

setec

m a g a z i n e



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MANAGEMENT OF PROJECTS

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#1

When we talk about management of projects, we are talking about...

...the strength of the **setec** model dedicated to the success of all projects

At **setec**, "project management" has not one but several meanings and involves different approaches. Bénédicte Danis, Deputy General Director of **setec bâtiment**, Laurent Paletta, General Director of **setec IPMC**, Thierry Decarrière, General Director of **setec opency**, Pierre-Loïc Veyron, Project Director at **setec tpi**, Laurent Guérin, General Director of **setec organisation** and Stéphane Chardon, General Director of **setec eocen**, discuss their different interpretations, share their experiences and perspectives on the different aspects of project management within the group, the challenges involved and the keys to success within our organisation.

...
INTERVIEW

Different aspects of management of projects at **setec**

"In design and construction supervision, I distinguish two types of management of projects," explains Bénédicte Danis, "project management, where we work for the client by managing the design and construction supervision team to meet the overall performance expectations of the project, even if these are not all within **setec's** area of expertise, on the one hand, and management of a project in which our teams direct and coordinate the project assigned to **setec**".

"And on our side, with **eocen**, we provide support for industrial project management

for Airbus, Alstom, EDF and Naval Group, providing coordination, planning, cost and risk management, consulting, structuring and training etc.

Anything that will enable the project to run smoothly, while remaining under the client's responsibility. Our technical expertise is specific to the management of projects in our clients' business activities. This is what sets us apart from the rest of the group," adds Stéphane Chardon.

"We can distinguish three main types of missions within the group," explains Laurent Guérin. "The first falls under the Project Management Office, either in a fragmented or comprehensive manner. This

mission is led by a team capable of coordinating and running the project. The team members are not usually technicians in the field of intervention, but project management experts who implement a set of tools and methods to gather data, construct key performance indicators and produce comprehensive reports, whether for major international projects or in industry. In France, this type of global project management is more common in industry, as practised by **setec eocen** in assisting its clients, and definitely less frequent in the construction sector.

Last June, we celebrated 10 years working alongside the Société du Canal Seine-Nord Europe as owner's assistants and operations managers. This extraordinary project is one of the largest fluvial projects in Europe. Mobilising all of our expertise for a mission that is strategic, technical and operational, it illustrates the strength of our project management model at **setec**. At **setec**, project management is both a major asset for our group and a multidimensional reality. This expertise cannot be summed up as a single approach: it takes many forms within our activities. It is driven by our expert entities, by the design and construction supervision assignments carried out by our technical subsidiaries, and by the operations management missions we undertake on behalf of our clients. In all cases, it mobilises our multidisciplinary teams in the service of our projects. The testimonials you will read in this magazine confirm this: whether it is managing the completion of an

extraordinary construction project or coordinating an industrial program, the role of conductor is central to the success of projects. At each stage, our employees adapt their methods and tools to ensure flawless coordination. When faced with engineering challenges, we rely on the synergy between our teams, our collective spirit, and our shared culture of technical excellence. At every stage, our employees adapt their methods and tools to ensure smooth coordination. Faced with engineering challenges, we rely on the synergy between our teams, our collective spirit and our shared culture of technical excellence. Today, the challenges are changing: experience sharing practices are spreading, and digital tools and artificial intelligence are transforming the way we work. **setec** has consistently anticipated these developments and adapted their processes and tools to serve their projects, as several examples in this issue demonstrate. We hope you enjoy your read.





Our setec culture is a common foundation that enables us to communicate effectively

— Bénédicte DANIS



We have highly specialised technical skills that we combine with our expertise in management of projects

— Laurent GUÉRIN

For large-scale building and public works projects in France, which are mainly managed by public contractors, there are two other types of assignments specified by the French MOP legislation. The first involves design and construction supervision assignments carried out by the group's technical subsidiaries. These assignments involve managing a large design project, as described by Bénédicte. In this context, it is also possible to call on specific management of projects expertise, such as scheduling/steering/coordination (OPC in French), which plans and coordinates the construction site, contract management and cost control, supporting the technical teams.

On the other hand, we carry out operational management tasks on behalf of the project owner, where we can be involved in both the overall management of the project and the operational supervision of the work packages. This is what we are doing, for example, on the CSNE (North Europe Canal) project. We combine all these different skills and areas of expertise according to the needs and size of the projects."

"When we talk about project management at **setec**, we are ultimately talking about design and construction supervision for large projects, owner's assistance on behalf of public project owners, assistance with

the management of large industrial projects, project management office (PMO) services at an international level, and the deployment of methods and training for our clients," says Laurent Paletta. "There is not just one **setec** project management team, but several that complement each other." This complementarity is a challenge, but it also proves to be an asset and a strength that contributes greatly to the success of our projects and the recognition we receive from our clients.

Meeting all project requirements at every stage

"I think that **setec's** added value in terms of management of projects is precisely its ability to intervene at different stages of the project" adds Laurent, "from the initial stages of development to the operational and maintenance phases. And if we combine all our expertise, we can generally meet all needs, whether for a construction project or an industrial project.

This is perhaps what sets us apart from a "pure player" in management of projects. We have highly specialised technical skills that we can combine with our expertise in management of projects. We are sometimes sought out for this reason. We can see this, for example, with the Grand Paris Express, where we have the capacity to take on both certain technical aspects and the overall management of the project. At our company, these two types of expertise coexist and support each other. And the combination of technical and management of project expertise helps to move projects forward".

"It seems to me that the values and model at **setec**, which encourage a certain degree of autonomy for employees, seeking to help them grow, progress and take on responsibilities, enable them to adapt to all types of projects, at every stage, and to demonstrate flexibility, while maintaining the rigour required for such projects," emphasises Laurent.

Working together and ensuring the project's success

"In addition, when it comes to project management, knowing all of the project stakeholders and being familiar with the different interfaces are real assets. At **setec**,

we have the enormous advantage of being able to draw on expertise from within the group, across all companies.

Every day, I see that, thanks to our subsidiary structure, we are able to manage the project interfaces consistently and to the benefit of the project. Sharing risks and assets between companies in a transparent manner is part of our daily routine and therefore happens naturally. We always play the **setec** team card; it's part of our culture.

What's more, our employees are often involved in projects over the long term, which gives them a high level of individual and collective maturity and helps maintain enthusiasm throughout the project," adds Pierre-Loïc Veyron.

"Our structure as companies within the same group means we have to find solutions together, and that's what sets us apart," says Bénédicte. "We all win if we find the right solution. This could mean putting the right person in the right place, regardless of which company within **setec** they come from. We don't have a culture of individual success; we grow collectively through the success of our projects. Our **setec** culture is a common foundation that enables us to communicate with each other."

Help the client need mature in order to ensure the smooth running of the project

In my view, the key word in project management is "programme". By "programme", I mean the detailed expression of a project's functional requirements, prior to the design phase. We often talk about three factors: cost, time schedule and risks. But I believe it is also possible to manage a project through its programme. This is the key element that allows us to determine whether or not we are able to meet deadlines and stay within budget," continues Thierry Decarrière. "Our job is to support the client in completing the programme, taking into account the consequences of all choices on deadlines, costs and risks. The project manager's objective is to ensure that the initial client requirements are met."

"One of the key factors in the project's success is therefore this ability, which we have at **setec**, to help the client's needs mature to a sufficient level to be able to better secure the project's progress

thereafter," adds Laurent Paletta.

"Absolutely," replies Laurent Guérin, "and if we are in a position to achieve this, it is also because we have a technical foundation that enables us to challenge potential developments and evaluate them at different stages."

Progressing in a wide variety of environments and at different scales

In certain environments, such as luxury, technical design goes hand in hand with architectural and functional design, so we work alongside and in support of the architectural, functional and technical ambitions," emphasises Bénédicte. "We are therefore able to design the project in line with requirements in terms of form and use, even in the absence of what could be called a precise and detailed programme. In this case, it is a question of management by performance. These are different and demanding environments, which also enable us to progress.

"The focus does indeed shift, depending on the organisation and structure of the project. The expression of the need will be more or less detailed depending on the position of the designer in relation to the project," Laurent continues.

Drawing inspiration from PMO methods and international best practices

Industrial project management disciplines are very similar across different countries," says Stéphane. "In fact, most of our industrial clients are international clients." "Apart from the very specific regulatory context in France, management of projects in the international construction industry is also fairly standardised, with greater use of standardised management processes," adds Laurent Guérin.

These processes require teams of a size never before seen in France, even on our largest projects. For example, the PMO teams for the Riyadh metro and KSP (King Salman Park) each had 15 to 20 people during the most active phases of the project. The methods and tools also differ slightly. We adapt to these environments. In France, we benefit from the added value of tools developed for some of our international projects, which enable us to gain new experience. At the same time, we export our

ability to adapt to clients' needs and try to offer them tailor-made solutions that set us apart from the highly standardised approaches of some of our competitors.

Building a partnership with our clients

"The challenge in a project is generally to build a strong partnership with the client. This partnership is based on trust and good communication, enabling us to find the best solutions for the client. It is based on respect for commitments, the reliability of our works, an understanding of the issues at stake, the ability to listen, and the quality of our teams. That is also the strength of the **setec** model," concludes Bénédicte.



One of the key factors for the success of the project is this ability, which we have at setec, to help the client's needs mature to a level where we can better guarantee the smooth running of the project.

— Laurent PALETTA



Our employees are often involved in projects on a long-term basis, which gives them a high level of individual and collective maturity

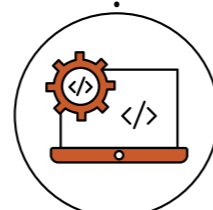
— Pierre-Loïc VEYRON



...everything that will enable the project to run smoothly, while remaining under the responsibility of the client



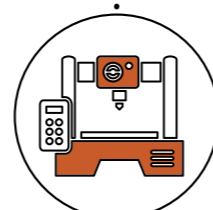
CONCEPT



DEVELOPMENT



PRODUCTION INITIATION



PRODUCTION

The major phases in the life cycle of an industrial project

IN BRIEF

We draw inspiration from management of projects in all sectors of activity

A European benchmark in complex industrial management of projects, **setec eocen** secures its clients' projects by providing a wide range of services. **setec IPMC** offers management consulting dedicated to the performance of complex projects.

Laurent Paletta, General Director of **setec IPMC**, and Stéphane Chardon, General Director of **setec eocen**, discuss the fundamentals of their respective professions and the differences and similarities between managing an industrial project and a unique construction project. They discuss the potential synergies between our management of projects activities in industry on the one hand, and our design and construction supervision missions for major projects, and operations management for owners on the other.

Technical expertise specific to management of projects, applied to a particular sector of activity.

"We provide support to the management of industrial projects, for example for Airbus, Safran, EDF, Orano, Framatome, Alstom and Naval Group, and assist them in the deployment of their flagship projects, such as the future ZEROe hydrogen-powered aircraft and new nuclear reactors. We provide coordination, planning, cost and risk management, consulting, structuring and training," explains Stéphane.

In theory, management of projects is not specific to any particular sector of activity. "In practice, even if the fundamentals of project management remain the same, we always tailor our approach to the specific constraints of our clients' businesses," emphasises Stéphane.

"We are not project management theorists. When we enter a new sector, we need to learn about it. We train our employees so that they can understand the sector, the company and how it

works," adds Laurent.

Beyond technical expertise and the need to master project management standards and tools, behavioural skills are also essential for building trust with clients. "These are people-oriented jobs," he explains. "You need to be curious and eager to understand the client's situation."

Differences between the management of an industrial product project and that of a one-off construction project.

Engineering fields such as aeronautics and automotive, design the product and the manufacturing process at the same time. In a large, one-off project such as infrastructure, a factory, a building or a bridge, there are no mass production issues. In the case of an industrial product, the life cycle is different. There are supply chain considerations in particular, and a challenge to guarantee the quality of each item that comes off the production line. We work on industrial projects, such as nuclear power plants, which combine both systems engineering and civil engineering aspects.

These two dimensions of the project do not have the same life cycle or the same constraints, and they must be synchronised, Stéphane continues. "One of the skills of industrial engineers is to break projects down into subsystems with sub-projects, which have simpler objectives that are easier to understand and achieve, and to successfully interface all systems so that they work together," adds Laurent.

Synergies increasingly exploited within the setec group.

The larger the projects, the more essential project management practices are to their success. The fundamentals of management of projects in terms of planning, cost management and risk management are applicable to all types of projects and, where necessary, best industry practices are shared within the group. Projects involving the construction of unique objects require the deployment

of systems engineering, as in the case of transport or energy infrastructure projects.

"We also work on international projects," continues Stéphane. "Seven employees were involved in HS2 in project management. Another example is the training we provided for project managers as part of the Campus programme, based on a case study involving the design of a radar surveillance system. At the end of this training, we found that all the best practices from industrial projects were useful and transferable to our setec projects," adds Laurent.

For example, the automotive and aerospace sectors are subject to very strong industrialisation challenges. They have already implemented best practices in terms of project management.

"setec IPMC consultants, who come from a variety of industrial sectors such as automotive, aerospace, defence and energy, are able to apply the best management of projects methods from the industrial sector to our major infrastructure projects: this guarantees continuous improvement and success. We have everything to gain by drawing inspiration from each other's best practices", concludes Laurent.



...different realities and approaches to management of projects in the construction industry (or for any project involving the construction of a unique object)

...
EXCHANGING VIEWS
on management
of projects

“ A project is won with strong and committed project management.

As a major player in iconic projects such as the Opéra Bastille and the Philharmonie de Paris, Patrice Januel has collaborated with setec teams on several occasions.

In this exchange, Laurent Guérin, General Director of setec organisation, and Thierry Decarrière, General Director of setec opency, join him to discuss the fundamentals of management of projects and the current challenges that are shaking up established models.

At a time when contractual arrangements for major projects are becoming increasingly diverse, Patrice Januel, project manager for a large number of projects, advocates for a demanding and human approach to his profession. For him, the success of a project depends on project management that is solid, committed, and respectful of everyone's skills. Like a maestro, project management ensures that all areas of expertise work together to reconcile technical requirements and practical applications.

Thierry Decarrière (TD): Can you briefly describe your background and experience as a contracting authority?

Patrice Januel: I started my career working on regional hospital projects, where operational issues are particularly important. I then had the opportunity to focus on large-scale cultural facilities, including the Opéra Bastille, the Centre Pompidou, the Musée du Quai Branly, the Grand Palais, and the Philharmonie de Paris. These unique projects are distinguished by their ambitious programs, their marked technical complexity—particularly in terms of acoustics for concert halls—and the need for constant dialogue between different professions. I have been fortunate to

work with committed multidisciplinary teams. On several occasions, I have worked with setec, either in design and construction supervision or in owner's assistance.

Laurent Guérin (LG): It is generally accepted that good project management depends on mastering four key elements: programme, costs, time schedule and risks. How can this delicate balance be maintained over time? What lessons have you learned from your own experience?

PJ: Each project is a unique adventure, shaped by partnerships that are built over time. Even with a well-defined programme, unexpected issues always arise along the way. The key is to know how to manage them on a daily basis.

I apply what I call the small steps policy: as soon as a difficulty arises, it must be shared with everyone involved. The sooner a problem is dealt with, the less likely it is to become an obstacle.

TD: So project management is above all about diplomacy...

PJ: Yes, it's both diplomacy and respect for each other's work that matter. We all have very different jobs, each with its own logic, and the role of the project owner is to ensure that these areas of expertise communicate with each other as the project progresses.

LG: Methods and tools are essential, but they must be used to support skills and experience, not the other way around. In other words, project management is a profession in its own right. What is your view on the evolution of the Public Project Management Act (MOP) in France?

PJ: The MOP law, which is specific to France, defines a clear but demanding framework for project management. It requires strong, structured, and fully committed project management. However, this strength has deteriorated over time: the supervisory authorities often misunderstand the role and real needs of the project owner. On large projects, day-to-day presence is vital. The project owner must be at the heart of the process, in constant dialogue with the designers. This level of commitment, which is still very much alive in the British and American systems, should be the norm. I have always defended the idea that project management is a genuine profession, requiring trained and dedicated teams.

“The project owner must (...) be able to reconcile the needs of the construction contractor and those of the operator.”

TD: Is the MOP law still suitable for large projects? And what about other types of contracts?

PJ: The MOP law deserves credit for clarifying responsibilities, but it is based on an approach that is too theoretical: the project owner plans and then withdraws. In practice, however, projects are constantly evolving, particularly in terms of their urban integration. This logic therefore needs to be rethought to allow for the program to be gradually developed, involving the project owner, their assistants, the designer, and the operators at a very early stage.

TD: Is there a more suitable contract format available today?

PJ: I don't believe in an “ideal” contract. Design-build arrangements can be effective in certain contexts. The key is to integrate operations from the design phase onwards. For example, on the Philharmonie de Paris, we involved a maintenance engineer in the detailed design, which greatly simplified commissioning. Even if interests differ, this kind of collaboration enhances the project. In my opinion, adding a maintenance component to construction contracts is a promising approach.

LG: Contracts are evolving, that's a fact. Design-build contracts and public-private partnerships (PPPs) sometimes make it possible to better manage interfaces and speed up projects. But in all cases, we are observing a decline in project owners. For us, as project owner's assistant, it's clear: the more structured the project owner is, the better the project runs for everyone involved.

PJ: For a project to work, construction and operations need to communicate from the start. Otherwise, decisions become inconsistent. The project owner must take on this double role and be able to bring together the needs of the construction company and those of the operator.

TD: You have worked with setec several times during your career. What do you

think sets setec apart in the French engineering sector?

PJ: What strikes me about setec is your resolutely technical approach to issues, always focused on the project objectives. You get to the heart of the matter with rigour and commitment. The combination of your cutting-edge engineering skills and your expertise in project management, backed by specialist companies, works remarkably well. It's your trademark.

LG: That is indeed one of our strengths: being able to operate on different scales, in a variety of complementary fields. But it must also be acknowledged that, in the present climate, project owners often struggle to secure sufficiently solid owner's assistance.

PJ: Too often, bureaucracy hinders the use of reliable owner's assistance. However, qualified engineers and technicians are needed right from the budget preparation stage. The importance of technical expertise is still underestimated, with owner's management sometimes mistakenly considered an unnecessary cost. There is an urgent need to put technical skills back at the heart of decision-making.

TD: What advice would you give to a young person joining a management of projects company like ours?

PJ: Project management is a skilled profession that takes time to learn. It takes at least ten years to grasp all its complexities. My advice would be not to try to rush things. Be patient, curious, and learn to listen and engage in dialogue with a wide range of people, including economists, engineers and architects. It's a profession that requires synthesis and is deeply human, where diplomacy is essential. You have to give the project time to mature, while inspiring a collective dynamic.

LG: Thank you for this insightful discussion and for sharing your valuable perspective.

front page

#2

The strength of the setec model dedicated to the success of every project

Focusing on teamwork and the success of the project

Renovation of the French Naval Museum: a collaborative success

The renovation project for the Musée de la Marine (French Naval Museum) located in the Trocadéro neighbourhood in Paris, was a major challenge due to its complexity and the large number of people involved. Faced with these challenges, setec drew upon the expertise of a management of projects team to ensure the success of this delicate operation.

Contacted 18 months before the opening date, setec organisation was commissioned to carry out an audit and provide solutions for the organisation of the worksite and the reinstallation of the permanent exhibition collections, representing almost 1,000 works throughout the museum. Edouard Meyvial, Project Director, stresses the importance of communication in this type of assignment: "The project involved a multitude of participants, each with their own specific constraints, but we were able

to establish a constructive dialogue to ensure that all operations moved forward in the same direction".

The team was able to bring together the different project managers and OPC (Planning, Steering and Coordination in English), by proposing an integrated approach to the project. The project's overall vision made it possible to overcome the initial communication bottlenecks. One of the solutions provided was the involvement of setec opency who took charge of the overall coordination of the sub-operations. "In a short space of time, we managed to provide a clear and accurate overview of the project, enabling everyone involved to establish their position and understand their role," explains Ned Rognard, project manager at opency. This organisational work using an innovative lean management approach, in conjunction with setec

organisation, enabled us to optimise the timetable while ensuring a successful reopening of the museum.

The strength of this project also lies in the human approach adopted by setec. Agathe Ségard, project manager at setec organisation, highlights this aspect: "Beyond our technical expertise, our approach is based on educational principles and people. What makes the difference is providing realistic solutions while listening to everyone's needs." Thanks to this smooth coordination and setec's experience on other museum projects (the Louvre Abu Dhabi, the Bourse de Commerce-Pinault Collection, the Carnavalet Museum and the BnF Richelieu), the renovation of the Musée de la Marine was completed on schedule, demonstrating the central role of communication and teamwork in the success of a project of this scale.

Orly Airport: successful coordination for the installation of state-of-the-art equipment

setec is acting as designer and construction supervisor at the Orly airport site to install air conditioning systems (PCA) for aircraft in transit (around a hundred stations involved). The aim: to replace the use of aircraft auxiliary power units (APUs), which are major sources of greenhouse gas emissions, with equipment powered by electricity from the terminal. Guillaume Le Hégaret and Émilie Diep take a look at the challenges and the solutions at hand.

The operation, initiated in early 2024 as part of a framework agreement with Aéroports de Paris (ADP), aims to modernise airport infrastructure and reduce the site's environmental impact. The PCA equipment allows parked aircraft to shut down their engines, thereby reducing pollutant emissions while maintaining the operation of basic on-board services, including the air conditioning system needed to keep cabin crew and passengers comfortable. As Guillaume Le Hégaret, Project Director at setec its, explains, "Since December 2023, regulations have restricted the use of

aircraft engines while they are stationed on the ground, on departure or on arrival. To meet the needs of airlines, airports are looking for less polluting alternatives, while guaranteeing optimum conditions on board". There are many issues at stake: in addition to fighting climate change and improving air quality, this large-scale project is part of an ambitious programme required by the Connecting Europe Facility (MIE). This programme requires effective association and coordination between the various stakeholders involved (equipment/infrastructure maintenance providers, operators, planners, etc.). According to Émilie Diep, Project Manager at setec its, "One of the main challenges lies in deploying this large amount of equipment with as little disruption as possible to the overall operation of the platform. Each project (connection work, equipment installation work) has to be planned taking into account operational imperatives, which requires rigorous monitoring and constant adjustments. setec plays a key role in coordinating all service providers and



navigating the various entities within the airport.

Weekly coordination meetings are held to adjust the schedule and minimise the impact on operations. This adaptability, combined with an ability to understand the needs of all stakeholders, is crucial to the success of the project.

It also reflects setec's commitment to supporting the evolution of airport infrastructure to meet the environmental and operational challenges of tomorrow.

High-speed line in Morocco: multi-subsidiary involvement in a major project

Launched by the National Railways Office (ONCF), the Kenitra-Marrakesh high-speed rail project promises to revolutionise transport in Morocco. Designed to link the Kingdom's main cities at a commercial speed of 320 km/h, this important project draws on setec's expertise in a variety of disciplines. Occupying a central position in the technical and organisational management of the project, the Group relies on the synergy of several of its subsidiaries (setec Maroc, setec ferroviaire, setec international, setec tpi and terrasol) to ensure the success of this mission.

As Olivier Blanc, Director of Rail

Infrastructure at setec international, explains, "From the very early stages of the project, the group's subsidiaries had to combine their efforts to present a comprehensive and competitive bid, which was decisive in winning this tender in a completely new market". He adds: "This collaborative dynamic remains an essential pillar of this project, as it enables all subsidiaries to work together to ensure an effective response to the technical and organisational challenges". setec's mission is not limited to project management. It also includes all the technical studies required to build this high-speed line. Youssef Kriem,

Managing Director of setec Maroc, explains: "The ONCF was already familiar with the Group's skills, so expectations were very high. We have established a relationship of trust, which is essential for us to adapt to local regulatory and cultural specificities while meeting these high standards. This trust is also a key factor in enabling us to manage unforeseen events effectively and ensure smooth operations." Beyond team coordination, interface and change management are a crucial challenge for the project.

Pierre-Édouard Tisserand, International Director of **setec ferroviaire**, stresses the importance system integration: "A railway project is a complex system in which each component, civil engineering or railway equipment, must be perfectly integrated. Project configuration management involves managing the specifications of all the key elements that make up the backbone of the project. Configuration management is essential to avoid delays and ensure that all the teams are working with the right technical data for the project". To ensure that these adjustments are managed smoothly, weekly meetings with ONCF enable the progress of the programme to be monitored in detail.

As the project moves towards the tender consultation phase, the **setec** teams remain mobilised to ensure a smooth transition to execution. The launch of calls for tenders even before the detailed preliminary designs have been fully finalised is a testament to the time pressure on this project. "It was an unprecedented situation, but we were able to meet the challenge with flexibility and rigour," explains Olivier Blanc. This demonstrates **setec's** ability to continually adapt in order to ensure the success of such a large-scale project.



This is an unprecedented situation, but we have risen to the challenge with flexibility and rigour.

—
Olivier BLANC



Meeting all project requirements, at every stage

Flamanville 3: flexible management for one of the most complex nuclear projects of the decade

The Flamanville 3 project began with ambitious goals: to build a new-generation European pressurised reactor (EPR) within tight deadlines and to demanding quality standards. However, significant delays pushed back the planned completion date of 2012. It was in this context that EDF called on **setec eocen** in 2014, appointing the company to play a central role in planning and coordinating the construction site's activities. Yoan Pointud, Business Manager at **setec eocen**, tells us more about the challenges and the company's key contributions to this project.

In order to meet EDF's expectations and successfully resolve the situation, **setec** adopted an approach focused on adapting and integrating the different facets of the project. As Yoan Pointud explains, "we gradually realised that the success of Flamanville 3 would depend on our ability to meet all the requirements of the project at every stage". The **setec** team therefore

focused its efforts on anticipating deviations, measuring delays and optimising project milestones, adapting its approach to the specific challenges of the site.

One of the most significant challenges of the project was the electromechanical assembly phase, a critical stage that involved a large number of people on site. **setec** had to implement precise monitoring of activities to ensure effective coordination between teams. Yoan emphasises the importance of this work: "It was not only a question of coordinating the work geographically, but also of optimising the management of joint activities and minimising delays, while keeping the safety of those involved as priority."

This approach enabled activities to run more smoothly and in a more collaborative atmosphere. Another major challenge was integrating testing while the assembly was still incomplete. This phase required careful management of the interfaces between the different teams. **setec** had to adapt to the

transition from geographical to functional management of the site, coordinating installations and tests across several buildings. "This flexibility was made possible by the **eocen** teams' increased expertise in systemic aspects, enabling them to understand and monitor the operation of the plant's different systems," explains Yoan. **setec's** success on this project also lay in its ability to build a relationship of trust with EDF. When difficulties arose, particularly during the secondary circuit welding repair phase, **setec** was able to expand its skills and take on high value-added tasks. "It was also during these moments of transition that **setec** demonstrated its strength and expertise, remaining agile and adapting its project management to the new requirements of the project," emphasises Yoan. As the EPR's start-up approaches, **setec** is supporting EDF in the transfer of skills and the monitoring of the final stages of the project, once again adapting to this transition phase towards the plant's operation.

Mobilising expertise and skills for specific projects



François FIÉVET
Project Director - Water Treatment
Division
setec hydratec

Within **setec hydratec's** water treatment division, we have extensive expertise in a range of treatment processes, but for our project management and project supervision assignments, we regularly need to draw on cross-disciplinary skills to meet all of our clients' expectations

The group's organisational model allows us to call on the very best specialists to deal with issues relating to geotechnics, civil engineering structures and electrical/control systems. Conversely, we are regularly called upon to provide support to other **setec** companies working on urban, rail or airport projects where issues related to water management and treatment require specific approaches. These exchanges between the group's entities are a major asset in maintaining our technical standards.



Jérôme FILLON
Project Director, **setec als**

Stéphane MOUTOT
Director, **setec als**

setec als is distinctive in that it is a regional subsidiary of **setec international** and **setec tpi**, bringing together engineers from both parent companies within a single structure. The majority of the projects we undertake therefore involve engineers who are specialists in their fields, covering a wide range of areas of expertise, who work alongside each other on a daily basis and are accustomed to working together. This multidisciplinary approach and proximity give us real flexibility to carry out infrastructure projects efficiently.

The combined talents of **setec als** employees are the key to the success of our projects, particularly those where the disciplines are closely intertwined, as was the case in the redevelopment of the A43/A41/ Urban Expressway interchange in Chambéry, with its numerous constraints in terms of location (suburban and natural), geometry and infrastructure gradients, and the need to maintain heavy traffic flows.



Luc STANESCOU
Project Director Division
setec organisation

With experience as a project manager and multidisciplinary training, I have acquired a solid understanding of our clients' expectations, particularly those in the public sector, which I now put to good use at **setec organisation**. A better understanding of how they operate allows us to anticipate their needs and bring real added value to our offers. We work on all types of projects that are of interest to the general public or are of an exceptional nature. With a team of experts from a variety of backgrounds, we favour a cross-disciplinary approach that allows us to gradually expand our field of action, particularly in areas such as ecological transition and the adaptation of territories and buildings to climate change. This collective approach provides us with flexible tools and tailor-made solutions to support our clients in achieving their objectives.



Sandrine CHRUN
Director of Urban Transport
Systems - Director of
Communications
setec its

At **setec its**, every project is unique and requires specialised expertise in the field of mobility and transport systems. We mobilise multidisciplinary teams for projects involving metros, trams, urban cable cars, road, river and airport infrastructure. What sets us apart is the diversity of our activities: we do not limit ourselves to infrastructure, but also cover systems and services for consulting, design & construction supervision, owner's assistance and expertise. This diversity of tasks requires us to have a wide range of project management methods and a tailor-made approach at each stage of our operations.



Marie-Cécile AUBERT
Project Director
setec bâtiment

At **setec bâtiment**, seeking out skills, finding expertise and adapting professions essentially relies on the ability to identify men and women who will do everything they can to work together towards a common goal, with a flexible organisation where everyone is respected, and of course within a good working atmosphere. This diversity sets us apart: it is because our differences are recognised and accepted that we are able to carry out such a wide variety of projects and achieve so many impossible objectives!



Alessandra ROANI
Structural Engineer
setec tpi

At **setec tpi**, it is normal for the project manager to have a good understanding of the project from the very start, thanks to their involvement in the tendering phase. The organisational chart, which illustrates the team structure and the links between the different roles and functions, is generally updated to meet the needs of the project and incorporated into the Quality Assurance Plan (QA Plan). A key step in project management is the kick-off meeting, which provides an opportunity to present the objectives, roles and responsibilities, as well as the planning, including key milestones and the budget. Effective communication is essential to ensure the smooth flow of information between all stakeholders. Depending on the size of the project, a weekly team meeting promotes productive exchanges.



Benoît SUDRE
Operations Manager
setec eocen

What sets **setec eocen** apart is that we offer genuine expertise in project management. All our managers have solid experience in this field. As a manager, my role is to provide our consultants with detailed support to help them rapidly develop their skills and perform as effectively as possible in their assignments. I am also part of **eocen's** community of experts, which represents 10% of our workforce and brings together our top-level consultants who meet strict criteria in terms of experience and certification. Our role is to guarantee technical excellence on projects and help consultants train in project management methods. We have also implemented a knowledge management policy based on a solid knowledge base, business references and tools. We also offer a rich and structured training programme in which **eocen** invests heavily.



Ariane ROBERT
Senior Consultant
setec is

At **setec is**, project management is the responsibility of engineers specialising in telecoms and networks. This expertise enables us to master the challenges and interdependencies specific to IT projects. We also offer a tailor-made service, adapted to the size and needs of each project. Our expertise and adaptability ensure that projects are completed successfully, on time and within budget. These are added values that are recognised and appreciated by our clients.



Diala ABDO
Director of Energy Efficiency
& Industrial Decarbonisation
setec énergie environnement

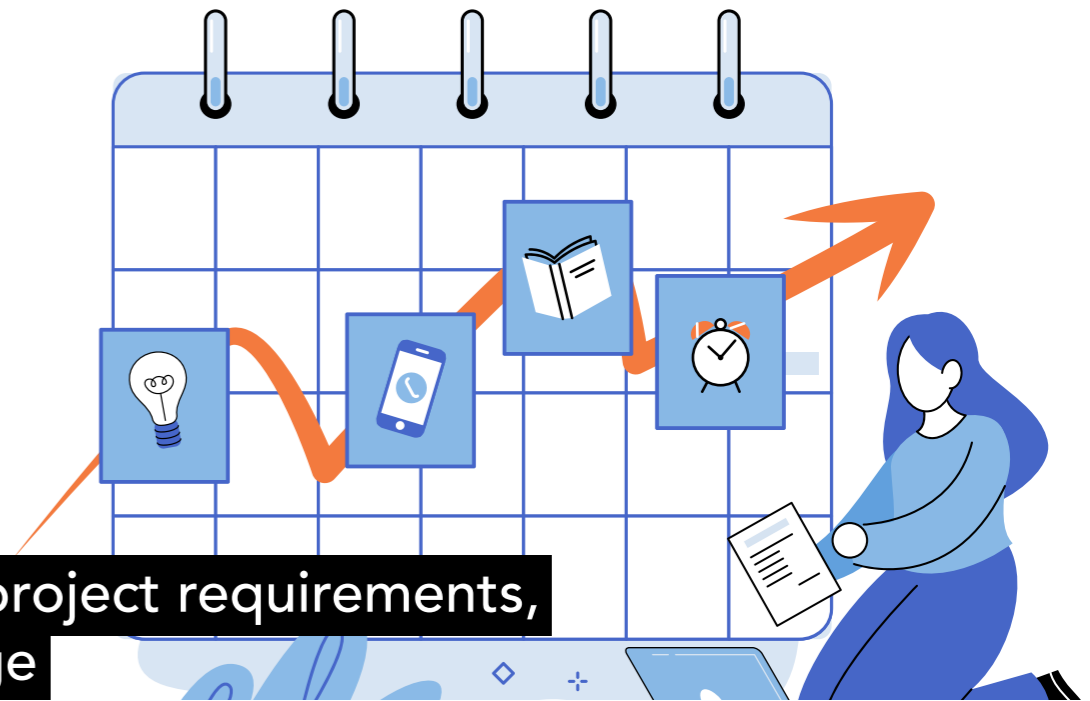
At **setec énergie environnement**, project teams are formed of a group of energy and environment specialists supported by other specialists covering related fields such as electricity, industrial safety, civil engineering, roads and utilities, etc. The role of the project manager is to coordinate all of these specialists so that each one has the data (project information, milestones) and objectives (deliverables) related to their field of expertise and can complete the project while respecting the golden triangle: quality, cost and time schedule. Beyond these traditional and fundamental functions, the project manager is our most effective representative, as demonstrated by the number of clients who renew their trust in us with new contracts. Project management is effectively above all a question of people, internal and external communication, and most importantly, good engineering skills!



Claire DEFARGUES
Project Directeur
setec ferroviaire

For **setec ferroviaire**, the fundamentals of project management lies in the collective intelligence of an integrated team, adapted to the project and bringing together the best skills from each of the subsidiaries.

In terms of organisation, our technical experts are involved in all phases of the project, from feasibility to completion, with very little turnover. In often changing contexts, adapting to our clients' needs and mastering methods helps us to optimise solutions with agility, while respecting safety and the environment.



Meeting all project requirements, at every stage

Supporting ALSTOM's organisational transformation for efficient project management

For ALSTOM, project management, and in particular meeting deadlines and ensuring delivery quality, is a key issue. Faced with increasing demand and the growing complexity of its projects, the company launched the PM2020 transformation programme in 2018. Its goal: to reorganise project management around deliverables and introduce new management tools. setec, via its subsidiaries setec IPMC and setec eocen, supported the company in this profound transformation.

As Laurent Paletta, Managing Director of **setec IPMC**, explains, ALSTOM was structured according to a "business line" organisation, where each department (engineering, production, purchasing, etc.) managed its activities independently. Although traditional, this fragmented approach created silos and complicated the overall coordination of projects. "This organisation made it difficult to see the big picture of the project, and the different activities often operated in a parallel manner, without any real interaction," he explains. "To address these challenges, we worked together to implement a subsystem-oriented structure, where each strategic component of the project, such as the chassis ("bogie") or the engine, is now managed by a dedicated manager, thus ensuring better control of deliverables," explains Laurent. This approach has improved coordination between the different teams and ensured a smoother final delivery. **setec's** support for this project covered several key areas. First, **setec** contributed to the overall structuring of the

transformation plan and the definition of its challenges and vision for future operations.

setec then helped ALSTOM define new roles and project structures within this transformed organisation. The distribution of responsibilities between the different subsystems was a key factor in ensuring more effective management. "We worked with ALSTOM to clarify the roles and responsibilities of each individual within this new structure, in order to facilitate smoother management and avoid overlaps," explains Laurent. This redefinition of roles also enabled teams to take greater responsibility for critical aspects of the project.

Throughout the project, **setec** provided support for change management, team training and the deployment of new practices. Laurent emphasises the importance of these activities: "Change management is crucial in this type of transformation. It is essential that all teams, at all levels, are involved and trained to adopt the new operating methods." Another crucial aspect of this transformation, led by the teams of Antoine Chaudagne, Director of the Digital Portfolio Solutions (DPS) division at **setec eocen**, was the implementation of project management tools. The team defined the specifications for the new tools that would enable ALSTOM to better monitor and control its projects. "The overhaul of the management tools was a cornerstone of this transformation. Without the right tools, it would have been difficult to sustain these changes and

ensure long-term project control," explains Laurent. These tools, combined with team training, have enabled ALSTOM to improve project monitoring and better anticipate risks. "This type of transformation requires a great capacity for adaptation," explains Laurent.

We helped ALSTOM to better identify their needs as the project progressed, to ensure that the solutions implemented met their objectives.

This approach ensured that each stage of the project was aligned with ALSTOM's expectations, while securing the final deliverables. Finally, Laurent emphasises the importance of collaboration and trust between the client's teams and those at **setec**. "We worked closely with the ALSTOM teams, establishing regular exchanges and a genuine dynamic of trust. It was this integrated approach that made the project a success," he concludes. This synergy between the two companies effectively ensured the success of an ambitious transformation project, where the group's project management expertise proved to be an essential lever for addressing complex organisational challenges.



Progressing in different environments around the world, at different scales

Peru's Nueva Carretera Central: a multi-scale engineering and management challenge

The 185 km Carretera Daniel Alcides Carrión, or Nueva Carretera Central (NCC), is Peru's first dual carriageway mountain motorway project, which will connect the capital Lima with the central Andes region by 2031. With more than 30 km of tunnels and over 20 km of viaducts spanning a height difference of more than 4,200 metres, this major project in the country's history aims to facilitate transport to the capital and the coast while improving transport safety and efficiency.

This is a genuine engineering challenge, the success of which depends in particular on the controlled management of the varying scales of intervention and diverse environments. As Marc Chassande-Mottin, project director at **setec international**, points out, "Our PMO (Project Management Office) mission, carried out in collaboration with Egis, is part of an intergovernmental agreement. We have to deal with a number of stakeholders at all levels: from local residents' associations to the highest national authorities, including professional engineering associations." This complexity requires a structured and adaptable approach to serve the interests of the project and anticipate risks at every level. The participation of several subsidiaries of the group (**setec international**, **Gómez Cajiao**, **setec tpi**, **terrasol** and **setec als**) and the partnership with Egis are good examples of this collective dynamic. "It's about

combining highly specific technical skills with careful management of different stakeholders, and that's where **setec's** strength lies, with its expertise in managing large projects, both in France and internationally, by combining its strengths," explains Marc. The PMO also brings together a multicultural and multidisciplinary team of more than 70 people of eight different nationalities, the majority of whom are Peruvian, which promotes skills transfer and a rewarding intercultural exchange.

"This synergy is essential for helping teams develop their skills and navigate the technical, social and political requirements of the project. The project crosses urban areas, Quechua communities in the Andes, and mining regions, each environment presenting unique challenges," explains Marc.

He adds: "This diversity requires communication adapted to each context and each audience, with proactive communication strategies and action plans targeted at the populations concerned. Our added value lies

in our ability to design and manage this type of project from start to finish, drawing on a solid technical foundation. This expertise enables us to respond to technical challenges at any time and to communicate effectively with the different stakeholders to guarantee the quality and relevance of the solutions proposed."



Seine-Nord Europe Canal, mastering challenges at every level

Since 2015, **setec** has been assisting the Société du Canal Seine-Nord Europe (SCSNE) in the implementation of a major project involving the construction of a 107 km waterway connecting the Seine water basin to the Benelux river network, with the aim of encouraging a modal shift towards river transport.

A major European project, 50% co-financed by the European Commission, the Canal Seine-Nord Europe project involves significant technical and financial challenges, requiring rigorous project management.

setec's project management assistance and operational management mission covers three main areas: technical review of designers' studies, support for contract award and monitoring, and project management. "We supported the client from the very beginning, helping to structure the project and establish its procedures, right through to its implementation during the design and construction phases," explains Véronique Lecocq, project director at **setec organisation** and head of the Project Management division* within the Owner's Assistance and Operation Management team.

With a permanent staff of around thirty people and a wealth of in-house expertise, the **setec** team has been able to adapt to the project's evolution, as well as to the specific characteristics and challenges of the different geographical areas involved.

"We work on several levels, from the overall vision to local specifics. We adapt our methods to the particularities of each sector while maintaining overall consistency. This challenge involves combining tools and methods at several levels, ranging from the macro scale of the project to the integration of local details, particularly during the construction phase," emphasises Stéphanie Blanc, project director at **setec international** and director of the Owner's Assistance and Operation Management** mission on CSNE. This is a real challenge that requires great



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flexibility and constant harmonisation to ensure the smooth running of the project.

Jérôme Dezobry, Chairman of the Executive Board of SCSNE, a **setec's** client on this project, emphasises: "The expertise of **setec's** engineers is a key factor in the success of the Seine-Nord Europe Canal project, a major European transport decarbonisation project. In particular, the global vision of **setec's** teams, gained through the various infrastructure projects they have supported in France and Europe, ensures the quality of the studies produced and the consistency of such a project."

As part of the project management process, **setec** monitors costs, deadlines and risks. "We have deployed specific tools for monitoring costs and risks, and manage schedules at a number of different levels. Our tools provide accurate projections of costs at completion," explains Véronique. These tailor-made tools can be adapted to the client's needs to provide decision-making support at a range of levels (cross-functional, professional, sectoral). One of the major challenges of this project also lies in its sheer size and unique nature.

CSNE is a hydraulic engineering project on a scale never before seen in Europe. "There is something exceptional about this project, because we have to synchronise linear sections, major engineering structures and a hydraulic system over more than 100 km," adds Stéphanie. Véronique confirms:

"The canal must be commissioned as a whole, as each section must be operational simultaneously to allow barges to navigate the entire route. This is a huge challenge that requires adaptability and precision. Every detail counts for the success of the project."

*Editor's note: Since this article was written, Philippe Chauvelot, **setec organisation**, has replaced Véronique Lecocq.

Editor's note: Since this article was written, Olivier Bonnefoy, **setec international, has replaced Stéphanie Blanc.

Building a partnership-based relationship with our clients

An example of a successful collaboration at the heart of Parisian heritage

The transformation of the Bourse de Commerce into a contemporary art museum for the Pinault collection illustrates setec's ability to meet the challenges of renovating historic monuments while building a relationship of trust with clients. Combining historical restoration and modernity, this project was carried out through collaborative management in order to bring together all stakeholders, with setec leveraging its engineering expertise to ensure the project's success.

The transformation of the Bourse de Commerce into a contemporary art museum presented a unique challenge: combining the preservation of built heritage with contemporary creation. To meet this challenge, setec established a collaborative and perfectly coordinated working dynamic. "We started from a difficult situation and thanks to smooth communication and team spirit, we managed to create a united team with the client, the museologists, the architects and the contractors during the execution phase," emphasises Jean-François Vermot Desroches, Director of the Construction Supervision Department at setec bâtiment.

Following a long collaboration with the teams at the Pinault Collection, setec bâtiment was entrusted with coordinating the studies and managing the works. Coordination between the different players was crucial in reconciling the very different approaches of Tadao Ando, accompanied by the NeM agency responsible for the contemporary design, and Pierre-Antoine Gatier, chief architect of Historic Monuments. "Understanding the client's expectations and the restrictions set by the architects was

essential in order to adapt our technical solutions," adds Romain Doucet, Construction Manager. One of the strengths of setec's intervention also lies in the integration of innovative technical solutions, such as the construction of a concrete wall in the heart of the building, ensuring future reversibility while preserving the integrity of the site. This technical challenge required close coordination between the project management teams and the architects to ensure that contemporary and heritage requirements were met. Going far beyond its traditional role as Construction Supervisor, setec successfully established harmonious synergy between all project stakeholders, making each one a full member of a unified team. This approach, characterised by dialogue, precision and innovation at every stage of the project, was key to meeting the client's expectations. Bénédicte Danis, Deputy General Director of setec bâtiment, highlights the cohesion that made it possible to overcome the challenges. "Without a team capable of bringing all the parties together, we would not have been able to achieve such a high level of success," she concludes.

Supporting Airbus in the transition to zero-emission aviation

Since it was launched in 2019, Airbus' Zero Emission project has had the ambitious goal of developing the first commercial aircraft powered by hydrogen by 2035. In this context, setec eocen is acting as Project Management Business Partner (PMBP) to support Airbus in managing this strategic project, which is marked by unprecedented technical challenges and crucial environmental issues.

setec is helping to establish solid and consistent governance by providing support tailored to the project's needs. "Our role is to provide project management support at a number of different levels, from defining best practices to structuring schedules and managing risks. We have been supporting Airbus from the very beginning, which allows us to contribute in a very focused way to the progress of the project," explains Marie Menasie, Operations Manager at setec eocen.

setec's ability to provide customised solutions is based on an in-depth knowledge of the project's history and expertise in project management. "Our added value comes from the fact that we have evolved with the project. We therefore have a detailed understanding of the technical issues and stakeholders," emphasises Marie. The setec team consists of around twenty consultants based in France and Germany, ensuring a transnational approach to the project. "We have set up a service centre to organise and centralise our work," she adds. This model enables the effective structuring of best practices in project management and ensures their consistent implementation across Airbus teams. The organisation also optimises resource and schedule management, while enabling setec teams to stay in step with project developments and Airbus requirements. Another key challenge for the project is the supply of hydrogen, which is essential for the transition to zero-emission commercial aircraft. Airbus is exploring a number of solutions for hydrogen storage and distribution, including specific transport and refuelling infrastructure. "The establishment of a hydrogen supply network, with suitable airport infrastructure, is an issue on which we are also working closely with Airbus," concludes Marie.

Combining our technical skills with our project management expertise

Cairo e-bus project when setec combines innovation and operational expertise

As part of the Greater Cairo Air Pollution Management and Climate Change Project, funded by the World Bank, the Cairo bus electrification project aims to reduce greenhouse gas emissions and improve air quality in the Egyptian capital. setec has been commissioned to lead phase 3 of the project, which focuses on the electrification of certain public bus routes. This pilot project involves the acquisition of around 100 electric buses and the modernisation of a depot, a strategic challenge that will enable urban transport to meet Cairo's environmental challenges.

One of setec's key contributions was based on its expertise in project management, which enabled it to structure and organise all operations. By setting up a Project Management Office (PMO), the team introduced rigorous processes such as risk monitoring, scheduling and action tracking, documented the different exchanges and produced monthly reports. "This strict framework enabled us to navigate a complex environment and ensure effective coordination between the different stakeholders, protecting both our interests and those of our clients," explains Joachim Nalet, Deputy Director of Major Urban Transport Projects. He adds: "This method also

helped local partners and the client to develop their skills in advanced project management practices, which were essential to ensuring the success of the project and its remote coordination."

This structured management approach directly contributed to supporting the technical aspects of the project. The implementation of rigorous management processes made it possible to anticipate and resolve technical challenges, such as selecting which lines to electrify and defining the specifications for vehicles and charging infrastructure. "This organisation not only ensured accurate traceability of technical decisions, but also enabled all stakeholders to work consistently to achieve the project's objectives," confirms Abdelkader Haddour, Project Director. setec also demonstrated a high degree of flexibility, which was essential in order to adapt to the specific local characteristics of the project. "Whether it was overcoming the language barrier, adjusting our working methods to cultural differences or harmonising processes with local stakeholders, we were able to adapt our methods while maintaining high standards," emphasises Abdelkader. This ability to adapt facilitated exchanges with partners while ensuring the consistency and overall success of the project.



Using this disciplined project management framework helped us to collaborate effectively across three different corporate cultures, while presenting a united and efficient front to the client. What's more, this hands-on training experience with setec its gave Transport for Cairo (TfC) a more advanced approach to project management, which we've since applied to other local and international projects.

Mohamed HEGAZY
Principal & Managing Director,
Transport for Cairo L.L.P.



Dakar TER: Engineering and project management at the service of a transport revolution



The Dakar Regional Express Train (TER) represents a major step forward for urban mobility in the Senegalese capital. Serving 14 stations and stops, this 55-kilometre railway project meets a crucial need for the local population, who face daily traffic congestion. The TER provides a fast link between the city centre and Blaise Diagne International Airport, easing the daily commute for Dakar residents and boosting the city's development.

To ensure the success of this ambitious project, setec adopted a holistic approach, combining technical expertise with effective coordination of the different phases. Yves Girardin, Project Director at setec ferroviaire, emphasises that "what sets setec apart is that we have directors of integrated design & construction supervision who handle project management while also having genuine

technical expertise." This combination of skills enabled the group to provide rapid solutions adapted to the client's needs, thereby contributing to the project's success.

Setec's tasks on the Dakar TER are numerous and complex. They include design & construction supervision, external control of railway systems and management of interfaces between the work packages. The project also presented significant challenges, including meeting a very tight 26-month deadline, the need to maintain traffic on the existing line and the integration of a drainage system consistent with Dakar's urban network.

Working closely with local partners, setec's teams were able to meet these challenges and ensure an effective transfer of skills to Senegalese engineers, an essential aspect of this project. During the first phase of the project, setec mobilised numerous experts



on site to train and support the local setec IA teams. This close collaboration helped to strengthen the skills of the Senegalese engineers and ensure their increasing autonomy over time. Thanks to this exchange, the number of expatriates involved in the project was reduced, ensuring greater sustainability and the development of engineering at a local level. "This project is changing the dynamics of the city; its commercial success makes it a real game changer," explains Yves. "There are now neighbourhoods developing around this new infrastructure, demonstrating the positive impact of the TER on Dakar's urbanisation."

This experience in international railways is opening up new opportunities for the group, which continues to export its technical know-how, project management expertise and agility in combining the two abroad.

Controlling costs and risks

Underground project management: the example of TELT and EOLE

Large underground infrastructure projects require rigorous project management to ensure effective control of risks and costs, while adapting to the many challenges they present. On major projects such as the TELT (Lyon-Turin Euralpine Tunnel) and EOLE (RER E extension), setec has applied its management skills to meet these challenges, using appropriate methods and paying particular attention to the specific features of each project.

The TELT project aims to connect Lyon and Turin via a high-speed rail line and includes a 57 km tunnel under the Alps. It represents a major challenge for the engineering teams, not only because of the need to effectively coordinate the many stakeholders involved in the project, but also because of the numerous geological uncertainties it involves. setec, in collaboration with Systra, Italferr, and Pini Swiss Engineers, is in charge of lot 2 of the TELT project, covering approximately 23 km of twin-tube tunnel from the La Praz and Saint-Martin-La-Porte access tunnels. In order to anticipate difficult and unpredictable geological conditions (lithological variations, presence of faults or fractured zones, presence of aggressive water, etc.), a specific contractual framework has been established.

"The contract allows for two types of performance conditions: normal conditions, subject to standard rules on remuneration and deadlines, and exceptional conditions in the event of unforeseen risks, subject to specific rules on remuneration and deadline management," explains Marie Coblard, Design Engineer at setec tpi and manager of one of the sub-lots. This flexibility is crucial for managing the geotechnical risks specific to the project and ensuring the progress of the construction site.

The EOLE project, which extends the RER E to Mantes-la-Jolie, also presents significant challenges. setec is the lead member of the design & construction supervision consortium in charge of the underground section, including the La Défense and Porte Maillot stations. One of the most delicate areas of this section is the La Défense sector. The station is located beneath the CNIT, while the tunnels pass close to sensitive infrastructure and the foundations of high-rise buildings. Olivier Bourcier, Deputy Director of the EOLE Project, explains: "Risk management, particularly for structural work, is integrated from the design stage onwards. Studies have sought to cover uncertainties and risks whose probability of occurrence or consequences are too significant. Provisions have been made in the civil engineering contracts to deal with residual technical risks that are unlikely to occur and whose impact can be managed during the construction phase (Risk Management Plan approach as recommended by the French Transport Infrastructure Agency (AFTES)). The project's integration into the heart of a dense city increases the number of interfaces, which are inevitably subject to change over time. At each phase, the project management team oversees the implementation of the necessary adjustments, taking into account changes in third-party projects (related or urban), in order to adapt the construction logistics solutions and reorganise activities in the event of unforeseen circumstances. Risk management is carried out in conjunction with cost and schedule management. Project management aims to maintain a balance between costs, deadlines and quality, which is a constant challenge in such demanding environments.

+ FOCUS

Metro Line 14 of the Grand Paris Express Comprehensive coordination to reduce risks and control time schedule

Since September 2020, setec opency, acting as representative of the "Séléne" consortium, has been involved in the OPC (Scheduling, Steering and Coordination, in english) mission on behalf of RATP (Paris Transport Authority) on line 14 of the Grand Paris Express. By bringing together all OPC tasks, which were previously integrated into the different Design & Construction Supervision teams for line 14, under a single entity for the RATP (Paris Transport Authority) project owner, this strategy has enabled more consistent and structured time schedule management for the northern and southern extensions as well as for the existing historic section. Mickaël Freitas, OPC project manager for this project, also held the position of General OPC. He provided RATP (Paris Transport Authority) with an overview of the works, consolidated by his team of OPC managers, who oversaw and coordinated the works on the various construction sites on line 14.

He explains: "This centralised organisation has helped to harmonise schedule management and improve risk anticipation, particularly during the initial phase of station and tunnel development, which overlaps with the completion of civil engineering works and tunnel equipment installation. By centralising practices and improving communication between construction sites, we were also able to capitalise on past experience and limit additional costs associated with delays. Sharing feedback between the different sites enabled us to better anticipate constraints and adjust our management and coordination in real time."





Integrating systems engineering into project management

The Bogotá metro: a major project drawing on setec's expertise



Christophe JEHANNIN

Marking a historic step forward for the Colombian capital, the Bogotá metro project is one of the most ambitious in Latin America.

This metro, which has been eagerly awaited for nearly a century, represents a major transformation for the city, but also an unprecedented technical and organisational challenge. In this context, setec has mobilised its unique expertise in project management and integrated a system engineering-focused approach to meet the requirements of this project. We look back on this strategic project with Christophe Jehannin, International Director of setec its.

The result of a century of planning and preparation, studies for Bogotá's first metro line began in the early 20th century. However, it was only recently that the project came to a successful conclusion, with a concession awarded to a Chinese

consortium and financing provided by international banks. These institutions, keen to ensure that the Colombian authorities had effective control over the project, required the establishment of a project support and management entity: the Project Management Office (PMO). It was in this context that setec stepped in to supervise the financial aspects, risk management, planning and coordination of the main stakeholders in the project, as well as to provide its technical expertise in the field of systems. However, as Christophe Jehannin explains, "The PMO is a concept imported from English-speaking countries, which was unfamiliar to local culture. It was therefore initially viewed by the project owner, Empresa Metro de Bogotá (EMB), as a service provider required by the banks".

There are many challenges involved in this project, not only technical challenges but also cultural differences. "There is a real culture gap between the Chinese concessionaire, the Colombian client and the support we provide. One of the biggest challenges has been finding common ground and joint technical solutions," explains Christophe Jehannin. Despite this context, setec has been able to provide valuable technical support in risk management, performance indicator monitoring and contractual strategy. "In particular, we played a key role in managing the documentation tools and monitoring processes, which are the backbone of a

project of this scale," he emphasises. Thanks to systems engineering, setec was also able to take a comprehensive approach, ensuring technical consistency across the various disciplines involved. "Systems engineering highlighted the importance of rigorous coordination between the multiple technical aspects of the project," explains Christophe Jehannin. The Bogotá metro project is an excellent example of setec's ability to adapt to all environments. By integrating systems engineering into our project management methodology, the group was able to propose solutions while navigating a challenging intercultural environment.

project of this scale," he emphasises. Thanks to systems engineering, setec was also able to take a comprehensive approach, ensuring technical consistency across the various disciplines involved. "Systems engineering highlighted the importance of rigorous coordination between the multiple technical aspects of the project," explains Christophe Jehannin. The Bogotá metro project is an excellent example of setec's ability to adapt to all environments. By integrating systems engineering into our project management methodology, the group was able to propose solutions while navigating a challenging intercultural environment.



Advanced and tailored project management practices, tools and methods

Rex (Return on EXperience) A strategic asset for setec tpi

In early 2022, setec tpi introduced a feedback methodology to optimise the management of projects. Far from being a mere formality, this process has proven to be a powerful lever for continuous improvement, while enhancing the expertise of the teams. Delphine Rousseau, Secretary General, and Bruno Morel, QSE Manager, explain how this practice has evolved within the company and its benefits.

Historically, REX reporting has already been practised within the company for several years, but in an informal manner, without any structure or capitalisation of information. With time, the need for a more suitable format became apparent.

Bruno explains: "We set up and tested several formats with the teams, including REX sheets and detailed technical reports produced by the Project Manager alone, before finally settling on interactive workshops open to the entire team three years ago. These REX sessions allow participants to share their feedback on projects, particularly using posters and post-it notes, a very flexible and adaptable format that above all encourages discussion."

These sessions, which take place while standing, are designed to be dynamic and participatory. As Bruno explains, "Everyone has their say. It's not a top-down discussion; everyone spontaneously expresses their feelings." The aim is to create a moment of constructive dialogue, where each participant can share

their successes and difficulties, thereby contributing to the improvement of future phases or projects.

Delphine adds: "As for capitalisation in the proper form, this takes place outside these sessions: most of the time, it is already underway, as it is well established in our internal culture, and the workshop can also provide a framework for collective discussion, targeting specific aspects of the operation."

One of the strengths of this approach is that it is flexible. It can be adapted to teams of varying sizes, ranging from 3 to 45 people. This format promotes an atmosphere conducive to reflection and collective improvement, in a relaxed setting. "We want to make it a collaborative and friendly event, over breakfast for example, and it's very effective: in two or three hours, in addition to evaluating the project, we come up with three or four actions that we've developed together," says Delphine. Over the past three years, more than forty REX sessions have been held at setec tpi.

This feedback allows us to draw conclusions and develop action plans that can be implemented immediately. Specific solutions for each project are identified, shared and deployed across the team or even the entire company. The method's effectiveness has attracted other companies within the group and external partners, demonstrating its adaptability and relevance in a variety of environments.



A time for listening and sharing that highlights key moments in the project within the company.

Alessandra ROANI
Civil engineering project manager



A format that encourages open discussion and benefits from the power of group thinking. It almost always results in areas for improvement for our future projects.

Olivier BLANC
Civil Engineering Business Director



The method adopted enables us to carry out REX workshops with minimal effort and maximum results. Now a standard feature of our projects, these REX workshops fuel our continuous improvement process.

Jordi CORNUDELLA
Wood Construction Project Engineer



Carole SOULA
General Secretary at
setec eocen

Focus on PMP certification

Large-scale project management is at the heart of setec's activities. Among all existing certifications, the PMP (Project Management Professional) represents a guarantee of excellence and rigour in project management, an international standard.

With more than 1.4 million certified professionals, it is the most widely recognised certification worldwide in many sectors of activity. It is a lever for excellence in project management. Carole Soula, Director of Staffing & Performance at setec eocen, and Frédéric Persat, Director of International Development at setec organisation, share their experience with this certification.

Issued by the Project Management Institute (PMI), PMP certification is an essential benchmark for project management professionals. Internationally recognised, it certifies expertise in processes and best practices in this field. "PMP certification ensures a common language around project management and implements rigorous techniques that are essential for our projects," explains Carole.

To obtain this certification, candidates must demonstrate several years of project management experience and pass a demanding exam based on the PMBOK (Project Management Body of Knowledge). The certification must be renewed every three years, ensuring that professionals remain up to date. "Re-certification requires continued

training and active involvement in the project manager network," explains Carole. At eocen, PMP certification is actively encouraged to strengthen the credibility of teams with clients and harmonise internal practices. These efforts enable the company to meet the growing challenges of project management. Frédéric also considers PMP certification to be a real asset: "PMP certification contributes to our international recognition, particularly on major infrastructure or development projects. This certification provides a common understanding of project management processes, which is essential when working with teams from different countries." He adds: "PMP certification is more than just a tool: it enables project managers to structure their projects effectively and improve their performance in often demanding multicultural contexts."

The group is also involved in major events organised by the Project Management Institute, notably the PMI National Meetings in France. Every year, these events bring together several hundred professionals to discuss current issues in project management. setec eocen, setec organisation and setec opency are partners in these events, thereby offering increased visibility to the group while highlighting its commitment to remaining at the forefront of project management practices.

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There are several individual certifications in project management, but the most globally recognised are :

- **PRINCE2 (Projects IN Controlled Environments):** originally from the UK, this structured project management method focuses on managing and controlling projects throughout their lifecycle.
- **IPMA CERTIFICATION (International Project Management Association),** certification, awarded in France by the French Project Management Society (SMAP), is based on the assessment of 27 skills.
- **THE PMP (Project Management Professional)** certification, offered by the Project Management Institute (PMI), validates project management skills and the ability to lead complex projects.

ReXpolre: an innovative solution developed by setec to optimise project management

In a constantly evolving sector where effective project management is crucial, setec continues to innovate, driven in particular by the combined efforts of setec organisation, setec eocen and setec opency, which have joined forces to develop an "augmented PMO" service offering. Among the flagship solutions offered by setec's PMO (Project Management Office) is ReXpolre, a method developed to improve the search and use of feedback. Benoît Guilet, project manager and innovation director at eocen, shared with us the advantages and ambitions of this solution.

ReXpolre, formerly T-Rex, was born out of a desire to overcome the challenges associated with sharing feedback (REX) within the group's projects. "Today, this is the project that unites our three companies most in terms of augmented PMO," explains Benoît. This tool addresses several recurring issues in projects, such as lack of time, difficulty in finding information easily, and silos between different teams.

ReXpolre overcomes these obstacles while offering the ability to analyse

specifications and contracts. One of the major innovations of this tool is the ability to break down feedback into micro-feedback, making it easier to search for and analyse specific points. ReXpolre was in trial phase until the end of 2024, with several subsidiaries involved.

Their feedback has enabled the solution to be upgraded in 2025, notably with advanced AI features designed by the DAIA (Data, Automation and Artificial Intelligence) unit at setec as. The long-term ambition is clear: to make ReXpolre a central tool, not only for setec, but also for all client projects, by creating a common and evolving knowledge base.

In addition to demonstrating a commitment to innovation with tools such as ReXpolre, setec recently participated as a Gold Partner in the PMI France 2024 Conference, a major event dedicated to project management.

This participation highlights the importance the group places on continuous innovation in project management and underlines its leadership in this field.

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PMO augmented by setec

setec's offering leverages the latest digital advances so that all project data, regardless of source, can be aggregated and processed in a synthetic manner to help the project team make the best decisions.

These solutions include ReXpolre, Urban Set (the GIS platform created by setec), BulldozAir (a solution for digitising site monitoring and land audits), and the Power BI data visualisation tool.

ReXpolre
by setec



Towards continuous optimisation of processes and project performance with **lean management**



Originally developed in Japanese automotive industry plants, lean management has evolved to apply to a variety of sectors, including construction and industrial projects in the broadest sense. This methodology, which focuses on eliminating waste on continuous improvement, has become an essential approach for optimising processes and maximising added value.

At setec, lean management is a strategic lever for transforming project management practices, promoting collaboration and efficiency at every stage.

Lean management in industry: early detection of problems and standardisation of best practices in the pursuit of excellence

In the industry sector, setec applies a structured and agile method to integrate lean management principles into its projects. This technique, inspired by the Japanese automotive industry (Toyota) after the Second World War, emphasises waste elimination and continuous improvement. Laurent Paletta, Managing Director of setec IPMC, describes this approach: "Lean is based on the idea of creating value by simply eliminating unnecessary tasks. Applied to the manufacturing industry and logistics

activities, this involves value chain mapping, which aims to identify the processes that generate real value and eliminate unnecessary steps." He also stresses the importance of detecting errors as early as possible in any mass production industry: "Every minute of delay or quality issue can have major financial consequences for the company. In the automotive industry, where I worked for 28 years, including 10 years in project management, lean management enables mass production problems to be eradicated at source at a very early stage, ensuring the reliability and quality of the final product."

However, lean is not limited to production alone. "These principles can be applied to development engineering (product and process), support functions (purchasing, human resources, finance, etc.), in short, anywhere there are processes to be optimised," he adds. At setec, every project is unique, and lean allows us to adapt our working methods while maintaining optimal efficiency. Continuous improvement is another pillar of lean. "It's about always seeking to improve, identifying inefficiencies and correcting them," emphasises Laurent. Tools such as DMAIC (Define-Measure-Analyse-Improve-Control) structure this process of continuous improvement.



Lean management in construction: planning and coordination for controlled construction sites

At setec, lean management is at the heart of construction project optimisation. Quentin Guyon-Carrard, Lean Management Activity Manager at setec opency, explains: "This method is above all a way of rethinking our practices to optimise the value of our work, eliminating anything that does not make a real contribution to the project's objective." Adapted to the specificities of construction, lean management enables performance to be managed by improving coordination and planning in particular.

One of the key elements is collaborative planning. Unlike traditional methods, setec involves all stakeholders from the outset of the project to organise interventions in the most effective way. This approach helps to reduce errors and delays, ensuring smoother operations on site. In addition, the Last Planner System (LPS) involves site managers in short-term planning, making each team responsible for its tasks and deadlines. Proactive problem solving is another fundamental aspect of lean construction. setec uses tools and procedures to anticipate obstacles and to resolve them in advance, thereby avoiding any impact on the construction site. "We identify problems very early on and work collectively to resolve difficult situations before they affect the construction site," explains Quentin. This anticipation ensures that work runs smoothly, allowing teams on site to move away from the "fire-fighter" mode they often

find themselves in and achieve their objectives.

The logistical organisation of the site is also optimised through collaborative workshops. These workshops define the strategic location of stocks and equipment, thereby minimising travel and maximising efficiency. This approach has enabled setec to achieve significant results in the field, such as gains in productivity, quality and costs, while meeting deadlines.

Flexibility remains the key word, with each project benefiting from the adaptation of lean principles to specific needs and requirements. This approach promotes collaboration between stakeholders, eliminates all waste observed in studies and works, optimises workflows and offers customised solutions that are perfectly aligned with client expectations.

Finally, lean management at setec is above all a human adventure. "It is based on transparency and collective work," concludes Laurent. This approach values the skills of each individual and creates an environment conducive to innovation, where every employee is involved in seeking solutions.

To support the development of team skills, Campus setec, setec's corporate university, offers two training courses:

Introduction to Lean Management and Yellow Belt Level. These courses enable employees, from diagnostics to the application of measures in the field, to understand the challenges of Lean, identify waste and manage continuous improvement projects. This is an opportunity to build sustainable collective performance.

Advanced tools for major projects

In major infrastructure projects, effective and rigorous document and process management is crucial. The setec group has developed and adapted tools to meet these challenges, contributing to the successful completion of projects such as the metro Line 15 of the Grand Paris Express, the Toulouse metro and the Lyon-Turin Euralpin Tunnel (TELT).

Visa monitoring on the metro Line 15 of the Grand Paris Express: automation and efficiency



Fort d'Issy Vanves Clamart station, line 15, ©SGP, Philippe Gazeau Architecte for architecture

With a budget of several billion euros, the Grand Paris Express Metro Line 15 project stands out for its sheer scale. Consisting of a large number of sections and stations, it generates a significant amount of documents that need to be processed. This complexity requires advanced document management solutions to ensure the monitoring and coordination of the works. To meet this challenge, setec has implemented an automated solution using M-Files, a document management software, to optimise document flow. "Deployed by Thomas Gérard, from setec tpi's Digital Department, the tool has been configured to automatically route documents to the corresponding specialists.

When a document is submitted by the

company, it is automatically assigned to the specialist in question via a gateway between the client's EDM system and M-Files," says Grâce Hobie, who is in charge of visa tracking at setec bâtiment. She adds: "Before M-Files, visas were processed manually, which represented a considerable workload."

In addition to reducing the workload, this automation has also minimised errors and accelerated the visa process. The integration of M-Files was accompanied by time schedule tracking via Power BI, allowing specialists to be automatically reminded when deadlines were missed. This approach has significantly improved the efficiency of the project, while enhancing the traceability and quality of document management.

| Monitoring work progress on the Toulouse metro construction site: the adaptability of M-Files



The Toulouse Metro Line C project benefited directly from the experience gained on the metro Line 15 of the Grand Paris Express. Initially used for visa tracking, M-Files was adapted to meet the specific requirements of the project. "Our challenge was to be flexible. So we developed a system that allows documents to be reassigned to the right person if necessary," explains Marie Courbon, Design Engineer at **setec tpi**. In this project, **setec** is acting as sub-contractor, which implies specific requirements for document management. "Unlike Line 15 of the GPE, for which **setec** is acting as design & construction supervisor and can choose their own standards, monitoring the execution

of the Toulouse metro requires greater flexibility," explains Marie. This adaptation was essential for effectively managing the document flow. The tool has been configured to allow engineers to request opinions directly from other specialists when necessary, thus avoiding email exchanges and ensuring accurate monitoring. The chosen operating mode also allows misdirected documents to be reassigned rapidly, ensuring greater reactivity in external control. Thanks to this configuration, **setec** maintains precise control and optimised management, while respecting the client's requirements and the specificities of the project.

| Site monitoring with BulldozAIR on the TELT project: an innovative and comprehensive approach



Consisting of a 57 km tunnel linking Lyon to Turin, the TELT (Tunnel Euralpin Lyon-Turin) project is one of the largest rail and road construction projects in Europe. Spanning over more than 10 years, it requires rigorous monitoring given the exceptional amount of data to be collected. To meet these requirements, **setec tpi** has integrated the BulldozAIR tool, developed by a start-up supported by the group, and adapted to the needs of the project. Marie Coblard, head of operational site number 7 (CO7), points out that this sub-lot includes a wide variety of operations. "We have to monitor several simultaneous approaches, using different excavation techniques (traditional blasting methods, tunnel boring machines, etc.)," she explains. Daily monitoring of the works over

such a long period also requires impeccable organisation. "To do this, we have automated our actions as much as possible, for example with predefined forms for producing daily progress reports for the project owner," adds Marie. Another innovative feature of this project is the integration of BulldozAIR with Power BI. "This connection has enabled us to provide detailed statistics on the controls carried out and to recalculate the pace of work in real time," says Marie. This provides a dynamic view of the project's progress by bringing together key data such as task status and non-conformities. This solution, which has been tested on TELT, is designed to be deployed on future projects and offers a tool that can be scaled up for the management of large-scale construction sites.