

HATCH

Performance INNOVATIONS

Building for a **better world**

A MESSAGE FROM OUR CHAIRMAN AND CEO

Many of you know us for our expertise in design and construction. What you may not know is the breadth and depth of our global offerings. This year's report of Performance Innovations showcases a selection of Hatch major projects, which collectively demonstrate the scope, scale, and diversity of our capabilities and highlight the importance of our client partnerships. For seven decades we have worked to build a company that designs, procures, manages, and executes all types of projects, including large-scale complex work—often innovative or even first of a kind. Today, we're seeing more of these projects with the world's evolving and ever-more complex needs.

In this report, we hope you will see that Hatch has boldly moved into new areas, often well ahead of need, in anticipation of what's to come. Our digital delivery solutions, which are the foundation of our new way of delivering major projects, are a prime example of this. Our multi-decade investment in this new approach has allowed us to add value to the business case for these facilities. We've also invested in innovative new process and equipment technologies, and resourced diverse, global teams with your businesses and communities in mind. That's how a trusted partner behaves. It is a privilege to walk alongside you as you build for today and prepare for a resilient tomorrow.

Fostering a culture focused on innovative solutions and client relationships ensures your long-term success and drives our priorities. And we are here for you throughout every stage of your project life cycle. From early studies and design through execution, commissioning, and ramp-up, our team is here for you every step of the way. No challenge is too complex. Our people are driven to tackle the tough, united by a shared sense of responsibility in contributing to your growth and success based on sustainability. With each new challenge, we explore different perspectives, apply our collective expertise, and deploy both time-tested methods and new technologies to solve your most difficult challenges, ensuring value is delivered from start to finish.

In fact, this is a promise we also make to our people: the promise of interesting, meaningful work, with exemplary tools for execution alongside great client partners. The relationships that are forged through our collaborative work with you are life changing, and that's one of the main reasons people come to Hatch, and stay, often for decades. The promise we make to you? We will remain good partners—resilient, agile, and unconditionally honest.

In the pages of this report, you will see what our people contribute to your incredible and meaningful projects, and the scale of the work that we deliver. We are proud of the opportunities you bring to us and delighted to be your trusted partner. When I consider the projects we're featuring in this edition, I'm inspired by what we, together, are building.

As we look forward, we're working with you, our clients, to boldly lead with approaches that fuse innovation with the fundamentals, leveraging tools and capabilities that enhance our efficiency and effectiveness without compromise. Talented teams. Collaborative working style. A deep understanding of your goals. Enabled by you, we promise to deliver the work that will bring a better world.

We look forward to hearing what's next for you. Together, we can make anything happen.



John Bianchini
Chairman and CEO, Hatch



OUR VISION

We are passionately committed to the pursuit of a better world through positive change.

OUR MISSION

Together, we create unprecedented outcomes for our clients by partnering with them to develop better ideas. Our exceptional, diverse teams combine vast engineering and business knowledge, applying them to the world's toughest challenges. We build practical solutions that are safe, innovative, and sustainable.

OUR VALUES

We believe in exceptional ideas delivered with exceptional service.

OUR PERSONALITY

We are entrepreneurs with technical souls.

Let's build positive change, together.









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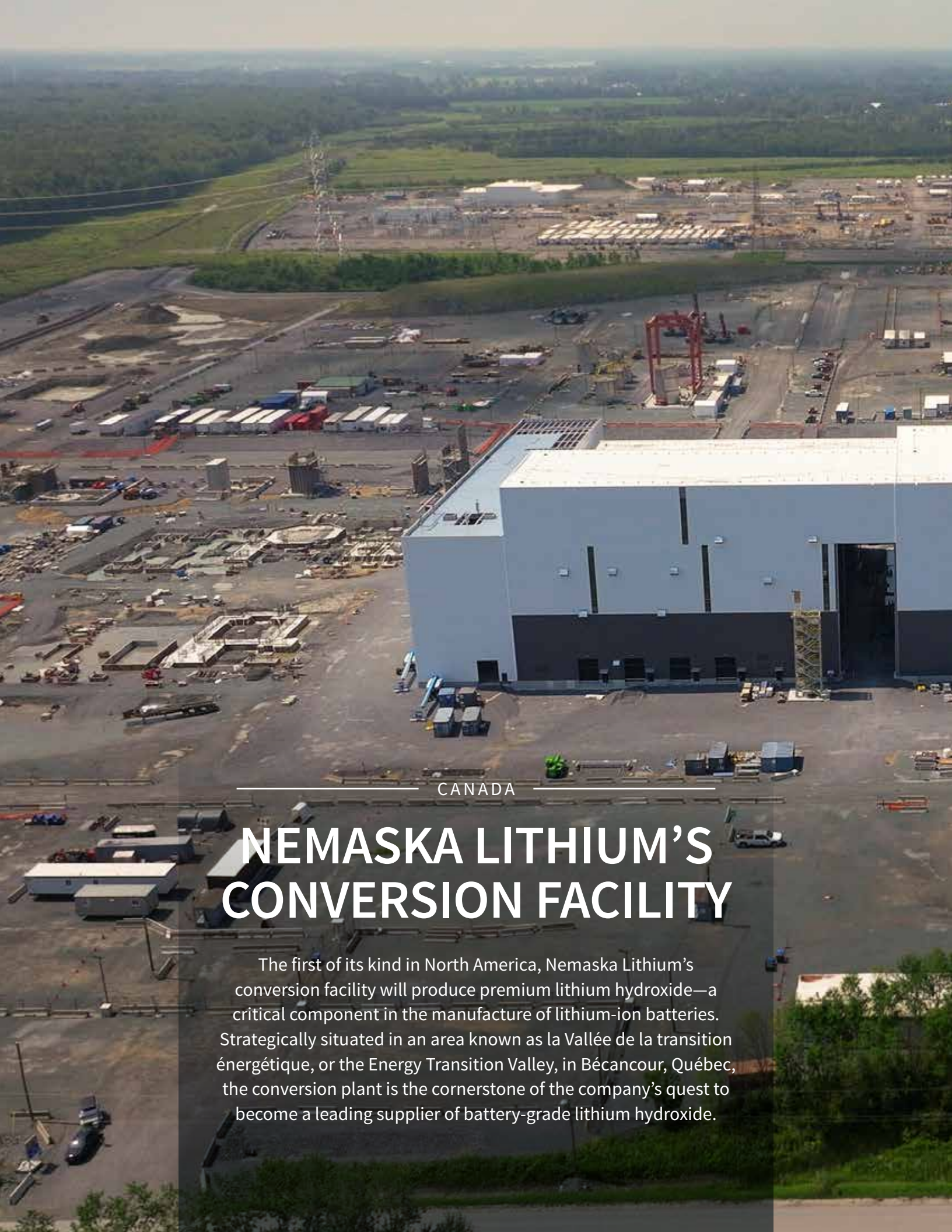
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PROJECT
DELIVERY EXCELLENCE

Building projects with sound fundamentals and innovation.





CANADA

NEMASKA LITHIUM'S CONVERSION FACILITY

The first of its kind in North America, Nemaska Lithium's conversion facility will produce premium lithium hydroxide—a critical component in the manufacture of lithium-ion batteries. Strategically situated in an area known as la Vallée de la transition énergétique, or the Energy Transition Valley, in Bécancour, Québec, the conversion plant is the cornerstone of the company's quest to become a leading supplier of battery-grade lithium hydroxide.





Pioneering. It's a word reminiscent of bygone days when toiling the earth for improved existence drove changes in human behavior. In today's energy transition, the same reference is appropriate once again, aptly describing the first-of-a-kind projects emerging in response to the need for clean energy solutions.

New facilities to support the production of lithium-ion batteries are being designed and constructed around the world as the industry strives to meet the market's almost insatiable demand, expected to increase tenfold in just one decade, leaping from 185 GWh in 2020 to more than 2,000 GWh by 2030. Shifting market dynamics pose challenges that require a nimble, relentless approach.

Nemaska Lithium is leading the charge in North America—constructing the first large-scale integrated complex, including a mine, concentrator, and spodumene-to-lithium hydroxide refinery. Spodumene will be extracted, crushed, and concentrated at their Whabouchi mine before being transported to the conversion facility for calcining and chemical treatment. The process uses a conventional pyrometallurgical process consisting of calcination, milling, and acid roasting to liberate the lithium, followed by a hydrometallurgical process to leach the spodumene, purify the lithium sulfate solution, convert it to lithium hydroxide, and produce battery-grade lithium hydroxide monohydrate (LHM) crystals.

We have been involved with this project from the very start, beginning with the order of magnitude, prefeasibility, and feasibility studies. We provided process expertise to Nemaska Lithium as they explored various process optimizations, performed test work, and engaged with vendors before deciding upon the current design in 2021. And we supported Nemaska Lithium's site selection activities as they determined the best site for the project. We completed the voluntary environmental impact assessment study, which was instrumental to the permitting and social acceptability strategies, and enabled an accelerated schedule. Now in construction, with ramp-up expected in 2026, we are playing a key role as their sole EPCM provider.


First large-scale lithium
hydroxide refinery
in North America



The Nemaska Lithium integrated project is being executed on a vast scale, with an inclusive team approach that, at peak, includes 400 experts from 39 Hatch offices worldwide. The project team is united, overcoming challenges to deliver with planned precision in unconventional ways. To ensure that this large, global team can deliver as promised, we're using custom system integration, templates, and workflows to maximize productivity and allow people to work in parallel.

The project is making full use of our digital project delivery (DPD) platform to efficiently manage information from the start of the project to final handover to Nemaska Lithium. Overall, we have 120 procurement packages to oversee with more than 75,000 documents. Collaborating in a shared data environment enables the Nemaska Lithium team to fully engage with the Hatch team, increasing accuracy and limiting potential rework.

The client controls the outcome through real-time data extracted from our DPD platform, which allows for efficient and accurate project reporting. Using DPD, project management goes beyond traditional methods. The engineering data is used by the procurement, project controls, construction, and commissioning teams to generate reports that support trend and change management and enable timely decision making.

More than 1 million hours worked without a lost-time incident



The construction strategy was developed with timely constructability reviews and PPMOF (prefabrication, preassembly, modularization, and off-site fabrication) detailed studies to optimize the schedule, sequence of activities, and site hours while improving safety. The temporary construction site facility was developed to optimize worker, vehicle, and machinery traffic flow. At peak, the site will have more than 1,500 workers.

In close collaboration with Nemaska Lithium, our engineering team developed detailed designs and specifications for the project's processes, including more than 3,600 pieces of equipment, 5,400 piping lines, and 15,000 instruments.

Our procurement strategy leverages our global network of suppliers for the fabrication and assembly of high-quality goods.

Then, our logistics team manages the delivery of purchased equipment and materials to site at the right time.

Projects of this complexity present an increased safety risk. We are proud that our rigorous prevention program, regular interventions, daily coordination meetings with contractors, on-the-ground risk assessments, and numerous behavior-based interventions and initiatives continue to return each worker home safely at the end of the day. We have achieved more than 1 million hours worked without a lost-time incident.

Next up? Providing EPCM services for FEL4 on the mine and concentrator.





MOZAMBIQUE

KENMARE'S MOMA MINE

Mozambique—a country on the east coast of Southern Africa—is perhaps most famously known for its long Indian Ocean coastline, stunning beaches, and offshore marine parks. What many may not know is that in the northern part of the country lies one of the largest titanium mineral deposits in the world. It's in this region that Kenmare Resources owns and operates the Moma Titanium Minerals Mine. Kenmare has mined the Moma area for 17 years and has sufficient resources to support production for more than 100 years at current rates.



The Moma area covers coastal and marginal dunes and produces mineral sands, including ilmenite, rutile, and zircon, essential for producing paints, pigments, plastics, and ceramics.

Mining at Moma is principally undertaken using dredges that float in artificial mining ponds. The dredges mine the mineral rich dunes from the ponds and pump the mineral sands to three floating wet concentrator plants (WCPs). Before extraction, the mining area is cleared of vegetation and topsoil, which are preserved for subsequent land rehabilitation. Initial processing occurs via the WCPs, where oversized materials are discarded, while the mineralized feed is processed through gravity spirals to separate the heavy mineral concentrate (HMC) from silica sand and clay tailings. Following this, the HMC is transported to the mine's Mineral Separation Plant to undergo further processing into finished products.

Within the Moma Mine there are nine ore zones. Kenmare is currently mining the Namalope ore zone with WCP A and WCP C while WCP B is currently mining the Pilivili ore zone, with plans for WCP A to begin transitioning to the Nataka ore zone from late 2025.

Since 2016, Hatch and Kenmare have built a long-term, successful partnership, working together on multiple projects to unlock the full value of the Moma Mine. One such project included moving WCP B from Namalope to Pilivili—a significant undertaking that involved relocating an 1,800-tonne dredge and a 7,000-tonne WCP via a purpose-built 23-kilometer road. The equipment was moved using self-propelled modular transporters (SPMTs)—computer-operated, multi-axle platforms capable of carrying large, heavy loads. The project set a record for the world's largest mining equipment road transport by SPMT. We're proud to have provided full EPCM services for this project, which won several industry awards.

Kenmare has now embarked on a program to mine the Nataka ore zone, Moma's largest ore zone, which holds 6.4 billion tonnes of mineral resources, approximately 70% of total



> **There were many success factors to this project, but the main success was around strong relationships. Our project team became extremely well integrated with the operations team at Moma. We saw that there were fantastic relationships with our EPCM team, particularly personnel that had been with us throughout several previous projects over many years.**
>
> *— Chief Operations Officer Ben Baxter, Kenmare Resources*

resources. To do so, Kenmare will transition WCP A, their largest mining plant—representing approximately 50% of total mining capacity—from its current mine path in Namalope to Nataka, beginning in late 2025.

Relocating an entire plant to a new location is a complex process, but we're building on our experience from the WCP B move to create an innovative project approach and, once again, are partnering as Kenmare's EPCM service provider as part of an integrated team.

WCP A is currently configured with two dredges as well as supplementary dry mining systems. At its new location in Nataka, two new higher-capacity dredges will increase the mining throughput and eliminate the need for higher-cost dry mining. The dredges are being procured in the Netherlands and shipped to site. Plans are in place to beach-land the dredges directly at the mine site area and move them to the staging pond via SPMTs. This approach will allow the dredges to be delivered as one unit, reducing on-site assembly time and costs.

Prior to its transition to Nataka, WCP A will be upgraded to include an upfront desliming circuit, a key element of managing increased slimes levels of the Nataka orebody. WCP A's new plant will be floated on 42 pontoons, which are currently being fabricated in Richards Bay, South Africa. Each pontoon weighs between 40–60 tonnes and will be transported to site via sea and a 20-kilometer road. The weight of these pontoons required parts of the road to be upgraded.

A new tailings storage facility will be installed at Moma to manage waste materials more effectively, replacing the existing paddock system. Kenmare's mining technique involves extracting sand from the base of the mining pond. Approximately 95% of this extracted sand contains non-valuable minerals, such as silica and clay, and is re-deposited.

Only 5% of the extracted sand includes the sought-after heavy minerals. Implementing a solution for managing the unusable sand is important and allows it to be incorporated in the land rehabilitation process. Mining processes at Moma remain free from toxic chemicals with continuous tailings management and land rehabilitation performed throughout operation. This enables land to be progressively restored as the WCPs advance through the ore body. Kenmare's goal is to rehabilitate and return mined land to the community for agricultural use in a timely manner.

To operate WCP A in the Nataka area, new ancillary infrastructure will be installed from Q1 2025 until Q1 2028. This infrastructure consists of overland piping and pumping systems for water, slimes, and tails management, 22-kilovolt and 110-kilovolt overhead power lines, access roads, and an infrastructure terrace for facilities and mechanical services equipment.

Mozambique's rainy season in the first quarter of the year can disrupt grid power stability, negatively impacting production. To safeguard against this, a rotary uninterruptable power supply (RUPS) was installed by Kenmare in 2021. The RUPS has been instrumental in stabilizing power supply and maintaining continuous operation of the mineral separation plant.

2025 will see continued growth and success at Moma, driven by increased mine production and improved infrastructure and community development.





42 pontoons, each weighing between 40–60 tonnes, will be transported to site via sea and 20-kilometers of upgraded road



EL SALVADOR

THE CENTRAL HIDROELÉCTRICA 3 DE FEBRERO PROJECT

The Central Hidroeléctrica 3 de Febrero—formerly known as the El Chaparral project—in San Miguel, El Salvador, was a project once on the verge of abandonment. Today, the 67-MW hydroelectric power plant is a symbol of perseverance. And if power plants could talk, this one would tell quite the tale.







In 1998, the Government of El Salvador initiated surveys to construct a dam and hydroelectric power plant—a project that promised a significant boost to the region's electrical capacity and a dramatic improvement to local roads and bridges. Following initial assessments conducted by a previous contractor, construction kicked off in due course in 2008 when the first stone was laid by former President Elias Antonio Saca. But before long, the project encountered a major setback when tropical storm Agatha hit in 2010.

Over the next nine years, the project experienced several challenges, resulting in numerous stops and starts. The country was also in the midst of privatizing its electricity sector, putting the project's compliance with El Salvador's Ministry of the Environment and Natural Resources (MARN) seriously at risk.

The project was put on hold when it was three quarters complete due to setbacks.

When construction finally resumed in 2019, President Nayib Bukele renamed the project from El Chaparral to Central Hidroeléctrica 3 de Febrero—a fresh start for the project in reference to the day he was elected president.

President Bukele initiated a request through the Comisión Ejecutiva Hidroeléctrica Del Rio Lempa (CEL) to undertake a technical audit of the project to ensure that completion of a partially built facility made economic sense with no significant hidden technical faults.

It was at this point that we were engaged by CEL because of our international reputation as a trusted, global firm with deep technical bench strength. Our first order of business: to determine the path forward. CEL needed to understand the costs and risks of completing the project versus decommissioning and restoring the site. Our audit concluded that there were no significant technical flaws and that it was more economic to finish the project than to abandon it given its advanced construction stage and the need for additional hydropower in the region.

CEL agreed with our recommendation and in October 2020, at the height of the COVID-19 pandemic, they requested us on site within a mere three weeks to provide engineering, procurement, construction management, project management, on-site technical support, commissioning, and operational readiness.



We launched a full-scale review of 12 years of designs, handovers, relocations, change orders, and more, and in the process uncovered areas of construction and design that were non-compliant with best practices and codes.

We conducted studies to define the project scope with estimated costs and timelines. We also completed design engineering, which involved detailed plans to address technical and environmental requirements associated with the main facility, including the construction of new roads and two new bridges.

In collaboration with CEL, in addition to designs, we provided construction management support for a large 10.8-square-kilometer surface area annual storage reservoir, including rim stabilization and an 84-meter-high, 325-meter-long roller-compacted concrete (RCC) dam, including an elaborate grout curtain. The scale of the work was massive, with a four-bay reinforced concrete spillway, including large radial gates and stilling basin, and an intake structure with a 750-meter-long, 6.5-meter-diameter conduction tunnel. River stabilization and protection downstream of the stilling basin included a bypass and weirs as well as stabilization of the original dam site area.

A uniquely designed 5,500-square-meter surge pond was constructed from gabions to reduce costs, and a 25-meter-high by 500-meter-long earth embankment closure dike was constructed to complete the reservoir. Work on civil, architectural, mechanical, and electrical aspects of the partially constructed powerhouse was also in our scope.

Partially aggravated by the excavation associated with the original dam, the entire right riverbank area had long-term stability issues. For the project to be brought into compliance with MARN, a plan was required to secure the right bank to prevent material from impacting the river's conveyance. We identified the source and trigger of the movement—a deep-seated fault within a weak bedrock plane that was saturated by an unusually wet rainy season—and a multi-faceted plan was recommended to successfully address the issue.



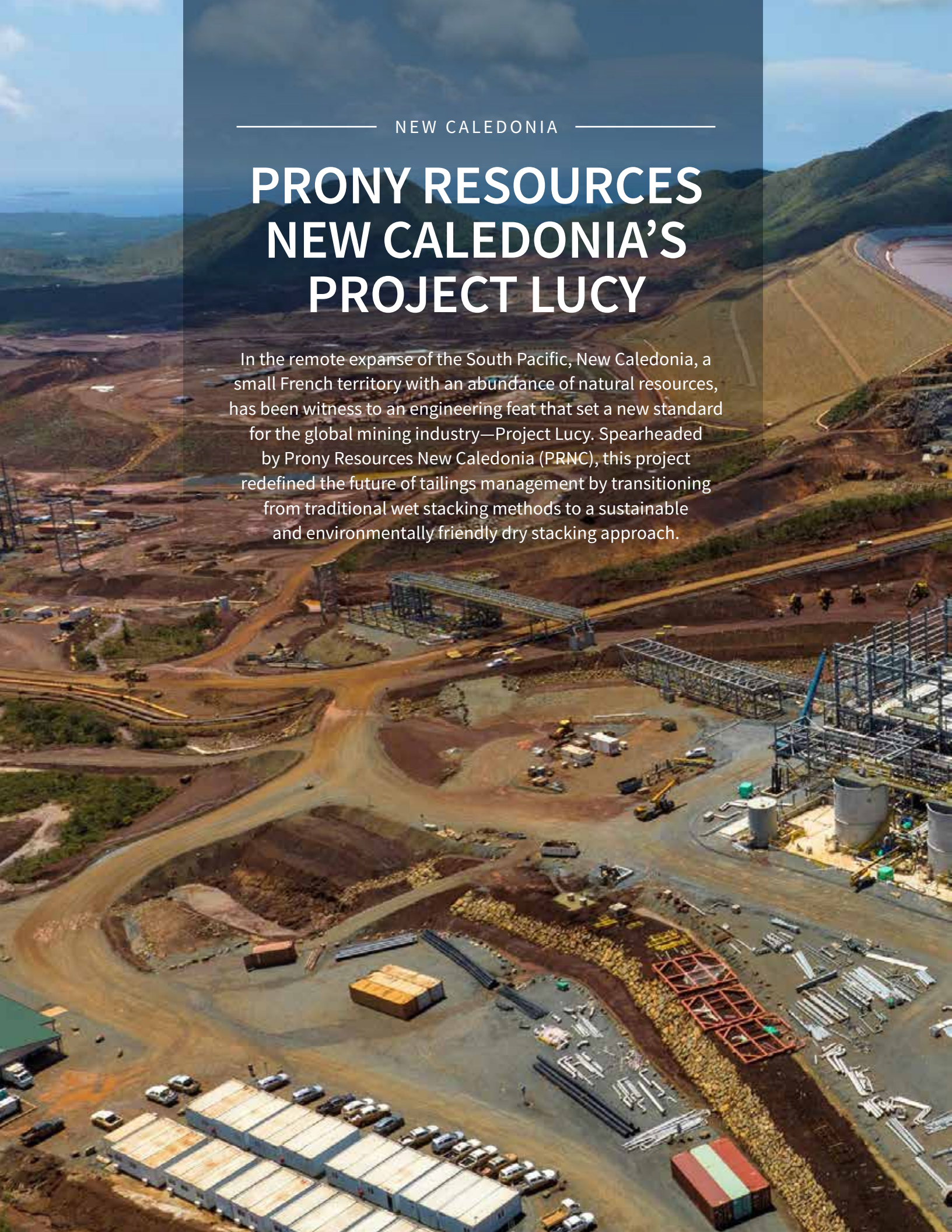
The closure dike design was reimagined when supply chain challenges made importing traditional clay core materials impractical. We opted for a PVC membrane, combined with a highly compacted sand and gravel embankment, to provide a reliable and cost-effective water barrier.

With a design that ensures uninterrupted ecological flow throughout the river—protecting downstream communities and wildlife—the reservoir created by the project has increased fish populations, supported sustainable fishing practices, and continues to provide a reliable food source for the surrounding communities. Its storage capacity helps mitigate floods, mudslides, and erosion, providing long-term environmental benefits. And by opening new navigation routes within the reservoir, the project also reduces travel distances and carbon emissions. The hydroelectric station's location on the Torola River allows for the reuse of water in electricity production, enhancing overall energy efficiency and sustainability.

The heart of Central Hidroeléctrica 3 de Febrero lies in its powerhouse. Inside, you'll find two 32.2-megawatt generating units and a smaller 1.42-megawatt minimum flow unit. Two penstocks channel water to the turbines, and upstream, the substation acts as the power plant's nerve center, responsible for stepping up the voltage of the generated electricity for transmission to the grid.

The Central Hidroeléctrica 3 de Febrero hydroelectric project was inaugurated in October 2023, during a ceremony in which President Bukele celebrated the success of the project, sharing that electricity prices would reduce by 14%.

What was once a project plagued by delays and cost overruns became a political and economic success. The project has become a legacy, a landmark, and an ongoing source of prosperity.



NEW CALEDONIA

PRONY RESOURCES NEW CALEDONIA'S PROJECT LUCY

In the remote expanse of the South Pacific, New Caledonia, a small French territory with an abundance of natural resources, has been witness to an engineering feat that set a new standard for the global mining industry—Project Lucy. Spearheaded by Prony Resources New Caledonia (PRNC), this project redefined the future of tailings management by transitioning from traditional wet stacking methods to a sustainable and environmentally friendly dry stacking approach.





As the EPCM contractor, we played a pivotal role in overcoming the complex challenges of the region's unique environmental, logistical, legal, and social conditions safely.

Prony Resources New Caledonia's (PRNC) Goro mine is designed to produce 57,000 tonnes of nickel and 5,000 tonnes of cobalt annually. A key player in the region, which boasts one of the largest nickel reserves globally, PRNC's Goro mine operations extract laterite nickel from an open pit mine, process it in a feed preparation plant (FPP), and treat it in a high-pressure acid leach (HPAL) facility. Management of the byproduct—a slurry of waste tailings—was a particular concern. How would the surrounding environment be protected from harm?

Historically, the industry has relied on wet slurry in valleys contained by >70-m-high embankments to store tailings, a method that involves depositing slurry in liquid form, creating vast, often unstable reservoirs. Recognizing the need for a more sustainable approach, PRNC resolved to transition to dry stacking, a method that separates water from tailings to form a solid filter cake, which is subsequently kept in a condensed, secure state. The environmental advantages are significant, diminishing the possibility of tailings dam breaches and lessening the enduring environmental effects on the delicate ecosystems located downstream from the tailings storage areas.

Making a significant commitment to sustainability, PRNC opted to convert the existing tailings storage infrastructure into a dry stack instead of constructing a new facility. The decision minimized land disturbance, aligning with broader global trends toward sustainable mining practices. But executing a project of this scale in New Caledonia, a remote island with limited resources, presented challenges.

Importing construction equipment and materials such as cement, steel, and piping is difficult. The island has a limited number of skilled construction workers, a situation made worse by stringent local labor laws and work permit regulations. Add to these challenges New Caledonia's extreme weather conditions, where an average



The advantages of dry stacking are significant, diminishing the possibility of tailings dam breaches and reducing environmental impacts



annual rainfall of 3.3 meters makes the island one of the wettest places on Earth, and the concept of developing a dry residue stack may seem illogical. But with meticulous planning and innovative engineering solutions to ensure the stability of the storage facility in such a humid environment, the seemingly impossible became reality.

We addressed the issues by carrying out in-depth studies to examine the physical and chemical characteristics of the residue, evaluating bench scale and pilot plant equipment for the filter plant process, and operating a pilot plant to produce dry stack in various site conditions over 18 months. Data from the pilot plant and dry stack operations was essential for the detailed engineering of the filter plant processing facilities, for preparing the dry stack foundation, and for devising plans for equipment operation and labor resources.

The project execution strategy considered various models including EPCM, EPC, and lump sum, ultimately leading to the EPCM approach with a filter press vendor to meet PRNC's goals within the given constraints. The execution strategy required finishing in-depth design, modularization, and procurement ahead of on-site construction to meet both cost and timeline targets. A global work-sharing model was utilized, leveraging experts from Australia, South America, and Canada, enabling top industry talent to address the project's hurdles.

The execution strategy required finishing in-depth design, modularization, and procurement ahead of on-site construction to meet both cost and timeline targets

In addition, Project Lucy's modular design and execution enhanced safety, workforce efficiency, adherence to the schedule, and



cost effectiveness. The eight complete modular electrical switch rooms underwent factory acceptance testing before being transported to site. Each module was 16 meters in length, 10 meters wide, and 5 meters high, with a weight of 100 tonnes. Additionally, 14 tanks were fabricated and pressure-tested offshore, with the largest tanks measuring 13 meters in diameter and height and weighing 100 tonnes each.

The project also included pre-assembled components that were lifted or assembled in place to reduce the need for high-elevation work, promoting safe and streamlined construction practices. Key pre-assembled parts included the filter building, the equipment for the filter press, and the materials handling conveyor gallery, along with its supporting trestle.

The unique truck loadout design was a key innovation, playing a critical role in optimizing the transportation of the dewatered filter cake to the dry stack and ensuring that the material could be safely and efficiently moved despite the island's challenging conditions. This logistical solution was vital to the project's success, as it addressed one of the most significant hurdles in implementing a dry stacking approach in such a remote location.

In addition to these practical solutions, we employed state-of-the-art technology to support the project's execution. The team used advanced software to integrate New Caledonian topography and imagery into 3D models, creating a realistic simulation of the proposed dry stack facility. This was instrumental in securing the necessary permits and informing the local community, helping stakeholders to visualize the project's benefits in a tangible way.

PRNC challenged the industry to develop a tailings storage solution that would be economically viable and environmentally sustainable. Hatch rose to the challenge, proposing a design that met these criteria and ultimately exceeded the client's expectations. The project's success underscores our role as a trusted partner in the execution of Project Lucy, setting a new benchmark for tailings management and serving as a blueprint for the future of mining.





UNITED STATES

THE FARGO-MOORHEAD AREA DIVERSION PROJECT STORMWATER DIVERSION CHANNEL

Times of crisis often serve to unite communities. Every spring, the residents of Fargo-Moorhead brace themselves for the potential of severe flooding. The area, which straddles the border between North Dakota and Minnesota in the United States, is split by the Red River of the North and is home to nearly 260,000 people. In the past 20 years, severe flooding has ravaged the area seven times.

The largest P3 water management project in North America and the first green bonds finance project in the United States designed for climate change adaptation





The flat landscape and northward flow of the river, coupled with snow melt flowing from south to north, make the area extremely prone to flooding, and with climate change expected to increase the frequency of these floods, the Red River poses serious risks.

The Fargo-Moorhead Area Diversion project was initiated to combat these risks. The comprehensive project is a landmark climate change mitigation development, intended to offset the risk of flooding by building a stormwater diversion channel, in-town levees, and a southern embankment with upstream staging and control structures. The stormwater diversion channel is being constructed by Red River Valley Alliance (RRVA)—a joint venture of partners and contractors from Spain, Israel, and Canada—as a public-private partnership (P3) construction contract. The in-town levees are being constructed by local sponsors and the southern embankment and control structures are being constructed by the United States Army Corps of Engineers (USACE).

As the first P3 between the Metro Flood Diversion Authority and USACE, the channel component of the project is a prototype for the split-delivery model nationwide and is the largest P3 water management project in North America. It is also the first green bonds finance project in the United States designed for climate change adaptation.

Once complete, the channel will be 1,500 feet wide and capable of passing more than 20,000 cubic feet of water per second. It will effectively route water around the Fargo-Moorhead area, reducing the height of the river by roughly 7 feet and providing permanent flood protection.

The channel component of the overall project is a 30-mile stormwater diversion channel that stretches from south of Horace, North Dakota, to north of Argusville, North Dakota, opposite Georgetown, Minnesota, where the diversion outlet will return water to the Red River. It features two first-of-their-kind aqueducts to route the Maple and Sheyenne Rivers over the channel and allow for fish migration, drainage inlets, and infrastructure such as road and rail crossings.

In 2016, we were engaged as the lead design firm for RRVA, responsible for overseeing a team of designers working on the channel component of the project.

Our responsibilities as lead designer on this component center on supervising the hydraulic modeling and design aspects while coordinating with unit managers to certify that our designs are thoroughly reviewed, conflict-free, and that all components integrate seamlessly. This includes addressing necessary utility relocations, for instance, fiber-optic cables formerly placed 5 feet below ground required relocation deeper underground prior to excavating a 30-foot-deep channel.

The region's unique climate and geography called for innovative design concepts. The cold weather requires aqueducts equipped with heating systems to prevent freezing and allow for fish passage. And the region's soil, particularly the Brenna clays, are unstable and difficult to work with, requiring specialized geotechnical and structural designs to ensure stability. Utilizing advanced tools, we optimized excavation while still providing flood protection benefits.

The extreme cold also affects the concrete and steel needed for the project. In response, heated enclosures, insulated blankets, pre-warming materials, and cold-weather admixtures were the viable solutions to keep materials from freezing. The clay-like material being excavated, however, becomes easier to move when it's frozen, allowing work to continue 24/7, all year long.

Innovation is not just technical but also logistical within the design team, involving coordination across multiple time zones and languages. With team members from around the globe, effective communication remains paramount. As a facilitator, we make sure that local terminology and practices are clearly understood by all parties.

With more than 5,000 drawings generated for this project, we are accountable for verifying that each element depicted across these drawings is compatible, constructible, and functions without issue. As the channel component of the project is executed, we provide technical oversight, addressing the project's unique complexity with rigorous construction oversight to confirm that intricate designs are executed with precision. With multiple contractors involved, coordinating quality across all teams is complex. Effective communication and oversight are crucial. Regular coordination meetings among stakeholders, detailed documentation and reporting systems, centralized communication platforms, and regular training and workshops have helped maintain a high standard of work across all teams.

By leveraging global resources, we have reflected our partners' strategies, bringing together contributions from around the world. We collaborated with the owner's engineer to create a quality management system tailored to the project's massive scale and strict requirements.

"This project gives the community back a peaceful river," shared Red River Valley Alliance CEO Javier Velasco. "Instead of needing to initiate emergency flood protection measures that disrupt the entire community, the stormwater diversion channel will allow floodwaters to be routed around the metro area and allow springtime to be a time of renewal instead of sandbagging."

His words reflect why we do capital projects. In a community accustomed to being brought together by catastrophe, it's a privilege to bring permanent, positive change.



> Hatch has been incredibly important to the success of this project. The timelines have been demanding and the range of technical issues has been very diverse. They've successfully provided the right expertise at the right time through each phase of the project and have been very important to the delivery of a successful project.
>
> *— Local Affairs Manager April Walker, Red River Valley Alliance*



NORWAY

THE ENGEBØ RUTILE AND GARNET MINE

Nestled in the rugged fjords of Western Norway, the Engebø rutile and garnet mine will be the first greenfield mining project in the Scandinavian country in almost 40 years. Nordic Mining is carving out a state-of-the-art hard rock mining and processing operation to extract some of the world's highest-grade rutile (TiO_2) and garnet. This project promises to set new benchmarks for environmental stewardship and engineering innovation, heralding in the future of resource extraction.





The operations at Engebø will process 1.5 million tonnes of ore annually. With an expected mine life of 40 years, operations will begin in the fourth quarter of 2024, eventually transitioning to underground mining.

The project scope in the execution phase includes a dedicated mine access and service road, state-of-the-art process plant facilities, tailings disposal systems, export infrastructure tailored for ocean-going vessels, and on-site utilities, including desalinated water and access roads. The site will be powered by renewable hydroelectric energy, ensuring a minimal carbon footprint, a key sustainability goal of the project.

Getting here has been no easy feat. Norway has some of the most stringent environmental protection permitting and processing requirements, and as the country's first greenfield mine in decades, stakeholder management, environmental compliance, and community consultation have been paramount.

Our history with the project began in 2017 when Nordic Mining first engaged Hatch to complete feasibility studies and foundational project planning. The study results were not what Nordic Mining had hoped for; the originally proposed process was deemed financially not viable at the release of the definitive feasibility study in March 2020.

Some may have walked away, but we shared Nordic Mining's vision and knew that we could do what we do best—reimagine that vision into reality. We were challenged by Nordic Mining to think outside of the box and revisit some of the earliest design concepts from the concept study and prefeasibility study as the resource knowledge and processing testwork experience had significantly increased from the start of the project. The result? A unique process based on a gravity-fed system that will turn the mine into a leading producer of high-grade rutile and garnet, securing long-term operations and market competitiveness.

Our proposed solution has ore mined in the pit fed into a shaft through the center of the ore body. At the bottom, the ore is mechanically fed to the primary crusher via apron feeder, and then transported by overland conveyors into the comminution plant for secondary and tertiary crushing. The innovative gravity-fed



design minimizes materials handling and with an automated crushing and conveying system, no workers are required within the mountain during operation, thereby reducing health and safety risks and minimizing operating costs.

Following the crushing and comminution circuits, crushed ore is slurried using process water prepared by the on-site desalination plant. Slurry is introduced to the mineral processing plants through the primary mill followed by a series of gravity and magnetic separation processes. The resultant products are dried, impurities are extracted, and the high-grade mineral concentrate is transported to the final product silos where they are ready for ship loading onto international ocean-going vessels.

The revised solution includes cost savings achieved by moving to an EPC execution model and modifying the process plant design from 17 modularized units to three main process buildings, significantly compressing the overall plant footprint and reducing the total project cost by 30% without compromising processing capabilities.

With a workable design and plan in hand, Nordic Mining was positioned to make their dream a reality. In 2021, they asked us to serve as their project management consultant. Our role is to integrate into the owner's team and encompasses construction management, engineering coordination, and integration of the EPC partnership, ensuring continued expert management and engineering support, along with detailed process engineering and plant layout designs.

As the project moved into execution, ensuring a smooth transition from blueprint to reality has included oversight of the construction process, adherence to rigorous design specifications and international standards, and management of many project aspects, guaranteeing timely and budget-compliant completion. With four local EPC contractors responsible for execution of different aspects of the project, on-site support to Nordic Mining is necessary to address real-time challenges and ensure quality of all deliverables.





Our commissioning experts have been involved in the project throughout, providing testing and components for operational readiness and preparing the site for seamless operation post-construction with no interruptions in service.

The Engebø rutile and garnet project faced extraordinary challenges due to its location and environmental sensitivities. The site, set within a fjord region, required careful planning to reduce environmental effects and guarantee safe procedures.

Nordic Mining's approach included creation of a complete Environmental and Social Management System (ESMS) and adoption of mining methods to address the geotechnical conditions and achieve effective ore extraction. These strategies were successful, minimizing environmental impact.

The project addresses environmental sustainability through several key initiatives. The use of regional hydroelectric power for the process plant energy requirements reduces carbon emissions, contributing to a low-carbon footprint. The project implements sustainable materials and systems, including advanced waste management practices. Incredibly, the production process has a 99% reduction in chemical usage for mineral separation and has 80% less CO_2 emissions when compared to the original proposed process design.

Independent studies indicate that the Engebø project will have the lowest greenhouse gas emissions among all producers of titanium feedstock globally, achieved through efficient resource utilization and the minimal physical footprint.

Nordic Mining wanted to create an eco-friendly and economically feasible mining project. We engineered a solution that was both efficient and compliant with global standards, keeping the venture within budget and on schedule—a forward-thinking strategy that promotes enduring financial stability and rewarding outcomes for stakeholders.

By combining strategic foresight with precision in execution, Nordic Mining and Hatch are advancing the mining industry and setting a new standard for sustainability and social responsibility. Nordic Mining's commitment to environmental stewardship and community engagement demonstrates that progress in mining can go hand-in-hand with a greener, more equitable future.



CANADA

PATTULLO BRIDGE REPLACEMENT PROJECT

Built in 1937, the Pattullo Bridge was designed to carry vehicular and pedestrian traffic over the Fraser River and quickly became a crucial link between the cities of Surrey and New Westminster in British Columbia, Canada. As the population of the area grew, it became clear that the bridge, with its narrow lanes and lack of a median barrier, could not safely handle the additional traffic. Mitigation measures were taken where possible to improve safety, but with the bridge exceeding its design life and no longer meeting seismic design requirements, the decision was made by the Province of British Columbia to replace the aging structure.





The Pattullo Bridge Replacement Project promises a safer crossing for all bridge users with a new 1,233-meter-long, toll-free, four-lane bridge. The new bridge has been designed to allow for potential future expansion to six lanes and boasts modern, wider lanes separated by a center median barrier. The cable-stayed design, with a 332-meter main span, features dedicated walking and cycling multi-use pathways on both sides of the bridge to encourage active transportation and improve connections to the bridge for local communities. Multiple viewing platforms will allow the public to enjoy views of the Fraser River—a nod to the natural beauty of the region. The new bridge will be upstream of the existing Pattullo Bridge and adjacent to the New Westminster Rail Bridge, a swing bridge that opened in 1904. Once the new bridge is open to traffic, the existing Pattullo Bridge will be removed.

We are the prime design consultant for the project, managing several specialist subconsultants and providing detailed design services for the roadways and structures, including pedestrian bridges, drainage, and utilities. We're also providing geotechnical services and supporting environmental permitting. The project is funded by the Province of British Columbia, owned by the BC Ministry of Transportation, delivered by Transportation Investment Corporation—a provincial crown corporation—and is being executed as a design-build-finance project, where we work with the contractor. This allows us to produce a design that accommodates the contractorws construction methods and lets construction proceed in parallel with the design.

Replacing the existing Pattullo Bridge is a key infrastructure upgrade for local communities, commuters, and goods movers, and includes ecological improvements such as fish habitat offsetting. Given the scope of the project, multiple stakeholder groups have been involved since the start, including four railway companies, several utility providers, and local governments. The project is located in an area of great past, present, and future significance to First Nations. First Nations participation in the Pattullo Bridge Replacement Project began in 2016 and is continuing throughout construction of the project.

Our responsibility as the prime consultant for the project is to develop a design for the new bridge and its approaches that satisfies

The new bridge design has just two piers, significantly reducing the in-river footprint and the impact on aquatic life

all stakeholders' needs, respects the natural environment, can be built while maintaining existing traffic flow, is cost effective, and complies with seismic design requirements.

The Fraser River is home to some of the world's largest salmon populations, including sockeye, pink, chum, chinook, coho, and steelhead, as well as giant white sturgeon and a whole ecosystem of other aquatic and plant life. The protection and conservation of the Fraser River and its wildlife are top priorities for the project team and inform nearly every component of the bridge design and construction; the new bridge features just two in-river piers, a significant reduction from the existing bridge's six, with a much smaller in-river footprint.

Our environmental services experts are supporting the permitting process for critical approvals under the Fisheries Act, the Canadian Navigable Waters Act, and the Water Sustainability Act. This includes revising federal and provincial environmental assessment approvals and securing various smaller permits, critical to avoiding project delays.





Another challenge was addressing an existing overpass that carries Royal Avenue, a key local roadway, over the traffic lanes of the project's north approach to the bridge. We performed a condition assessment on the overpass and determined that the abutments could be rehabilitated but the superstructure required complete replacement.

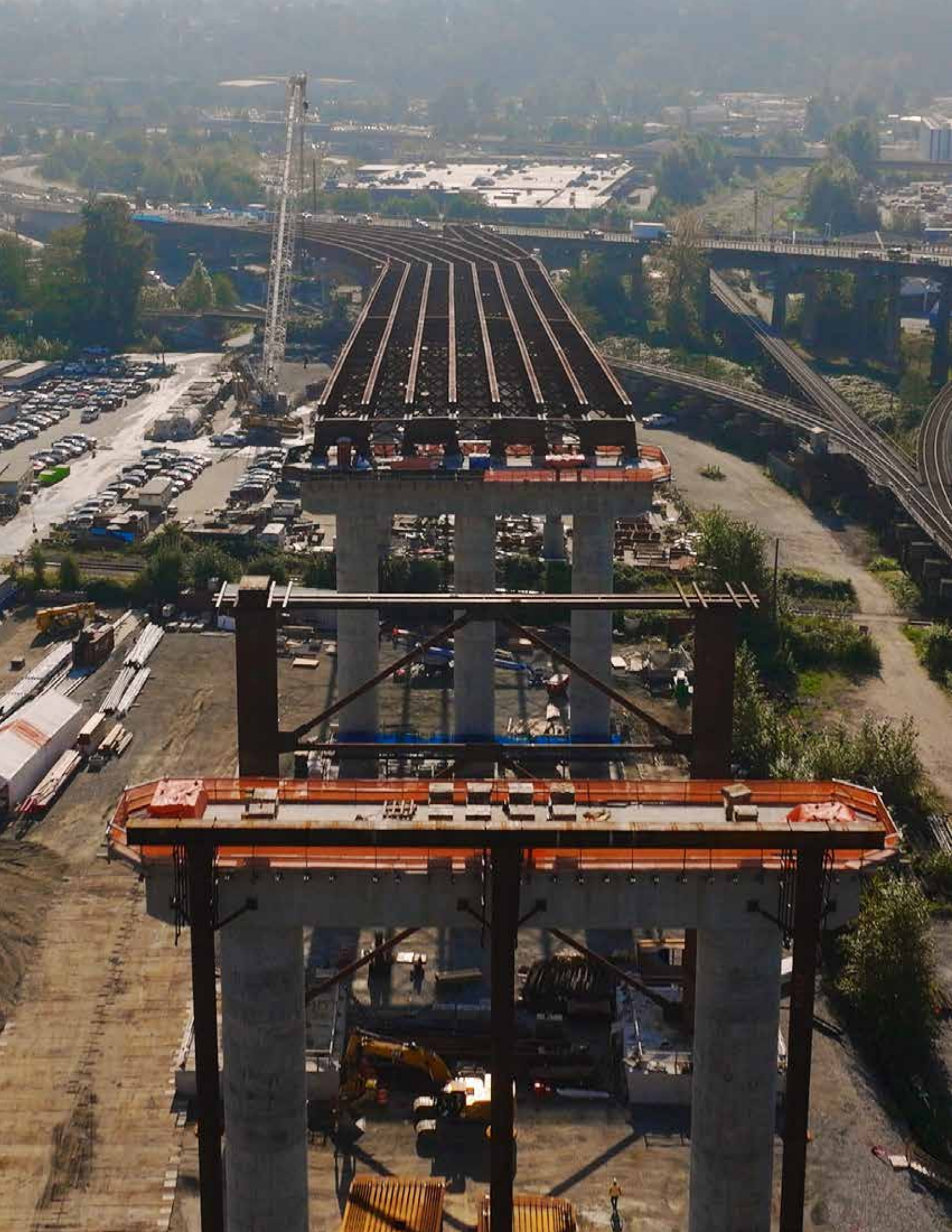
An extended closure of the bridge connector would create gridlock in the area, so a design that minimized downtime of the road was critical. We worked with the contractor to develop a design that could use self-propelled modular transporters (SPMTs)—computer-operated, multi-axle platforms capable of carrying large, heavy loads like those used on Kenmare Resources' Moma Mine—to accelerate the replacement of the overpass deck. The existing overpass deck was jacked up then, using an SPMT, removed as a single unit to a staging area for demolition. The new superstructure was prefabricated adjacent to the bridge connector and then lifted and moved into place using the SPMT.

The entire demolition and erection of the new overpass superstructure was performed in a single weekend—saving more than six months of road closures and traffic detours.

An innovative approach saved more than six months of road closures and traffic detours

Our involvement with the new bridge extends past the detailed design phase, providing field reviews and technical support during the construction process, and providing Engineer of Record (EoR) sign-off and ancillary EoR services until the project is completed and handed to the owner. Our environmental services experts are supporting the preparation of monthly and annual compliance reports and tracking adherence to permit conditions to verify that the obligations set out in these conditions are being met.

Looking ahead, we are excited for the opportunity to reflect on the lessons learned and the innovations developed for the Pattullo Bridge Replacement Project, and we look forward to many more innovative projects to come.







PROJECT
DELIVERY INSIGHTS

Strategic thinking to build the future.

FROM LAGGING TO LEADING: THE FUTURE OF CONSTRUCTION MANAGEMENT

The construction industry is going through significant transformation. Industrialization, digitalization, increasing sustainability and safety requirements, a scarcity of skilled labor, and changing regulations and incentives are driving change in the market and challenging leaders to look toward dynamic solutions.

At Hatch, we're known for precision on projects. For the detail we bring to our engineering and design work. We bring that same dedication to all phases of the project. This is something we do better than anyone else. Why? We've been at the forefront, developing new methodologies and tools in partnership with our clients. Testing and perfecting them in our unique industries. We have advanced to a point where the same precision now applies to construction processes. What used to be, at times, haphazard, is now predictable, with projects delivering on time and on budget.

Advanced work packaging (AWP) has emerged as the shining star of construction management methodologies. It brings all players to the table early on to ensure planning is practical and outcomes are assured. It regiments construction planning in the early stages of a project and aligns engineering and procurement work packages to flow into construction work packages that contractors can use for their tradespeople to ensure seamless and accurate outcomes. At Hatch, we are leading by mastering AWP, embedding it into our systems and processes; culturally, it's how we work. We believe AWP is not optional, it's essential. With skyrocketing costs in construction, this approach is a game changer.

But AWP cannot work without the right digital tools. Hatch's suite includes iPas EE and PackageShare AWP tools (EM, WM, and CM)—all designed to streamline the entire project life cycle. What that means for you, our clients, is predictability. Reliability. Every deliverable and piece of equipment is tied to a precise "required by" date for both engineering and procurement, facilitating clear reporting against forecast dates. The strength of these connections is their ability to integrate and synchronize various project elements and



KEVIN LARMONDIN
Global Director, Construction

JAMES MILROY
Global Discipline Director, Construction Technology and Advanced Work Packaging

provide a comprehensive project solution. Our engineering, procurement, construction, and commissioning teams employ AWP and collaborate in the pursuit of a buildable design and error-free execution.

Other digital tools like building information modeling (BIM) have gained traction and are transforming project management. BIM improves early decision-making processes by linking the design stage to the entire value chain through a comprehensive 3D model, while end-to-end software platforms enable organizations to more effectively manage and integrate value and supply chains. By streamlining control, they reduce interface friction and increase agility.

One of the advantages of our data-centric approach is the price certainty it affords. These design tools are so sophisticated that estimates are bang on. This leads to a defined control budget in execution, live commodity trending, accurate pricing sheets for construction contracts, effective change management of contractual quantities, detailed reports for progress and productivity on site, and accurate forecast dates for completions. Predictable outcomes backed by a robust dataset.

Hatch is driving change with a digital project delivery ecosystem that integrates engineering, procurement, construction, and installation tracking. Based on work-packaging methodology, linking the 3D model, 2D deliverables, quantities, estimates, scheduling, budget, and reporting into one environment accessible to all parties, this common data environment behaves as a single source of truth, informing our projects and streamlining our decision-making processes.

Innovation in project delivery remains our priority—an encompassing pursuit that brings every facet of our expertise to the table. Our added task is to partner with clients to identify where other project delivery methods are best implemented and to be proactive in our approach to scope, schedule, and resources. To do this well, our focus must remain on integrating advanced technologies and methodologies that inform sound decision-making and consistent engineering.

There's reason to be optimistic about the emerging trends in construction project delivery. We look ahead toward a more standardized, consolidated, and integrated construction ecosystem. Transformation takes time, but it's well underway.



JOHN CHEN

Global Director, Procurement and Contract Management

Every project demands a resilient supply chain, and in the face of ongoing global uncertainties, construction-driven procurement must evolve from a transactional function to a strategic capability that balances risk and reward. From geopolitical tensions to environmental crises, recent events demonstrate that the ability to navigate the complexities surrounding construction-driven procurement means the difference between success and failure.

Construction-driven projects call for a deep understanding of the supply network. It requires robust contingency planning, real-time visibility of the end-to-end supply chain, and strong supplier relationships. The causes of supply chain disruptions are not always clear so industry leaders must turn to data analytics to manage this risk and identify mitigation measures with timely interventions.

In a perfect world, your procurement would work like amazon.com. Imagine next-day delivery for your piping or tanks. But in our real world, projects are large and they are complex; 300 suppliers on one project is the norm. Shipping products across the world is everyday business. That's why we have 300 full-time experts digging into daily issues, armed with a global network of 6,000 vetted and validated suppliers and equipped with our unique digital system. The bottom line: we're enabling efficiency and predictability like no one else.

At Hatch, we manage every single project through our digital tools with predictive analytics. We carefully track all materials and every piece of equipment on every project, just like a puzzle. And we do this so you don't have to. While you run your business, we quietly lend our expertise to the increasingly complex supply chain issues that affect you. We manage your risk with your project objectives and profitability top of mind.

How do we do this? Five ways:

1. **Know your supply network.** We know the tier 1 suppliers, tier 2 suppliers, and all of the sub-tiers for your project. We carefully monitor and anticipate potential disruptions and strategize to minimize schedule delays and cost impacts. We also thoroughly investigate, vet, and closely monitor the companies with which we partner on your behalf.

BRINGING PREDICTABILITY TO PROCUREMENT

2. **Have a plan B…and C.** We ensure that if one source fails, we have something else up our sleeve based on our extensive involvement in and expansive knowledge of the current supply market. Something that's vetted, reliable, and strategic. Stuff happens. Unforeseen circumstances crop up every day. But with an overarching lens to your project, we're able to mitigate problems before they arise by pivoting with purpose instead of reacting.

3. **Flex.** Because we know *projects* so well, when things don't go to plan, we're able to adjust to keep your project moving and on track. Schedules. Logistics. Construction planning. Sequencing. Disruption is possible at any stage, but we know the right response because we've been there before. We know to pay special attention to critical and long-lead items, as well as those sourced from locations that are more susceptible to risk. At the end of the day, we have your back.

4. **Real-time visibility.** Our fully integrated digital procurement system manages vast amounts of data. Each project, each package is adding data on a real-time basis, giving us the ability to see issues from end to end before they become a problem. Dashboards and data analytics enable proactive management and swift, informed decision-making and intervention.

5. **Nurturing trusting relationships with key suppliers.** We manage strategic partnerships so you benefit from our priority access and timely intervention when disruption occurs.

Your trust in us drives us to deliver procurement excellence with predictability and certainty for your project. It fuels us. It fuels our innovation. As our manifesto promises, we "act like owners", putting ourselves in your shoes. Our global presence affords us even better solutions. Even more adaptability. Our vast network of experts are working around the world, affording us deep knowledge of what's available, and inspiring us to glean insight from across other industries. No one else does this like us.

INTELLIGENCE AND TOOLS: A UNIQUE APPROACH TO MODULARIZATION

Modularization involves pre-constructing substantial portions of a project off site in a controlled environment before transporting the modules to the final location. With construction as one of the world's largest sectors, our task is to perfect this strategy by bringing value to each phase of a modular project, contributing to a profound shift in global economic productivity.

While the stick-built approach remains the conventional method in construction, the costs associated with executing work on site is undeniably high. Module yards offer the same project execution tools as a construction site in a more controlled environment. Projects benefit from reduced on-site construction time, enhanced worker safety, scheduling efficiency, and lower capital costs.

At Hatch, we apply to modularization the same fundamentals as those applied to construction management and procurement: early planning and robust digital solutions. We look at each project on a case-by-case basis to determine the right approach and, unlike many of our competitors, we don't only adhere to a stick-built approach. We apply creativity with intelligent solutions that consider cost, schedule, and risk. Then we use our industry-leading digital tools to ensure each module meets stringent safety and efficiency standards—a digital integration that allows for unparalleled precision, risk mitigation, and enhanced coordination across engineering, procurement, and construction teams. As a result, we're shaping the way projects are assembled and delivered.

With modularization, if you're trying to do it in FEL4, you've already missed the boat. When modularization strategies are considered in FEL2, or even earlier, the projects benefit the most. Thoughtful consideration can be given to site layouts, to design of project components, and to the project schedule. But the biggest challenge is identifying what to modularize. It requires particular expertise from those who know what's possible. They have a fundamental understanding of the projects to begin with so the insights they lend, the ideas they bring, result in good solutions. By doing this early, we get the team aligned on the best project approach.

On large projects, each module can have thousands of components that all require a unique identifier. Traditionally, this process is labor-intensive and time-consuming, but digital environments like SmartPlant, which feature the



DAVID MELDAL-JOHNSEN
Global Director, Modularization and
Front-end Implementation Planning

automated assignment of module numbers to bulks, use intelligent algorithms to assign tags to components using predefined rules assigned to module subtype. This allows for module display sets to be generated, which are used in client, engineering, and construction reviews.

Transportation safety and efficiency hinge on the accurate calculation and management of each module's center of gravity (COG). Digital tools provide real-time visualization of the COG within each module. As various disciplines add components to the module, the COG indicator adjusts dynamically, allowing designers to immediately identify and address any imbalances. This visual tool is crucial for ensuring that modules remain stable and safe during transport.

Accurate weight estimation is essential for the safe transportation of modules, especially when using road-truckable units with strict weight limits. In response to this, automated reporting systems are integrated with design models. Current weight estimates are within half a percent of the actual weights, significantly reducing the risk of transportation issues.

The choice of module yards, whether domestic or international, impacts logistics, cost, and schedule. While international yards offer cost advantages, the cross-ocean transportation can lead to schedule overruns and increased costs. Our experts use our digital systems to conduct a thorough analysis of these trade-offs early in the project development process, and by doing so, make informed decisions that optimize both cost and schedule.

To do this, standard quantitative modularization tradeoff study methodologies help determine the best fit for modularization strategy. The evaluation considers cost, schedule, and risk, while other site-specific trade attributes are considered on a holistic, case-by-case basis; assembly, shipping, and installation inform an all-in delivered cost and allow for a sound, full-picture decision to be made.

From automated tagging and real-time COG visualization to precise weight estimation and seamless integration with procurement, our digital tools ensure that modularization projects are executed with unparalleled precision and efficiency. This forward-thinking approach is driving the future of construction, where digital systems are integral components of a successful modularization strategy and workers feel at ease and at home where they work. As the global modularization market continues to grow, the tools that hold it together are strengthening, and as leaders in the industry, it's our duty to keep up.

ISABELLE PLANTE
Global Director, Commissioning

HELEN ADAMSON
Managing Director, Commissioning, Operational Readiness, and Ramp-up Excellence (CORE)



It's a well understood fact—projects are undertaken to deliver beneficial outcomes to a business. While a project's business case hinges on meeting planned performance in operation, we find most projects are too focused on building an asset, and insufficiently on its successful operation. We're shifting the focus to a new conversation and finding a ground swell of industry support. Realizing asset performance in delivery is our focus.

A project's business case approval typically comes down to achieving an acceptable net present value (NPV). This may vary in view of financing costs and the business drivers behind the project—whether strategic, value creating, business sustaining, or another driver. No matter what the NPV may be, however, when the project is given the green light for development to continue, it translates into a set of key objectives. Regardless of sector, these objectives broadly align with achieving target throughput at the expected quality, within the defined operating and capital costs, and the planned time to reach full rate. Hand in hand with the underpinning requirement for safety performance, these become the project targets.

Due to its size, capital cost has historically become the dominant area of focus for project teams. Upon approval to proceed through each development stage gate, the team works on design, procurement, and construction activities, progressively developing and tightening the accuracy of the capital cost and the class of estimate. Although the capital cost is very important, it is not, however, the only influencer on NPV. Market pricing of the saleable product, capacity delivered over time, and cost of operation over the life of the asset all affect NPV. These aspects are often understated or overlooked yet are critical to successfully achieving the business case.

In more recent times, a global trend has emerged. Projects are not performing in operation as planned. The singular focus by project teams on building the asset is putting business cases at risk. Deviations during ramp-up and/or commissioning significantly impact the ability to realize value for the organization's broader financial health. The challenge can be compounded by complex and aggressive ramp-up profiles. Production challenges and higher burdened cost of operation are leading to financial and potentially reputational impacts on owners and operators. We are committed to seeing this change.

THE VALUE OF TAKING AN OPERATIONAL FOCUS IN MODERN PROJECT EXECUTION

As an organization, we understand that reaching the operational outcomes of a project as planned is fundamentally important. Our commissioning, operational readiness, and ramp-up excellence (CORE) practice was established for just this reason—to help our clients successfully transition into operation, and ramp-up to full capacity.

The keys to success? Projects must be executed with an operational mindset, not a build and walk away mindset. Organizational integration must be seen to be as critical as physical integration. And high performing teams must practice and be adequately supported for their success. Our approach centers around these principles.

We recognize that a project consists of three concurrent workstreams. Of course, there is the familiar engineering and construction workstream. But for project success, this must be accompanied by the operational readiness, commissioning, and ramp-up workstreams. Each stream matures side by side through all phases of project development, with the data and knowledge requirements of each interwoven. Our approach overlays these streams with operational thinking to expressly generate value. How? By enabling value-adding, fostering value protection, and initiating value realization. The complementary benefit of this holistic and inclusive view of project delivery naturally de-risks outcomes.

With project outcomes increasingly at risk, industry is shifting. The opportunity to respond with foresight and thoughtfulness is right in front of us. While the rate of change differs across industries, the challenges remain the same. It doesn't matter how well you build an asset if it doesn't perform in operation.

As such, we prepare with the end in mind and create a smoother pathway to value realization during commissioning, start-up, and ramp-up phases. Establishing and managing properly structured commissioning, operational readiness, and ramp-up programs, and managing them through to completion is key for successfully transitioning into operation.

Our founder Gerry Hatch often said, "We're not just design, build, and goodbye." Caring about performance in operation is steeped in our history and reminds us to act like project owners and behave as partners.

Assisting projects to reach operational outcomes in partnership with our clients is the primary focus of our CORE team. We are passionate about operations and have a deep understanding of projects. We bring operational thinking to design and execution, aligning operational readiness, construction, and commissioning, right through to ramp-up and operations.





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.

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