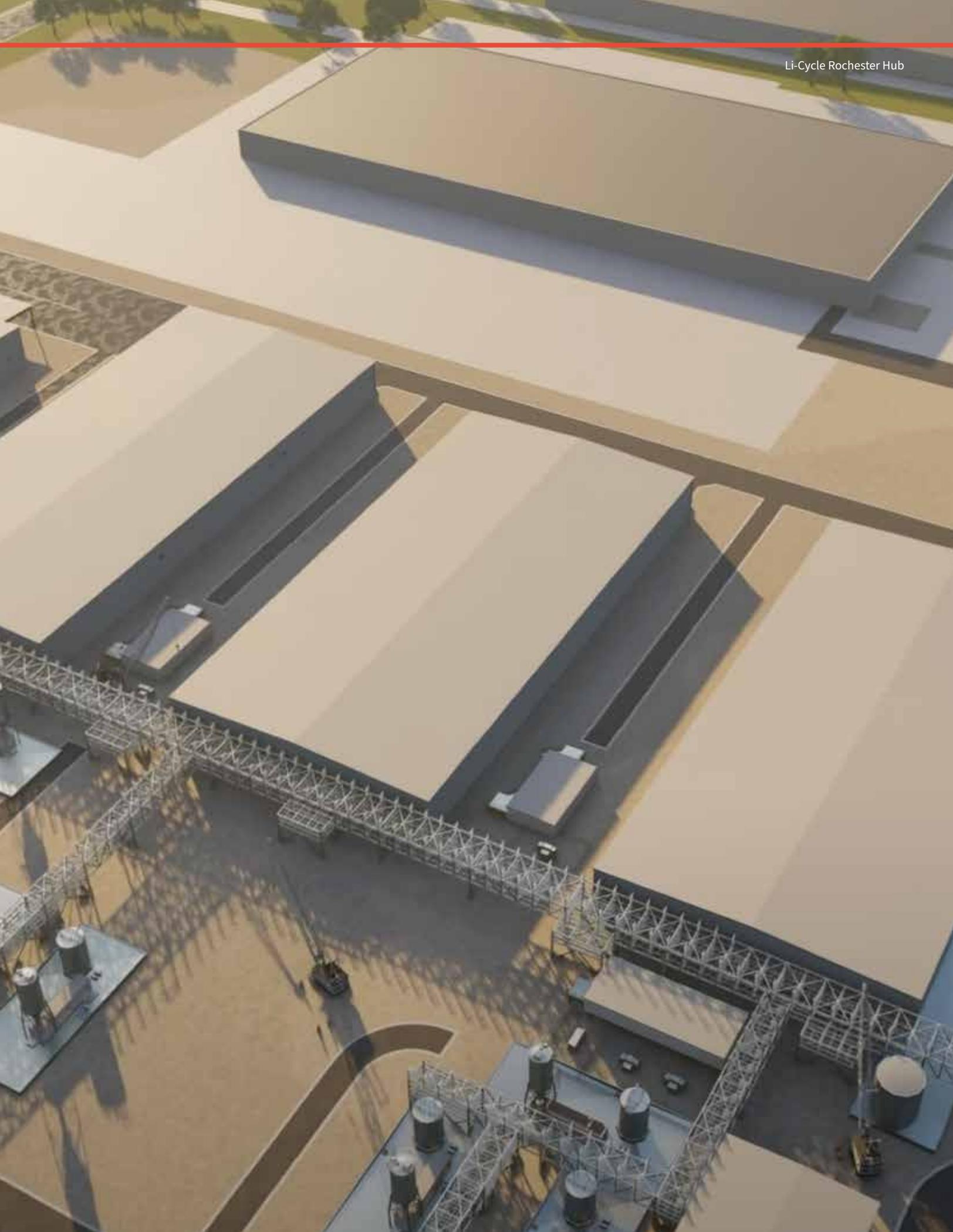
Li-Cycle, in collaboration with Hatch, is constructing the first-of-its-kind hydrometallurgical battery resource recovery facility in Rochester, New York, known as the Rochester Hub. The Hub is expected to process up to 35,000 tonnes of black mass per year, which is equivalent to approximately 90,000 tonnes of lithium-ion battery material or 18 gigawatt-hours of lithium-ion batteries, making it the first source of recycled battery-grade lithium in North America.

Li-Cycle's Hub technology is the company's second step of its Spoke & Hub business model. The first step is at their Spoke facilities where battery material is recycled through a proprietary submerged shredding process to produce 'black mass,' an intermediate product. Black mass contains highly valuable metals, including lithium, nickel, and cobalt.

At Li-Cycle's Hub facilities, the black mass obtained from the Spokes is processed to produce the fundamental building blocks of batteries. Once fully operational, the Hub is expected to deliver annual production of up to 7,500-8,500 tonnes of battery-grade lithium carbonate, 42,000-48,000 tonnes of battery-grade nickel sulphate, and 6,500-7,500 tonnes of battery-grade cobalt sulphate, in addition to other valuable materials.

Li-Cycle's safe, sustainable, and highly scalable, Spoke & Hub Technologies™ will help create a closed-loop supply chain for lithium-ion batteries to accelerate the clean energy transition.

Our extensive expertise in hydrometallurgical processes and engineering prowess makes us the ideal partner for this ambitious project. We are providing project management services for detailed engineering, procurement, construction support, and commissioning planning for the project. With significant progress already achieved, the Rochester Hub is on track to start commissioning in late 2023.



Alouette relined anode bake furnace

Alouette is the largest primary aluminium producer in North America. In June 2023, they restarted the first firing ramps of their anode baking furnace No.1 (ABF-1) following a refractory reline that was started earlier in the year.

The reline of ABF-1 integrates a new furnace technology, increasing the furnace's efficiency and operation.

A second furnace reline (ABF-2) is planned for 2024. This work on ABF-1 and ABF-2 will ensure that Alouette can continue to efficiently produce aluminium, decrease its carbon footprint, and accommodate future growth.

We are a critical partner in this project. After successfully completing the FEL1 through FEL3 studies, we were retained for FEL4 to manage the execution as an EPCM provider. This is Hatch's fourth anode bake furnace reline project in Québec in the last decade.

"Alouette's president and Chief Executive Officer, Claude Gosselin, expressed enthusiasm for the partnership: We are committed to maintaining our position as a leader in the aluminium industry, and this investment is an important component of that strategy. Hatch's team, with its experience and expertise, contributed to making this phase of the project a success."

Imerys British Lithium project

England's county of Cornwall is the focus of three strategic lithium extraction projects. Imerys British Lithium's (IBL) project is one of these three mines. IBL is a hard rock mining project with an associated 20 ktpa lithium carbonate (Li_2CO_3) refinery located in an existing kaolinite clay mine. IBL's aim is to be Europe's first Li_2CO_3 project by 2028, targeting a European growth plan in synergy with their sister project, EMILI, located in France and fully owned by Imerys. We completed the scoping study for IBL in 2021 and have been awarded the full prefeasibility study (PFS).

The PFS has three stages. Stage 1 involved establishing the work breakdown structure and project schedule, and developing the initial siting study, trade-off studies, a gap analysis, and the testwork plan required for Stage 2.

Stage 2 includes a testwork program using IBL's pilot plant and external laboratories, as well as geotechnical investigations at two potential sites for the refinery and construction facilities. IBL will also establish the extent of tailing facilities required. In Stage 3, testwork results from Stage 2 will be used to develop the process design, layout development, equipment sizing and pricing, CAPEX and OPEX estimates, and the PFS final report.

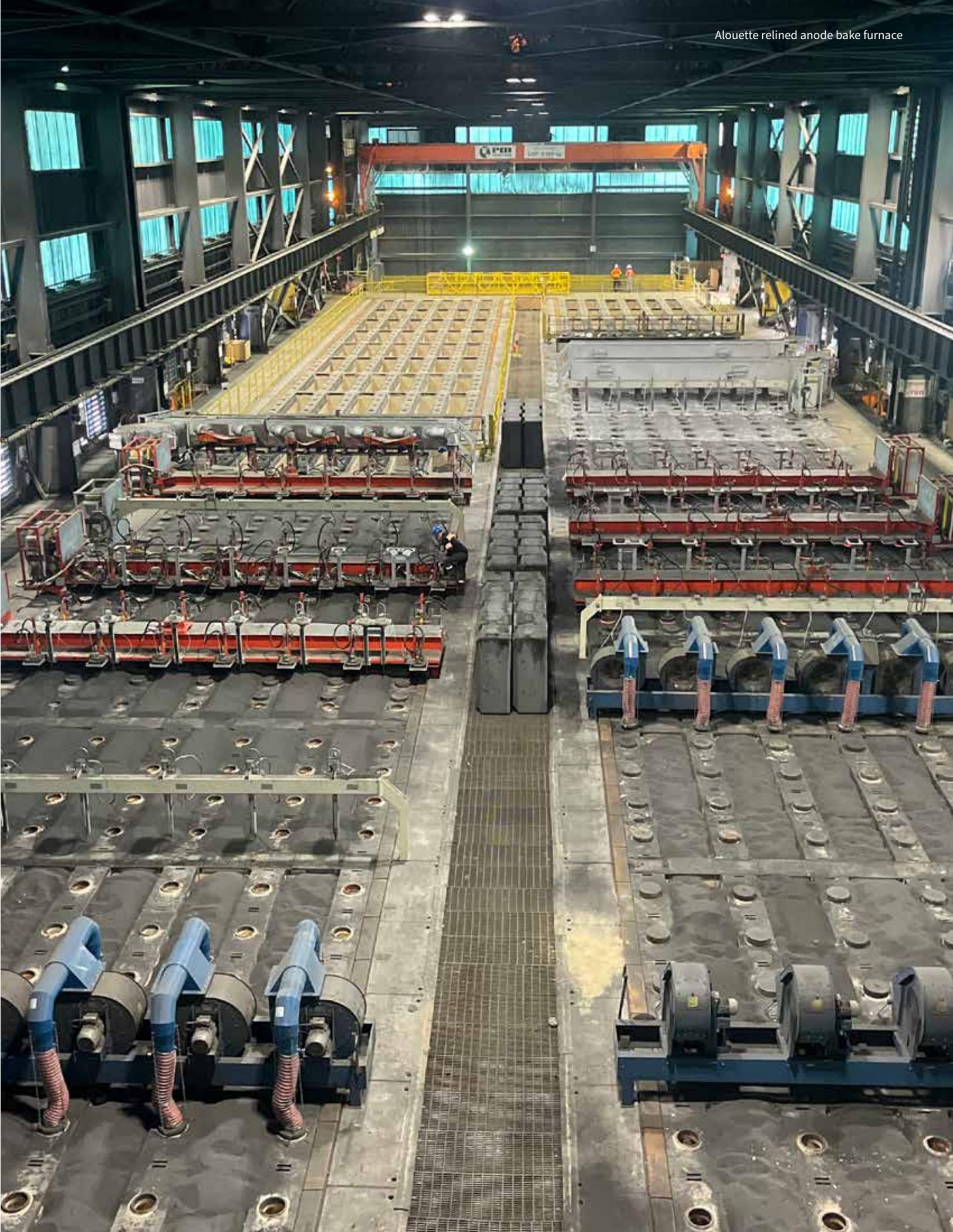
Our global team includes experts from the United Kingdom, Australia, South Africa, and Canada, who are providing input to comminution, magnetic separation, calcination, leach, and crystallization, with continued guidance on testwork.

BHP's electric smelting furnace pilot

BHP and Hatch are designing and developing a pilot electric smelting furnace (ESF) facility to accelerate the adoption of new iron and steelmaking technologies, providing BHP's steelmaking customers pathways to lower carbon dioxide (CO_2) intensity in steel production using iron ore from BHP's Pilbara mines.

When combined with a direct reduced iron (DRI) process, the ESF can continuously produce iron or steel from iron ore using renewable electricity and hydrogen, replacing fossil fuels. Estimates show that reductions of up to 80% in CO_2 emission intensity could be achieved when processing iron ores through a DRI-ESF pathway. The ESF allows greater flexibility in ferrous raw material selection, addressing a key barrier to wider adoption of other low CO_2 emissions production routes. The ESF can be seamlessly integrated into a steel plant's existing flowsheet allowing continued use of assets with minimal changes.

The pilot facility will enable deeper and more accurate insights into the performance of this technology for converting iron ores into molten iron and steel. Together with BHP we will assess several locations in Australia based on supporting infrastructure, technology skills and local partnerships to build and operate the ESF pilot facility.





Transforming **ENERGY**

Delivering energy collaboratively
and with purpose.





Empowering change: Fueling the future through energy transformation

JIM SARVINIS, Managing Director, Power

Embracing energy transformation in the face of climate change presents a remarkable global opportunity. The year 2050 stands as a crucial milestone, urging us to work together and curtail greenhouse gas emissions. In the midst of this challenge, we have a momentous chance for the energy industry to play a pivotal role.

The demand for carbon-free electricity is expected to more than double over the next 30 years as heavy industries, transportation networks, agricultural supply chains, and building heating systems all strive to reduce emissions.

At Hatch, we leverage decades of experience and expertise to contribute to the energy transformation. While we are proud of the work completed with our clients in achieving remarkable progress to date, we know that much remains to be done. We are, first and foremost, a climate change company committed to finding practical, safe, and innovative solutions and strategies to decarbonize the planet. Our work with clients focuses on solutions that include small modular nuclear reactors (SMR), hydroelectric, wind, solar, hydrogen, energy storage, fuel switching, biofuels,

geothermal, and CO₂ sequestration, utilization, and storage to bring about the change the world needs.

In the power sector, we are assisting several of the leading SMR technology developers to complete the licensing, engineering, and project planning required to commercialize their novel designs. We're also working with several technology developers to unlock the promise available from fusion energy. At the same time, we partner with our long-term clients to develop new hydroelectric generation assets and advise on the operation, maintenance, optimization, and refurbishment of existing facilities. Renewable generation (solar and wind) is being coupled with large-scale energy storage (batteries and pumped hydro) and long-distance HVDC transmission technology to generate and deliver clean electricity when and where it's needed. Distribution utilities are upgrading their infrastructure and technology to enable the electrification needed for the transformation.

A palpable shift is underway in the oil and gas sector, with forward-thinking partners acknowledging the imperative to shift toward carbon-free energy sources and create sustainable products. We collaborate with clients to bring these environmentally friendly options to the energy mix in the future. Among the solutions being explored are the use of ammonia for fuel, particularly in the shipping industry, and the blending of hydrogen into natural gas to lower its carbon footprint.



Biomass-to-liquids technology has the potential to transform fuel production, including sustainable diesel, aviation fuel, and gasoline. We are also active with CO₂ removal projects, both from process facilities and directly from the atmosphere.

Our expertise in all facets of the oil and gas sector, including upstream, midstream, and downstream processes coupled with our skills in climate change mitigation, is being deployed on decarbonization programs across the entire value chain.

In addition to adopting new energy sources to meet demand, we're partnering with clients to ensure aging infrastructure continues to operate in a sustainable,

reliable manner. We have the capability to refurbish, optimize, and upgrade current facilities to ensure these existing assets continue to provide the platform for a smooth transition.

We live in a world that has relied on fossil fuels for centuries; a world that is hoping to decarbonize in less than 30 years. The quest for decarbonization is undeniably huge, but the remarkable progress and unwavering commitment within the energy sector provide a source of inspiration and optimism. Together with our clients, governments, and regulators, we're painting a compelling picture of what's achievable. We stand together with our clients to lead the way toward a brighter, cleaner, and greener future.



Xe-100 technology development program

Xe-100 technology development program

Under the U.S. Department of Energy’s Advanced Reactor Demonstration Program (ARDP), X-energy and Dow are advancing efforts to deploy the first advanced small modular nuclear reactor for an industrial site in North America. X-energy’s Xe-100 high-temperature gas reactor plant is envisioned to be installed at one of Dow’s U.S. Gulf Coast sites, offering safe, reliable, carbon-free process heat and power. This project, a pioneering example of nuclear energy solutions, supports broad decarbonization efforts and serves as a leading example of small modular reactor (SMR) technology.

We are providing engineering and project management support, contributing to the

advancement of this innovative solution. Our approach includes leveraging our expertise in project delivery, technology development, and nuclear and power conversion to enable the creation of a reliable carbon-free energy source, capable of generating 200 MW of thermal power representing up to 80 MW of electrical generation for power and heat applications.

We are providing technical assistance, supporting X-energy in advancing the Xe-100 SMR design for subsequent deployments beyond ARDP. Moreover, we are offering engineering expertise for site-specific infrastructure planning for potential projects across North America and beyond.

Mauritania electrification project

Société Mauritanienne d'Électricité (SOMELEC) seeks to enhance electricity distribution and security while increasing rural electrification and renewable integration. We are partnering with SOMELEC and acting as the consultant and owner's engineer on this extensive endeavor. Our role spans feasibility studies, preliminary designs, and cost assessments for widespread grid extensions and innovative hybrid power plants. Phase one encompasses a provisional report, rigorous feasibility assessment, preliminary designs, and meticulous request for proposal (RFP) documentation, covering vast grid extensions and three hybrid plants. Phase two involves project management, precise bid curation, and vigilant supervision for grid upgrades, substation expansions, and hybrid plant construction.

Our extensive experience includes designing 4,000+ km of medium-voltage transmission lines. This collaboration delineates interconnection constraints, vital upgrades, and isolated satellite grid networks powered by solar, diesel, and hybrid plants. Our steadfast support further advances SOMELEC's objectives of creating a lasting, positive impact in Mauritania.



Pointe du Bois renewable energy project

The first unit at the Pointe du Bois generating station in Manitoba, Canada, went into service in 1911, the same year that Marie Curie won the Nobel Prize and three years before the start of World War I. The station, owned by Manitoba Hydro, has been generating clean, renewable power ever since.

Now, more than 110 years later, Manitoba Hydro is seeking to update and replace key components of the generating station—the oldest in their fleet—and extend the life of the station to at least 2055. By simultaneously adding 380-gigawatt hours per year of capacity, the Pointe du Bois generating station will be able to power 35,000 homes in Manitoba.

This project involves replacing eight of 16 units, aiming to replace the existing horizontal axis units with new duplex camelback turbines coupled with

salient pole, self-ventilating generators. The project also includes replacing the governor and excitation systems, transformers, switchgear, ancillary services, and control systems. Furthermore, it involves civil reconstructions, turbine and generator hall crane refurbishments, trash rack modifications, intake gate installation, and system integrations.

We are providing owner's engineer services for the turbine-generator units, the governors, exciters, ancillary services, and control systems, as well as the crane refurbishments and integration of the switchgear generator step-up transformers, combining our extensive expertise in hydro modernization and refurbishment with our almost 50 years of experience working on the Pointe du Bois generating station.



Louisiana Green Fuels (LGF) project

Strategic Biofuels is developing the first agroforestry-derived biomass-to-renewable fuels project in North America. This unique initiative, known as the Louisiana Green Fuels (LGF) project, combines the fuel production process with the capturing and sequestration of the emissions from this plant to produce carbon negative diesel. The project will be constructed on a 171-acre site at the Port of Columbia in Louisiana. The plant is designed to produce up to 33.7 million gallons of renewable fuel per year from forestry waste.

We are developing an integrated process flow scheme, incorporating several third-party technologies that are core to the production of syngas from biomass, followed by the conversion of the syngas to liquid fuels, including all supporting facilities for solids handling, effluent treatment, and utility systems for the provision of oxygen, steam, power, and water.

The project is benefitting the local community by bringing job creation, local development, and positive change to one of the most disadvantaged and rural areas in Louisiana. Our support of the STEM program at the local high school has had a profound impact, inspiring youth to consider careers in technical fields.



Planned **PROSPERITY**

Creating communities that are sustainable,
resilient, and equitable places for all.





Creating cities and human habitats for a sustainable and prosperous world

MICHAEL SUTHERLAND, Director, Urban Solutions

JAMES A. MOORE, Managing Director, Urban Solutions

Cities are humankind's greatest collective invention. They provide shelter, safety, community, commerce, and a sense of identity to people and cultures around the world. However, rapid urbanization has produced cities that are complex and often poorly understood. While cities are sources of enormous wealth and productivity, they generate significant social, economic, and environmental challenges.

For future generations to survive and thrive, we must have more equitable, prosperous, sustainable, and resilient cities and communities. Cities should work to everyone's benefit and with this in mind, Hatch is delivering the foundational "systems of systems" approach that sustainably supports our communities and economies.

The goal of any city should be the sustained, long-term prosperity of its residents and environment. Functional, efficient communities and cities provide citizens with opportunities to pursue individual and collective aspirations in equitable, sustainable, and economically viable ways. By 2050, an estimated

70% of the world's population will live in urban areas, and even as global populations are expected to plateau, urbanization is projected to continue with 200,000 people moving to urbanized areas every day for the next 30 years. The challenge of our century is to ensure that this massive urbanization occurs equitably and sustainably, helping us address and solve rather than exacerbate existing and emerging environmental, social, and economic challenges. We're planning and designing projects and places with innovation and integration at the core. We partner with our clients in a connected, forward-thinking way, often looking for opportunities to invest in the solutions we help create. And we combine our global pool of talent, experience, and technical expertise with state-of-the-art digital tools and processes to help our clients generate greater economic value, achieve better societal outcomes, and reduce their overall carbon footprint.

With a focus on refining and improving the physical, functional, social, and environmental conditions of historic cities, we're ultimately easing the centuries-old process of development and redevelopment that is the eternal rhythm of any established city. We also reconsider the expansive post-WWII suburbs, looking to densify, intensify, diversify, and integrate these environments. We look for innovative ways to develop new communities, towns, and cities, optimizing the relationship between the built and natural environments.



With this in mind, we must work to reduce the impact that cars and other motorized vehicles have made over the last 120 years. The single largest piece of public property in every city is its rights-of-way, the vast majority of which is given over to the needs of vehicles. Moving forward, this public land must be optimized to create multi-modal connectivity and an integrated network of live-work-play neighborhoods and districts that leverage emerging changes in living: work, leisure, community, and how we interface with nature.

As we consider individual communities and cities, we also weigh their global context. The character, utility, and structure of globalization is changing, impacting cities. Ports, airports, freight systems, passenger terminals, logistics centers, and hubs are ubiquitous, and it's impossible to imagine a modern world without them. Yet, while the international movement of people and goods has become commonplace, it consumes enormous amounts of non-renewable energy, creates a massive carbon footprint, and often produces significant economic, social, and environmental disruptions.

To solve this, Hatch teams are strategizing, developing, and optimizing supply chain issues in ways that create exceptional value for owners and stakeholders while addressing rapidly changing contemporary industries, accelerating energy transitions, increased demand for equitable economic opportunity, and recognition that “business as usual” is not sustainable.

Our integrated approach to designing future-ready cities shows us that people, places, and spaces are so deeply connected that it's impossible to pull them apart. Our legacy will be the creation of a world that nurtures these connections and enhances, preserves, and protects them for generations to come. By taking a systems-of-systems approach to human and natural habitats, we create places that are more attractive for residents and visitors, contribute more benefits to local communities and to greater society, are more desirable for owners and investors, and will stand the test of time as sustainable, resilient, and equitable places for all.



Future of Fremantle project

Appointed by the Department of Planning Lands and Heritage, Hatch is the lead consultant for the Future of Fremantle project, which has the potential to be the most extensive urban regeneration endeavor in Western Australia. Part of the initiative involves creating a vision for the long-term redevelopment of Walyalup's Inner Harbour port precinct following the proposed relocation of container and non-container facilities to Kwinana.

In an innovative approach, the project integrates diverse voices, including the perspectives and insights of Aboriginal Elders and young people, and community residents to unearth culturally significant stories and redefine the precinct's future. The project emphasizes the development of vital infrastructure to enhance accessibility and industry prospects.

Our involvement encompasses crafting a land use plan and economic development strategy, leveraging a team of in-house economists for economic insights.

Embracing stakeholder engagement and acknowledging cultural heritage, we are set to help shape the future of Fremantle's inner harbor, fostering positive change and assuring cultural relevance for generations to come.



Major rehabilitation of the La Fontaine Tunnel

As part of the Renouveau La Fontaine joint venture, we participated in a groundbreaking project: the major rehabilitation of the Louis-Hippolyte-La Fontaine Tunnel.

Located beneath the St. Lawrence River in Québec, Canada, the six-lane highway tunnel connects Montréal and Longueuil. The tunnel, which opened in 1967, needs significant structural repair to extend its lifespan and major safety upgrades to comply with the latest industry standards and best practices. We are providing final design for structural rehabilitation, passive fire protection, ventilation, and emergency passenger egress during a major fire event as well as various system upgrades.

Incorporating cutting-edge techniques and using digital delivery methods, we draw upon a variety of disciplines to assess the structural integrity of the tunnel during and after repair work to model a series of major fire event scenarios in the tunnel and design ventilation and emergency exit systems.

In addition to these essential upgrades, we designed new redundant electrical power supply and intelligent transportation systems that will be fully automated to comply with the latest codes and best practices to ensure a modern tunnel operation that guarantees passenger safety and comfort.

Through a collaborative effort and the application of pioneering methodologies, we are ensuring the La Fontaine Tunnel's longevity and setting a benchmark for fire life safety and infrastructure rehabilitation.

Caltrain Modernization Program

In July 2023, electric trains commenced operations on the Caltrain Corridor for the first time in its 160-year history, signaling a significant stride toward a greener and more efficient future. We played an essential role in this transformation, partnering with Caltrain for a decade. Through innovation and sustainability, we supported the electrification project, contributing to enhanced service, reduced emissions, and improved rider experiences.

Caltrain's Modernization Program addressed various aspects to elevate overall train service by electrifying the fleet and enhancing performance, safety, and capacity. Our efforts extended the service life of diesel trains, allowing the new electric trains to be introduced smoothly. We facilitated the procurement of bi-level electrical multiple unit commuter rail cars, designed the new electric trains, and managed a technology refresh project.

With a commitment to regulatory compliance, we provided trusted support to Caltrain and guided third-party contractors in implementing the system safety program. Our partnership with Caltrain goes beyond modernization—it's about reshaping communities, fostering equity, and advancing environmental sustainability along the corridor.





Major rehabilitation of the La Fontaine Tunnel



Caltrain Modernization Program

Kingston Third Crossing (Waaban Crossing) project

The Kingston Third Crossing, recently named the Waaban Crossing and located in Kingston, Canada, is the largest transportation investment in the city's history. The river forms part of the Rideau Canal system, a UNESCO World Heritage Site, and is a federally regulated navigable waterway, which required careful consideration in the design and construction engineering to minimize costs, risks, and environmental impacts.

The project adopted an integrated project delivery (IPD) contract model, making it the first bridge construction project in Canada to use this innovative arrangement. The IPD partners, which included the City and contracted design, construction, and trade partners, were integrated from the start, setting shared goals and maintaining shared accountability for delivering the project on time and on budget.

We were the prime design partner for the project, responsible for overall design, project management, and detailed design of roadways, drainage, approach spans, and other structures as well as environmental management, traffic analysis, utilities coordination, public consultation support, BIM and CAD management, and document control. The design included simplified bridge piers and a revised main span layout as well as a change from concrete to steel girders on the approach spans. In all, design changes resulted in C\$12 million in savings.

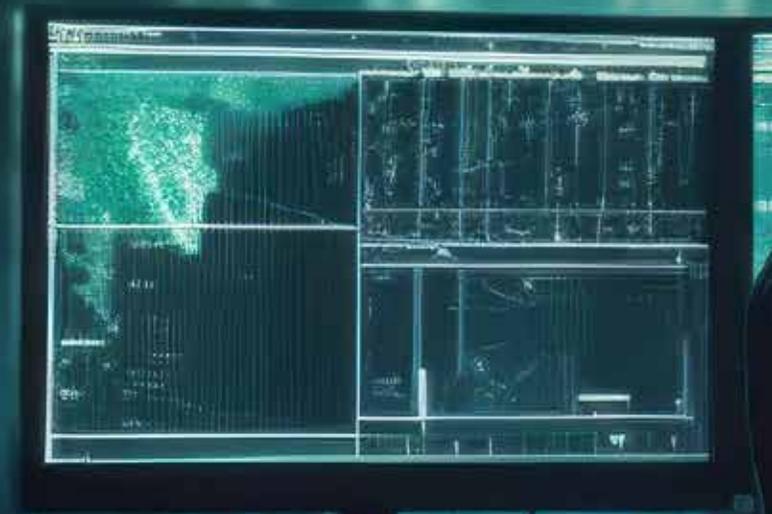
Close collaboration with Federal and Provincial regulators, Indigenous communities, and surrounding residential groups resulted in a bridge that both respects the Rideau Canal heritage site and provides new opportunities for growth within Kingston.





Data-driven **EXCELLENCE**

Unleashing the power of technology
to bring precision and efficiency.







Elevating operations through data-driven excellence and digital solutions

ALIM SOMANI, Managing Director, Digital

With multiple stakeholders, competing objectives, and high-stake implications at play, organizations in core industrial sectors are facing unique opportunities that require adept decision-making. These organizations are expecting their data to help improve this process. What we've learned, however, is it's not how much data you have—it's what you do with it that counts.

In the rapidly evolving industrial landscape, integrating digital solutions has emerged as an opportunity to elevate operations to unprecedented heights. At the heart of this paradigm shift, we see first principle engineering models and domain experience in operations combined with real-time production data and advanced data techniques as the gateway for our clients to unlock the full spectrum of possibilities within their operations.

The mining industry serves as an exemplary showcase for the transformative power of digital technology. As the global push toward electric and battery technologies intensifies the demand for specific metals, mining companies are eyeing projects in remote and difficult terrains where rich ore bodies are located, often deep underground. These challenging conditions escalate the complexity of operational logistics and

make it more arduous to attract skilled talent willing to work on-site.

In this context, automation stands out as a revolutionary force for both safety and efficiency. It's not merely about automating tasks; it's an intricate ecosystem fueled by a data-driven synergy of machine learning algorithms, real-time information from mining vehicles, and environmental data. This intelligent orchestration minimizes the need for human involvement in high-risk zones, thereby transforming the very paradigms of safety and operational efficiency in mining.

Another area of opportunity is further downstream in the use of digital process twins in metals processing. These sophisticated digital replicas, when underpinned by robust process models and augmented with real-time data, serve as powerful tools for operators. They facilitate more uniform and informed decision-making aimed at reducing value loss such as minimizing energy usage. The affect of these individual asset twins is magnified when machine learning algorithms are integrated, providing unparalleled insights, and enabling even better decision-making.

The true potential is unleashed when multiple asset twins are interlinked and optimized as a cohesive system, forming a comprehensive system twin. Such a construct allows for dynamic interaction between the assets, empowered by optimization techniques. This holistic approach elevates the efficiency of each component and synergizes them to maximize value



across the entire production chain. As a result, there's a significant reduction in both energy consumption and value loss, thereby aligning the operations with sustainability goals.

These advancements aren't confined to mining. Our data-driven-insights approach has far-reaching implications, enhancing integrated value chains and optimizing products across diverse industries and sectors. We're exploring products that leverage data and process models to help lower the chemical and energy usage in wastewater, industrial water, and potable water treatment plants. We're leveraging data-driven intelligence to help our public sector clients make better decisions surrounding where to build their EV infrastructure.

The proliferation of cost-effective data storage solutions and the surge in processing power enabled by cloud computing have laid the groundwork for the current explosion in digital technology's potential. As we look forward, these foundational capabilities

will empower our clients to harness game-changing data, leading to smarter decision-making, increased efficiency, and enhanced safety. Amidst this landscape of transformative tools and products, our most invaluable asset continues to be our human capital. Our team of experts, with their wealth of experience, specialized expertise, digital confidence, and entrepreneurial spirit, remain steadfast in guiding clients toward success.

We're on the brink of something big. The digital landscape is beckoning us to embrace transformation with an unwavering commitment to data-driven excellence, and we are building the unrivaled products and tools to get there. Rooted in decades of engineering legacy and bolstered by innovation, we invite our clients to join us for the ride. Together, we can harness experience, process expertise, digital know-how, and entrepreneurship to lead the way toward operational excellence.

Hydropower real-time dispatch software

The Chelan County Public Utility District (PUD) sought real-time, automated dispatch at its Rocky Reach and Rock Island hydropower plants to boost efficiency and better coordinate operations. These plants are part of a cascade of hydroelectric projects along the Columbia River in the Western United States that are managed by different owners. Rocky Reach has 11 generators with a capacity rating of 1,349 MW, while Rock Island has 19 units with a capacity rating of 629 MW. Their close proximity requires harmonized operation to synchronize the hydraulics and electricity of both plants.

To address these challenges, an optimization-focused strategy was adopted. The solution: Hatch's proprietary Vista Decision Support System™ technology, which interfaces with Chelan County PUD systems. The dispatch system has been set up with a real-time module (RT Vista) configured to optimize load changes between plants.

We are currently enhancing the system to push performance, reliability, and useability even further.

South32's integrated and remote operations center

The integrated and remote operations center (IROC) feasibility study for the Hermosa mine in Phoenix, Arizona, United States, was part of South32's goal of creating a next-generation mine that uses automation and technology to achieve the goals of minimizing their on-site footprint along with building a strong relationship with the local community.

The IROC concept addresses challenges by fostering collaboration among functional areas and reducing risks, costs, and inefficiencies relating to on-site personnel. IROCs enable operations staff to work off site, adding value through improved team cohesion, real-time communication, data-driven decision-making, safety incident reduction, and the attraction of professional talent to work effectively within an IROC environment.

As part of the project, we were selected to conduct the scoping and feasibility study, covering strategy and operating modeling, IROC systems design, community engagement, social responsibility, and sustainability. Our team of strategic consultants, digital integrators, and subject matter experts delivered innovative solutions in an accelerated 10-week window that aligned with the client's scope and vision of a "next-gen" mine.



South32's integrated and remote operations center

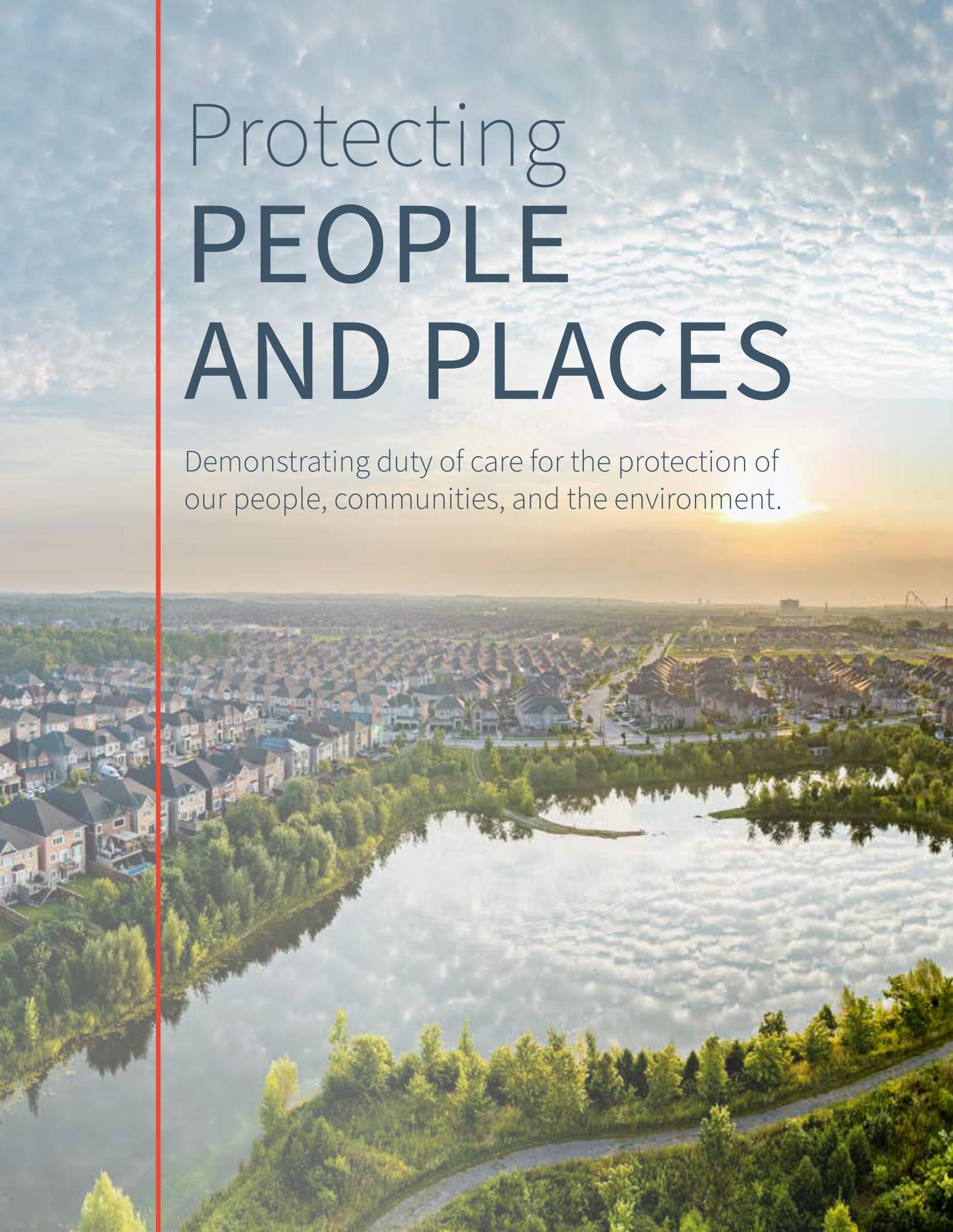
Enhancing industry performance: Hatch's twin capability

At the heart of Hatch's approach are four distinct manifestations of the twin capability, each tailored to address industry-specific challenges:

- **Analytics twins:** A pivotal cornerstone, the analytics twin delves into data intricacies to extract actionable insights. Informed by data analysis and presented through meaningful visualization, industries can make timely and informed decisions, steering strategies toward optimal outcomes.
- **Asset twins:** Rather than an entity synonymous with complexity, asset twins provide practical solutions that focus on enhancing asset reliability. These virtual counterparts of physical assets delve into equipment behavior and health monitoring, facilitating proactive maintenance and extending asset life spans.
- **Process twins:** Grounded in real-time data and sophisticated models, process twins optimize key industrial operations. By targeting operational excellence, process twins empower industries to achieve higher levels of safety, productivity, and efficiency.
- **System twins:** Navigating intricate systems, the system twins orchestrate seamless interactions among individual operations across the entire value chain. This orchestration enhances system-wide performance and uncovers opportunities for holistic advancements.

In a rapidly evolving landscape, Hatch's twin capability stands as a beacon of transformation—a journey that embodies both ambition and pragmatism.

By embracing this digital evolution, industries can chart a course towards improved operations.



Protecting **PEOPLE AND PLACES**

Demonstrating duty of care for the protection of our people, communities, and the environment.





Sustainable synergy: Nurturing the equilibrium between green solutions and our clients and communities

HEATHER ROYSTON, Managing Director, Environment and Sustainability

With the rising need for sustainable practices and a reduced carbon footprint, it's never been more important to find balance between industrial operations and natural resources. By prioritizing the people and places we serve, we can safeguard the path to decarbonization and develop new strategies to protect our complicated world.

Decarbonization continues to rise and is being supported by innovative technologies. While our focus remains on energy efficiency, behavioral change, renewables, hydrogen, and carbon capture, it's important to prioritize the protection of our people and planet. To do this, we must update and maintain strong environmental ethics, placing them at the forefront of project design, delivery, and decarbonization strategy.

When we take on capital projects, we form a partnership with our clients by making sure that together we avoid, minimize, and mitigate our impacts on the environment. We are proud that our clients are aware and mindful of this agenda, and this rise in awareness is driving transformative change. Together, as leaders in this space, we aren't just supporting these initiatives; we're creating and guiding them. Gone are the days when businesses only need to be concerned with the

bottom line. Every project must prioritize people, communities, and our planet.

To do this, we approach with resiliency and sustainability in every project we deliver. We know that immediate impacts are the easiest to avoid, but avoidance of long-term impacts requires deep knowledge of industry. Our environmental and engineering teams work together to look at alternatives to present our clients with novel solutions for the future.

This is why we prioritize duty of care in the earliest stages of project development. We are leaders because it is in the fiber of our company to be unconditionally honest and act in the best interests of our clients and their people. This honesty and sincere concern for people and places, coupled with our exceptionally innovative solutions, help drive deep connections with our clients.

We do everything with health and safety at the forefront. We focus on serving our clients and the people and communities they serve, meeting them where they are and cultivating meaningful relationships. We do this by being present in our projects, by communicating with stakeholders, by going out into the community, and by being respectful and understanding. When we lead this way, we create projects and work cultures grounded in integrity and in making the world a better place.

Leading the way forward also means looking back to learn from the past. In mining, we partner with our clients for better tailings management, bringing aging

sites up to regulatory standards. Engineering and remediation technology has changed dramatically over time. We assess problems, model solutions, and implement remedies that protect people and prevent future issues.

We are uniquely positioned to draw on multiple disciplines for deep, solutions-based thinking. Advanced digital tools and capabilities improve and streamline our environmental services, and they're shaping the way we protect and reuse our most valuable natural resources. With digital twins emerging as one of our leading technologies in this space, mining projects are entering a new era where changing conditions, water levels, and deformations are tracked, and future disasters can be prevented. With old tailings sites contained and closely monitored, digital tools are pioneering the way forward and remediating the mistakes of the past.

Implementing multidisciplinary tools and strategies hones our expertise and will ultimately knit energy, infrastructure, and mining with a sustainable

environment. With energy transformation and digital disruption leading the way, there will inevitably be new ways to bridge the gap. And as our progress in this space rapidly evolves, we must remain steadfast in our guiding principles: health and safety, protecting our land and people, and ethical behavior and design.

It's important to recognize and nurture the relationship between the needs of people and the well-being of the planet. Rather than creating a dichotomy with industry at one end of the spectrum and the natural world at the other, it's time to consider them collectively.

The possibilities of past remediation and of what's possible in the future are keeping us inspired, and we're bringing this mindset to our clients and projects. We look forward by learning from the past, using digital tools and capabilities in a way that benefits people and the environment, and thinking globally and holistically when working to solve the world's toughest environmental challenges.



Ashbridges Bay Treatment Plant outfall project

Building the largest wastewater treatment plant effluent outfall in Canada presented an opportunity for Hatch ingenuity to shine. The City of Toronto's Ashbridges Bay Treatment Plant is the largest of four wastewater treatment plants and serves more than 1.7 million residents. The new outfall project, which we managed, involved constructing an onshore shaft approximately 85 m deep with an internal diameter of 14 m, a 7 m internal diameter and 3,500 m long tunnel through bedrock beneath the lakebed, and 50x1 m diameter risers to convey treated effluent into Lake Ontario.

Designed to achieve a 100-year service life, outfall components were selected to minimize energy losses and allow the outfall to operate by gravity from the plant through effluent conduits into a shaft along the tunnel and disperse into the lake via vertical in-line risers and ports.

We navigated major challenges caused by groundwater during tunnel construction, adapting innovative tunnelling methods and processes to ensure tunnel completion. Our expertise included geotechnical investigations, hydrogeological studies, and precise design of tunnel components, such as shafts, pre-cast concrete tunnel lining, and tunnel riser connections, including riser pipes and ports. We also employed innovative digital project delivery tools like 3D modelling, BlueBeam, and ProjectWise to enhance design efficiency and collaboration, saving time and costs.

The project is already award winning, having been awarded the 2020 Bentley Systems' Year in Infrastructure Award, and recently receiving the Canadian Project of the Year (>\$100 M) Award and the Canadian Innovative Initiative Award from the Tunnelling Association of Canada in 2023.

Ashbridges Bay Treatment Plant outfall project





Fargo-Moorhead flood diversion project

Fargo-Moorhead flood diversion project

The Fargo-Moorhead flood diversion initiative aims to safeguard North Dakota and Minnesota from frequent Red River floods, which have increased in frequency since 1990 and worsened since 2015. As part of a joint venture, we are leading the design of a transformative 30 mile diversion channel project that will route water around the Fargo-Moorhead metro area during flood events. It is the first public-private-partnership floodwater diversion project in the United States. It is also the nation's first green finance initiative specifically directed to address adaptation to climate change.

In addition to the channel, the project involves an outlet structure, a long flood protection berm, two pairs of interstate bridges, nine county road bridges, three local road bridges, three rail bridges, two aqueducts, 12 drain inlets, two river flow directing structures, and an administration complex. We also provided mitigation of environmental impacts, and access and security features.

Our effective project management ensured quality checks and seamless collaboration among consultants.



Project Lucy

Prony Resources is partnering with us on a groundbreaking tailings storage facility for its Lucy nickel laterite operation in New Caledonia to ensure both safety and sustainability in a highly seismic region that experiences heavy rainfall.

We developed an innovative, safe, and technologically advanced solution for high-pressure acid leach (HPAL) residue storage that dewater tailings and converts it to a solid material that can be compacted, stacked, and capped. We used innovative software that integrated actual New Caledonian topography and imagery into 3D models to realistically simulate what would be built. We also used the program to generate a fly-through movie to assist the client with the permitting requirements and community engagement phases.

The project—a first-of-its-kind application in HPAL processing—involved 11 offices spread across eight countries and will reduce the facility's environmental risk, while delivering a low-cost and improved life cycle management solution.

Adaptive Phased Management Project

Canada's Nuclear Waste Management Organization (NWMO) is executing a comprehensive plan for safe, long-term nuclear fuel management, involving deep geological repositories and a multi-barrier system, known as the Adaptive Phased Management Project (APM). The project positions Canada as a leader in nuclear waste management, addressing the imperative for secure, long-term storage of intermediate- and high-level nuclear waste.

As North America's inaugural high-level waste repository, APM marks a significant milestone. We have been instrumental in designing surface and underground facilities at two potential repository sites in Ontario, Canada. Our comprehensive role encompasses layout design, criteria development, cost updates, geotechnical support, and compliance with nuclear facility standards. By capitalizing on our engineering, project management, and environmental expertise, we have contributed to a sustainable, high-level nuclear waste disposal solution.

Hatch Tailings Management Solution

Tailings systems present undeniable complexities and risks. Ore grades are continuing to decline as older, higher-grade deposits are being exhausted. These suboptimal grades need significantly larger throughputs at the plant to maintain profitability. So, the cost and technical viability of the tailings solutions increase, too. And recent failures in the industry are pushing for more highly regulated and lower risk methods of managing tailings. We all must do our part to minimize liability and ultimately eliminate the potential for catastrophic impacts to the environment and downstream communities.

We fully recognize these intricate challenges. For mining companies, the utmost diligence and meticulous oversight are imperative, while simultaneously adhering to compliance standards.

We have developed a digital, integrated solution for tailings management that proactively prioritizes and addresses operational complexities and safety concerns. As tailings productions increase and compliance standards become stricter, our software allows our clients to optimize operations and mitigate risks by emphasizing efficiency, safety, and longevity.

We have taken a comprehensive approach that extends beyond conventional tailings storage facility and water management. We have developed a full-service platform that operates holistically and ties back to the tailings management plan in order to proactively mitigate risks at every stage of the life cycle.

A solution built by tailings experts for tailings operators.



Inspiring **UPLIFTMENT**

Responding to the unique needs of all people—cultural, environmental, and social—for well-being and happiness.





Embracing fresh perspectives and reshaping community engagement paradigms

SUZETTE DE WET, Head, Community Engagement and Social Performance, Africa

Community engagement is a multifaceted endeavor that requires a nuanced approach. No single formula can adequately address the diverse needs of every community. What works in one region may fall short in another, which is why we must view each client and community through a unique lens, offering an array of options and flexible solutions.

Organizations are increasingly realizing that giving a voice to communities and their leaders often paves the way to a more successful project. At Hatch, we use inclusive project delivery as a method of fully integrating community goals and objectives into the project life cycle. Using this approach, we combine two distinct professional services—design and project delivery, and community engagement—into a strategy that ensures communities come first in the delivery process.

There's an opportunity to integrate traditional knowledge into projects in a way that serves the community by seeking input from elders, leaders, and youth, and respecting each community's deep and unique connection to its land. In South Africa, where mining towns are experiencing a brain drain

as workers migrate to larger cities, we work diligently to develop skills in local communities to ensure economic inclusion. Likewise, in Canada, clients and communities—both Indigenous and non-Indigenous—are creating opportunities that lead to jobs and sustainable, locally-owned businesses. In other words, we're leading with projects that don't just "do the job." Through consultation and engagement, our projects present a physical manifestation of the social fabric and history of a society.

Clients want to carry out projects on time, on budget, and with as few conflicts and delays as possible. Community members, of course, want a say in projects to ensure they are culturally appropriate, provide jobs, and don't have a negative effect on their quality of life, their environment, or their safety. When we lead with community engagement, we give communities a place at the table from the get-go. Local populations are viewed and treated as equal stakeholders in the decision-making process, leading to fewer delays down the road.

We are passionately committed to helping our clients and the communities find success. Many of our experts come from resource development backgrounds or grew up in small towns and villages where opportunities weren't always plentiful and they have seen firsthand the positive results of effective community engagement. Like you, our team members believe their jobs aren't just about paying the bills, but about making a difference.

Indeed, our project work goes far beyond our interactions with clients and communities. We partner with our clients to create lasting, positive impacts in the community. We've helped students attend university to hone their project management skills. We've helped unemployed young people go to school to become designers. And we've helped Indigenous businesses prosper. It's this upliftment that benefits all of us, creating connections that go beyond projects, developing pipelines of talent and facilitating lasting relationships.

Through comprehensive planning, the vision and goals of our community plans include infrastructure feasibility studies and a particular focus on the overall prosperity, health and wellness, emergency response, governance, and education and learning of the communities we serve. This long-term vision is kept front and center in our design process and is incorporated into the earliest design activities.

As organizations continue to adopt community engagement platforms, we can expect growth in Environmental, Social, and Governance (ESG), particularly as it applies to the "S." There is a true desire to evolve the social aspect of community engagement, ensuring that all are able to participate in economic activity through ownership, employment, skills development, enterprise supply, and socio-economic development opportunities.

We're passionate about creating and delivering inclusive projects and putting communities at the forefront of design and project delivery; ultimately, it's about clients and communities forming lasting partnerships that foster mutual support, shared goals, and positive outcomes for both sides. While there is no blueprint or standard operating procedure to achieve this, there is a universal commitment to fostering meaningful connections and lasting impact.





Albemarle Kemerton lithium expansion project

Albemarle is doubling the capacity of its lithium hydroxide processing operations in Western Australia to 100,000 tonnes by 2026 by building two additional trains at the facility. The expansion will cement Albemarle as Australia's largest lithium producer.

In addition to helping Albemarle as its EPCM provider to build the two additional trains, we're partnering with Albemarle to make meaningful impacts in the local community.

Albemarle is already a significant employer in the region with more than 480 operational staff and 370 more employees needed to operate the expanded project by 2026. To help meet its staffing requirements we have joined other major Kemerton contractors in a dedicated three-month recruitment campaign coordinated by Albemarle to boost contractor recruitment. As part of the campaign, radio advertising is promoting the concept of drive-in, drive-out, which offers workers the freedom to live in nearby coastal communities.

While local recruitment remains a priority, many more workers will be needed and Albemarle is constructing the A\$140 million Paris Grove workforce accommodation village in Australind to save employees the hassle of frequent flights to and from work.

Hatch is working to attract a diverse range of talent, enabling innovation and engaging great people who will make a difference.

The Wataynikaneyap Power Transmission Project



The Wataynikaneyap Power Transmission Project

The Wataynikaneyap Power Transmission Project will dramatically change the way electricity is delivered to remote communities in Northwestern Ontario, Canada, which currently rely on diesel generation for their electricity needs. The project, whose name means “line that brings light” in

Anishiniiniimowin, is equally owned by 24 First Nations (51%) in partnership with Fortis Inc. and other private investors (49%), and will connect 17 remote First Nations communities via 1,800 km of transmission lines and 22 substations.

We are acting as owner’s engineer on the project, working hand-in-hand with Wataynikaneyap Power to manage the execution of the project. Our scope on the project encompasses more than just engineering review; we also provide support for Wataynikaneyap Power in environmental and permitting, safety, document control, commercial, contract management, quality, and in-field construction monitoring. With reliable power, the project opens up the possibilities for growth and development in the communities.

With the communities themselves co-owning this project, there is a great sense of pride and a commitment to long-term economic benefits, with a focus on training and employment of local workforce and contractors.

Kumba Iron Ore Sishen mine

Together with Kumba Iron Ore, we are implementing a multidisciplinary Drawing Office Practice Program to develop the drafting skills and technical knowledge of local youth near Kumba’s Sishen mine in South Africa, Kathu, Northern Cape. Twenty students will attend a one-year program at the Northern Cape Technical and Vocational Education and Training College, Kathu Campus, in collaboration with African Academy, one of the country’s leading drafting and training institutions.

The shortage of EPCM skills in the area necessitated socio-economic development initiatives focused on capability building for future major projects in the municipality.

As part of the program, we collaborated with local partner, Tshepa Basadi, a women-owned engineering and project management firm, to supply students with ICT hardware, CAD software, and funding for tuition. In addition to providing financial support throughout the formal training period, Hatch will liaise with Kumba’s Socio-Economic Development Office for additional support as required.



Kumba Iron Ore Sishen mine

Jansen potash project

BHP's Jansen potash project will be one of the largest potash mines in the world, providing a rich source of potassium to keep soils fertile and maximize food production. We are supporting BHP's commitment to deliver a diverse, inclusive, and safe workplace for local and Indigenous people and businesses, and the workforce participating in the project.

We are supporting the development of cost-effective, efficient, and responsive local supply chains by determining the capabilities and capacities of local and Indigenous businesses, encouraging joint-venture partnerships between communities and contractors, working with local communities to identify and mitigate barriers to participating in employment and contractor opportunities, and monitoring contractor success in meeting or exceeding socioeconomic targets for the project.

Hatch's input from their Community Engagement and Social Performance team has advanced the awarding of three major contracts to Indigenous businesses in the region, creating employment opportunities and partnerships that advance economic reconciliation and long-term, sustainable outcomes.







About us

Whatever our clients envision, our professionals can design and build. With over six decades of business and technical experience in the mining, infrastructure, and energy sectors, we know your business and understand that your challenges are changing rapidly.

We respond quickly with solutions that are smarter, more efficient, and innovative. We rely upon our 10,000 staff with experience in more than 150 countries to challenge the status quo and create positive change for our clients, our employees, and the communities we serve.

hatch.com



