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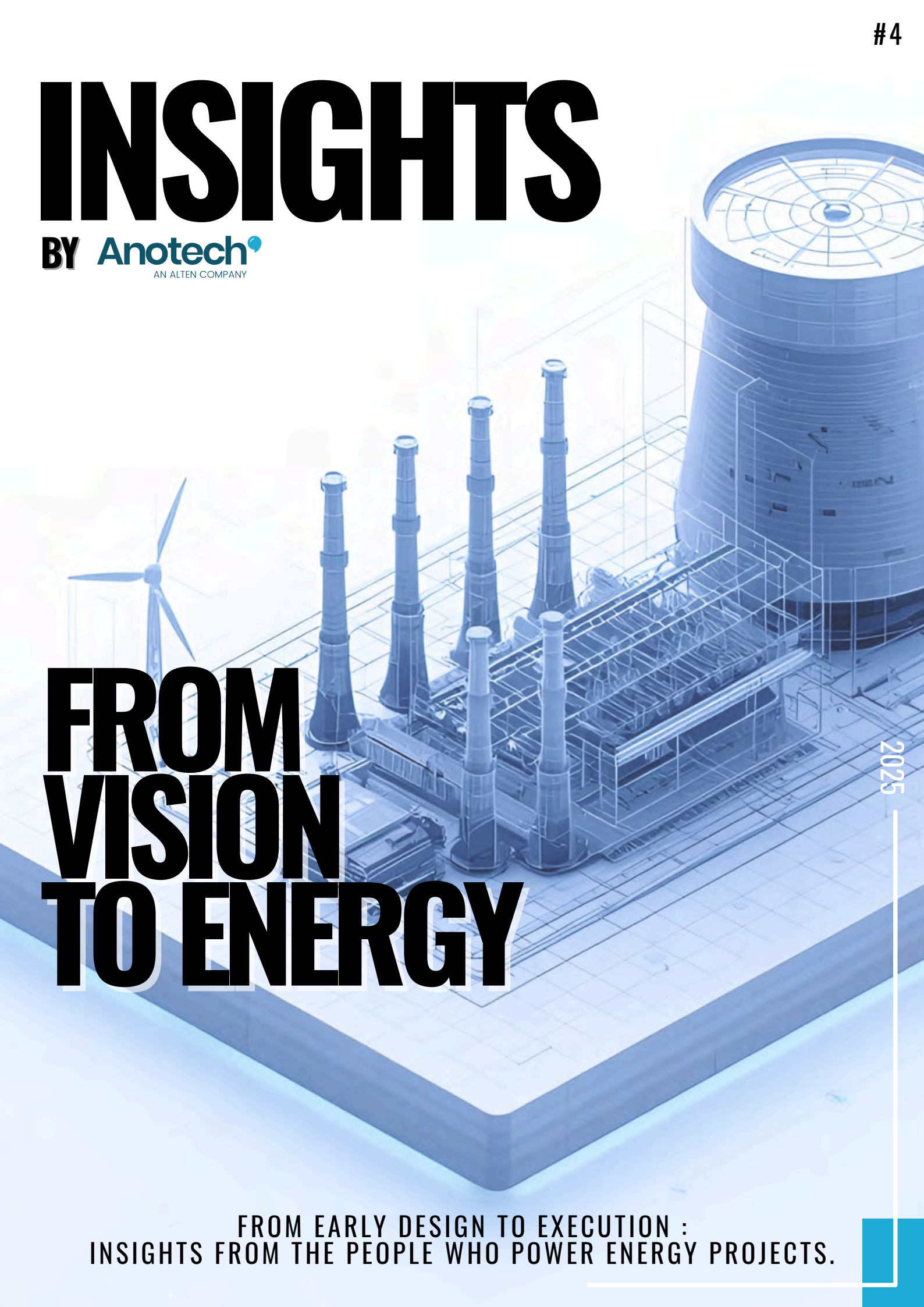
INSIGHTS

BY Anotech
AN ALTEN COMPANY



FROM VISION TO ENERGY

2025

FROM EARLY DESIGN TO EXECUTION :
INSIGHTS FROM THE PEOPLE WHO POWER ENERGY PROJECTS.

AT ANOTECH OUR INSIGHTS HIGHLIGHT OUR EXPERTISE.

FOR OUR CLIENTS, PROOF OF WHAT WE CAN ACHIEVE TOGETHER.

FOR OUR EXPERTS, A SHOWCASE OF THEIR REMARKABLE EXPERIENCE.

FOR OUR COLLABORATORS, A REMINDER OF WHY WE STAY COMMITTED.

OUR EXPERTISE MATTERS WHEN IT CREATES VALUE FOR YOU.

For more than 20 years, **Anotech** has been a **Global Project Services company** empowering leading global Industry companies.

We deliver global solutions by identifying and mitigating risks to optimize performance, increasing certainty that projects are completed on time, within budget, and to the highest quality standards. Our expertise spans a broad range of sectors, with 80% of our activity focused on **conventional and renewable energy,** as well as infrastructure and process industries. In every domain, we bring together top-tier experts and leading industry players.

Anotech
AN ALTEN COMPANY

Our key commitments:

- Commitment to **integrity**, **health**, **safety**, and **environmental** protection.
- **Expertise** from a board of **50 top energy industry** leaders driving project success.
- **Global** delivery capabilities, built on experience with major industry players.

Anotech is your **key partner in delivering large-scale infrastructure projects**, cross sectors, with international capital investment, ensuring smooth execution while mitigating risks.

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EDITORIAL
ONE INTEGRATED PARTNER, INFINITE POSSIBILITIES.

Dear Clients, Partners, and Colleagues,

As we navigate an era of unprecedented transformation in the energy and infrastructure sectors, I want to share why Anotech, and our broader *Energy, Utilities & Infrastructure Business Unit* within **ALTEN**, stands uniquely positioned as both a strategic partner for our clients and an exceptional platform for industry experts seeking meaningful impact. Our strength lies not in what we do, but in how comprehensively we do it.

With nearly **4,000 consultants** operating across **30 countries**, we have deliberately built something rare in our industry : a truly integrated ecosystem that spans the entire value chain. From initial design to maintenance, from digital transformation to physical construction, from strategic consulting to hands-on commissioning, we are there, at every stage of your journey.
For our clients, this means seamless project execution. For our professionals, it means unparalleled exposure to diverse challenges, continuous learning across multiple domains, and the opportunity to shape critical infrastructure that powers economies and transforms societies.

ENGINEERED FOR IMPACT

Our approach is deliberately integrated. Where traditional service models fragment capabilities across multiple vendors, creating coordination overhead, communication gaps, and diluted accountability, we deliver a unified ecosystem purpose-built for seamless execution.

ALTEN brings deep expertise in design and maintenance phases, for new built, ensuring technical excellence from concept through operational life setting up capability and service centers. Worldgrid, as a system integrator, delivers cutting-edge digital solutions, custom-built platforms for infrastructure management, billing systems, and data-driven decision-making that give you competitive advantage. Anotech delivers targeted construction and commissioning work packages that complement and enhance EPC and Operator execution models as well as project consulting from pre-FEED through execution and comprehensive PMT/PMC capabilities.

This integration reduces the gaps, delays, and accountability issues that plague large multi-vendor engagements, unlocking synergies that single-service providers simply struggle to deliver: faster time-to-value, reduced interfaces, enhanced knowledge transfer, and the agility to scale resources as your needs evolve.

A NEW MODEL FOR A NEW ERA

What truly makes the difference is the execution model. The enhancement of the culture of **strategic outsourced competencies**, not as a cost center, but as a strategic capability is a game changer.

EDITORIAL

It brings:

- **Productivity** gains through purpose-built delivery setups tailored to Industry leaders specific needs and limiting waste of time managing capability acquisition while focusing on their core disciplines.
- **Cost optimization** through best cost countries in design phases without compromising quality or speed.
- **Deep Ad-hoc** expertise across every phase of the project lifecycle, creating an environment where specialists continuously expand their skills and knowledge.
- **Digital integration** that transforms how infrastructure is planned, built, and operated.
- **End-to-end competences** accountability through work packages where we take full responsibility for selecting and managing the competencies required to deliver Clients' scopes of work.

We understand that our customers' challenges don't fit into neat boxes. Whether it is an operator or an **EPC contractor** seeking to optimize its execution model, a system integrator, an energy or fluid transporter, or a marketer, their strategic imperatives are unique. Their make-or-buy decisions shouldn't be constrained by any partner's limitations.

YOUR ONE-STOP STRATEGIC PARTNER

Think of Anotech as a strategic orchestrator, a single point of entry to a world of capabilities. Need to augment an EPC setup with specialized resources for subsystem packages ? Require specialized digital solutions to optimize infrastructure operations ? Looking to complement core commissioning phase through work package approach while maintaining quality ? Anotech and our broader *Energy, Utilities & Infrastructure Business Unit* within ALTEN are designed to support.

This isn't about selling what we have. It's about co-creating a medium-term strategy, aligning our diverse solutions with our customers' specific make-or-buy approach, and delivering measurable value at every touchpoint. We aim at complementing our clients' core capabilities, whether through targeted work packages (in PRE FEED, FEED phases as well as in the construction and commissioning), subsystem delivery, or specialized support.

In an industry facing skills shortages, regulatory complexity, and rapid technological change, Industry Leaders need more than a vendor. They need a partner who can flex with their needs, contribute to their success, and bring the full weight of global capabilities to bear on their local challenges.

For industry experts, this translates into a unique proposition: work on cutting-edge projects across operators, EPCs, system integrators, infrastructure and utility developers; build expertise spanning from upstream design to digital operations; and contribute to projects that define the future of energy transition, all while being supported by a global network of specialists and industry-leading methodologies.

Let's build the future of energy and infrastructure, together.
Whether as our valued client or as part of our exceptional team.

Frédéric JAMMES
CEO of Anotech

THE PROJECT LIFECYCLE

01
FEASIBILITY STUDY

02
CONCEPTUAL DESIGN

03
DETAILED DESIGN

04
PROCUREMENT

05
CONSTRUCTION

06
COMMISSIONING

ANOTECH INVOLVED AT EVERY STAGE

GEOSTRATEGIC DECISIONS

THE FOUNDATION OF ENERGY FEASIBILITY

In his report Energy, Europe in Networks : Energy, a networked Europe - Twelve proposals for a common energy infrastructure policy, ***Michel Derdevet*** *begins with a letter from the former president François Hollande. In this official document of August 25, 2014, Mr Hollande entrusted Derdevet with a specific mission: to define practical orientations for a coherent European energy policy. The report stands as proof that the shape of the energy project truly takes place at this strategic level,* ***long before any technical or economic analysis.***

In our previous **INSIGHTS#3** we met Michel Derdevet, former secretary general of Enedis, former communications director of RTE, and now president of the Maison de l'Europe in Paris. He represents a rare combination of **industrial vision, public service and political reflection.** His 2015 report to the French president serves as a compass: no feasibility study can ignore political and geostrategic factors.

The **feasibility of an energy project** cannot be reduced to **technical** or **financial** equations. It depends above all on a shared political will. Every piece of infrastructure and every interconnection belongs to a geopolitical chessboard where sovereignty, alliances and dependencies intersect. Energy policy reflects collective choices and a common vision of the future.

Michel Derdevet underlines the crucial role of sovereignty in any energy decision.

"An Europe dependent on external supplies cannot guarantee either security or the stability of its investments."

> **ENERGY IS NOT ONLY A MATTER FOR ENGINEERS OR ECONOMISTS. IT IS A COLLECTIVE PROJECT, A SOCIETAL CHOICE.***

These imperatives are **essential** for the success of an energy project. Yet their implementation depends heavily on the geopolitical context and on international balances of power, showing that feasibility extends far beyond technical or economic considerations.

** "Moreover, the energy system requires cross-cutting approaches that combine technical, economic, legal and even sociological dimensions," (p.94).*

INTELLIGENCE OF RISK IS NOT THE FEAR OF CHANGE BUT THE ABILITY TO ACT TOGETHER IN UNCERTAINTY.*

Recent crises involving gas or critical minerals have exposed the fragility of Europe's energy equilibrium. For industrial and financial actors, assessing feasibility now requires taking geopolitical factors into account: the security of supply routes, the coherence of regulations and the reliability of partnerships. Technical analysis must therefore integrate political reality. A project is **truly feasible** only when it is profitable, **sustainable** and **politically viable**. Energy security is built through coordinated decisions that connect industrial interests, political vision and geostrategic stability.

In his twelve proposals for a common European energy policy, Michel Derdevet calls for shared **infrastructure**, stronger interconnections, the creation of a European network agency and mechanisms of solidarity in times of crisis.

Uncertainty thus becomes a collective force, encouraging cooperation and joint anticipation of technical, economic and geopolitical risks. In a world where volatility has become the rule, energy feasibility is now a shared exercise in clarity and governance.

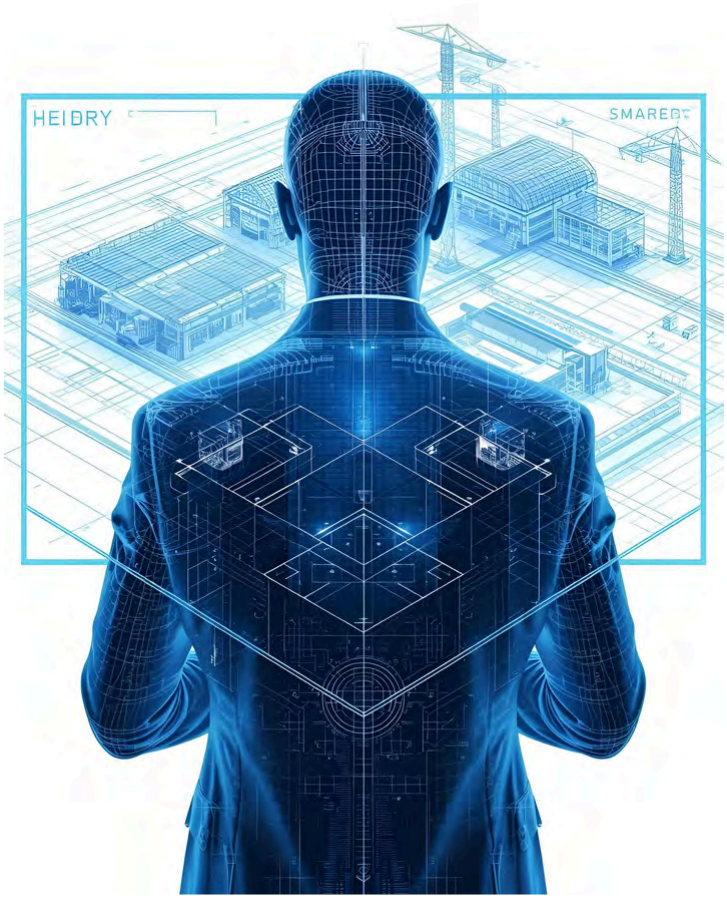
Energy, as Mr Derdevet reminds us, is a **living network, technical, human and political**. Geostrategic decisions are not a backdrop; **they form the invisible foundation on which every credible and sustainable transition depends.**

** "...Intelligence of risk is not the fear of change but the ability to act together in uncertainty."(p.83-84)*

THE STRATEGIC MODELER

TURNING DATA INTO DECISIONS

*In an energy sector undergoing profound transformation, the ability to anticipate risks from a project's earliest stage represents a decisive strategic and financial advantage. Independent **engineer and modeler Rémi L.** turns probabilistic simulation into a decision-making tool. From petroleum geophysics to sustainable infrastructure, he designs models capable of projecting the performance, lifespan, and financial viability of an asset over several decades a process at the **crossroads of science, strategy, risk management, and finance.***



For over twenty years, Rémi L. has operated at the intersection of engineering, strategy, and uncertainty. His mission is to **build decision-making models** capable of simulating the trajectory of infrastructure over time while pinpointing its vulnerabilities.

"I started in the oil sector. We were looking to identify drilling sites with the lowest risk based on vast volumes of geophysical data". At the time, the goal was to assess subsurface potential ; today, it is to extend the lifespans of hydropower plants, hospitals or power grids. The core idea remains the same: **anticipate hazards before they translate into financial or operational costs**. Rémi adapts his algorithms to energy, water or infrastructure, taking into account equipment aging, budget constraints, preventive and corrective maintenance scenarios to optimize the exploitation performance.

> **WE DON'T PREDICT THE FUTURE. WE LEARN TO UNDERSTAND IT BETTER TOGETHER, SO WE CAN INVEST WISELY.**

For each project, he simulates thousands, sometimes millions, of possible trajectories: mechanical failures and its consequences, supply delays, new environmental regulations, or geopolitical crises. These **futures are not predictions but probabilistic scenarios** that allow stakeholders to make informed decisions.

HIS APPROACH

THE MONTE CARLO METHOD

This method is part of a broad class of computational algorithms that rely on repeated random sampling to obtain numerical results.
*The underlying concept is to use **stochastic processes,** randomness, to solve problems that are, in principle, deterministic.*

BALANCING RISK,PERFORMANCE, AND BUDGET

For Rémi L., risk management is a strategic lever, not a defensive reflex.

"The less risk you accept, the more you have to invest. But if you spend too much, you lose performance. It's all about balance."

His approach rests on a central triad: risk, performance, and budget. The objective is to build sustainable budgets capable of withstanding uncertainties without compromising profitability or continuity of service.

Combined with this logic of balance, his probabilistic modeling offers a global and coherent view of performance.

By **identifying correlations** between strategic parameters and decision-makers' key indicators, it enables sensitivity analyses and helps prioritize actions to achieve a more robust overall equilibrium.

This iterative, data-driven process fosters continuous improvement, objective, transparent, and efficient.

A PROBABILISTIC AND DYNAMIC APPROACH

What sets his method apart is a **probabilistic view.** Traditional engineering often treats risks **deterministically**, adding them as **fixed variables**. Rémi sees reality as a **dynamic set of possibilities evolving** over time.

Each component is assessed not by a single trajectory, but by thousands of **alternative scenarios**, each weighted by its likelihood. This method captures complex interactions among different **hazards**: asset failures, regulatory changes, demand fluctuations, supply chain delays or environmental constraints.

This transforms planning and decision-making. Rather than relying on linear forecasts, decision-makers can visualize a *"cloud of possible futures,"* identify critical points most likely to affect performance, and adjust strategies before problems arise. The methodology also incorporates infrastructure aging and the cumulative effects of maintenance or wear, projecting economic and operational impacts over decades. It provides not only risk assessment but a dynamic map of optimal decisions tailored to each scenario.

Rémi **collaborates with all stakeholders** to feed his models : executives, engineers, financial, and maintenance technicians. He collects their data, confronts their realities, and translates this diversity into mathematical language.

"I want the model to speak as clearly to the project director as to the person monitoring the turbines."

This cross-functional approach connects field insights with budgets, giving data its primary role: to inform, not dictate, decisions.

THE HUMAN CORE OF MODELING

WHERE TRADITIONAL APPROACHES SEE CERTAINTIES, I SEE A CLOUD OF POSSIBILITIES. AND IT'S WITHIN THAT CLOUD THAT ROBUST DECISIONS ARE MADE.

Behind the power of simulations, the work remains human. Rémi L. describes a "continuous dialogue" between technical and strategic perspectives. Every assumption in his models is discussed and validated with the client. No line of calculation is hidden.

"If the client approves the assumptions, they also approve the results. Transparency is the only way to build trust."

This insistence on clarity avoids the "black box" criticism often associated with modeling while empowering decision-makers.
When connecting the knowledge of different experts, the method makes assumptions transparent and arguable, translating them into an impartial mathematical model. It creates a common ground for decisions, making the conclusions acceptable to all stakeholders and objectively grounded.

In a context of energy transition and increasing regulatory constraints, this collaborative approach is essential. Probabilistic models become governance tools: they do not replace human judgment but extend it, allowing evaluation, prioritization, and trade-offs in an environment where every euro invested impacts multiple generations.

ARTIFICIAL INTELLIGENCE IN PRACTICE

While AI is often hailed as revolutionary, Rémi L. takes a pragmatic view.

"At this stage, I haven't really identified any breakthrough applications for AI in my field. Sometimes it helps with certain assumptions we can't easily make ourselves. For example, if you know two types of equipment, AI might suggest how a third, unfamiliar type behaves. It can shed light on potential failure risks, maintenance costs, or construction costs. But when it comes to the core of simulation and algorithmic modeling, AI doesn't speed up calculations or fundamentally change the approach."

Instead, Rémi finds AI particularly useful for data collection on complex infrastructure, especially when dealing with large portfolios where detailed inspections are impractical.

"For large-scale infrastructures, such as hydroelectric dams or municipal buildings, you have limited data on each individual component. I've worked with clients managing tens of thousands of hospitals or schools. It's impossible to model the condition of every window, door, or roof manually. Existing inspection tools take too long to fill out. AI can help highlight gaps or patterns in this data, providing guidance for modeling without replacing the human expertise required for decision-making."

In other words, **AI is a complementary tool**, enhancing data handling and insight generation, rather than a replacement for the probabilistic models and expert judgment that form the core of his methodology.

BENEATH THE SURFACE

HOW GEOCHEMISTS POWER THE ENERGY WORLD

Damien C., a geochemist and Anotech expert, *deciphers the memory of rocks to understand the origins of energy. A specialist in source rocks, he studies their molecular composition to trace back through geological time and identify the conditions under which hydrocarbons formed. Dividing his work between the laboratory and the field, his profession combines scientific rigor with a deep curiosity for the mineral world.* ***He is a testament to the expertise that defines Anotech.***

THE ROLE OF THE GEOCHEMIST: READING THE MEMORY OF ROCKS

I work on what we call **source rocks**, the ones that generate hydrocarbons. These rocks are rich in organic matter of either marine or terrestrial origin. Each type of organic matter has its own molecular signature, much like a fingerprint. Some molecules, such as oleanane, only appear during specific **geological periods**, for example starting in the Cretaceous. This is what we call a biomarker; it helps date the rock and reveal the environment in which it formed.

THE MISSION

ANALYZE ROCKS & FLUIDS
Study underground samples to determine their composition
FIND OIL ZONES
Identify rocks that contain oil or gas.
GUIDE DRILLING
Use data to select optimal drilling locations.
TRACE ORIGINS
Match oil to its geological source.

> **IN THE LABORATORY, STONE BECOMES TEXT: EACH SAMPLE TELLS ITS OWN STORY.**

BIOMARKERS

TRACES OF TIME
Fossil molecules (sterols, terpenes, hopanes, and others) act like a molecular fingerprint, revealing both the age and the origin of the oil the story told by its biomarkers.

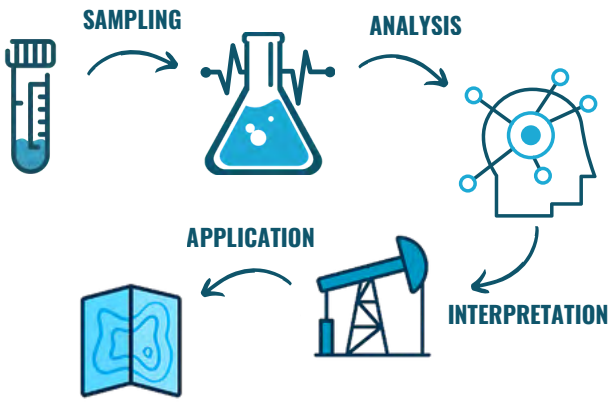
Biomarkers are the chemical witnesses of the past.

Through them, we can reconstruct the nature of the original organic matter, the temperature it experienced, and the depth of its burial. In the South China Sea, source rocks are rich in terrestrial input, while in the Middle East they are mainly marine shal. These differences explain the type of fluid found there, gas, light oil, or heavy oil.

It all begins with **sampling,** rocks collected from sometimes several kilometers below the surface. They must be carefully preserved, as decompression releases their gases.

Then comes **analysis**, through pyrolysis, chromatography, and biomarker studies: each fossil molecule reveals the rock's origin.

Finally, **application**: these results guide petroleum exploration and support the energy transition, from CO_2 storage to soil remediation.



UNDERSTANDING THE PETROLEUM SYSTEM IS A COLLABORATIVE EFFORT:

GEOLOGIST
IDENTIFY POTENTIAL SOURCE AND RESERVOIR ROCKS

RESERVOIR ENGINEER
EVALUATE HOW HYDROCARBONS CAN BE EXTRACTED EFFICIENTLY

GEOCHIMIST
IMAGE THE SUBSURFACE TO LOCATE TRAPS

Geochemistry will not disappear with the energy transition : it is **adapting to it.**

What we have learned from oil, we now apply to carbon storage and geothermal energy. The same tools once used to explore the subsurface are now **helping to restore it.** I worked on the remediation of a French industrial site, a former facility of an energy company.

We applied **geochemical analysis** techniques to track contaminants and clean up the soil. This project illustrates how the expertise developed for oil exploration can now serve environmental goals.

It is fascinating to see geochemistry evolving toward the challenges of the energy transition.

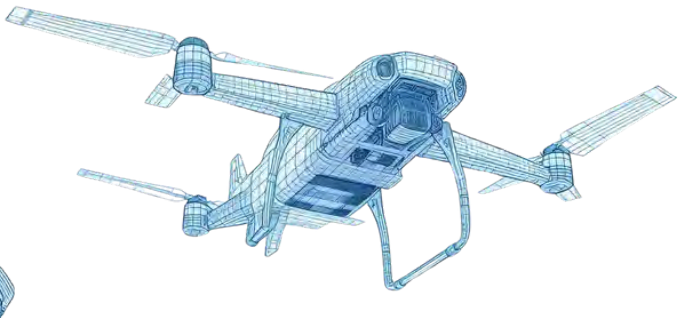
ENVIRONMENT

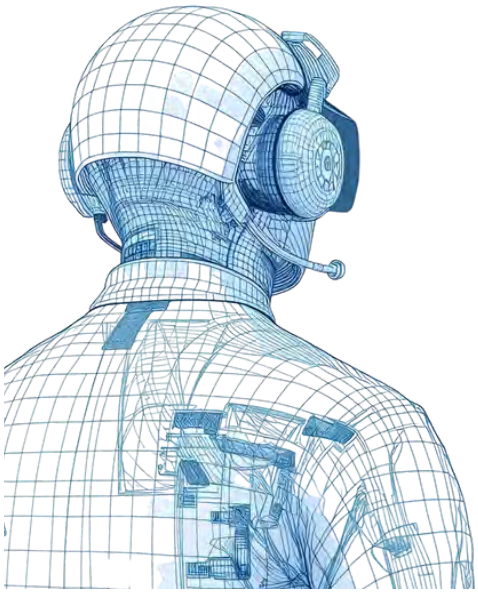
GEOCHEMISTRY APPLIED TO THE TRANSITION :

Monitoring contaminants, CO_2 storage, geothermal energy, soil remediation.

Rock samples shared by Damien C. (examples from APT-int.com and AAPG WIKI)

STONE IS OUR SHARED MEMORY. BY READING IT, WE UNDERSTAND WHERE OUR ENERGY COMES FROM AND WHERE IT IS LEADING US.





WHEN INDUSTRY TAKES FLIGHT

They may not wear pilot suits, but helmets, fluorescent vests, and tablets in hand are standard. These drone engineer–pilots operate machines capable of analyzing the air, measuring gases, and inspecting sites at heights once beyond human reach. We meet ***Pierre-Louis L., an Anotech expert specialized in atmospheric measurement missions*** *using drones, who explains how technology can literally gain altitude to serve the environment.*

Pierre-Louis trained as a general engineer and discovered the world of drones in 2018 while working on an innovation project. He pilots and coordinates **large-scale atmospheric measurement** missions. In practice, he manages aerial campaigns in which drones equipped with sensors analyse gas concentrations in the air, including methane, carbon dioxide, water vapour, and fine particles.

"Our job is to understand the local atmosphere above various sites, measuring, mapping, and identifying emission zones to ensure that values remain within environmental thresholds." These data are then transmitted to scientific teams for integration into **monitoring** and **optimisation** models. It is a profession at the intersection of engineering, atmospheric science, and cutting-edge technology.

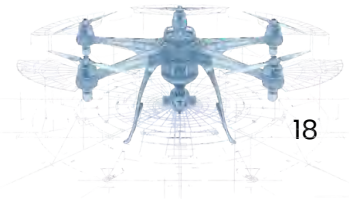
> **IT'S A PERFECT BALANCE BETWEEN INNOVATION, ADVENTURE, AND UTILITY.**

FROM THE CAMERA TO SCIENTIFIC DATA

The drones operated by Pierre-Louis are true flying laboratories. Beneath their carbon fiber and aluminum shells, they carry instruments capable of sampling and analyzing the surrounding air: spectrometers, greenhouse gas sensors, thermal probes, and high-precision barometers.

"A ten-minute flight allows us to collect thousands of data points," he explains. With this information, the team can visualize the three-dimensional dispersion of gases or detect leaks invisible to the naked eye.

It's a finer, far less intrusive approach than ground-based measurements. *"The drone becomes a scientific eye, able to see and even sense where humans cannot go."*



> **ONE HOUR OF FLIGHT MEANS TWO HOURS OF PREPARATION**

FROM TAKEOFF TO DATA

1. SCIENTIFIC PLANNING

Define zones, altitude, sensors, and weather conditions.

2. EQUIPMENT PREPARATION

Calibrate and test all equipment to ensure safety and reliability.

3. FLIGHT AND DATA COLLECTION

Conduct flights and record spectrometric data on gas concentrations.

4. QUALITY VALIDATION

Transmit data securely for expert modeling and interpretation.

5. TRANSMISSION AND ANALYSIS

Check data consistency, accuracy, and redundancy.

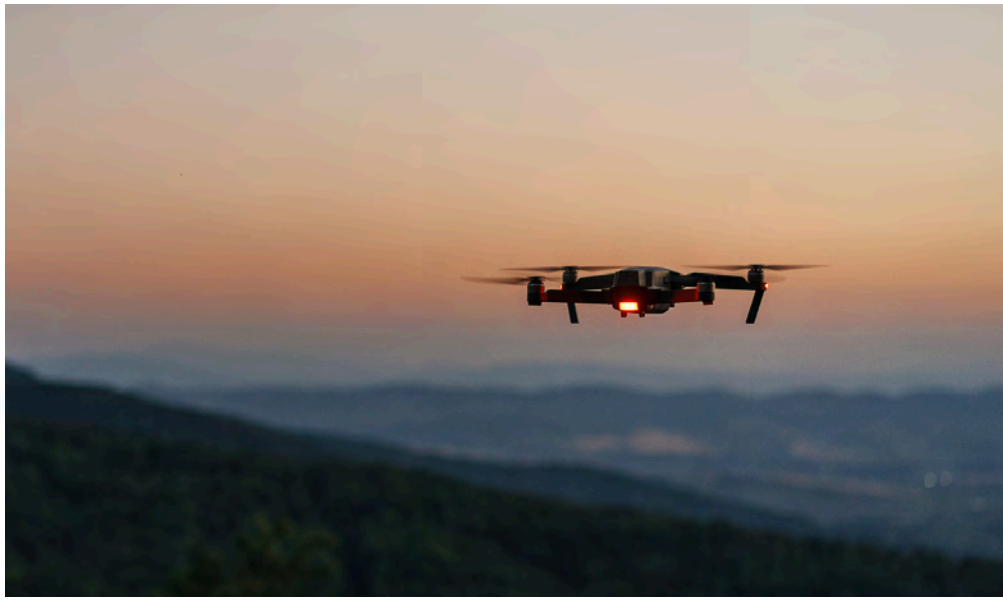
An atmospheric measurement mission is a complex operation. Before takeoff, the team defines the flight zones, assesses weather conditions, calibrates the instruments, and ensures that the data collected will be usable.

During flight, the operator continuously monitors both trajectory and signal quality. Drones may fly just a few dozen meters above the ground, or up to a few hundred, depending on the site and the type of gas being measured.

"The wind is both our ally and our enemy: it needs to circulate to carry the gases, but not too much, or the measurements lose accuracy."

The measurement files are immediately transferred and verified.

"Our responsibility is to ensure that the data is complete, consistent, and scientifically reliable."



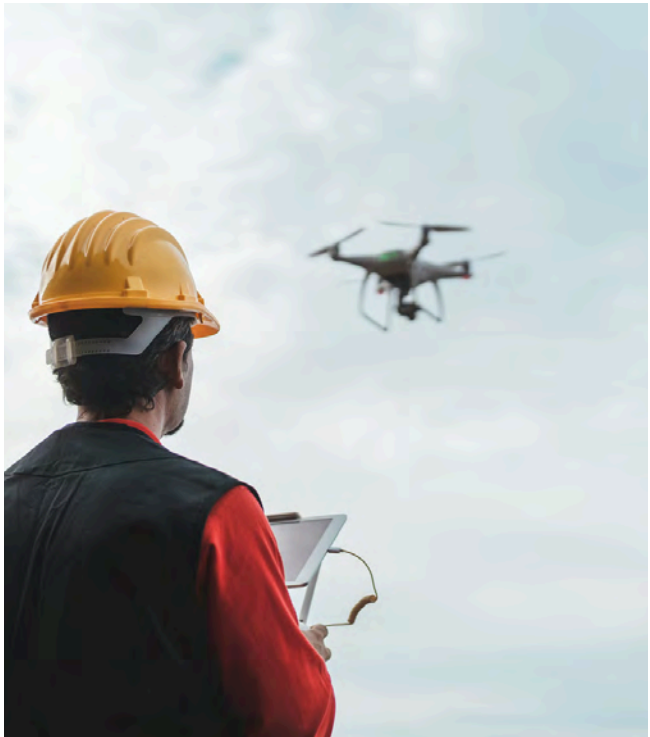
WHEN TECHNOLOGY SERVES SUSTAINABILITY

The benefits of these missions are manifold. First, they allow **rapid detection** of atmospheric anomalies gas leaks, concentration shifts, or unexpected emissions.

Second, they **eliminate the need for heavier means** such as airplanes, helicopters, or observation platforms.

"In two days of measurements, we can avoid the equivalent of fourteen hours of airplane flight" says Pierre-Louis.

This method, both cleaner and faster, reduces CO_2 emissions while improving analytical precision. The drone becomes not only a vector of knowledge but also a tool for **environmental prevention** helping to understand how air moves, how gases mix, and where to act to reduce human impact.



AUTONOMOUS DRONES AND SMART SYSTEMS

For Pierre-Louis, the future of the profession is already taking off.

"Autonomous drone boxes will transform our work. They'll allow surveillance flights to be launched automatically, without human presence, on a programmed schedule."

Coupled with artificial intelligence, these systems will be able to analyze atmospheric flows in real time, adjust altitude, and even correct their trajectory based on wind direction.

"The ultimate goal is to plan a complete mission from a simple satellite map, with automatic interpretation of the results."

The drone is both a lever for knowledge and a tool for action. It helps us understand our atmosphere, detect, prevent, and respond. But for him, technology will never replace human insight:

"A drone can measure, but it still can't understand. The engineer's role is precisely to connect data to reality."

> **IT'S A CONCRETE WAY TO MAKE TECHNOLOGY SERVE THE PLANET.**

ENGINEERING THE FUTURE

AI'S DISRUPTION IN THE PROJECT DESIGN & EXECUTE PHASES

The engineering and construction industries are rapidly undergoing transformation as profound as the shift from manual drafting to computer-aided design. Artificial intelligence is now an active force reshaping how projects move from concept to construction. ***Across the design phases, from feasibility studies to detailed engineering, AI can fundamentally altering workflows, accelerating timelines, and unlocking possibilities*** *that were previously constrained by human capacity, gaps in processes and timelines.*

THE DAWN OF INTELLIGENT CONCEPTUALISATION

The earliest stages of **project design** have traditionally been the most labor-intensive, requiring teams to sift through mountains of data, regulatory requirements, site conditions, and client specifications. AI now serves as an intelligent assistant during feasibility and conceptual design, processing vast datasets in minutes rather than weeks. **Machine learning algorithms** analyse historical project data, environmental factors, geological surveys, and regulatory frameworks simultaneously, identifying optimal design parameters and potential constraints before human engineers invest significant resources.

Generative design algorithms have emerged as particularly transformative tools during concept development. Engineers input design objectives and performance criteria, AI **can generate hundreds or thousands of design alternatives**, many of which challenge conventional thinking. Often revealing structural efficiencies or material optimizations that would never emerge from traditional iterative processes. What once required multiple design workshops and weeks of iteration now happens in computational cycles measured in hours.

As AI is still in an evolution and heavily relies machine learning and accurate input data, the output still needs to be checked and assessed by technical authorities. **Particularly where safety and critical decisions are needed to be performed.**

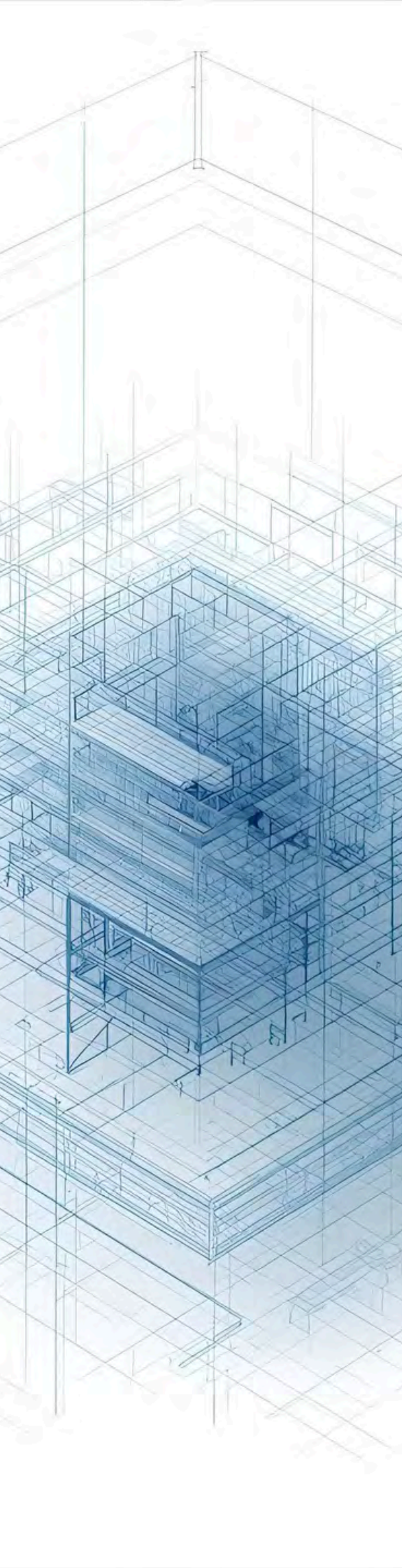
This article was developed by ***Darren AHRENS,*** *Anotech Project and Technical Vice President.*

ACCELERATING PRELIMINARY AND DETAILED DESIGN

As the projects transition from concept to preliminary design, AI's role expands from advisor to active collaborator.

AI-driven clash detection systems in the 3D model helps identify conflicts between disciplines, mechanical, electrical, structural, architectural, in real time rather than during coordination meetings weeks later. The AI learns from each project, becoming increasingly sophisticated at predicting where human designers are likely to create interferences and flagging potential issues before they become costly redesigns.

During detailed design, AI-powered tools **can automate tasks** that have historically consumed enormous amounts of engineering time. For example cable routing in complex Oil & Gas or industrial facilities, which once required senior electrical engineers days of meticulous work, can now be optimized by algorithms that consider hundreds of variables simultaneously: voltage drop, thermal loading, accessibility for maintenance, proximity to other systems, and cost. The engineer's role evolves from **manual execution to quality assurance and strategic decision-making** about the algorithm's recommendations.



Structural optimisation has similarly been revolutionised. AI analyses load paths, material properties, and construction methodologies to suggest structural systems that minimize material use while meeting all safety and performance requirements. For large infrastructure projects, these optimisations can translate to millions of dollars in material savings.

TRANSFORMING DOCUMENTATION AND COMPLIANCE

One of AI's most immediate impacts is **more effective management of documentation and regulatory compliance** which is among the most tedious aspects of engineering design. Processing systems to review design documents against regulatory codes, flagging potential compliance issues and suggesting modifications. These systems stay current with evolving regulations across multiple jurisdictions, a task that challenges even specialised compliance teams.

AI-assisted drafting tools generate technical specifications, drawing annotations, and equipment schedules from 3D models with minimal human input. More sophisticated systems can produce preliminary engineering calculations, which human engineers then review and stamp. This shift doesn't eliminate the need for engineering judgment but redistributes human effort toward **higher-value activities**: creative problem-solving, stakeholder management, and strategic technical decisions.

THE HUMAN-AI PARTNERSHIP

The most successful implementations of AI in project design recognize that the technology **augments rather than replaces human expertise**. AI excels at processing information, identifying patterns, and exploring solution spaces with speed. Human engineers contribute **contextual understanding, ethical judgment, creative intuition, and the ability to navigate ambiguous situations** where rules and data provide incomplete guidance.

CHALLENGES AND CONSIDERATIONS

The integration of AI into design processes is not without challenges. Data quality remains paramount, AI systems trained on flawed or biased historical data will perpetuate and potentially amplify those flaws. **Engineering Teams must invest in data infrastructure and governance** to ensure AI tools have access to high-quality, well-organized information.

There are also valid concerns about **professional liability and accountability**. When an AI system recommends a design solution that later proves problematic, who bears responsibility ? The engineer who approved it? The firm that deployed the AI ? The software developer ? These questions are prompting professional engineering bodies to develop **new guidance on the use of AI in engineering practice.**

THE HUMAN EQUATION IN ENERGY PROJECTS

*After forty years spent steering refineries, pipelines, and energy plants across three continents, **Jérôme S., expert at Anotech and project coordinator**, reflects on cultural contrasts, evolving technologies, and the enduring human factor at the heart of industrial success.*

HOW WOULD YOU DEFINE YOUR ROLE IN INDUSTRIAL PROJECT MANAGEMENT ?

I **coordinate all disciplines** involved in a project, from site preparation, civil engineering, and mechanics to piping, electricity, instrumentation, painting, insulation, and commissioning.
My job is to ensure that every stage runs smoothly and that the plant reaches its nominal production on schedule. I've been in the **industrial field for over forty years,** starting as an operator in boiler-making and mechanics, then moving into supervision, design, methods, and finally project management. Today, I work with Anotech on technical support missions for one of its clients, bringing both technical and managerial expertise to each project.

ADAPTING TO A CHANGING PROFESSION

HOW HAS INDUSTRIAL PROJECT MANAGEMENT EVOLVED SINCE YOU BEGAN YOUR CAREER?

It's changed **radically**. In the 1980s and 1990s, some construction sites had up to 700 expatriates. Today, there are barely 30. Governments now require local content, they want their own citizens to be trained and involved. It's logical and positive, but it **completely changes the way we manage projects.** Western experts now focus on training and high-level expertise. The mission is no longer to do everything it's to transfer knowledge. Since the Covid period, this shift has accelerated. Emerging countries are now **highly competitive** and increasingly autonomous in technical execution. The role of the coordinator has evolved **from command to support, from doing to enabling.**

MANAGING CULTURAL DIFFERENCES & NATIONAL CONSTRAINTS

HOW DO WORK CULTURES DIFFER ACROSS REGIONS?

The goal is always the same, to deliver a reliable facility, but people and culture make the real difference. In Southeast Asia, teams are highly skilled and autonomous. In Africa, people are **hardworking** but need more guidance. In the Middle East, mixed Western and Asian teams require **cultural adaptability.**
Each context demands a different communication style and leadership approach.

DO LOCAL REGULATIONS ADD COMPLEXITY?

Absolutely. Each country has its own administrative and fiscal rules. Belgium, for instance, is far more restrictive than France. There's no single European framework for these issues, so you **constantly need to adjust.**
Financial complexity depends less on geography than on the client, whether they're Russian, Chinese, African, or Indian. Each has their own way of defining priorities and managing budgets.

A CONDUCTOR'S MINDSET

SO COORDINATION IS ABOVE ALL A QUESTION OF COMMUNICATION?

Exactly. You need to understand people as much as you understand process.
In large projects, I **often act** as a conductor ensuring that all disciplines stay in rhythm and that information circulates clearly.
An **industrial** project involves **many trades engineering**, construction, commissioning and each tends to work in its own space.
Getting everyone aligned takes **listening**, **diplomacy**, and **balance**.
The key is to make sure that every team understands not just what needs to be done, but also why and when.

HAS COMMUNICATION BECOME MORE DIFFICULT IN TODAY'S ENVIRONMENT?

Yes, paradoxically.
We have more tools than ever emails, digital platforms, instant messaging but we talk less.
It's paradoxical because the more connected we are, the less we really communicate.
Teams are **increasingly global**, **multicultural**, and **remote**. That makes coordination even more essential. Successful project management today depends on soft skills: listening, empathy, and clarity. These are what turn complex industrial structures into cohesive, performing teams.
Technology helps us build; communication helps us deliver.

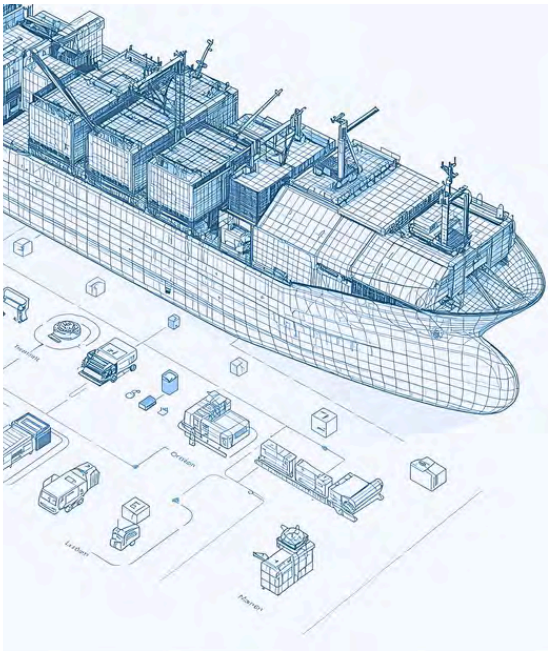
THE EVOLVING LANDSCAPE

For Jérôme S., that simple principle remains the **foundation of every successful industrial project,** and the ultimate test of a project manager's skill.

THE PROJECT BUYER

SOLVING PROBLEMS, BUILDING PARTNERSHIPS, GETTING RESULTS.

With two decades of international procurement experience, ***Gaëlle M., our Anotech expert, has led complex projects across diverse sectors.*** *She approaches procurement as a strategic craft, designing innovative solutions, forging strong partnerships, and navigating ever-evolving technical and regulatory environments.*



WHAT EXACTLY IS YOUR ROLE TODAY, AND WHAT KIND OF PROJECTS DO YOU WORK ON?

Today I work as a project buyer, mainly in the **energy sector,** more specifically in wind farm maintenance.

It's a job that starts very early in the project cycle : we work hand in hand with technical teams, project managers, local authorities, and partners. We don't just issue tenders and award contracts to the lowest bidder; we try to **understand** the technical, regulatory, and environmental constraints and build the most appropriate purchasing solution for the context. **Most of my projects are international**, but I also work on operations in France, particularly in onshore wind.

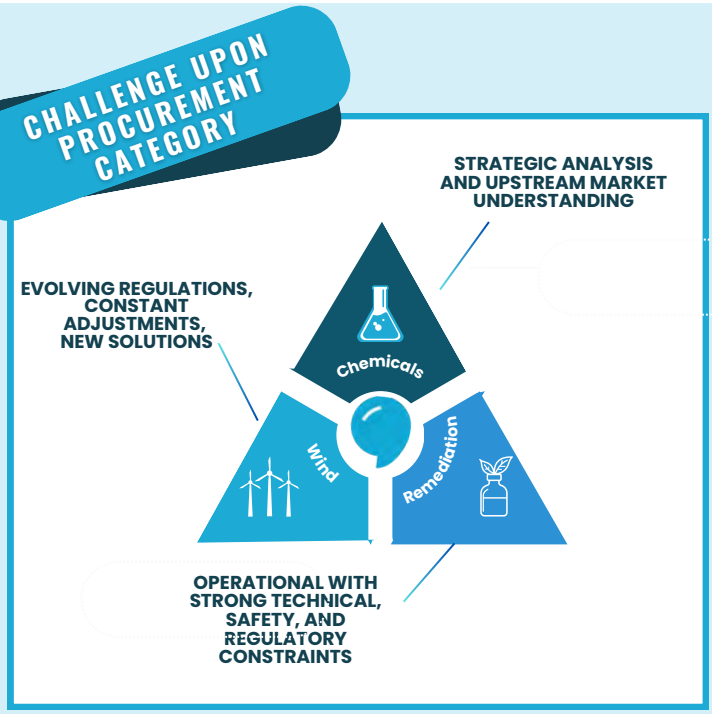
> **A PROJECT BUYER IS LIKE A CONDUCTOR. WE WORK WITH TECHNICAL TEAMS, LEGAL DEPARTMENTS, AND LOCAL AUTHORITIES. EVERYTHING DEPENDS ON THE CONTEXT.**

YOU'VE MOVED FROM BUYING CHEMICALS TO EQUIPMENT FOR WIND FARMS. HOW DOES THAT CHANGE YOUR DAY-TO-DAY WORK?

It wasn't just a switch from chemicals to wind, I've crossed several worlds: chemicals, electrical systems, soil remediation, and now renewables. That's what being a project buyer means : you have to **adapt quickly** and **learn constantly**. In chemicals, the work is mostly analytical, understanding market trends, raw material volatility, timing the purchase right. In remediation, it's pure operations, with strong technical and safety constraints.

In wind, regulations evolve all the time, so you need to keep learning, readjusting, and finding new solutions.

I love that diversity, that sense of transversality. **Every project is an opportunity to learn.**



> **I LOVE THIS CROSS-FUNCTIONAL NATURE: EVERY PROJECT IS A LEARNING EXPERIENCE. NOTHING IS EVER FIXED.**

YOU WORK WITH SUPPLIERS WORLDWIDE. HOW DOES GEOGRAPHY INFLUENCE YOUR PROCUREMENT STRATEGIES?

Geography **changes everything**. Every country has its own constraints regulatory, logistical, cultural and a different level of industrial maturity. In a stable environment, we tend to build long-term relationships. But in emerging markets, we introduce more competition to better understand the offer. And then there's local content: in Africa, it's mandatory; in Europe, it's highly recommended. Even when it's not required, it often makes more sense to use local resources, for cost, lead time, and carbon footprint reasons.
Ultimately, **geography determines our levers**: cost, risk, deadlines, and negotiation strategy. We adapt to each context.

IS IT MANDATORY TO INCLUDE LOCAL PARTNERS IN YOUR PROJECTS? HOW DOES THAT AFFECT YOUR CHOICES?

Often, yes. In some regions, like Africa, it's a **legal requirement**. Elsewhere, it's a political or strategic decision by the client. Working with local players is more than a compliance exercise it's a way to ensure the project's sustainability. It reduces logistics costs, simplifies administrative processes, and anchors the project in its environment. Of course, you have to make sure local partners have the skills and structure needed. That's where the buyer's role becomes strategic: identifying, supporting, and securing them.

> **GEOGRAPHY DETERMINES OUR LEVERS: WE MUST CONSTANTLY ADJUST OUR APPROACH.**

THE BUYER'S TOOLKIT: CHOOSING THE RIGHT LEVER FOR EACH CONTEXT

HAVE SUPPLIERS CHANGED THEIR APPROACH IN RECENT YEARS? ARE THEY MORE DEMANDING OR MORE FLEXIBLE?

There's no one-size-fits-all answer, but yes, the landscape has **evolved**. Some sectors are still under pressure especially those tied to raw materials or complex supply chains and suppliers there tend to be more demanding. In more open markets, they're **proactive**, **innovative**, and willing to **collaborate differently**.
What's certain is that the buyer–supplier relationship has become strategic. It's no longer just about price it's technical, environmental, contractual, and even societal. It requires more listening, but also greater agility.

WHICH TREND DO YOU BELIEVE WILL MOST PROFOUNDLY TRANSFORM THE PURCHASING PROFESSION IN THE ENERGY SECTOR?

Artificial intelligence, without question.
AI will revolutionize how we collect and analyze data, it will anticipate market trends, logistics risks, and supplier performance. But it won't replace **human reasoning**. What AI can't do is bring subjectivity, creativity, or contextual understanding. The buyer of tomorrow will have to focus on what machines can't do: imagine, connect, and build.

> **I TRULY BELIEVE THE BUYER OF THE FUTURE WILL BE AN ARCHITECT OF SOLUTIONS.**

OFFSHORE CHRONICLES

THE JOURNEY OF A NAVAL ARCHITECT

Redouan A. is a senior offshore engineer, Anotech expert, specialized in marine operations, project logistics, and complex installations across the globe. *His career embodies a rare combination of technical expertise, field experience, and cross-cultural leadership. When first introduced, someone once remarked,* ***"He could write a book."*** *Without claiming such ambition, this article invites us to follow him through a* ***non-exhaustive overview*** *of his dynamic career, a a journey searching technically challenged projects, calculated risks, and solution-oriented engineering. It offers a glimpse into the demanding yet fascinating world of offshore projects, where innovation, environmental challenges and human resilience constantly meet.*

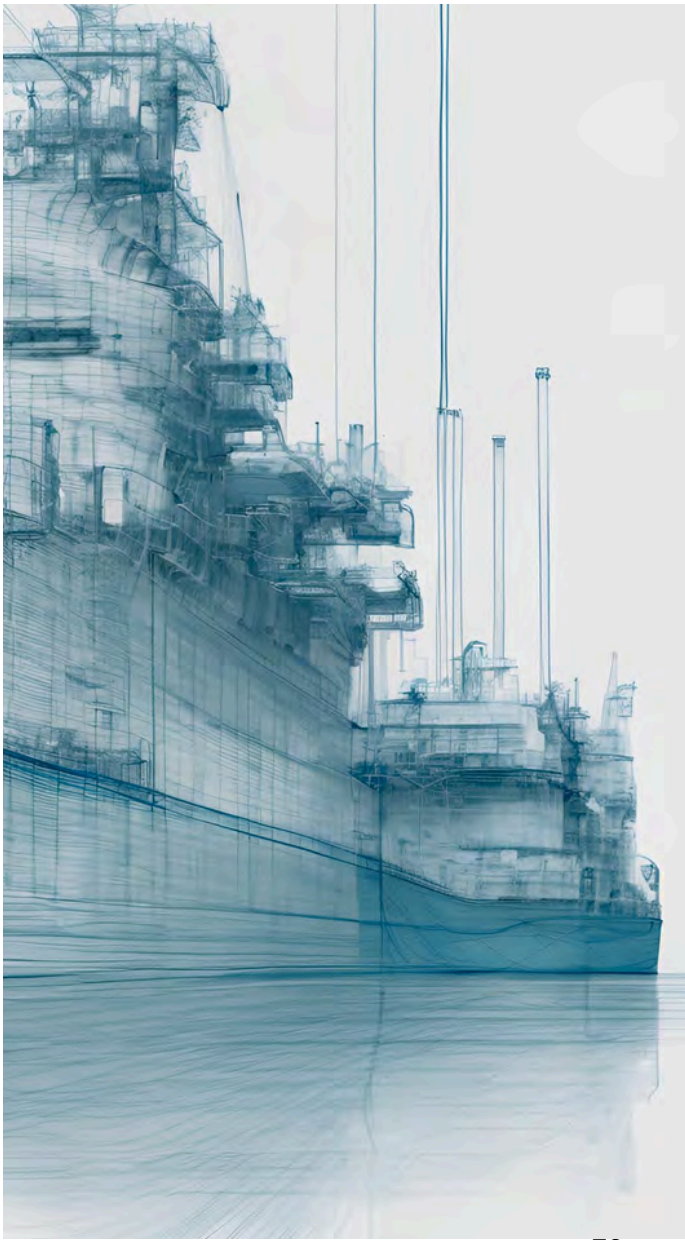
Educated between France and the United Kingdom, Redouan Assar has dedicated his career to **naval architecture** and large-scale marine construction projects. Born in Morocco and drawn to the sea from an early age, his passion naturally led him to pursue naval architecture.

After beginning his career in **ship design and fabrication**, he gradually moved toward offshore projects of increasing complexity. Over the years, he has managed the delivery of major **maritime installations** across Europe, Asia, the Arctic, and the Middle East, gaining hands-on experience in every stage of project execution, from design to transport and installation.

Having operated in some of the world's most demanding **offshore construction environments**, he has led marine operations in polar regions, shallow and enclosed seas, and remote industrial sites where bespoke logistics and infrastructure had to be created from the desert. Each project strengthened his expertise in **managing technical, regulatory, and human challenges, hallmarks of offshore engineering.**

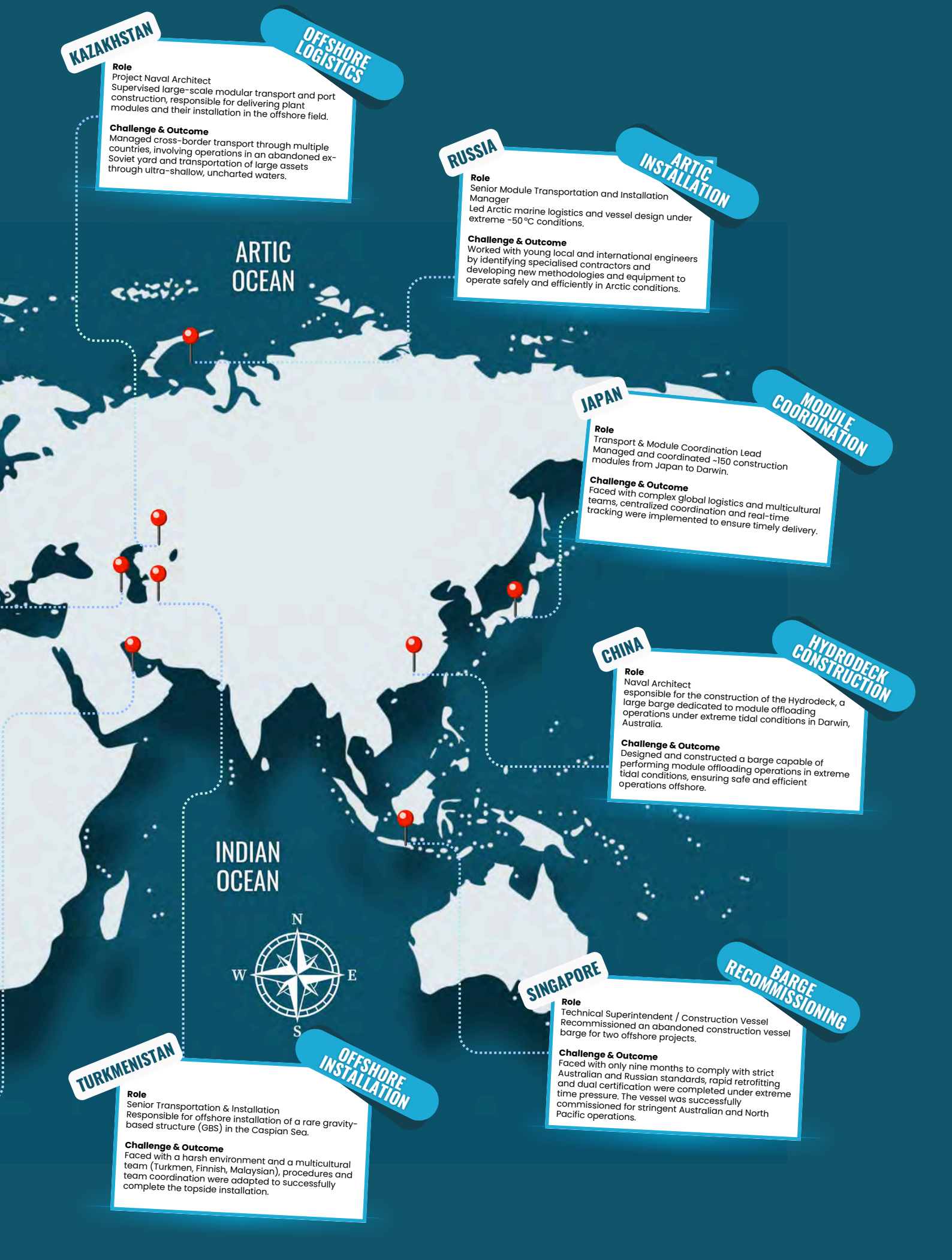
Today, with decades of **international experience** behind him, he focuses on structuring offshore operations and mentoring the next generation of engineers. His approach emphasizes **safety**, **precision**, and **adaptability values** forged through years of work on complex, high-stakes projects.

> **IT'S ABOVE ALL, A MATTER OF PEOPLE IN THE FIELD, OF EXPERIENCE, PASSION, AND TRANSMISSION**



OFFSHORE CHRONICLES

ENGINEERING ACROSS THE SEA



KAZAKHSTAN

OFFSHORE LOGISTICS

Role
Project Naval Architect
Supervised large-scale modular transport and port construction, responsible for delivering plant modules and their installation in the offshore field.

Challenge & Outcome
Managed cross-border transport through multiple countries, involving operations in an abandoned ex-Soviet yard and transportation of large assets through ultra-shallow, uncharted waters.

RUSSIA

ARTIC INSTALLATION

Role
Senior Module Transportation and Installation Manager
Led Arctic marine logistics and vessel design under extreme -50 °C conditions.

Challenge & Outcome
Worked with young local and international engineers by identifying specialised contractors and developing new methodologies and equipment to operate safely and efficiently in Arctic conditions.

JAPAN

MODULE COORDINATION

Role
Transport & Module Coordination Lead
Managed and coordinated ~150 construction modules from Japan to Darwin.

Challenge & Outcome
Faced with complex global logistics and multicultural teams, centralized coordination and real-time tracking were implemented to ensure timely delivery.

CHINA

HYDRODECK CONSTRUCTION

Role
Naval Architect
esponsible for the construction of the Hydrodeck, a large barge dedicated to module offloading operations under extreme tidal conditions in Darwin, Australia.

Challenge & Outcome
Designed and constructed a barge capable of performing module offloading operations in extreme tidal conditions, ensuring safe and efficient operations offshore.

SINGAPORE

BARGE RECOMMISSIONING

Role
Technical Superintendent / Construction Vessel Recommissioned an abandoned construction vessel barge for two offshore projects.

Challenge & Outcome
Faced with only nine months to comply with strict Australian and Russian standards, rapid retrofitting and dual certification were completed under extreme time pressure. The vessel was successfully commissioned for stringent Australian and North Pacific operations.

TURKMENISTAN

OFFSHORE INSTALLATION

Role
Senior Transportation & Installation
Responsible for offshore installation of a rare gravity-based structure (GBS) in the Caspian Sea.

Challenge & Outcome
Faced with a harsh environment and a multicultural team (Turkmen, Finnish, Malaysian), procedures and team coordination were adapted to successfully complete the topside installation.

OFFSHORE CHRONICLES

A CONVERSATION ABOUT LEGACY, LEARNING, AND THE SPIRIT OF ADVENTURE

Throughout his career, Redouan A. has solve technical challenging one off projects while mentoring young engineers. Early on, he built teams of recent graduates and experts, many initially hesitant to leave the comfort of home for the edge of the world. Some of them now lead projects of their own, a quiet source of pride.

Across the industry, a widening generational gap has become evident. Few recruits joined during the 1990s and 2000s, and many senior engineers are now retiring, leaving a shortage of experienced mentors. The generation between 45 and 55 remains small, making the transmission of knowledge more crucial than ever.

Mindsets are also shifting. Fewer young engineers dream of distant horizons; many now seek stability, comfort, and balance, a natural evolution, but one that risks eroding the spirit of exploration that once defined marine and offshore industry.

> **REAL GROWTH OFTEN BEGINS WHERE COMFORT ENDS. THE FIELD IS STILL FULL OF EXTRAORDINARY EXPERIENCES WAITING FOR THOSE WHO DARE TO GO.**

The energy industry has always moved in cycles, its fortunes rising and falling with the price of oil. For decades, predictions have proclaimed its end, yet the reality has proved far more complex. Each new generation of engineers discovers that **innovation**, **adaptability**, and **resilience** remain at the heart of the craft.

> **THEY'VE BEEN ANNOUNCING THE END OF OIL SINCE THE 1990S AND YET HERE WE ARE, STILL BUILDING, STILL INNOVATING, STILL SOLVING PROBLEMS THAT PUSH THE LIMITS OF WHAT IS POSSIBLE.**

One conviction, however, remains constant: **real engineering happens on the ground.** No algorithm or remote setup can replace field experience. Success depends on presence, teams working together, motivated and aligned. That spirit of collaboration and proximity is what allows complex operations to be delivered safely on budget and on schedule.

A PROJECT WITHIN THE PROJECT

LIFTING LOGISTICS AT THE HEART OF INDUSTRIAL PERFORMANCE.

Behind every successful shutdown or major maintenance operation lies a complex choreography of cranes, riggers, trucks, and permits. ***At the heart of this hidden ballet stands Anthony B., Industrial Lifting & Logistics Expert at Anotech.*** *Between precision engineering and human coordination, his mission is to ensure that every operation, sometimes involving hundreds of tons of equipment, runs safely, on time, and without surprises.*

> **YOU CAN'T IMPROVISE IN THIS JOB. EVERYTHING HAS TO BE ANTICIPATED, EVEN HUMAN REACTIONS."**

THE INVISIBLE BACKBONE OF INDUSTRIAL PROJECTS

"Lifting is a project within the project," Anthony explains. *"You manage schedules, safety, contractors, and costs, but you also deal with people, space, and time."*

Far from the spotlight, lifting logistics plays a central role in industrial performance. On refinery, the smallest delay in a heavy-lift sequence can impact the entire production chain. *"You can't improvise in this job,"* he says. *"Everything has to be anticipated, the equipment, the environment, and even the human reactions."*

Whether it's replacing a reactor in a confined space or moving oversized components through a maze of pipelines, each lift is a puzzle. *"One wrong move can stop a site. One oversight can become a safety issue, our goal is zero incidents, and that starts long before the crane is even on site."*

ANTICIPATION AS A MINDSET

For Anthony, 80% of success in lifting operations happens before the first hook is raised. Weeks, sometimes months, are spent studying technical drawings, validating safety plans, and coordinating with HSE, engineering, and maintenance teams. *"A good lifting plan is like a movie script, everyone needs to know their role before the scene starts."* This culture of anticipation is what separates expertise from routine. *"If you have to react on site, it's already too late, the art of this job is to foresee the unexpected."*

TECHNOLOGY MEETS EXPERIENCE

Modern lifting operations are increasingly digitalized. Planning software, 3D simulations, and AI-assisted documentation review are now part of the daily toolkit. *"AI helps with transcription, reporting, or checking procedures."* But the real decision-making still depends on experience, on what you feel when you see a load move." With more than 20 years of experience across Europe, Africa, and the energy sector, he has seen the trade evolve. *"We're moving toward integrated logistics and lifting business units inside large industrial groups". Safety, digital tools, and operational performance are becoming one."* Even the machines are constantly evolving. That's why Anthony has made it a point to keep learning and refining his expertise, not only to perform better, but also for his own personal growth.

FROM PLAN TO LIFT BY EXPERIENCE

He never lists them one by one, yet as Anthony speaks, a method quietly takes shape, structured, meticulous, and deeply rigorous. Between preparation, coordination, and continuous learning, his words trace a clear path: the art of turning complexity into control. What emerges from his experience is more than a routine, it's a mindset, one that sees every lift as a living process, evolving from plan to execution and beyond. This is how his approach naturally unfolds into five essential stages, each revealing a different facet of his craft.

STUDY & ANALYSIS

"Weeks, sometimes months, are dedicated to studying drawings, validating procedures, and coordinating with the teams."

PLANNING & DESIGN

"A good lifting plan is like a movie script, everyone must know their role before the scene starts."

VALIDATION & COORDINATION

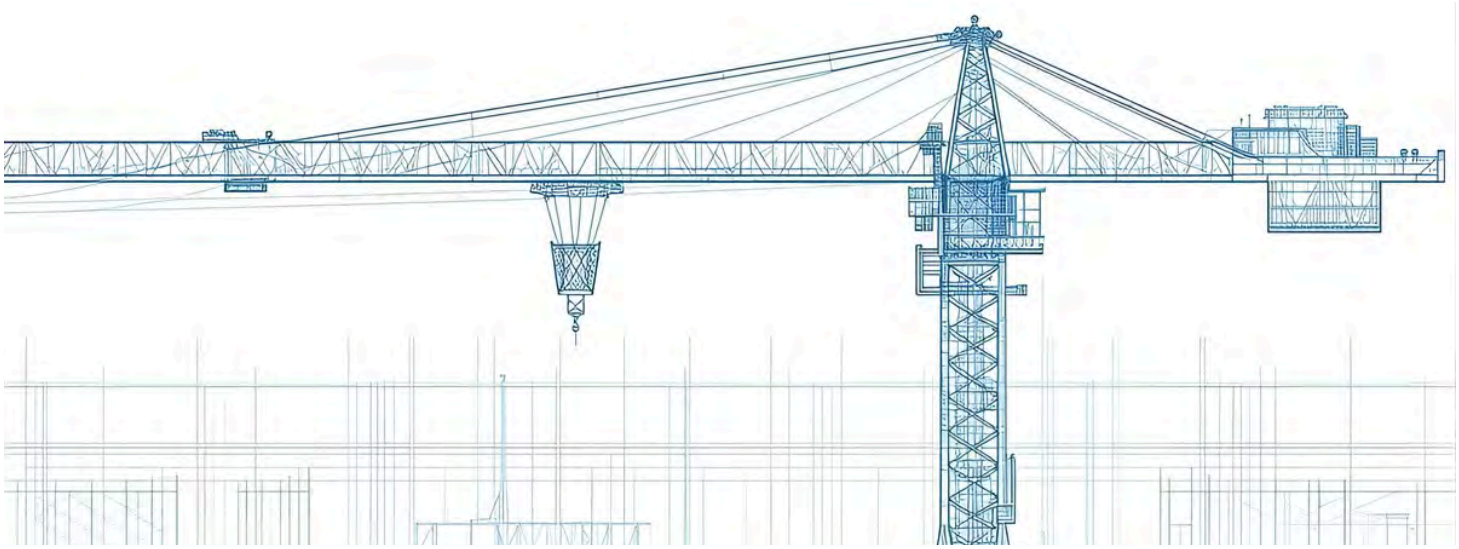
"We manage schedules, safety, subcontractors, and costs, but also people, space, and time."

EXECUTION & SUPERVISION

"One wrong move can stop a site. A single oversight can turn into a safety risk."

REVIEW & CONTINUOUS IMPROVEMENT

"You never stop learning, every project makes you better."



A HUMAN AND CULTURAL PROFESSION

Anthony has worked across three continents, from European refineries to African construction sites and wind farms. *"In Africa, in Asia, in Europe, every country has its own relationship with risk, authority, and teamwork. You have to listen, observe, and adapt."*
For him, cultural intelligence is as vital as technical skill. *"Respect always comes first. You can't copy-paste safety culture, you have to build it together."*
Today, as a CPLO Level 3 certified expert and member of the European Lifting Association, he also trains teams and younger professionals. *"Transmission is part of the job, if people understand why a rule exists, they'll follow it naturally."*

BETWEEN POWER AND PRECISION

Days can be long, with 24/7 coordination during shutdowns. Yet Anthony speaks of his work with passion rather than fatigue. *"You never get bored every lift is unique"*
Because in the end, behind the tons of steel and complex machinery, it's still a human story, **one of anticipation, trust, and collective performance.**

HSE IS NOT ABOUT CONTROL, IT'S ABOUT CARE

For Ozren K., international HSE engineer and Anotech expert, HSE is more than a job, *it's a vocation born of curiosity, conviction, and a desire to protect both people and the planet. In the oil and gas industry, he reminds us, safety is not just a rule, it's a mindset.*

COULD YOU INTRODUCE YOURSELF?

I am an HSE Engineer, **Health, Safety, and Environment,** and I have been working in the oil and gas sector since 2006. Originally, I was drawn to environmental studies and marine biology. I even earned a Master's degree in that field. But at that time in France, research offered very few career opportunities: you had to go through a DEA, then a PhD, and often a postdoc abroad. Honestly, I wasn't ready for that. My English wasn't strong enough yet, and I wanted to stay in France.

I saw brilliant researchers around me who, after ten years of study, found themselves stuck working on very narrow topics. My internship supervisor, for example, had devoted his PhD to a small gastropod found on the Breton coast, threatened by antifouling boat paints. It was fascinating, but I asked myself: *"Is this really what I want to do with my life?"* That's when I discovered the HSE field, a discipline at the crossroads of technical expertise, human interaction, and purpose. A profession where you protect both people and the environment. I found exactly what I was looking for: something useful, concrete, and close to both the field and the people. I took the competitive exam, and that's how it all began.

> "HSE MEANS BEING AN IRON HAND IN A VELVET GLOVE.

WHAT DOES THE ROLE OF AN HSE ENGINEER ACTUALLY INVOLVE?

Above all, it's a role of guidance and support. We make sure that safety rules are understood, applied, and also adapted to real working conditions. HSE isn't about control for the sake of control, it's about understanding, teaching, and convincing. A good HSE professional isn't a policeman; he's a guide. During my very first job interview, I answered: *"HSE is an iron hand in a velvet glove."* That phrase perfectly sums up our mindset: uncompromising on principles, but kind and respectful in our methods. Rules aren't there to restrict; they're there to protect. Our job is to make sure everyone understands that. So yes, sometimes you have to say no, remind people of procedures, and insist a bit, but always with respect and explanation. If you impose without listening, you fail. If you try to please everyone, you lose credibility. The balance lies here: firm on substance, flexible in style.

YOU'VE WORKED ON BOTH ONSHORE AND OFFSHORE PROJECTS IN DIFFERENT COUNTRIES. WHAT ARE THE MAIN DIFFERENCES IN TERMS OF MAINTENANCE AND HSE?

The biggest difference is isolation. Onshore, help is easier to find. Even in remote areas, there's usually a village, a clinic, or a small medical post nearby. For example, on Sakhalin Island in Russia, we had a small medical center available for emergencies. Offshore, it all depends on the location. On some blocks in Africa, it can take up to eight hours between an accident and the patient's arrival at the hospital, time to raise the alarm, prepare the helicopter, evacuate the injured person, and reach the coast.

That requires real crisis management skills over time. The conditions aren't necessarily more dangerous, but the resources are limited: on some sites, two blocks share the same hospital ship, with one doctor and one nurse. And life on board is confined: people live closely together, with no way to step away. Onshore, risks can also come from the environment. In Russia, for example, we were trained on what to do in case of a bear encounter. In the African bush, it's other kinds of wildlife. In short, offshore means extreme isolation, while onshore can be riskier depending on the location. But in both cases, rigor and vigilance remain essential.

HOW DOES YOUR WORK AS AN HSE ENGINEER VARY FROM ONE COUNTRY TO ANOTHER?

The risk culture changes a lot from one country to another. In Asia, Africa, or Eastern Europe, attitudes and reflexes toward safety can be very different. In Angola, for example, I often sensed a more fatalistic approach : people are more exposed to danger and death in their daily lives, so they tend to be less sensitive to it. It doesn't mean they ignore the rules, but they relate to risk differently. For an HSE professional, that changes everything. You have to adapt your message, your teaching methods, find the right words to get the message across without arrogance. We're not there to impose a Western model, but to build together a shared safety culture.

In China, Angola, or Qatar, perceptions of risk and hierarchy vary greatly. Some people execute orders without question; others challenge them more easily. In all cases, you must listen, observe, and stay humble. We work on their territory, with their codes and their values. So it's up to us to adapt, not the other way around.

YOU OFTEN MENTION THE HUMAN DIMENSION OF YOUR JOB. IS IT CENTRAL TO YOU? YOU SEEM DEEPLY ATTACHED TO THE IDEA OF TRANSMISSION.

Absolutely. HSE isn't something you can do from behind a desk. You have to go into the field, talk with people, and understand their constraints. It's a profession built on communication, patience, and empathy. I love the idea of transmission: helping people understand and adopt safety rules because they make sense, not because they're imposed. HSE is, above all, about people. You have to know how to persuade, guide, and explain, and sometimes say no, but always respectfully.

You never work alone in this profession. You exchange ideas, you debate, you learn from others. That's what makes it such a lively and fascinating career.

COULD YOU SHARE AN ANECDOTE THAT ILLUSTRATES YOUR FIELD APPROACH AND TEACHING PHILOSOPHY?

Yes, one moment has particularly stayed with me.

One day on site, a worker asked why I forbade him from wearing sunglasses, while the client allowed them. I took a sleeping mask out of my pocket, handed it to him, and calmly said, *"Put it on and walk forward."* He looked puzzled and said, "*I can't, I can't see anything."*

I replied, *"Exactly. In a dark area, wearing tinted glasses is the same thing."*

The message was crystal clear. No need for a long speech, everyone understood instantly. From that day on, nobody ever challenged the rule again. Sometimes, a simple demonstration is worth more than a long explanation.

> "RULES ARE NOT MEANT TO CONSTRAIN; THEY'RE MEANT TO PROTECT.

WHAT ROLE DOES TECHNOLOGY PLAY IN YOUR WORK?

An increasingly important one, and that's a good thing.

Virtual reality, for example, allows teams to train for high-risk situations without any real danger. It's fun, immersive, and highly effective for raising safety awareness.

Artificial intelligence can also be a useful tool, especially for drafting or improving procedures. I tried it once: the first version it produced was incoherent, but the second was almost perfect.

That said, technology will never replace human judgment. We can use it, but we shouldn't depend on it blindly. I often tell my children: *"Use technology, but keep your critical thinking."*

Because in the end, if we let machines do everything, where's the satisfaction of a job well done?

AND AT HOME, ARE YOU HSE-MINDED THERE TOO?

Yes, maybe a little too much. When I do DIY work, I always put on all my protective gear. One day, the firefighters saw me with my chainsaw and thought I was a professional lumberjack.

I go against the saying *"the shoemaker's children go barefoot."* I like to quote this line: *"Give me six hours to chop down a tree, and I will spend the first four sharpening the axe."* (A. Lincoln)

For me, that's exactly the spirit of HSE: take the time to prepare properly to prevent accidents.

And above all, I love life. I have three children, my priority is to be there to watch them grow up. That's also why I do this job : to protect life, theirs, and everyone else's.

GIVE ME SIX HOURS TO CHOP DOWN A TREE, I WILL SPEND THE FIRST FOUR SHARPENING THE AX.

A. LINCOLN

OUR REAL PROJECT REFERENCE

PARTNER

PURPOSE

The project involves designing and installing offshore platforms and facilities, integrating new and existing structures, with first production targeted in 2027.

ANOTECH OBJECTIVE

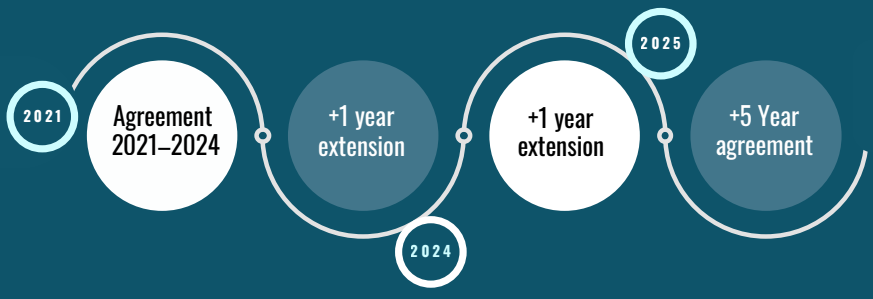
Support our client with specialized expertise and engineering support to optimize project efficiency with minimal ressource across all project stages.

LOCATIONS

KEY NUMBERS

- MARCH 2021 — Start of our Collaboration
- 50 — Number of Experts
- 5 — Countries of Operation

PARTNERSHIP TIMELINE



HOW WE SUPPORT OUR CLIENT ?

MOBILITY

International Support :
Local and international support.
(Qatar, Oman, China, South Korea, India)

PROCESS

Procedure Management :
Continuous refinement of engineering procedures.

FLEXIBILITY

Agility & Adaptation :
Team adaptability across geographies and contracts.

EFFICIENCY

Resource Optimization :
Adapting resources to optimize costs.

EXPERTISE

TECHNICAL

Delivering extensive technical support

EPCIC

Delivering **E**ngineering, **P**rocurement, **C**onstruction, **I**nstallation & **C**ommissioning support services

QUALIFIED EXPERTISE

Delivering top-quality results

PROJECT COORDINATION

Managing and synchronizing multi-location teams

SUPPORTING OUR CUSTOMERS

The project is a major offshore energy development. Aimed at expanding production capacity and modernizing existing infrastructure, it involves the creation and integration of several new offshore facilities.

In the **EPCIC (Engineering, Procurement, Construction, Installation & Commissioning)** phase, the scope includes the design, fabrication, installation, and commissioning of production and processing platforms, wellhead platforms, living quarters, flare systems, interconnecting bridges, and subsea networks.

Execution is distributed across multiple fabrication hubs in **Asia and the Middle East,** each managing specific engineering and construction packages, from topsides and jackets to subsea installations and brownfield integration. Despite its scale and complexity, the project follows an accelerated schedule to achieve first oil within an ambitious timeframe.

Since March 2021, Anotech has supported this development under a **Technical Agreement,** initially signed for three years and extended twice thanks to performance and client satisfaction. Within this framework, Anotech support with expertise in **engineering, project management, construction supervision, HSE, quality control, commissioning, marine consultancy and operations** working alongside client teams in Asia and the Middle East to ensure technical consistency and operational efficiency.

Anotech's role focuses on ensuring **safe and timely project execution,** supporting with **schedule coordination, quality control, and interface management** between stakeholders to maintain alignment across multiple international execution centers.

In 2025, Anotech reinforced its partnership by securing a **new five-year EPCIC Support Services contract (2025–2030)**, extending its contribution into the project's final stages, fabrication, installation, and **commissioning and formaliziong our Global Partnership.**

This continued collaboration demonstrates Anotech's **reliability**, **adaptability**, and **technical excellence** in delivering long-term support to complex offshore projects worldwide.

2025

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