

THE FRENCH DIGITAL

INFRA- STRUCTURE SECTOR

「 EXPERTISE FOR YOUR DIGITAL
DEVELOPMENT PROJECTS 」

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THE FOUR PROFESSIONAL FEDERATIONS OF THE SECTOR



The French Digital Industry Alliance (AFNUM) is the union association that represents in France the manufacturers of: network and cloud equipment, IT and printing equipment, consumer electronics terminals, antennas, photography, and connected objects. The economic weight of AFNUM's members is €28 billion of turnover and more than 100,000 jobs. AFNUM is an active member of FIEEC, MEDEF and DigitalEurope.



InfraNum comprises 220 industrial members, representing the entire digital infrastructure value chain. The association members work in thematic commissions where they adopt common positions with institutions and partners. InfraNum publications are tools designed to inform the public or support market development (practical guides, white papers). InfraNum organizes economic-strategic meetings which gathers decision-makers, peers, partners, or public contracting authority end-customers.

220 industrial members



The French Telecommunications Federation (FFTélécoms) brings together a group of 18 electronic communications operators in France. Its member operators are infrastructure operators invested in the digital development of the territory (Orange, Altice-SFR, Bouygues Telecom), as well as MVNOs (Syma, Prixtel, La Poste Mobile, Legos), or those that work exclusively for the Corporate market (Colt, Verizon, Hub One, IELO, TOFANE, IP Directions, Wordline, Odigo, Manifone) or on the infrastructure hosting markets (RATP Connect, Arteria). Its mission is to promote an industry that is responsible and innovative with regards to society, the environment, people, and companies. In order to carry out its missions, and in the interest of its members, the Federation organises a structured and constant dialogue with all the stakeholders in the sector, and in its institutional and private environment.

18 electronic communications operators in France



SYCABEL is the professional association of the energy and communication wires and cables industry manufacturers, and a major player in terms of both economic development and regional planning. The association represents one of the largest sectors of electrical construction in France. It currently comprises more than 20 companies, several of which are world leaders, representing almost 90% of the turnover of the French wire and cable industry.

20 companies representing almost

90 % of the turnover of the French wire and cable industry

Franck Riester, MINISTER DELEGATE FOR FOREIGN TRADE AND ECONOMIC ATTRACTIVENESS



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The United Nations agreed to connect the whole planet to the Internet within 2030. France and its digital ecosystem are at the forefront to achieve this ambitious goal. Both in France and worldwide, the 13,000 companies of the digital infrastructure sector excel in terms of innovation, quality, and competitiveness.

The sector accompanies States and local authorities worldwide by enabling their population to access to public services, do business, and enjoy the possibilities of the Internet. The COVID-19 health crisis has highlighted how much our daily lives depend on the importance of stable, secure, and reliable telecommunications networks. This economical matter also involves sovereignty issues.

To tackle this challenge, the 27 countries of the E.U need to convene and set ambitions to defend our vision of a digital world that respects privacy and a fair competition against the global tech giants.

To prepare for the future of our economy, now more than ever, we need an independent, efficient, and credible offer that can guarantee our technological autonomy. Members of the digital infrastructure sector, working with their partners, have developed a virtuous model based on a solid network of VSEs and SMEs and the cooperation between private companies and local authorities, in the service of regional development.

The core values of this model lie in understanding concrete needs of populations, the reduction of greenhouse gas emissions, and an universal access to digital goods and services.

The French Government is willing to accompany ambitious international projects. The french digital infrastructures sector is determined to provide its technical expertise and possibly financial support.



Agnès Pannier-Runacher,

MINISTER DELEGATE
FOR INDUSTRY

The digital infrastructure sector is at the heart of the major technological breakthroughs: 5G, cloud, quantum information science, etc. Many new technologies will find industrial applications and improve the productivity of our companies. In 2018, a dedicated strategic committee for this sector was designated to enable the harmonious development of these applications.

Bringing together specialists in connectivity, smart networks, and data management, the sector signed a contract with the French government at the end of 2019, centred around four major challenges: 5G, employment, smart territories, and the international development of the sector.

5G, in particular, will revolutionize uses and production processes of the industries. To anticipate the next steps in its deployment, and to reach its full potential, the French Government is relying on all the actors of the value chain. The objective is very ambitious: to ensure the transition to industrial 5G and develop its uses in various fields. The first step is to build and run a network of experimentation platforms for 5G uses, involving all sizes of companies, from SMEs to large firms.

The development of industrial 5G is a priority for the French Government. As announced in 2021, the French national strategy for 5G acceleration and future telecommunications network technologies plans to raise €480M in public funding by 2022 to support priority projects. It aims to raise up to €735M in public funding by 2025, and up to €1.7B in total investments by 2025.

Simultaneously, the sector is committed to develop its ambitions regarding the topic of "smart territories". It supports local authorities in constructing an appropriate data governance model and defining a common vision of what a "smart territory" should be.

This collaboration will stimulate employment and is the subject of special attention in the contract signed with the French government. In particular, the deployment of fiber involves numbers of workers who, later on, will use their skills for new solutions (5G, smart territories...)

To ensure the transition to 5G and position France as a leader in innovation ecosystems in this area.

A rich and diverse range of digital infrastructure solutions is emerging from all these projects, as listed in this catalogue. These solutions deserve to be highlighted internationally, and French manufacturers need to be promoted, as exports are a significant growth lever. I want to thank the sector, which has continued its work despite the health crisis.

It has fulfilled its commitments by publishing this important document, which aims to promote our companies and their expertise. I invite you to distribute it widely and thus contribute to the dynamism of the French industry.

Nicolas Guérin,

• CHAIRMAN OF THE DIGITAL
INFRASTRUCTURE SECTOR
STRATEGIC COMMITTEE

• VICE-PRESIDENT OF THE FRENCH
TELECOMS FEDERATION

• SECRETARY-GENERAL OF THE
ORANGE GROUP

The French digital infrastructure sector is extremely proud to present the expertise of its companies in this document. Certified in 2018 by the French National Council for Industry, the sector aims to connect citizens and generally contribute to the development of innovative uses that will benefit everyone. It also reflects the conditions for the digital transformation of industrial sectors, most of which have suffered from a significant blow due to the current economic crisis. Our sector has demonstrated its resilience by continuing its investments and deployments throughout difficult times, thanks to the unprecedented effort of all its members to show solidarity with one another. It is also now a real driver for employment and to fight inequality. If digital technology is at the heart of the economy, then the underlying infrastructure is a prerequisite condition for its success and distribution. In December 2019, the French Government and the digital infrastructure sector signed a strategic sector contract aimed at uniting the entire ecosystem, to be able to meet the ever-growing connectivity needs of territories, companies, and citizens alike. Four ambitious projects have since been launched: in relation to 5G, making it accessible for everyone; in relation to smart territories, supporting local authorities in their citizen-focused transformation; in relation to employment and skills development; and in relation to exports, making the sector more visible on the international stage.

OUR STRENGTHS

The French electrical and communication wires and cables industry (land-based and underwater) is one of the most important sectors of French electrical construction. As one of the main actors in the transmission and distribution of energy and in the transmission systems for electrical and optical signals, France has thus become a leading producer of optical fibres in Europe.

Thus, France is able to offer an evermore innovative industry, which also demonstrates that it has real strength in overseas markets, as more than 40% of its national production is now exported.

The sector aims to connect citizens and generally contribute to the development of innovative uses that will benefit everyone.

The sector aims to connect citizens and generally contribute to the development of innovative uses that will benefit everyone.

Radio communication equipment manufacturing activities are expanding at the same pace as technological innovations and are helping to strengthen the digital infrastructure ecosystem.

Activities surrounding the provision of electronic communications services and operating and maintaining telecoms networks demonstrate valuable expertise and a real understanding of the challenges associated with digital infrastructures. The French model for telecoms operators is currently, and essentially, based on a culture of competition through infrastructures, leading network operators to innovate by offering the lowest prices for consumers and companies.

Telecom operators and network equipment manufacturers, fully engaged in 5G with investments that follow an upward curve and in the implementation of open experimentation platforms to test new uses, are a demonstration of the sector's engagement to offer concrete industrial applications. The sector is oriented towards technological innovation and aims at connecting future industrial vertical markets, and consequently allowing the emergence of industry 4.0. On behalf of all companies in the sector, I hope you enjoy reading this document!

RISING TO THE CHALLENGE OF THE DIGITAL PLATFORM

With more than 30M connected households,
France is the leading country in Europe
regarding optical fiber deployments

**Stéphane
Lelux**



Rapporteur for the international WG of the Digital Infrastructure Sector Strategic Committee, co-chairman of the international-export commission of InfraNum, President of Tactis.

Considering the challenges of digital transformation, the African continent needs to raise more than \$100B in investments by 2030 (source: African Development Bank, June 2020) in order to ensure quality Internet

access infrastructure at an affordable price. Our sector, with the support of French economic diplomacy, is fully mobilised to provide global solutions for our African partners and to enable the emergence of local expertise.

**Jean-Marc
Paret**



Rapporteur for the international WG of the Digital Infrastructure Sector Strategic Committee, member of the SYCABEL data and telecoms steering committees, Director of the ACOME Infrastructures & Telecom Networks Branch.

In close cooperation with the various actors in French economic diplomacy, our sector wishes to promote its range

of expertise, products, and services to support both public and private projects for the development of digital infrastructures.

The "France Très Haut Débit" (Superfast Broadband) plan has enabled an increasing development of this sector which has become leader in Europe in terms of digital infrastructure (optical fibre, radio, satellite, etc.). We use our expertise to support all countries, particularly through our sites in Europe and Africa. Since they contribute to the digital transformation of society as a whole, and to the emergence of connected territories, digital infrastructures are just as essential as water and electricity networks. Their impact is global: a 10% increase in the population coverage rate leads to a 1% increase in a country's GDP (source: World Bank).

Digital infrastructures generate direct positive externalities (jobs, investments, etc.). as well as indirect ones, by contributing to the digital transformation of countries (education, health, economic attractiveness, etc.).

The ecosystem of digital infrastructure companies is structured throughout the value chain, beginning with national strategic plans and economic models: from the manufacture of the materials needed to build a network, to its provision, as well its operation and all the services resulting from it. The aim of the sector is to contribute to making a high-quality, sustainable connectivity infrastructure accessible to all, at an affordable price.

The French sector mainly supports countries through three major types of projects:

- Projects related to broadband and superfast broadband connectivity: from fixed infrastructure (fixed fibre optic and radio services, fibre optic backbones, submarine cables, satellites, etc.) to mobile infrastructure (public 4G/5G networks, professional private networks, etc.);
- Projects related to sustainable cities and territories (smart cities, smart territories) with "smart" infrastructures, in particular those structured around networks of probes, sensors, etc. (safety, mobility, energy, environment, construction/building, etc.);
- Projects concerning data management, data centre hosting infrastructures, cybersecurity, data platforms, etc.

We are also involved in developing the French "sustainable cities" proposal, in partnership with other sectors.

SHARING OUR EXPERTISE

With an expertise that is rooted in the complete coverage of the territories, thanks to public-private partnerships, the sector has set itself the ambition of connecting citizens and contributing to the development of innovative uses.

Given that **several billion euros** have been invested in the networks (6M FTTH homes passed in France in 2021) as well as research and development efforts, our sector truly is mobilising for international development. Our companies are already involved in telecommunication infrastructure and smart territory projects.

Our aim is to develop a close, sustainable cooperation with foreign partners, able to meet these strategic infrastructures challenges. We strive to ensure the quality, performance, and security of these digital infrastructure assets.

The french sector is a European leader which aims at sharing its experience for the benefit of as many countries as possible.

We pay very close attention to the upskilling of local workforce, relying on the methodologies and tools that we have been able to develop in partnership with players involved in training programmes. This is a guarantee of good integration and support for the projects among the population. In addition, it is a condition for ensuring the sustainability of the operation of these networks at an affordable cost. Moreover, French companies also mobilise local industrial resources. However, they are also able to invest in complex industrial hubs, depending on the nature of the projects. In this way, countries acquire sustainable expertise that contributes to strengthening their digital sovereignty.

All the jobs in the digital infrastructure sector are mobilised in support of the strengthening of expertise and the emergence of local sectors in countries that wish to engage alongside us in an industrial partnership. The following pages describe our expertise across the entire value chain, enabling us to support projects, from master plans to turnkey structures.

The following section presents the expertise of companies that are already deployed internationally.

SHARED NETWORKS: AN ETHICAL MODEL

In this document, the sector promotes French expertise, in terms of engineering studies, engineering, construction, equipment, deployment, and operation/maintenance of superfast broadband networks.

In France, the sector has grown thanks to the deployment of networks that are open to shared (mutualised) costs. This model consists of sharing infrastructures and pooling all or part of the equipment that makes up the telecommunications networks. There are two types: passive infrastructure sharing (sharing the civil engineering) and active infrastructure sharing (sharing the networks).

The model in which networks are shared between several operators, used in areas that are not naturally profitable, for example, ensures better economic efficiency for the networks and boosts competition in terms of services. In the case of France, it is the infrastructure operators that deploy the fibre optic networks on the shared part of the network, and their funding can be both public and private. The network that is built is then made available to commercial operators.

In the case of unprofitable areas that are publicly subsidised, various opportunities are offered to public project owners, depending on the level of risk they are willing to share with private partners. Examples include design, execution, operation, and maintenance contracts, and public-private partnerships in their various forms, such as the delegation of a public service like leasing or concession.

01

THE PROCESSES BEHIND A DIGITAL INFRASTRUCTURE PROJECT

ACQUIRING
the right expertise

PREPARING
and implementing
your project

CHOOSING
the essential
hardware and
software

CONSTRUCTING
networks

OPERATING
and maintaining
networks

MARKETING
your fixed and
mobile superfast
broadband
network

Step 1

Step 2

Step 3

Step 4

Step 5

Step 6





ACQUIRING THE RIGHT EXPERTISE

Vocational training is a major tool that is available to all active workers: employees, freelancers, business leaders, and jobseekers. This allows people to train throughout their career, to develop their skills and access employment, and to stay in employment or to change jobs. The acceleration of the deployment of superfast broadband is mobilising all those involved in employment to train and recruit their future employees.

Training centres are therefore central to the challenges of digital infrastructure projects, and they support companies that work on these projects abroad. While using their expertise, French companies want to train local workforce over time and develop knowledge sharing.

ACQUIRING THE RIGHT EXPERTISE

SUMMARY OF CATEGORIES/ SERVICES/PRODUCTS

Four main areas of activity have been identified for training courses, ranging from a school or university course for students, to qualifications that are vocational or that are recognised by national authorities, and specific modules for jobseekers or employees.

Management/marketing:

- Telecoms business manager.

Design/studies:

- Fibre optic deployment project manager;
- Geomatician;
- Optical fibre design office manager;
- Research manager;
- Designer;
- Optical fibre designer;
- Surveyor.

Installation:

- Works supervisor;
- Site foreman;
- Fitter;
- Cable fitter;
- Customer technician.

Operation/maintenance:

- Maintenance technician;
- Head of operations.

TYPE OF SKILLS/EXPERTISE INVOLVED OR REQUIRED

The deployment of fibre networks in France has enabled the training sector to acquire skills that can be efficiently mobilised for the French digital infrastructure sector: training course design, construction of technical platforms, identification and training of trainers, sourcing of candidates, etc. These training organisations have thus been able to participate in the creation of a business sector that is dedicated to the deployment of fibre networks, and also to create training materials to meet this need.

THE ADDED VALUE WE BRING

Thanks to the expertise of professional organisations, professional branches, and companies, training organisations have been able to evolve and adapt to the constantly changing markets to offer quality training. As an essential asset and support in deployment plans, training organisations develop technical reference platforms that are labelled or certified.

COLLABORATION

France has set up a network of training organisations that prepared workers for jobs in the field of digital infrastructures. These organisations can deploy their solutions at an international level: implementation of fibre training, support in the creation of instructional design, in the creation of technical platforms, or in the training of trainers. Training is at the heart of the projects supported by French companies, as they wish to increase the skills of the local workforce and thus give full sovereignty to countries over their future networks.

HOW DOES EACH ACTIVITY TIE IN WITH THE PROJECT?

Training takes place in the early stages of fibre deployment in order to have a qualified workforce for these large-scale projects. During the deployment phase, the training enables to meet the growing needs in human resources throughout the entire project (for example: upgrading the skills of employees working in companies within the sector).



PREPARING AND IMPLEMENTING YOUR PROJECT

Expertise in the preliminary project phase forms the basis for the creation and subsequent management of a project. It enables to define a strategy by setting an objective. Achieving this goal will involve an implementation phase that meet key milestones, and which will be led and managed end-to-end.

This expertise will secure the legal framework within the local regulatory environment. Developing and managing projects related to digital services, infrastructure, and uses requires the expertise that the French ecosystem has created and updated.

PREPARING AND IMPLEMENTING YOUR PROJECT

SUMMARY OF CATEGORIES/ SERVICES/PRODUCTS

Four types of activity have been identified within this expertise, which is referred to as 'preliminary' project expertise.

Definition of a strategy and/or master plan:

- ▶ Carrying out an assessment/status report;
- ▶ Establishing a national or international benchmark with regard to the project's scope;
- ▶ Formalising an objective for the project leader;
- ▶ Scripting the implementation procedures, including cost, lead time, and risk components.

Feasibility study:

- ▶ Basic Preliminary Design;
- ▶ Preliminary costing of the solution in terms of CAPEX and OPEX;
- ▶ Organisational and human resources framework;
- ▶ Implementation schedule;
- ▶ Funding.

Managing and leading a project in a technical environment:

- ▶ Operational launch of the project;
- ▶ Consultation procedures (public and/or private) for the acquisition of equipment and/or services;
- ▶ Examination, analysis of bids, negotiations, and choice of service providers;
- ▶ Technical and operational monitoring of implementation.

Legal and financial expertise:

- ▶ Legal expertise in relation to the legal and regulatory framework for intervention;
- ▶ Drafting contracts;
- ▶ Financial expertise (auditing, contract monitoring, funding).

TYPE OF SKILLS/EXPERTISE INVOLVED OR REQUIRED

During the preliminary project phase, the deployment of fixed or mobile infrastructures requires significant expertise, as does the development of uses and services in the territories. This expertise is mainly based on technical skills (fibre, 4G/5G radio technologies, IoT, DMR, satellite technology, passive devices, active equipment, communication protocols, etc.), legal and financial skills, as well as skills in relation to consultation and exchange practices, and operational feedback from projects.

THE ADDED VALUE WE BRING

From initially raising the awareness of public or private decision-makers, to the creation of the project and then the monitoring of the implementation of operations, "consulting and support" expertise allows projects simply to be created, run, and developed on behalf of project owners.

COLLABORATION

France has built up a network of companies that specialise in the management of digital infrastructure development projects. They have the capacity and the proven methodologies to help to develop projects. Different legal patterns are available for public project owners, depending on the level of risk they are willing to share with private partners. Various forms of public-private partnerships, such as the delegation of public leasing or concession services, appear to be the most appropriate choice. These allow a national or local authority to use private companies to finance and manage infrastructure, in return for a payment or for right of use. Public players thus benefit from the expertise of the private service provider, as well as their agility and quality of service at the best price, all while avoiding being a drain on public finances.

HOW DOES EACH ACTIVITY TIE IN WITH THE PROJECT?

Consulting expertise is the upstream of projects. It aims at creating or shaping ideas; as well as cross-functionally, during the operational phases, alongside with the contracting authority. Finally, consulting expertise intervenes at the end-of-project, in the technical, economic, legal, or financial audit phases.



CHOOSING THE ESSENTIAL HARDWARE AND SOFTWARE

Network equipment manufacturers and software solution providers offer essential solutions for activating optical networks and building superfast broadband networks, these equipment respond to a variety of objectives, such as broadband internet access for all, smart city uses, as well as industrial command and control. Equipment manufacturers create the active and passive equipment, but also the equipment necessary for the monitoring, operation, or maintenance of the network.

Software solution providers respond to design needs by offering turnkey or adaptive solutions, together with training services or technology gateways. Some manufacturers may choose to use distributors to market their products, and the distributors therefore act as an interface between the manufacturer and the end customer. Using different sales channels, distributors list all products that are qualified for the construction of networks and ensure their supply logistics.

CHOOSING THE ESSENTIAL HARDWARE AND SOFTWARE

SUMMARY OF CATEGORIES/SERVICES/PRODUCTS

There are two main types: passive/active equipment, and the monitoring software required to operate the networks.

Passive equipment:

- ▶ Fibre cables adapted for specific uses (aerial, duct, indoor, outdoor, etc.);
- ▶ External components (cabinets, waterproof units);
- ▶ Interior components (junction boxes, terminal sockets, etc.).

Active equipment:

- ▶ Mobile networks (radio communication);
- ▶ Access networks (fibre);
- ▶ Routing and transport equipment (metropolitan and national networks);
- ▶ Electrical/optical signal conversion equipment (IP, satellite offset, radar, dry contacts, remote measurements, etc.);
- ▶ Optical multiplexing equipment.

SOFTWARE SOLUTIONS:

Design phase:

- ▶ Modelling software for network dimensioning;
- ▶ Mobile solutions for surveys of existing equipment.

Deployment phase:

- ▶ Mobile solutions for progress monitoring and quality controls;
- ▶ Automated production of standard documentation.

Operations phase:

- ▶ Management of subscriber connections;
- ▶ Mobile solutions dedicated to connection or maintenance work.

TYPE OF SKILLS/EXPERTISE INVOLVED OR REQUIRED

Many skills are mobilised at the business and technical levels: telecommunications, transmission, energy, industrial process control, etc. The quality and durability of the equipment are essential to ensure the sound operation of the networks and the full performance of the telecom projects. Our companies use all their telecom engineering skills in order to offer the most adequate solutions.

THE ADDED VALUE WE BRING

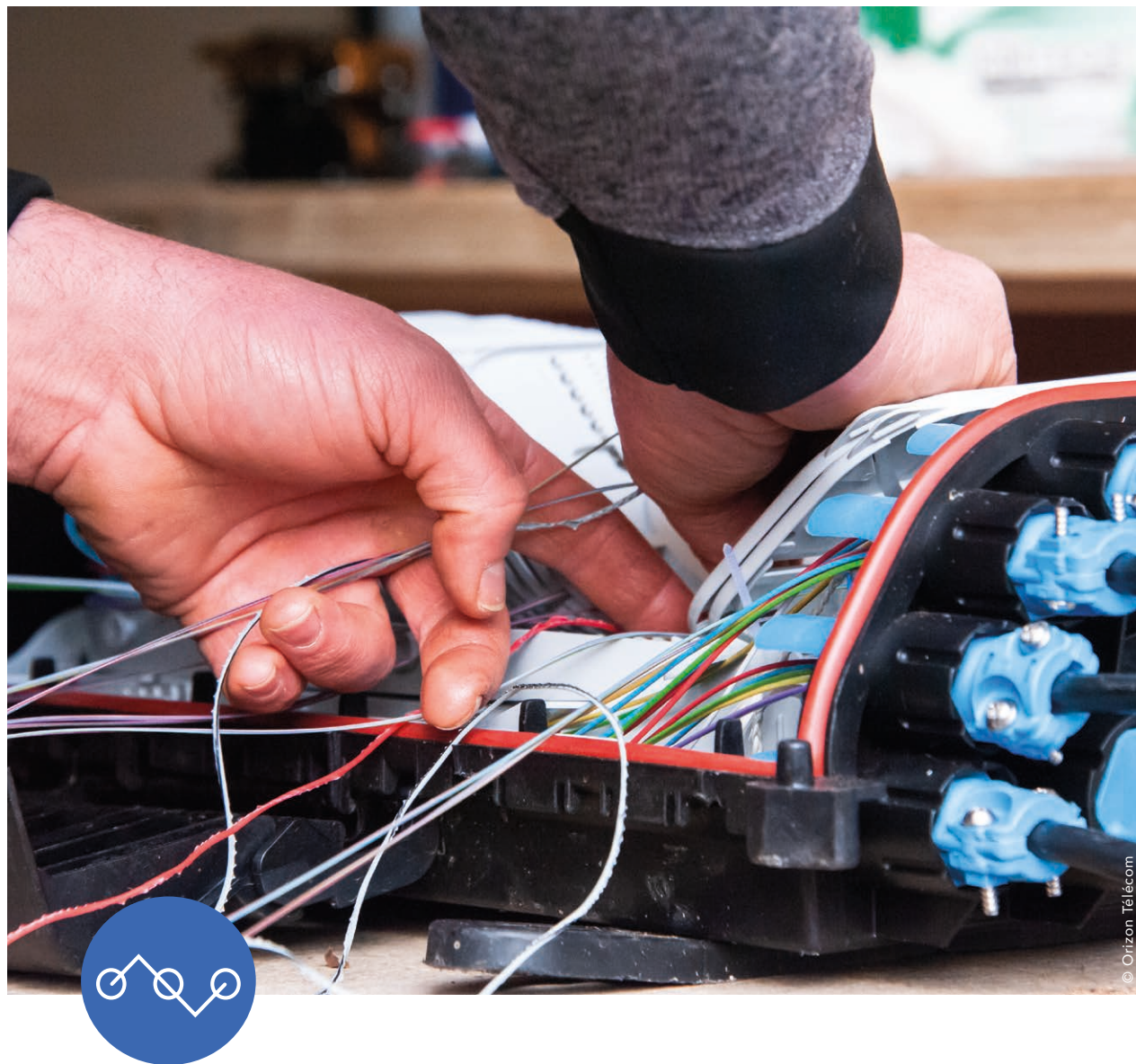
Drawing on their experience, both in France and internationally, the manufacturers in the French sector have acquired expertise that enables them to provide technologies that guarantee the sustainability of the network and the quality of the service provided to the subscriber. The complexity of the technologies and their scalability are essential aspects that need to be integrated to build networks that will be operated for many years. By choosing good quality solutions, public customers guarantee their digital sovereignty and the protection of their strategic data. They benefit from proven expertise and ready-to-use products and services.

HOW DOES EACH ACTIVITY TIE IN WITH THE PROJECT?

Equipment manufacturers intervene during all phases of the life of the network: from design to construction, as well as commissioning, activation, and operation.

COLLABORATION

French companies export their expertise to several continents, and they can also pass on their expertise to local players (training centres, installers, integrators, distributors, creation of joint ventures, construction of factories). It is also possible to establish collaborations with local companies.



CONSTRUCTING NETWORKS

The construction of telecommunications networks includes the activities necessary for the creation of new infrastructures (civil engineering, installation of masts, etc.), cable pulling, wiring, configuration and commissioning of active equipment, allowing operator or business customers to provide communication services to their customers.

This activity involves the expertise of design offices and network integrators, who use the local workforce and who advocate for the transfer of skills in order to train future supervisors.

SUMMARY OF CATEGORIES/SERVICES/PRODUCTS

Two categories of expertise have been identified:

► **Fixed networks:** infrastructures for fixed networks (Backbone, Fibre To The Home, FTTx, bandwidth increase for vDSL, copper, coaxial, etc.);

► **Mobile networks:** infrastructures for radio networks (2G, 3G, 4G, 5G, IoT, Tetra, DMR, UHF/VHF, Wi-Fi, private LTE networks, etc.).

The services provided by the design offices and project managers are as follows:

► Engineering: study of the land and its constraints to determine cable location and the correct installation method (burial, aerial, reuse of existing infrastructure) for fixed networks. Study of the location and type of pole, as well as the range of equipment, to achieve the desired 4G/5G or Wi-Fi coverage. Engineering of the proposed networks, acquisition of sites, design, detailed construction engineering;

► Organisation and supervision (project management):

- Construction and deployment of infrastructures: installation of technical sites (shelters/cabinets), metal construction (masts, poles, etc.), civil engineering works (trenches, concrete slabs, etc.), deployment of cables (fibre, feeders, etc.), installation of radio antennas, etc.;
- Installation and commissioning: installation and commissioning of all types of passive equipment (fibre, optical welding units and patch panels), installation and commissioning of active equipment (OLT, ONT, DWDM, MPLS, SDH, RRH, BBU, network core), system integration, measurements (radio, optical, data, etc.).

These activities may be carried out by the company itself or by its subcontractors, under its control.

Integrators can offer to perform some or all the four identified services:

- Studies and engineering (see above);
- Construction and deployment of passive infrastructures: installation of technical sites (shelters/cabinets), metal construction (masts, poles, etc.), civil engineering works (trenches, concrete slabs, etc.), deployment of cables (fibre optic, feeders, etc.), installation of radio antennas, etc.;
- Installation and commissioning: of all types of passive equipment (fibre, optical welding units and patch panels), of active equipment (OLT, ONT, DWDM, MPLS, SDH, RRH, BBU, network core), system integration, measurements (radio, optical, data, etc.);
- Network maintenance and useful life: network monitoring (NOC) and operation, preventive and corrective network maintenance, diversions, network extensions, activation and maintenance of services to end users, connections.

TYPE OF SKILLS/EXPERTISE INVOLVED OR REQUIRED

Major projects carried out by French companies, within a competitive environment, whether in 4G and 5G mobile networks or fixed copper/FTTx networks, grant the guarantee of qualitative expertise for export based on a measurable result.

THE ADDED VALUE WE BRING

With experience gained over several years, French companies have developed global expertise and excel in the management of the entire value chain, from design to construction, as well as the operation and maintenance of telecommunications networks. Given the specificities of each territory, having industrial control of innovation, quality of design, and management of deployment, deliverables, and associated documentation is a major asset for customers.

HOW DOES EACH ACTIVITY TIE IN WITH THE PROJECT?

Design office and telecoms project manager competences intervene in the network design and construction phases. They define what needs to be deployed and monitor the deployment (schedule, implementation, validation). Integrators intervene during the network engineering phases, through to delivery and commissioning. They can also provide maintenance or potential expansions.

COLLABORATION

France is known for its recent achievement in regard to FTTH deployment thanks to the great development of skills within its sector. These companies are now ready to export their expertise internationally in order to implement high-quality telecommunications infrastructures, while allowing for skills to be passed on to local players.



OPERATING AND MAINTAINING NETWORKS

Fixed or mobile network deployments are large-scale projects, requiring a variety of skills. The operations phase starts during the construction phase, or just after the acceptance phase for these networks (delivery). Activities relating to the operation, supervision, and support of networks relate to the commissioning, operation, supervision, and maintenance of the networks for which they hold responsibility.

They take delivery of, install, commission, and maintain the various elements of the network; they inspect the condition of equipment and services in real time; they search for and analyse the causes of malfunctions and implement the operations necessary to restore the service and repair the elements affected (hardware and software).

OPERATING AND MAINTAINING NETWORKS

SUMMARY OF CATEGORIES/SERVICES/PRODUCTS

An operational director, responsible for the operations department (management), oversees the various activities. Under their responsibility, there is a director or head of operations, who will be responsible for designing and implementing the operating procedures and operating methods, as well as ensuring the availability and performance of the networks.

They will be assisted by one or more operating technicians (or telecoms technicians). It will be their job to:

- ▶ Install and monitor network and telecoms equipment;
- ▶ Ensure the operation and through-life support of the network;
- ▶ Administer and manage infrastructure and security tools.

A head of supervision, together with supervision technicians, is responsible for detecting, administering, and alerting issues related to the life of the network. They provide through-life support (TLS) for supervision tools, and they process the alarms detected by the systems. They also ensure the proper functioning of the networks, systems, and platforms by carrying out regular testing.

A head of maintenance support, together with maintenance and support technicians, will guarantee the availability of the network and its through-life support by complying with the MTTR (Mean Time to Repair) indicators.

TYPE OF SKILLS/EXPERTISE INVOLVED OR REQUIRED

In addition to the basic skills related to fibre technology, workforce should master other transmission techniques, whether in operation, supervision, maintenance, or support (technology, architecture, equipment, etc.). They must also understand all the testing techniques for these networks, with dedicated measuring devices, and be able to produce very high-quality fusion welds.

The various jobs associated with operation and maintenance also require the ability to adapt to various situations, but also the ability to monitor the development of telecoms network innovations.

THE ADDED VALUE WE BRING

The French model is based on a complementarity between public and private investments, and on different contract models, in which the operation and maintenance field plays an essential role. Supplemented by experience accumulated from appropriate training courses, there are defined values for supporting similar projects internationally, which will ensure significant time savings, thanks to the reduction of the learning period.

COLLABORATION

The cumulative feedback and resolution of unforeseen events or deployment constraints gathered by the actors of the ecosystem allowed the optimization of these operating and maintenance processes by reducing the investigation phases. For example, the automation processes for network acceptance testing reduced the time required for acceptance by nearly 30%. Deployment recommendations for each section of the network have thus been able to be established, as well as dedicated national training campaigns. This learning continues every day and is continuously enriched.

HOW DOES EACH ACTIVITY TIE IN WITH THE PROJECT?

Operations and maintenance generally intervene after deployment to ensure efficiency and speed of process implementation, they can support the project manager in the construction and validation phase. Operational and support aspects are an important decision-making criterion that needs to be integrated during the design phase and in the selection of the delegates. The choice of the best-selling technical-economic solution, including operating and maintenance costs over several years, should be preferred.



MARKETING YOUR FIXED AND MOBILE SUPERFAST BROADBAND NETWORK

Telecommunications operators market superfast broadband networks. Depending on the chosen economic model, they can build and operate fixed and/or mobile broadband and superfast broadband electronic communications networks, as well as long-distance interconnection networks.

They can also operate communication services for the general public, companies, and public administrations, and they can offer e-education, e-health, and cybersecurity solutions. Their activity may also involve the provision of audiovisual services and content.

SUMMARY OF CATEGORIES/SERVICES/PRODUCTS

Engineering study, design, construction, technical operation, and commercial operation of:

- ▶ Fixed broadband and superfast broadband networks: xDSL, FTTx, terrestrial, satellite;
- ▶ 2G/3G/4G/5G mobile networks;
- ▶ Submarine cables;
- ▶ Long-distance collection networks (backbone);
- ▶ Structuring collection networks (backhaul).

Provision of services

Design, technical operation, and commercial operation of communications services for the general public, companies, and administrations.

Areas:

- ▶ E-education;
- ▶ E-health;
- ▶ Cybersecurity;
- ▶ Creation of audiovisual content.

TYPE OF SKILLS/EXPERTISE INVOLVED OR REQUIRED

Numerous skills and expertise are mobilised: network engineering, telecommunications, energy, audiovisual, etc.

THE ADDED VALUE WE BRING

With their experience both in France and internationally, telecommunications operators of the French sector have acquired expertise in the operation of fixed and mobile networks, and in the provision of high added value services for the general public, companies, and administrations.

By working with various partners in the French sector, electronic communications operators can provide governments, administrations, and third-country companies with turnkey solutions for developing efficient access networks and providing efficient electronic communications services.

HOW DOES EACH ACTIVITY TIE IN WITH THE PROJECT?

Depending on the nature of the project, electronic communications operators can be involved at different levels, from the design of the network to its technical and commercial operation, including the construction of the network. Operators can also work downstream, in the provision of services based on existing networks.

COLLABORATION

French electronic communications operators can export their expertise to many continents and can also pass on their expertise to local players.

02 60 COMPANIES THAT ARE READY TO SUPPORT YOU IN YOUR PROJECTS

LIST OF COMPANIES

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Strategic

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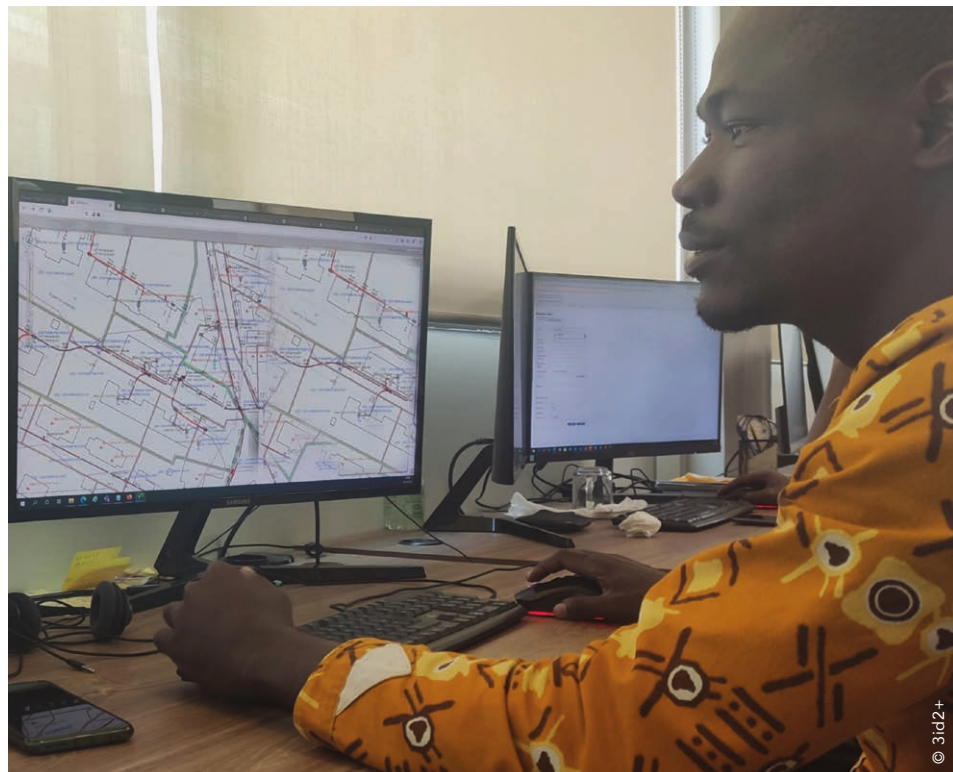
WeAccess ▶ p.140

CONSTRUCTING
NETWORKSPREPARING AND
IMPLEMENTING YOUR PROJECTOPERATING AND
MAINTAINING NETWORKS

3ID2PLUS

CUSTOMISED DOCUMENT ENGINEERING SOLUTIONS

Specialists in customised document engineering solutions for high volume production processes. With integrated information processing, transformation, and management solutions, 3ID2PLUS manages its customers' technical documentation according to engineering rules and business processes and in line with their specifications, from the pre-engineering phase of the project until the useful life of the networks.



www.3id2plus.com



€2M
in turnover
in 2018



€3M
in turnover
in 2019



Over €4M
in turnover
in 2020

As a result of the digitisation of its business, 3ID2PLUS is able to optimise its customers' resources through automated production factories. The 3ID2PLUS model is applicable to all sectors that require deployment/network useful life, including telecoms, electricity, and gas and water networks in connected territories.

PRODUCTS AND SERVICES

- Overall industrial engineering/ design production and consolidation of network business deliverables for moving into operation (backbone, ODF, distribution including verticality);
- Processing of proprietary infrastructure sharing proposals in industrial mode and single point-of-contact for FTTx and copper markets;
- Management of regulatory administrative proposals, for example, in France, DT/ DICT/ PV/COMSIS/ etc.;
- Bulk updating/completing of operator information systems;
- Processing of technological and regulatory files for Smart Cities markets;

- Ground connection (FTTO/ FTTH/FTTA). In this disruptive market, 3ID2PLUS combines two main skills in its modes of operation and historical reference points:
 - IT (SS2I); Rapid, sustainable industrialisation methods (service provider) in order to implement new production models (construction and useful life of the network).

CO-PRODUCTION

3ID2PLUS remains rooted in an entrepreneurial way of working; any win-win set-up that creates value is worth studying.

WORKING LOCATIONS

3ID2PLUS operates internationally, given the company's positioning in relation to data processing. Our teams speak the following languages: English, Spanish, French, and Arabic.

REFERENCES

3ID2PLUS works with major international groups.

OPERATIONAL MODES

All models can be considered, as the lifeblood of 3ID2PLUS is to be able to establish customised, integrated industrial offers in "chameleon" mode, with or without joining and combining the skills of internal and/or external specialists to offer a single point-of-contact mode. Implementation examples:

- Partnership with a solutions editor, where 3ID2PLUS is responsible for the bulk entering/checking of data and for linking to the downstream phase of the business process;
- Management of conformities for centralised feedback from the field in preparation for mass entry on GIS in the downstream phase;
- Collaboration with surveying skills and works for turnkey solutions (design/works/ consolidation);
- Civil engineering works and installation of fibre and radio networks.

Locations

- 3ID2PLUS: Lyon, France (2014)
- 3ID2PLUS SMARTDATA PROD: Madrid, Spain (2016)
- 3ID2PLUS CI: Abidjan, Ivory Coast (2018)
- 3ID2PLUS: Senegal (2021)

CONTACTS

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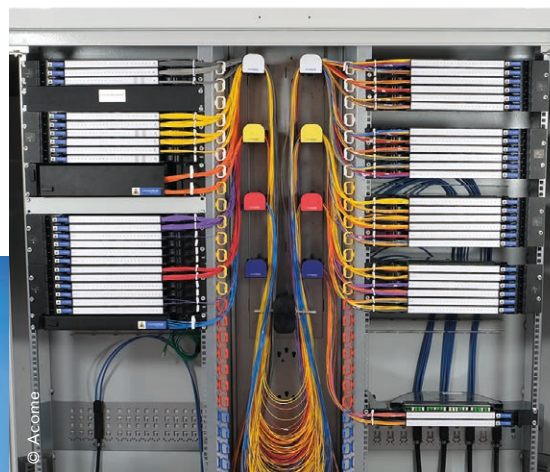


CHOOSING THE ESSENTIAL
HARDWARE AND SOFTWARE

ACOME

CABLES AND EQUIPMENT FOR HIGH-TECH CONNECTIVITY

ACOME is a French industrial group, founded in 1932, that specialises in the high-tech cables market. ACOME is a cooperative and participatory company (SCOP) that is present on four continents. ACOME designs and manufactures high value-added cables and connectivity equipment for the automotive, data network, and telecoms infrastructure sectors. With industry near national and international markets and strong investments in research and development, ACOME is a leading industrial partner.



€534M

in turnover in 2019, of which
52% came from abroad
(25% growth in turnover between 2015 and 2019)



2,000

employees,
(EMEA: 79%, of which France: 72% - China: 16%
South America: 5%)

ACOME



12

factories, commercial sites
in 6 countries, 11 logistics
platforms, 1 Group expertise
and R&T centre, 2 tech centres
(France, China)



€100M

in investments planned
for 2025



10M

kilometres of fibre wired per year
(capacity)

PRODUCTS AND SERVICES

Telecoms infrastructures

- ▶ Optical telecoms networks & FTTH: Optical cables and FTTH solutions for multiple applications and configurations of telecoms networks infrastructures, including cables for buried, ducted and overhead installations, connectivity equipment for optical connection nodes and solutions for façade and residential connections;
- ▶ Copper telecoms networks: Copper cables from the central office to the subscriber, including distribution networks, communication centres and connections points;
- ▶ Mobile telecoms networks: Cable and system solutions (hybrid and separated) for mobile network fronthaul and backhaul.

Smart buildings

- ▶ HEMERA Industry solution: Optical cabling for the industry of the future, from connection of the production tool (Internet of Things) to 5G mobile networks;
- ▶ Residential copper network: Twisted pair cables for connecting the communication sockets in the residence;

- ▶ Residential FTTH network: optical cabling solutions for connecting buildings and residential areas;

- ▶ HEMERA Building solution: Consisting of cable solutions for smart buildings and campuses.

CO-PRODUCTION

ACOME supports the development of expertise through local workforce training programmes.

WORKING LOCATIONS

The Group operates on four continents with its industrial and commercial subsidiaries in Europe, the Middle East, Africa, Asia, and South America, working closely with major contracting authorities to support and supply its international customers.

REFERENCES

Orange Group (France, Spain, Poland, Jordan, Ivory Coast, Senegal, Mali, Tunisia), Altice Group, A1, Eircom, VSG, Vodafone, Telenor, Telecom Italia, South Korea Telecom, Castwin and other examples.

OPERATIONAL MODES

Both in France and internationally, ACOME supplies operators, local authorities, integrators, and installers with comprehensive, innovative, and scalable cabling solutions to allow them to deploy their FTTH networks (and thus offer fibre to the subscriber's premises). These solutions are distributed either directly to the companies that deploy networks, or through a joint proposal with an integrator or an installer. ACOME is also able to provide services, such as financing and training to create a fully bespoke customer portfolio.

Implantations

- Registered office: Paris (France)
- 12 factories, of which 7 in France, 3 in China, 1 in Brazil, and 1 in Morocco
- Commercial offices: France, Germany, Italy, UK, China, Brazil

CONTACT

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PREPARING AND
IMPLEMENTING YOUR PROJECT

AGH

CONSULTING AND ENGINEERING

AGH Consulting offers its customers, which are leading telecommunications sector companies, a personalised consulting and engineering service. Our core business focuses on telecommunications and the development of fibre and mobile networks.



2005
year of creation



€28M
in turnover forecast in 2020



20%
growth

PRODUCTS AND SERVICES

- Project management/contracting authority assistance;
- Consulting (contractual and fixed fees).

WORKING LOCATIONS

Worldwide and, more specifically, France, Belgium, Spain, Morocco, Singapore, and Thailand.

REFERENCES FOR EXPORT ACTIVITIES

- Project to build a new airport in Cambodia (Vinci Construction GP);
- Project to build a tower – Glory – in Singapore (Bouygues Construction);
- Draft 3D survey of all refinery infrastructure for renovation operations in Thailand (Petrofac);
- Project to build a data centre in Jakarta (Vinci Energies).

OPERATIONAL MODES

- Technical support: secondment of operational resources within our partners' teams;

- Fixed fee: production of studies within our internal design offices in order to respond to requests, with the aim of delivering a customised study;

- Project: rapid, project-based implementation of local teams, supported by our various international agencies.

Locations

- Registered office in France: 18 rue Hélène et François Missoffe, 75017, Paris
- Belgium: 480 avenue Louise IT Tower, 1050, Brussels
- Spain: Avenida de Europa 24 Edificio B, Planta Baja – A Parque Empresarial La Moraleja 28108, Alcobendas, Madrid
- United Arab Emirates: Makateb 4 International, Media Production Zone, Dubai
- Morocco: lot n°1 Mandarona IMM Promoffice, Sidi Maarouf Casablanca, Morocco

CONTACTS

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AGH



PREPARING AND
IMPLEMENTING YOUR PROJECT

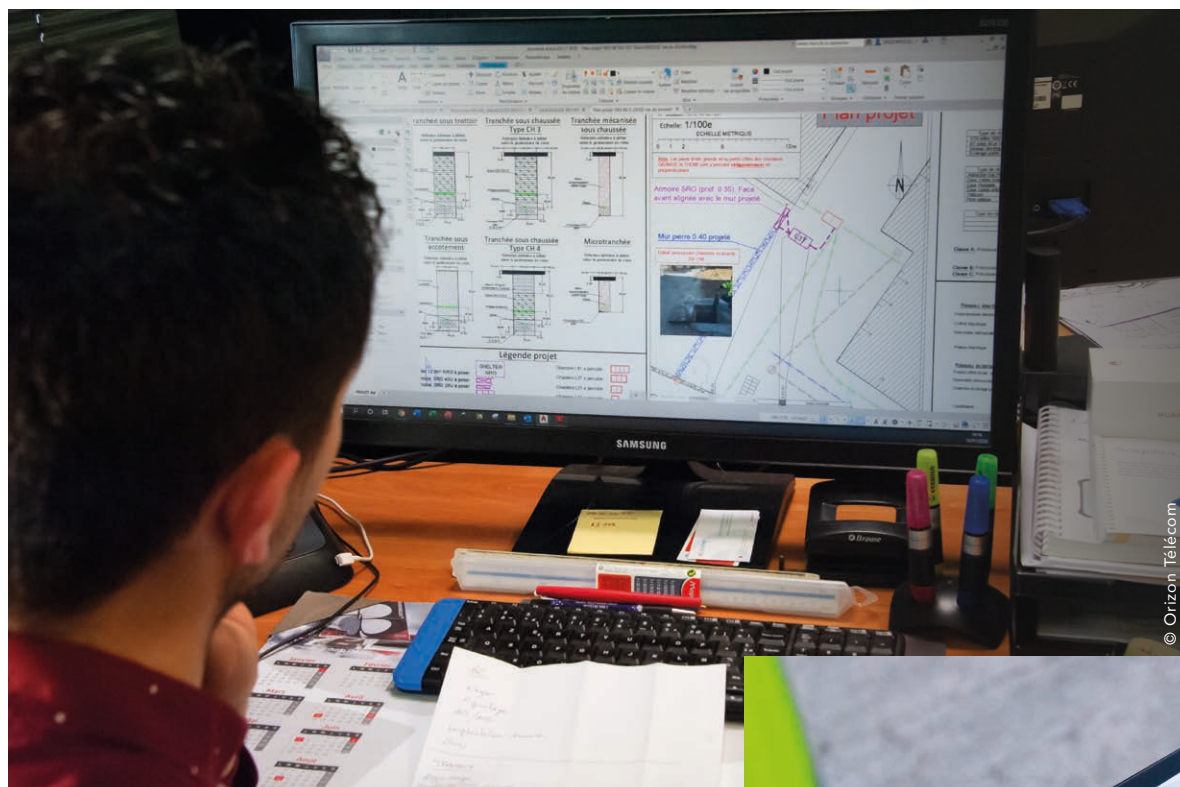


CONSTRUCTING
NETWORKS

ATLANTIQUE INGÉNIERIE RÉSEAUX

ENGINEERING DESIGN OFFICE

A.I.R. is an engineering design office that carries out telecoms network studies (copper and fibre optic).



© Orizon Télécom



© Orizon Télécom



2008
year of creation



138
employees



€6.7M
in turnover
(50% growth in 5 years)

PRODUCTS AND SERVICES

Fibre optic telecoms services:

- Civil engineering studies;
- Studies of FTTH / increased bandwidth SCN / collection networks (field surveys, calculation of loads, transport and distribution, request for access to structures, IS, authorisation to install new infrastructure);
- Works execution plans;
- Building studies;
- Contracting authority and project management assistance.

Copper telecoms services:

- Network studies;
- Connection studies for private and professional customers (extension of networks, decongestion);
- Studies of real estate projects (project owner and project manager assistance);

- Coordination studies following road developments (modification and relocation of networks);
- Network elimination studies (concealment of overhead networks underground);
- Civil engineering studies (project plans, provisional figures, administrative procedures);
- Ground surveys of overhead and underground infrastructures;
- Completion of customer Information Systems (IS);
- Support regarding engineering regulations.

Also: network detection services, georeferencing, topography, BIM, electricity and gas, real estate business, GIS mapping documentation.

WORKING LOCATIONS

A.I.R. operates mainly across the regions on the French Atlantic coast (Brittany, Pays de la Loire, Nouvelle Aquitaine, and Normandy) and occasionally in other French regions. We also intend to develop our company's reach by working abroad in European and African countries, under certain conditions, and on other continents.

OPERATIONAL MODES

Setting up turnkey study projects.

Locations

- Registered office
34 rue de la Binetterie
17700 Surgères, France
- 13 branch offices in France
(Brittany, Normandy, Centre-Val-de-Loire, Nouvelle-Aquitaine, Midi-Pyrénées)

CONTACT

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Mob.: +33 6 33 01 16 21



PREPARING AND
IMPLEMENTING YOUR PROJECT

AMBITION GROUP

COMPLETE CATALOGUE OF INTELLECTUAL SERVICES

Through two subsidiaries, Ambition Télécom & Réseaux (AT&R) and Ambition Consulting & Services (AC&S), the AMBITION Group provides a complete catalogue of intellectual services related to the deployment and useful life of FTTH networks.



AMBITION
AMBITION AMBITION



2007
creation of AMBITION
TÉLÉCOM AND RÉSEAUX



2019
creation of AMBITION
CONSULTING AND SERVICES



€17M
in turnover in 2020



5% to 15%
controlled growth per year

PRODUCTS AND SERVICES

- ▶ Project management/contracting authority assistance;
- ▶ FTTH engineering services centre (design centres);
- ▶ Consulting.

CO-PRODUCTION

- ▶ Industrial processing for FTTH design (or controls) by FTTH service centres;
- ▶ Provision of consultants.

WORKING LOCATIONS

Europe (UK, Germany, Italy, Belgium).

REFERENCES FOR EXPORT ACTIVITIES

Drawing on our experience of deploying networks in metropolitan France and overseas territories, we want to support our operator and/or manufacturer customers in their development in Europe.

OPERATIONAL MODES

- ▶ FTTH services centre (engineering or controls);
- ▶ Consulting project management office offer;
- ▶ Partnership with specialised telecoms GIS editors.

Locations

Registered office
12 rue des Piverts
69800 Saint-Priest,
France

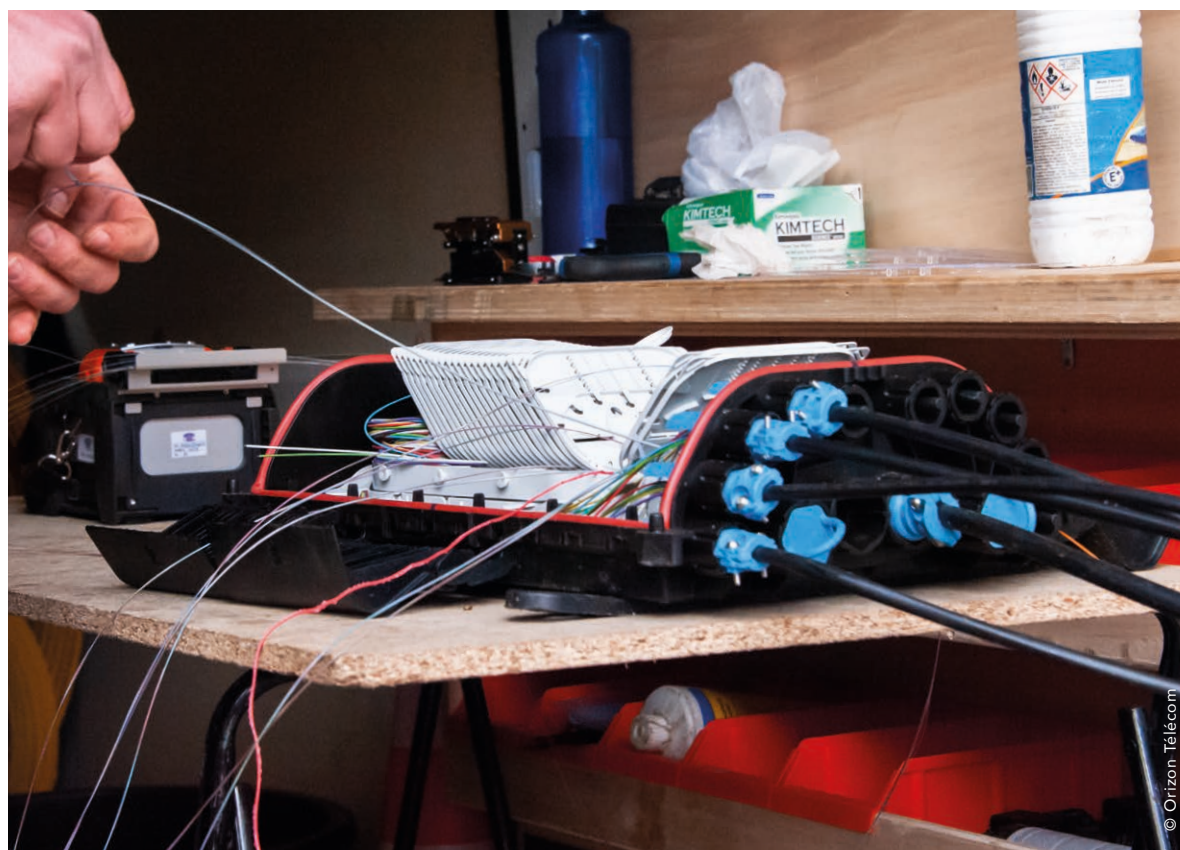
CONTACT

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AXIANS (VINCI ENERGIES)

INTEGRATION OF TELECOMS SOLUTIONS

Axians offers the installation and integration of telecoms solutions, in particular network design, deployment, and maintenance (fibre optics – FTTH & Backbone, FH, TETRA, DMR, 2G/3G/4G/5G).



€2.6B

in turnover in 2019, including
€1.2B
in the telecoms infrastructures
segment



4%

increase in turnover between
2019 and 2020

PRODUCTS AND SERVICES

Engineering, deployment, and maintenance of fixed and mobile digital infrastructures.

WORKING LOCATIONS

- ▶ North America: United States, Canada;
- ▶ South America: Brazil;
- ▶ Africa: Morocco, Mozambique, Mauritania, Angola, Ivory Coast, Senegal, Algeria, Tunisia;
- ▶ Europe and Middle East: Austria, Belgium, Czech Republic, France, Germany, Italy, Luxembourg, Monaco, Poland, Portugal, Qatar, Spain, Sweden, Switzerland, Netherlands, United Kingdom;
- ▶ Asia: India.

REFERENCES FOR EXPORT ACTIVITIES

We have numerous references in digital infrastructure deployment operations in Europe and Africa. Focus on the most notable current projects in Africa:

- ▶ Deployment of fixed and mobile operator networks in Morocco;

- ▶ Project to deploy the ANSUT (IC National Agency for Universal Telecommunications Service) backbone network in Ivory Coast;
- ▶ Deployment of a mobile network project for the energy operator SENELEC in Senegal.

OPERATIONAL MODES

- ▶ Carrying out turnkey projects;
- ▶ Co-contracting with operators and active equipment suppliers;
- ▶ Co-contracting with local companies for civil engineering works.

Locations

- Registered office:
280 rue du 8 mai 1945
78360 Montesson
France
- Axians is present in 25 countries worldwide. We have locations in all the countries where we operate (mainly Europe and Africa). In Africa, we have permanent locations in Morocco, Ivory Coast, Senegal, Angola, and Mozambique.

CONTACTS

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CONSTRUCTING
NETWORKS



MARKETING YOUR SUPERFAST
BROADBAND NETWORK

AXIONE

DIGITAL DEVELOPMENT OF RURAL AND URBAN AREAS

Axione has based its company image on its ability to master all the resources necessary for the design, construction, funding, and sustainable operation of new-generation digital infrastructures, in support of the democratisation of digital access and uses. Alongside its shareholders, Bouygues Energies & Services and Vauban Infrastructure Partners, and with the support of innovative partners, Axione is continuing its development by offering its private and public customers solutions that will allow them to make digital technology a sustainable lever for their projects and policies.



+2,800
employees



€500M
in consolidated turnover
in 2020



51
sites in France

PRODUCTS AND SERVICES

Axione is organised around three business units:

- Design, deployment, and maintenance of fixed and mobile networks;
- Operation of wired and radio networks;
- Funding and management of broadband and superfast broadband telecommunications infrastructure assets.

As a wholesale operator, Axione offers its operator customers passive or activated rental of the networks it operates, in order to allow them to extend their customer coverage.

- Fixed offers (access lines, bandwidth, infrastructures);
- Infrastructure proposals (point-to-point links, hosting, connectivity).

As a project manager, Axione offers its customers design, construction, and/or maintenance services for fixed or mobile telecoms networks.

Axione also supports local authorities, operators, and TowerCos in the establishment and operation of their telecoms infrastructures. At the same time, Axione brings its multi-technology expertise to large public and private accounts, offering them innovative solutions (indoor radio coverage, private fibre and radio networks, smart territories, etc.).

CO-PRODUCTION

Axione acts with a single belief: the deployment of large infrastructure projects must primarily benefit the local community. Therefore, Axione actively participates in the local economy through various levers: the implementation of comprehensive mechanisms combining partnerships with local structures, organisation of site visits, implementation of speed interviewing, or integration and training courses adapted to suit each candidate hired.

WORKING LOCATIONS

Thanks to its experience in digital planning of territories, Axione has been deploying its expertise on the international stage for several years. Axione operates in Gabon, Ivory Coast, and the United Kingdom, providing public service missions for digital infrastructure, from design to operation.

REFERENCES FOR EXPORT ACTIVITIES

Gabon

Operation of national fibre optic infrastructures (underwater and land-based cables) within the framework of a public service delegation entrusted by the State. Development of fixed superfast broadband for mobile operators and ISPs (private and professional customers).

All operators and ISPs are customers of this network. Implementation of a security mechanism using automatic switching between the ACE and SAT3 underwater cables.

OPERATIONAL MODES

Axione supports its private and public customers in developing solutions to make digital technology a sustainable lever for their projects and policies. As a global digital player that is present throughout the value chain, Axione can design, build, market, operate, fund, and maintain multi-technology telecommunications infrastructures. Axione supports the structuring and dimensioning of telecoms infrastructures in order to bring out new uses within future smart territories. In addition to performance commitments relating to the design, construction, and operation of telecommunications infrastructures, Axione is committed to an active support approach in the medium and long term, to promote the development of new uses and digital services.

Locations

- Registered office: 132 boulevard Camélinat 92240 Malakoff

CONTACT

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CHOOSING THE ESSENTIAL
HARDWARE AND SOFTWARE

BLUEPAD

FIBER OPTIC PROJECTS MANAGEMENT SOLUTIONS

BLUEPAD offers site management solutions for large-scale deployments of telecoms and fibre optic networks at all stages, from survey to exploitation. BLUEPAD web-mobile solutions ensure effective communication between the field and office teams and data management, which allows you to anticipate risks, reduce costs and delays, improve project management reliability, ensure the quality of work carried out, and automate administrative procedures.



© ETC Group



© ETC Group

BLUEPAD's software allows you to supervise the global or by stage civil and optical engineering project's progress, the commissioning process, blocking points and causes, and the connection rate progression. Customisable and modular, BLUEPAD is a solution that adapts to the procedures and needs of each company.

PRODUCTS AND SERVICES

Contracting authority assistance;

Digital support for major construction projects:

- ▶ Licenses for the BLUEPAD management software;
- ▶ Software customisation of according to the procedures and needs of each company.

CO-PRODUCTION

- ▶ Training of the local workforce;
- ▶ Interfacing with IS or other software used by the company.

WORKING LOCATIONS

Europe.

OPERATIONAL MODES

Partnership with other companies.

Locations

Head office:
2 rue Thomas Edison
57070 Metz, France



2016
year of creation

CONTACT

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ACQUIRING THE
RIGHT EXPERTISE

CAMPUS NUMÉRIQUE DE MONTEREAU

TRAINING CENTRE

The Campus Numérique de Montereau digital campus is a training centre specialising in telecoms activities, including wired and mobile infrastructure (network deployment and engineering). We provide training for two groups: newcomers (job-seekers and/or those undergoing retraining) and active employees (skills development).



2014

year of creation, with the
training division opening
in **2015**



€1M

in turnover per year, with
growth of more than **20%**
per year for 5 years

Our added value is specifically linked to a global approach (interpersonal skills and expertise) across the entire network. All our courses are certifying and/or provide evidence via a skills development certificate. Our results are conclusive, with a success rate in our qualifications of more than 92%, and an 87% return to employment rate (fixed-term/permanent/temporary). With a network of more than 200 companies, we are able to respond to the needs expressed by companies in order to meet both their technical and human expectations.

PRODUCTS AND SERVICES

- ▶ Project management assistance;
- ▶ Qualifying and/or certifying professional training;
- ▶ Instructional design.

CO-PRODUCTION

- ▶ Creation of an on-site training centre (Cotonou);
- ▶ Training of the local workforce (centre staff and school learners).

WORKING LOCATIONS

We operate throughout France and overseas territories, as well as in Benin as part of a programme led by FASEP and SOFRECOM.

REFERENCES

We currently provide educational and technical support in Benin, for the construction of a digital professions school in Cotonou. In this context, we provide the pedagogical expertise, training courses, and courses for the staff we are currently recruiting.

OPERATIONAL MODES

- ▶ Setting up turnkey projects;
- ▶ Partnership with SOFRECOM for the implementation of the project, and the Beninese State.

Locations

- Head office: 5 rue du châlet 7130 Montereau-Fault-Yonne, France
- Our site is located on 2.5 hectares of land, with a technical platform of more than 5,000m² outside (2 local loops of 650lm of fibre and copper, full scale) and 900m² of indoor teaching spaces, etc.



1,300

trainees over 5 years,
with an **88%** success
rate for integration in
companies at over 6
months



92%

success rate for diploma
courses



250

trainees trained per year,
or almost **90,000 hours**
of training/year

CONTACT

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Mob.: +33 6 12 18 78 52 | Tel.: +33 1 76 70 26 16

CIRCET

MANAGEMENT OF TURNKEY PROJECTS

As the leading provider of telecoms infrastructure services in Europe, Circet is operating in a booming sector supported by massive investments for the deployment of fixed and mobile superfast broadband. As a pioneer in turnkey project management, Circet offers a wide range of customised services including engineering, deployment, installation, and maintenance of telecoms networks, with all types of technology.



1993
year of creation



€2.03B
in turnover in 2019



10,300
employees

PRODUCTS AND SERVICES

- ▶ Project management;
- ▶ Engineering;
- ▶ Deployment;
- ▶ Activation;
- ▶ Marketing;
- ▶ Operation and maintenance.

WORKING LOCATIONS

- ▶ Europe: France, Spain, Germany, Switzerland, Ireland, United Kingdom, Belgium, Netherlands, Luxembourg;
- ▶ Africa: Morocco.

REFERENCES FOR EXPORT ACTIVITIES

- ▶ British Telecom;
- ▶ Cellnex;
- ▶ Deutsche Telekom;
- ▶ Deutsche Funkturm;
- ▶ DELTA;
- ▶ EIR;
- ▶ ENBW;
- ▶ Ericsson;
- ▶ Eurofiber;

- ▶ FIBRUS;
- ▶ Huawei;
- ▶ KPN;
- ▶ Openreach;
- ▶ Orange;
- ▶ Proximus;
- ▶ Masmovil;
- ▶ MBNL;
- ▶ NBI;
- ▶ Swisscom;
- ▶ Telefonica;
- ▶ Vodafone;
- ▶ VOO.

OPERATIONAL MODES

Turnkey and customised proposals for fixed and mobile networks.

Locations

• Sales Department:
Circet – 64 rue de la Boétie –
75008 Paris, France

• Registered office in France:
Circet – 14 avenue Lion –
83210 Solliès-Pont

• Offices abroad corresponding
to the places we work

CONTACT

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CHOOSING THE ESSENTIAL
HARDWARE AND SOFTWARE

CORNING OPTICAL COMMUNICATIONS

SCIENCES OF GLASS, CERAMICS, AND OPTICAL PHYSICS

Founded in 1851, Corning is a company specialising in the sciences of glass, ceramics, and optical physics. Corning was behind the invention of low-loss optical fibre in 1970. Since then, the company has been working to increase the speed and capacity of networks, while also reducing installation costs. Today, we provide solutions to growing segments such as fibre to the home, wireless applications, and data centres.



BETWEEN

8 and 10%

of revenue is invested in
research and innovation



30M

Connected homes with **2.5M**
optical closures produced in France
and installed all over the world, for
FTTH and other fibre applications

PRODUCTS AND SERVICES

- Design and production of FTTH products: closures for all environments (aerial, underground), optical distribution systems, connectors, patch cords, cables, and optical fibre;
- Design and production of products for business networks and data centres: from simple connectors to racks, including optical patch panels, jumper cables, cables, and optical fibre.

CO-INNOVATION

- Innovation partnerships with our customers;
- Training, for installers, for example.

WORKING LOCATIONS

Corning is involved in all digital infrastructure projects in France and worldwide.

REFERENCES

58M connected homes with Corning hardened connectivity solutions, all over the world.

OPERATIONAL MODES

- Direct and indirect sales: partnership with distributors across the world;
- Centre for expertise and innovation (several patents and co-innovations);
- Support for work-study programmes by including students, in order to prepare them for the best possible integration;
- Integration and inclusion of people with disabilities;
- Active participation in and support for the work of many organisations and associations (in France: ARCEP, SYCABEL, AFNOR, InfraNum, CREDO, etc.).

Locations

France: Pontchâteau (Loire-Atlantique), Avon and Bagneaux (Seine-et-Marne), Borre (Nord)

CONTACTS

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Cathy DUCKER, Marketing & Communications Consultant
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DATA CENTRES

PREPARING AND
IMPLEMENTING YOUR PROJECT

CRITICAL BUILDING

SUPPORT FOR DATA CENTRE PROJECTS

— Critical Building was created in early 2006 to meet the demand from major French accounts for a neutral and independent player with expertise in data centres. The company supports its customers in the assessment, definition, construction, and renovation of their data centres.



Critical Building
Datacenter consultants

**2006**

year of creation

**20**employees, including
17 engineers**€2.8M**

in turnover in 2020

**€300K**

in capital

Its neutral positioning, combined with the strength of its experience, has since led it to study broader topics such as opportunity, feasibility, data centre strategy, and due diligence studies, as well as any kind of support and consulting in relation to the world of data centre infrastructures.

In this way, Critical Building addresses the world of hyperscalers, as well as edge computing, the cloud environment such as 5G or AI, financial institutions such as healthcare, but also the defence sectors, for public (local authorities) or private (companies of all sizes) customers.

PRODUCTS AND SERVICES

- Strategic consulting and opportunity studies;
- Land search, due diligence, impact study, ICPE (installations classified for the protection of the environment) classification instructions;
- Assistance with project management, planning (analysis of needs), design, consultation, monitoring of execution, testing, and acceptance;
- Project management on data centre construction/restructuring projects;

- Audit, reliability, safety, energy performance, maintenance, tiering.

CO-PRODUCTION

- Assistance of a local player in the definition and construction of a data centre (Morocco, Senegal, etc.);
- Transfer of skills;
- Data centre advisor for construction projects (grouping, turnkey).

WORKING LOCATIONS

Critical Building operates on all continents.

REFERENCES

- Hosting providers: Morocco, Switzerland, Belgium, Vietnam;
- Telecoms operators: Senegal, Ivory Coast, Djibouti, Sweden;
- Cloud operators: United States, Canada, Germany, United Kingdom, Poland;
- Ministries: Congo, Gabon, Morocco, Senegal, Switzerland;
- Local authorities: Belgium, Switzerland;
- Foundation: Switzerland;
- Banks: Belgium, Gabon, Netherlands, Lebanon, Morocco;
- Industries: Germany, United Kingdom, Morocco.

OPERATIONAL MODES

- Direct and indirect sales: partnership with distributors across the world;
- Centre for expertise and innovation (several patents and co-innovations);
- Support for work-study programmes by including students, in order to prepare them for the best possible integration;
- Integration and inclusion of people with disabilities;
- Active participation in and support for the work of many organisations and associations (in France: ARCEP, SYCABEL, AFNOR, InfraNum, CREDO, etc.).

Locations

- Head office and offices in the Paris region (Hauts-de-Seine), France
- Offices in Lyon (Rhône), France

CONTACTS

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CHOOSING THE ESSENTIAL
HARDWARE AND SOFTWARE

DECELECT

ESVDI AND FTTH COMPONENTS

Specialising in the design and manufacture of ESVDI (Energy, Security, Voice, Data and Image) and FTTH components, Decelect has been well-known for its expertise for over 50 years, recognised as an expert in its field by French and foreign manufacturers. Always at the cutting edge of innovation, Decelect is now developing Smart Building, Smart Home, and FTTH solutions.



1968

year of creation



€13M

in turnover in 2020

Our complete range is available in three areas of activity: connection of buildings/residences, industry/tertiary, solutions for telecoms networks.

PRODUCTS AND SERVICES

Residential range:

- ▶ VDI: communication junction box and accessories (RJ45 DTI, RJ45 socket, Ethernet switch, cords, etc.);
- ▶ FTTH: complete solution for deployment in residences (subscriber links, optical interior terminal devices, OTO, optical connection points, riser cables, building shared access points, CIS, etc.);
- ▶ Solution for connected residences and buildings: multi-protocol home automation gateway (EnOcean, Zigbee, IO, BLE, Zwave), radio receivers/transmitters, micro-modules, connected switches, connected thermostats, pilot wires, connected thermostatic valves, etc.;
- ▶ Electrical connection range: connection terminals, electrical sockets, and electrical connection accessories.

Tertiary range:

- ▶ Range of 19-inch racks and accessories, 10/19-inch junction boxes;
- ▶ Data centre range: Complete solution for data centres: Server and colocation racks, cross-connection racks, connection and patch accessories, customised and smart electrical distribution blocks, certified factory pre-wiring, studies, layout plans, etc.;
- ▶ Office automation range: range of products for connecting and distributing low- and high-voltage power, video services, and connected solutions (office solutions, posts, columns, and poles);
- ▶ Components range: CAT6/6A/8 cable, certified CAT6/6A/8 sockets, CAT6/6A/8 patch cords, plates, optical fibres, etc.

Industrial subcontracting:

customised cabling with certification, binding, plastic injection and manufacture of moulds for injection, assembly and customisation, logistics services.

WORKING LOCATIONS

Worldwide.

REFERENCES

Orange Africa, Belgium, Maghreb.

OPERATIONAL MODES

- ▶ Analysis, study, consulting, support of customer needs;
- ▶ Calculation of lengths, drawings, parts lists, as-built drawings;
- ▶ Individual acceptance of links with identification and certified individual testing;
- ▶ Structured and customised cabling;
- ▶ Layout study;
- ▶ Packaging for on-site delivery;
- ▶ Customised cable cutting.

Locations

- In France: Soissons (registered office), Saint-Vit, Joué-Lès-Tours
- Other: Tunisia, China

CONTACTS

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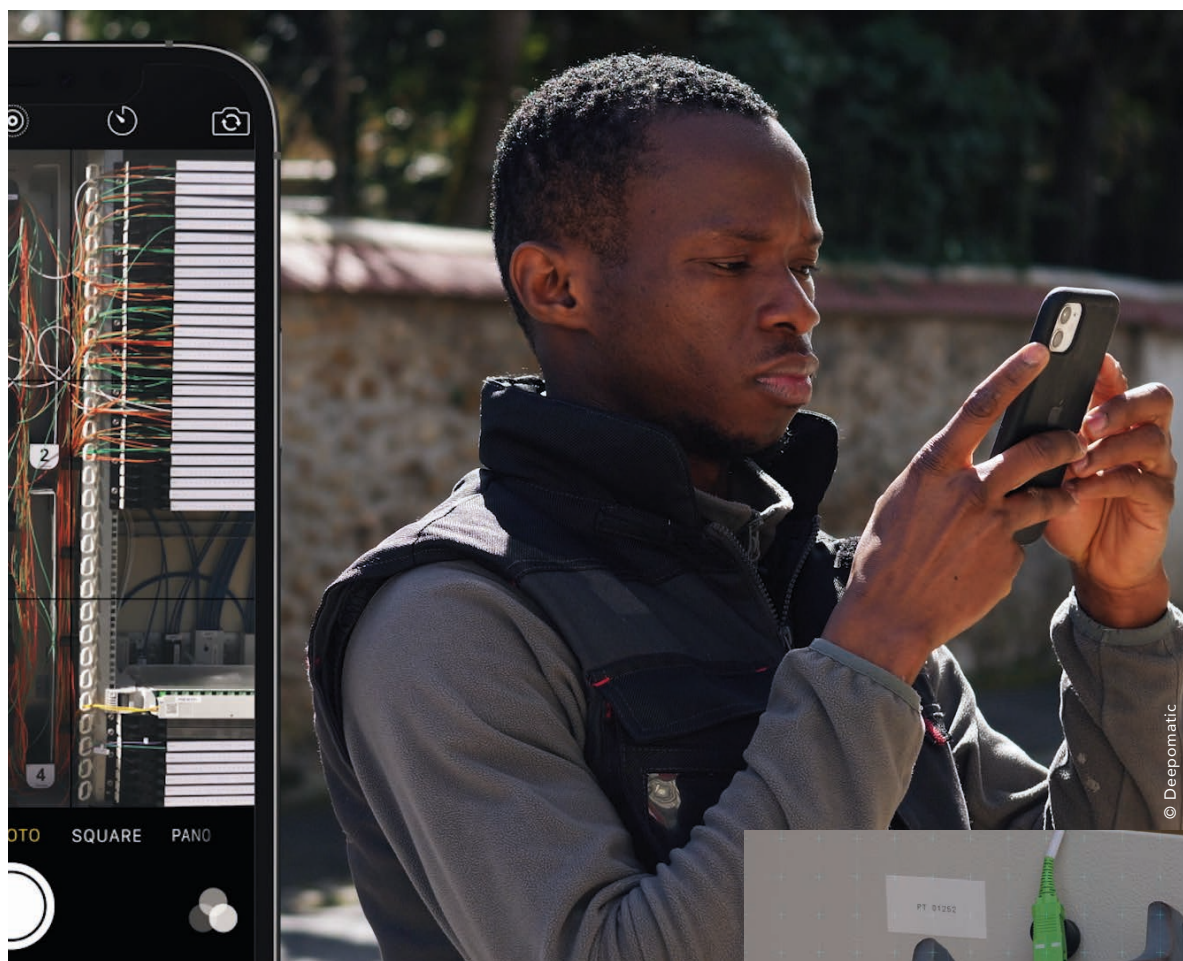


CHOOSING THE ESSENTIAL
HARDWARE AND SOFTWARE

DEEPOMATIC.

VISUAL AUTOMATION

Deepomatic is the only visual automation platform designed to augment field operations of telecommunications companies and their partners.



deepomatic.



Deepomatic uses AI and state-of-the-art image recognition technology to assess the quality and compliance of fibre construction and installation works, and to support technicians in carrying out their daily tasks. The benefits are numerous: the ability to observe the network, concrete quality indicators, and the option of carrying out predictive analysis based on the visual data and metadata collected. Major operators, infrastructure owners, and network integrators such as Bouygues Telecom, Sogetrel, and Swisscom use Deepomatic to connect their subscribers in a more reliable manner, reduce installation costs, improve user experience, and also ensure a long-term return on infrastructure investment.

PRODUCTS AND SERVICES

Products:

Visual automation (image recognition) platform for:

- ▶ FTTx and network.
- ▶ Construction/deployment: Quality analysis of visual tasks (also named control points) during work orders;
- ▶ Automated inspection of network quality and conformity.

Services:

- ▶ Easy adding of customised visual tasks;
- ▶ Implementation of business logic;
- ▶ Integration in field-service management applications.

WORKING LOCATIONS

Worldwide.

REFERENCES FOR EXPORT ACTIVITIES

- ▶ Swisscom;
- ▶ Bouygues Telecom;
- ▶ Sogetrel;
- ▶ Circet.

OPERATIONAL MODES

- ▶ Platform configuration and production launch within two months;
- ▶ Integration into client applications.

Locations

- Registered office: Paris, France
- Team locations: Paris, New York, Rome, Tel Aviv.

CONTACT

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2014
year of creation



€2M

in turnover, **50%** of which comes from telecommunications companies



200%
annual growth



60 days
average installation time in a telecoms company



PREPARING AND
IMPLEMENTING YOUR PROJECT



ACQUIRING THE
RIGHT EXPERTISE



MARKETING YOUR SUPERFAST
BROADBAND NETWORK

DIMOTEC

WIRELESS TELECOMMUNICATIONS INFRASTRUCTURE

As a wireless telecommunications infrastructure operator, we put our skills at your service, using private networks to guarantee your voice and data communications in any location, under any circumstances.



© Radwin



2003
year of creation



€500K
in turnover
in 2019

Whether you want to operate production equipment, manage your buildings, or ensure the safety of staff and property, we have the solution for you. Our mastery of communication technologies allows us to enable your means of communication, whatever they may be, to operate in combination: aeronautical, land, voice, data, videos..

PRODUCTS AND SERVICES

Private infrastructure operator

- ▶ From the study of radio frequency coverage to its operation, including dimensioning the infrastructure, deployment, configuration of business software, not forgetting the administrative aspect with the administrations;
- ▶ Historical PMR networks (TETRA and DMR) and private 4G LTE;
- ▶ IoT networks, Smart Business: Buildings - Industry - Agriculture;

- ▶ IPRadio smartphone applications;
- ▶ Aeronautical radio networks, ground-aircraft networks, deployment, commissioning, and maintenance study;
- ▶ Autonomous, independent telecommunications bubbles.

Training

- ▶ Definition of needs with the purchaser, based on the audience and objectives;
- ▶ Classroom, workshop, and corporate training, and now video-conference training;
- ▶ Main topics:
 - 4G and 5G radio installers and technicians;
 - Smart City;
 - IoT and 5G.

WORKING LOCATIONS

Metropolitan France, Europe as of 2021.

REFERENCES FOR EXPORT ACTIVITIES

Working internationally in customer support (Africa).

OPERATIONAL MODES

Analysis, study, consulting, directly or through partnership, as appropriate.

Locations

- Registered office: 5 rue Félix Terrier, 75020, Paris, France



© Nomotech

CONTACT

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PREPARING AND
IMPLEMENTING YOUR PROJECT



CHOOSING THE ESSENTIAL
HARDWARE AND SOFTWARE

DOTIC

DIGITAL INFRASTRUCTURE ENGINEERING

DOTIC is a digital infrastructure engineering firm that assists key accounts and local authorities with superfast broadband technologies. DOTIC offers radio or fibre network designs, as well as a proposal for developing GIS and data management telecoms tools, and a consulting proposal for smart data management solutions.



© Dotic



© Dotic



2008
year of creation



€2.2M
in turnover in 2021



25
employees

PRODUCTS AND SERVICES

Our services are divided into four business units:

Process and decision

- ▶ Functional optimisation study and solution development;
- ▶ Analysis of company needs/ advice on tools;
- ▶ Training.

Radio engineering

- ▶ Strategic studies, easibility studies, and development of technical-economic scenarios;
- ▶ Coverage and dimensioning engineering;
- ▶ Contracting authority and implementation monitoring assistance.

Geomatics and AI engineering

- ▶ Data management & GIS (analytical data, data visualisation);
- ▶ Digital transformation;
- ▶ Data intelligence – definition and integration of KPIs.

Development of telecoms tools

- ▶ Functional modelling;
- ▶ Development of customised solutions;
- ▶ Monitoring and maintenance of our solutions.

Provision of access to the Connect-Control software in SaaS or On-Premise mode; a network data processing platform designed to industrialise and improve the reliability of the exchange of digital deliverables between players during the construction and operation of FTTH networks.

WORKING LOCATIONS

We operate throughout France, and internationally.

REFERENCES FOR EXPORT ACTIVITIES

Study of the coverage and dimensioning of the DMR network on the Berkine Group oil sites, as a sub-contractor for Bartec.

Locations

- Registered office: Bordeaux, France
- Other offices: Grasse, Paris, and Tours, France

CONTACTS

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Vanessa ARAUJO BERTRAND

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PREPARING AND
IMPLEMENTING YOUR PROJECT



OPERATING AND
MAINTAINING NETWORKS

DRIVOPTIC

CONTROL, QUALIFICATION, AND AUDITING OF SUPERFAST FIBRE OPTIC BROADBAND NETWORKS

DRIVOPTIC is a company specialising in the control, qualification, and auditing of superfast fibre optic broadband networks. Our engineers and technicians check the compliance of overhead and underground optical infrastructures that are constructed in line with technical guidelines and specifications.



© Drivoptic



- ▶ Our inspections are based on our technical expertise, reflectometric measurements, and in-depth analysis of data management systems (GIS);
- ▶ Our audits allow you to detect anomalies, make recommendations, and bring your products into compliance;
- ▶ One objective: to reduce delivery times for installations and facilitate their commissioning.

PRODUCTS AND SERVICES

Control and auditing:

- ▶ Validation of all engineering regulations;
- ▶ Compliance with specifications;
- ▶ Verification of studies (load calculations, routes, and optical assessments);
- ▶ Visual audits of infrastructures (overhead and underground);
- ▶ Computerised audit reports and photo reports.

Qualification:

- ▶ Reflectometric measurements and curve processing;
- ▶ Optical continuity tests.

Compliance:

Connection works.

Training:

From the study to the operation of superfast fibre optic broadband networks.

WORKING LOCATIONS

France and international.

REFERENCES FOR EXPORT ACTIVITIES

- ▶ Audit of superfast broadband networks (collection and FTTH) in the territory of Saint-Laurent-du-Maroni in French Guiana (SPLANG), in partnership with Strategic Scout;
- ▶ Training of OPT (Postal and Telecommunication Service) agents in New Caledonia in superfast fibre optic broadband networks, in partnership with Axians and LOGIC;
- ▶ Training of engineers and management of the ARPCE (Regulatory Authority for Postal and Electronic Communications) of the Republic of Congo, in partnership with Infractive.

OPERATIONAL MODES

Partnering with other companies to carry out international projects (complementarity with design offices, and contracting authority and project management assistance firms).

Locations

- Head office: 1189 Chemin du Perron, 42300, Villerest, France
- Offices: NumériParc, 27 rue Langenieux, 42300, Roanne, France



€190K
in turnover from July
2018 to June 2019



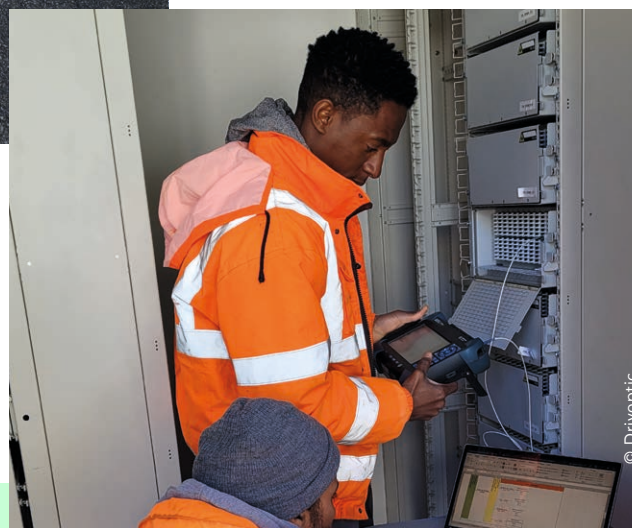
€410K
in turnover from July 2019
to June 2020



€750K
in turnover from July 2020
to June 2021



10
engineers and technicians
in 2020



© Drivoptic

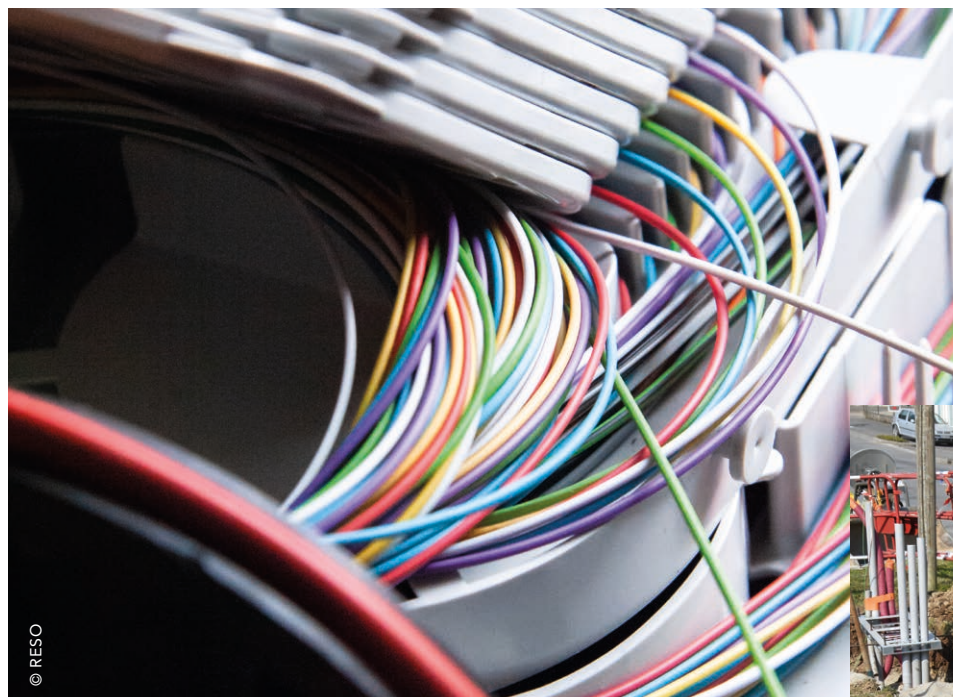
CONTACTS

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Jean-Baptiste WATEL, Operations Manager
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EIFFAGE ÉNERGIE SYSTÈMES

SYSTEMS AND EQUIPMENT FOR ELECTRICAL,
INDUSTRIAL, CLIMATE, AND ENERGY ENGINEERING

Eiffage Énergie Systèmes designs, builds, operates, and maintains systems and equipment that respect people and the environment for electrical, industrial, climate, and energy engineering. Eiffage Énergie Systèmes offers customised solutions for the industrial market, the infrastructure and network market, the urban and local authority market, and the tertiary market.



PRODUCTS AND SERVICES

► Telecommunications operators:

Design, deployment, and maintenance of fixed or mobile telecoms infrastructures (indoor or outdoor). Installation and commissioning of active fixed or mobile network equipment, and boxes for individuals and companies;

► Equipment manufacturers:

For fixed networks (WDM, IP, OLT, etc.): installation and commissioning of equipment. For mobile networks: searching for and negotiating for sites, works, and installation and commissioning of equipment (radio sites, antennas, microwave relays, etc.);

► Local authorities:

Design and deployment of superfast broadband telecommunications networks.

CO-PRODUCTION

Collaboration with local providers.

WORKING LOCATIONS

Europe/Africa.

REFERENCES FOR EXPORT ACTIVITIES

Multiple references in each country.

OPERATIONAL MODES

Customisable offers that can be adapted to the size and needs of projects; all the way up to turnkey projects.

Locations

- Registered office: 3-7 place de l'Europe, 78140, Vélizy-Villacoublay, France
- Locations: Germany, Belgium, Spain, Italy, Netherlands, Portugal



€18B
in turnover
in 2019



72,500
employees across
the Group



17,653
employees outside
France



100K
projects/year

CONTACT

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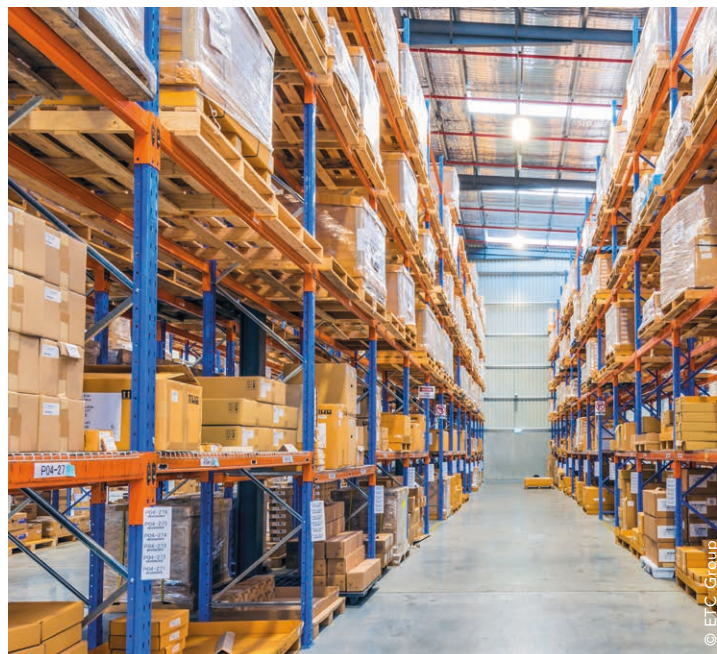
CHOOSING THE ESSENTIAL
HARDWARE AND SOFTWARE

ETC GROUP

MULTI-BRAND DISTRIBUTOR

ETC Group is a multi-brand distributor of:

- ▶ Products that make up the passive infrastructure of fixed and mobile networks: fibre optic cables, cabinets, cabinet equipment, connection boxes, building equipment, customer connections, energy workshops, RF and FTTA lines, antenna supports, collective safety and security devices, landscape integration;
- ▶ Products that make up the passive infrastructure of data centres: cables, connectivity, racks, tunnels, dedicated facilities, PDU, transceivers, monitoring devices;
- ▶ Products enabling the implementation of networks: tools, metrology equipment, consumables, pulling and connection equipment, site environment.



€1B
in turnover
in 2021



1,200
people



PRODUCTS AND SERVICES

- ▶ Fibre optic cables;
- ▶ Outdoor and indoor cabinets and accessories;
- ▶ Junction boxes;
- ▶ Junction boxes and units for buildings, and subscriber connection equipment;
- ▶ Overhead fittings and anchors;
- ▶ Energy and electricity workshops;
- ▶ RF and FTTA lines;
- ▶ Ironwork/metalwork for antenna supports and collective safety;
- ▶ Landscape integration;
- ▶ Development of data centre rooms, PDU, cables, connections;
- ▶ Transceivers;
- ▶ Monitoring;
- ▶ Measurement and metrology equipment;
- ▶ Specific and general tools;
- ▶ Site environment, and pulling equipment;
- ▶ Consumables.

CO-PRODUCTION

- ▶ Assembly of distribution platforms (Portugal, Israel, USA);
- ▶ Assembly of product refreshing platforms (USA, Portugal). Reception, refurbishment of boxes, decoders, and telephones for operators to make them compliant, or to make them like new (USA, Portugal).

WORKING LOCATIONS

Europe, Afrique, USA, Moyen-Orient.

REFERENCES FOR EXPORT ACTIVITIES

- ▶ British Telecom, Open Reach (UK);
- ▶ Suddenlink, Cablevision (US);
- ▶ Hot (Israel);
- ▶ Portugal Telecom (Portugal);
- ▶ Etisalat (UAE and other Middle East countries).

OPERATIONAL MODES

Two distribution models that allow us to stand out:

- ▶ For operators: hardware solution integrator. Ability to advise and support the operator in making technical choices for equipment, and to interface between the operator and subcontractors for the distribution of the Bill Of Materials for the passive infrastructure of the network;
- ▶ For installers/subcontractors: concept of the "one-stop-shop", where they can find everything they need (tools, site equipment, consumables, etc.).

Locations

International presence: France, USA, Portugal, Dominican Republic, England, Scotland, Morocco, India, Middle East.

• ETC Group registered office: Eaubonne, France

• Israel: Tel Aviv

• Portugal: head office in Lisbon, 4 warehouses

• USA: New Jersey and Texas

• Morocco: Casablanca

• UK: London, Glasgow

• Middle East: Hong Kong, Doha (Qatar), Dubai (UAE), Muscat (Oman)



1993

year of creation of Eurotechnocom ETC (France)



2014

year of creation of the ILDC subsidiary in Israel



2015

year of creation of the ETCP subsidiary in Portugal



2016

year of creation of the USTC subsidiary in the USA



2020

year of acquisition of Comtec (present in the UK, Qatar, Oman, UAE, and Hong Kong)



2021

year of creation of the subsidiary ETC Morocco Networks, and acquisition of Walkers and Associates Inc. and Comstar (United States)

CONTACT

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EUCLYDE DATACENTERS

DATA CENTRE SERVICES

— Euclýde Datacenters is a company that hosts IT infrastructure and critical data at specialised sites (data centres).



EUCLYDE | DATACENTERS
FINEST IT HOSTING & SERVICES



PRODUCTS AND SERVICES

Euclýde meets the needs of its customers by offering a complete range of data centre services.

These needs can be in relation to hosting IS infrastructures, managed services, or business continuity solutions:

- ▶ Colocation;
- ▶ Cloud hosting;
- ▶ Storage and archiving;
- ▶ BCP and BCM;
- ▶ Backup;
- ▶ Managed networks;
- ▶ Multi-operator IP transit;
- ▶ WAN services.

CO-PRODUCTION

Euclýde Datacenters is a local partner that operates local sites and works in collaboration with local sources and wealth at each of its sites.

In addition, we favour digital sovereignty by working with preferred French, or European, suppliers.

WORKING LOCATIONS

All of France and Luxembourg.

OPERATIONAL MODES

Euclýde Datacenters meets the needs of its customers by adapting to their requirements and providing customised proposals. Our neutrality allows us to respond with a wide range of IT and telecoms partners.

Locations

- Registered office: 49 rue Émile Hugues, 06600 Antibes, France
- Valbonne, Aix-en-Provence, Besançon, Lyon, Lognes (Île-de-France), Strasbourg, France

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2004
year of creation



€7M
in turnover in 2020



20%
growth



CHOOSING THE ESSENTIAL
HARDWARE AND SOFTWARE

FOLAN

PASSIVE COMPONENTS FOR FIBRE OPTIC NETWORKS

FOLAN is a French specialist in passive component solutions for fibre optic networks: network cores, FTTx deployments, data centres, industries, etc. Connectors and assembly are at the heart of FOLAN's work, as it offers customised and standardised solutions adapted to each project, thanks to its design office and four production units.



1988
year of creation



€33.5M

in turnover in 2021, of which
more than **20%** came from
abroad Turnover multiplied
by **4** in 5 years

PRODUCTS AND SERVICES

- ▶ Cables and cords;
- ▶ Optical distributors;
- ▶ Patch panels;
- ▶ Internal and external junction boxes;
- ▶ Hybrid junction boxes;
- ▶ Waterproof units;
- ▶ Overhead accessories;
- ▶ Optical terminal outlets.

CO-PRODUCTION

On innovation projects, with specialised laboratories and design offices.

WORKING LOCATIONS

Our international business (20% of sales) is constantly growing, particularly in European countries, the Middle East, and Africa. We are also constantly developing in the UK market, and we aim to establish ourselves within the German market by 2022.

REFERENCES FOR EXPORT ACTIVITIES

We mainly work with telephone operators and equipment manufacturers (Orange, Free, Bouygues, Vodafone, Proximus, Salt, Telma, Ericsson, Nokia, Fujitsu, IBM, Anixter). We also work with design offices and network installers, whether they work in the city, on wiring for offices, homes, data centres, or energy bases (with Engie Ineo, SPIE, Vinci, TDF, RTE).

OPERATIONAL MODES

- ▶ Indirect and direct sales;
- ▶ Responses to calls for tender;
- ▶ Proposing customised solutions.

Locations

- Registered office: Rillieux-La-Pape (Lyon suburbs), France
- 4 production units:
 - in France: for custom solutions or small runs
 - in Romania: for medium runs
 - in China: for large runs
 - and in the UK: for small and medium runs



Over 9M

points wired
every year



Over 50M

km of fibre consumed
per year



Over 50,000

patch panels manufactured
per year

CONTACTS

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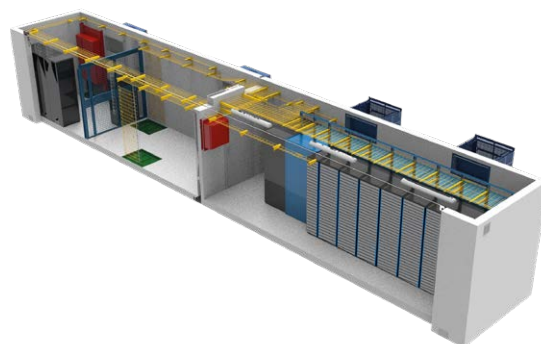


CHOOSING THE ESSENTIAL
HARDWARE AND SOFTWARE

GROLLEAU

MANUFACTURER OF CABINETS,
FIBRE OPTIC SHELTERS, MODULAR
DATA CENTRES, AND SOLUTIONS
FOR CONNECTED TERRITORIES

Grolleau is involved in the design, manufacturing, integration, cabling, and testing of OXC outdoor cabinets, equipped ODF telecoms shelters, and modular data centres.



© Grolleau

© Grolleau



In addition to producing the envelope, our design office handles the mechanical, electrical, thermal, EMC, acoustic, sealing, and qualification aspects that we certify.

We also handle transport and on-site installation, as well as commissioning. Grolleau has been working with the telecommunications Industry for more than 20 years.

We work with equipment manufacturers, operators and contractors for the deployment of radio, GSM-R, broadband, and superfast broadband FTTH networks.

We also work in the following areas: urban, green energy, industry and transport. We control the entire chain, through our production resources and our skills in:

- ▶ Mechanical, thermal, and electrical design;
- ▶ Sheet metal production;
- ▶ Paint line;
- ▶ Assembly and integration of cabinets and shelter;
- ▶ Qualifications and testing;
- ▶ Supply chain for integrated equipment (optical equipment, energy workshop, batteries, access control, etc.);
- ▶ Logistics, maintenance, on-site installation, and commissioning.

PRODUCTS AND SERVICES

- ▶ Passive and/or active outdoor cabinets;
- ▶ Indoor cabinets;
- ▶ Customised cabinets according to customer needs;
- ▶ Modular and pre-equipped light shelters (welded steel structure, aluminium, etc.);

- ▶ Modular and pre-equipped heavy shelters (concrete);
- ▶ Modular and pre-equipped mini data centres;
- ▶ Integration: energy workshop, LVDP, access control, fire detection, air conditioning, CTM;
- ▶ IoT system, supervision, CCTV;
- ▶ On-site service and remote management.

CO-PRODUCTION

- ▶ Creation of an on-site factory for integration, final configuration, and testing;
- ▶ Training of the local workforce;
- ▶ Operational maintenance.

WORKING LOCATIONS

- ▶ Europe;
- ▶ Africa.

REFERENCES FOR EXPORT ACTIVITIES

Kapsch, Nortel, Motorola, Ericsson, Orange CI, Axione UK, PCM, EXOSUN, LEROY SOMER, ABB.

OPERATIONAL MODES

- ▶ Setting up turnkey projects: Contracting authority or project management;
- ▶ Partnership with other companies: Economic interest groups.

Locations

- Registered office and production factory: Rue du Moulin de la Buie, 49310, Montilliers, France
- Grolleau Afrique (Abidjan, Ivory Coast), 51% owned subsidiary
- Grolleau UK (London, UK), 100% owned subsidiary



€34M
in turnover



200
people



1950
year of creation



15,000
cabinets produced
per year

CONTACT

Patrick LE PROVOST, Telecom Business Manager
Patrick.leprovost@grolleau.fr | Mob.: +33 6 20 82 32 69

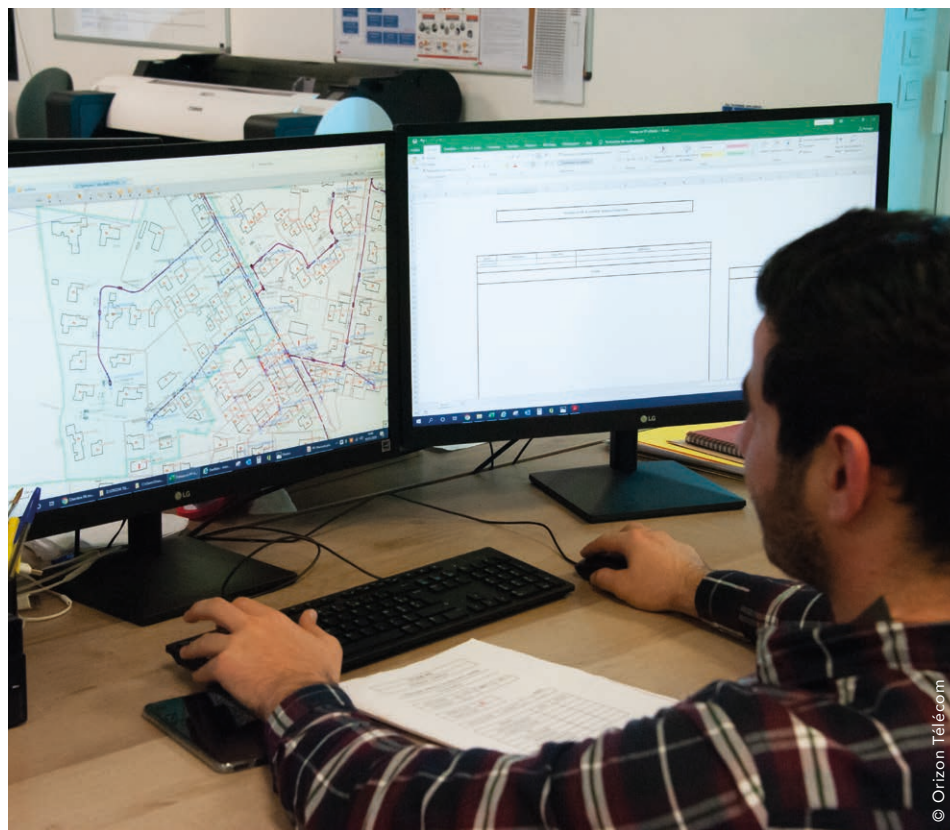


PREPARING AND
IMPLEMENTING YOUR PROJECT

GROUPE PARERA

NETWORK OPERATORS AND MAPPING, CAD, AND GIS ACTIVITIES

Created in 1968, Groupe PARERA has developed its business around network operators, across the entire value chain from design to maintenance, as well as land surveying, CAD, and GIS activities for the main network managers. We support partners and customers, both nationally and internationally.



© Orizon Télécom



Located approximately 30 kilometres from Toulouse, in L'Isle Jourdain (32), France, Groupe PARERA deploys its teams throughout the mainland, overseas territories, West Africa, and Madagascar.

PRODUCTS AND SERVICES

- ▶ Land surveying /topography/ GIS/LIDAR;
- ▶ Detection of networks;
- ▶ BIM/digital models;
- ▶ Optical fibre studies;
- ▶ Improvement of reliability on customer site;
- ▶ Creation of dedicated/ specialised software;
- ▶ Training and consulting;
- ▶ Activities/services.

CO-PRODUCTION

Training and support of the local workforce.

WORKING LOCATIONS

- ▶ Metropolitan France and overseas territories;
- ▶ Ivory Coast and West African countries;
- ▶ Madagascar.

REFERENCES FOR EXPORT ACTIVITIES

- ▶ CIE;
- ▶ PETROCI;
- ▶ ONATEL;
- ▶ SETELCI;
- ▶ AGEROUTE;
- ▶ BENET;
- ▶ SENELEC.

OPERATIONAL MODES

- ▶ Project set-up;
- ▶ Association and partnership with other companies.

Locations

- Registered office: ZI Buconis, 35 rue Motta Di Livenza, 32600, L'Isle Jourdain, France
- Offices in metropolitan France and overseas territories
- Subsidiaries:
 - PARERA Madagascar - Antananarivo
 - PARERA Côte d'Ivoire - Abidjan, Ivory Coast
 - PARERA Services - L'Isle Jourdain (32), France
 - GEOTECH - Garches (92), France
 - PARERA Consulting/Training - L'Isle Jourdain (32), France



1968
year of creation



720
employees



€35M
in turnover in 2021



200,000
operations per year for
PARERA Services

CONTACTS

Jacques CETTOLO, Chief Executive Officer
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Philippe DURAND, Deputy Managing Director – Director of Development
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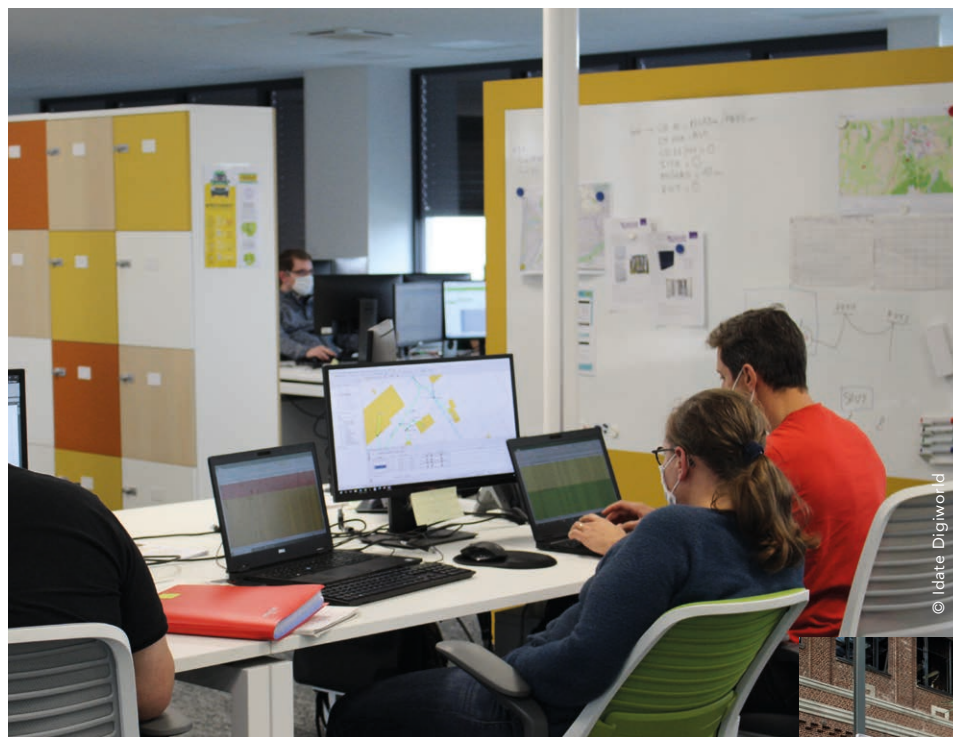
PREPARING AND
IMPLEMENTING YOUR PROJECT

IDATE DIGIWORLD

RESEARCH INSTITUTE FOR TELECOMMUNICATIONS AND THE DIGITAL ECONOMY

— IDATE is a research institute in Europe, dealing with telecommunications and the digital economy, with three business lines:

- ▶ Consulting;
- ▶ Market intelligence (creation and sale of databases, carrying out studies);
- ▶ Think-tank (organisation of meetings, seminars, events, and study circles).



© Idate Digiworld



1977
year of creation



€5M
in turnover

PRODUCTS AND SERVICES

- ▶ Consulting;
- ▶ Studies;
- ▶ Training.

CO-PRODUCTION

- ▶ On-site missions;
- ▶ Participation in ventures in relation to public and private contracts.

WORKING LOCATIONS

- ▶ Europe;
- ▶ Africa;
- ▶ Asia;
- ▶ Latin America.

REFERENCES FOR EXPORT ACTIVITIES

Export turnover: €2M

Main export customers:

- ▶ Gabon National TIPPEE Commission (works of public interest for the promotion of entrepreneurship and employment);
- ▶ INFOCOM - Tokyo;
- ▶ FTTH Council Europe - Brussels;
- ▶ FTTH Council Latin America;

- ▶ Brazil, Argentina, Mexico;
- ▶ FTTH Council Middle East & North Africa - UAE Dubai;
- ▶ FTTH Council Asia Pacific - Singapore;
- ▶ Ministry of Territorial Development - Morocco;
- ▶ SOGEM - Mali;
- ▶ UEMOA - Benin, Burkina Faso, Ivory Coast, Guinea-Bissau, Mali, Niger, Senegal, Togo;
- ▶ Central Electricity Board - Mauritius;
- ▶ HUAWEI - China;
- ▶ Ministry of Digital and Postal Economy - Burkina Faso;
- ▶ Ministry of Urban Planning - Morocco;
- ▶ Ministry of Post, Telecommunications, and the Digital Economy - Congo Brazzaville;
- ▶ Ministry of Post, Telecommunications, and New Information and Communication Technologies - DRC;
- ▶ European Investment Bank - Luxembourg and Africa;
- ▶ Ministry of Communication and Media - CAR;
- ▶ Banco de Desarrollo de America Latina - Venezuela.

OPERATIONAL MODES

- ▶ Carrying out studies;
- ▶ Hosting on-site meetings, project coordination;
- ▶ Organisation of events/working groups.

Locations

- Registered office: 45 allée Yves Stourdzé, 34830, Clapiers, France
- Branch office: 52 rue Montmartre, 75002, Paris, France
- Presence in Morocco and Venezuela



© Idate Digiworld

CONTACT

Roland MONTAGNE, Director of the Smart Networks & Territories Business Unit, Principal Analyst for Broadband & FTTx | r.montagne@idate.org
Tel.: +33 4 67 14 44 26 | Mob.: +33 6 80 85 04 80 | www.idate.org

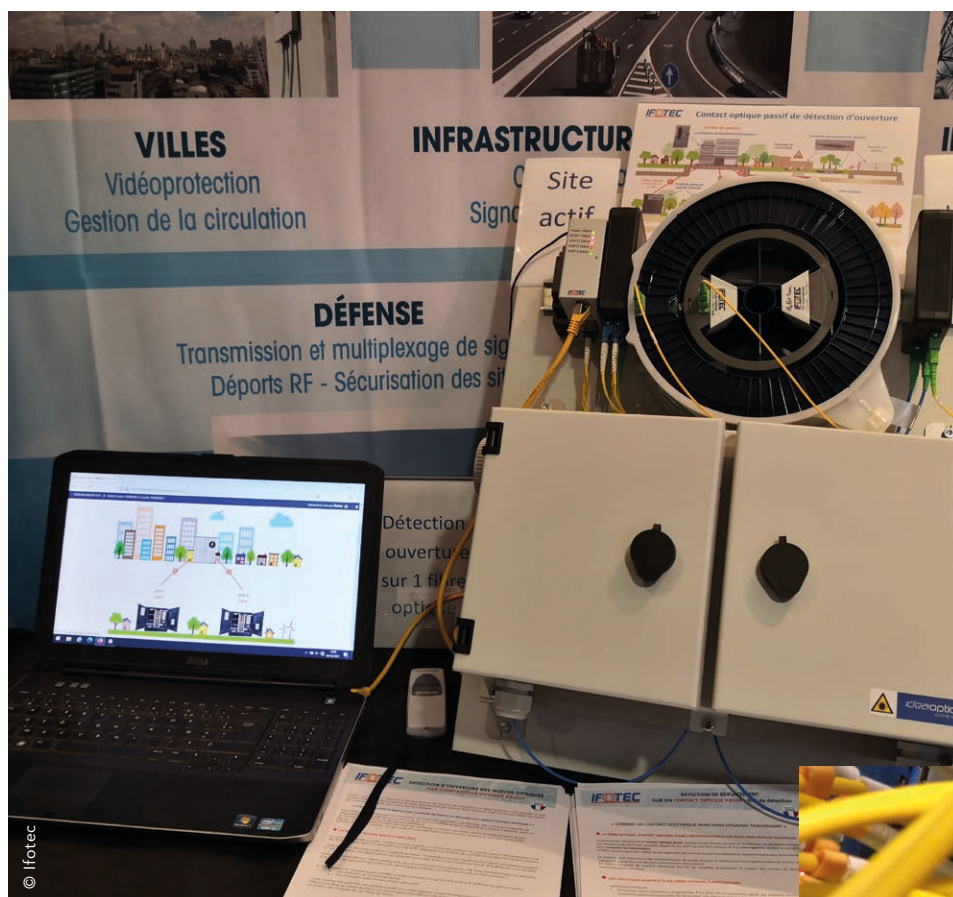


CHOOSING THE ESSENTIAL
HARDWARE AND SOFTWARE

IFOTEC

FIBRE OPTIC TRANSMISSION SOLUTIONS AND EQUIPMENT

Since 1999, IFOTEC has been designing and manufacturing fibre optic transmission solutions and equipment for all types of signals (video, data, digital, audio, Ethernet, RF, etc.) in France.



1999

year of creation



€3M

in turnover in 2020

We support local authorities, operators, and manufacturers that wish to:

- ▶ Ensure the reliability and security of their transmissions;
- ▶ Promote their fibre optic networks by pooling services and applications.

In this way, we are able to offer the most suitable solutions for applications such as:

- ▶ Transport infrastructure (roads, motorways, tunnels, airports, ports, and railways);
- ▶ Security for high-risk sites (industry, energy production, and defence);
- ▶ Connected cities (video protection, traffic management, signalling, etc.);
- ▶ Broadband and superfast broadband coverage of territories (up to 1 Gbit/s) for companies and individuals;
- ▶ Centralised multi-application technical management on fibre optic networks (energy, environment, access control, video surveillance, remote management of equipment).

PRODUCTS AND SERVICES

Manufacturer of fibre optic communication equipment.

CO-PRODUCTION

Training of the local workforce.

WORKING LOCATIONS

By virtue of its history, most of IFOTEC's turnover is generated in France. The use of our products in international projects has led us to be present in Europe and Africa. A more proactive approach has been taken in French-speaking Africa since 2019, and this has been realised by:

- ▶ The opening of a representative office in Casablanca, with the presence of a sales engineer dedicated to the Moroccan market;
- ▶ Targeted actions in Senegal, Ivory Coast, and Burkina Faso.

REFERENCES FOR EXPORT ACTIVITIES

- ▶ Video surveillance of Félix-Houphouët-Boigny bridge in Abidjan, Ivory Coast;
- ▶ Senegal motorway video surveillance;
- ▶ Total Nigeria;
- ▶ ASECNA-CHAD;
- ▶ EL System Burkina Faso.

OPERATIONAL MODES

- ▶ Response to requests for supplies of equipment;
- ▶ Working in partnership with integrators on a turnkey response aimed at implementing a telecoms solution.

Locations

- Registered office, design office, and production site: Voiron (38), France
- Commercial representative office: Casablanca, Morocco

CONTACT

Hervé MARTIN, Sales Manager
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ACQUIRING THE
RIGHT EXPERTISE

INITIA FORMATION

TRAINING CENTRE

With both technical and practical courses, Initia Formation trains future players in the digital infrastructure business. Since its creation, Initia has trained 525 trainees, as part of OPCO (Skill Operators) funding or public funding for companies that have anywhere from less than 10 employees to more than 500 employees.



© Initia Formation

PRODUCTS AND SERVICES

- ▶ Testing and measurement module;
- ▶ Authorisation to work near networks;
- ▶ Electrical accreditation for non-electricians (H0B0);
- ▶ Telecommunication network installer (cooper and fiber);
- ▶ Technician connecting general public subscribers;
- ▶ Local loop/ terminak line technician;
- ▶ Telecommunication networks trainer.

CO-PRODUCTION

- ▶ Training of the regional workforce;
- ▶ Upskilling of employees;
- ▶ Retraining;
- ▶ Return to employment;
- ▶ Support in completing funding applications (OPCO, companies, individuals).

WORKING LOCATIONS

France and Africa.

REFERENCES FOR EXPORT ACTIVITIES

Axione, Axians, Free, Scopelec, Sogetrel, Eure Normandie numérique, Team Réseaux, Adecco, Alliance, Constructys, Afdas, Résonance, Pôle Emploi, SPIE, IZIWORK, H&A Telecom, Nemesis THD, AKTO.

OPERATIONAL MODES

- ▶ Innovance networks;
- ▶ Digitisation of the training organisation;
- ▶ Continuous or initial training;
- ▶ Apprentice training centre (professional or apprenticeship contract).

Locations

- Guichainville (Eure), France
- Elbeuf (Seine-Maritime), France
- Alençon (Orne), France
- Caen (Calvados), France



2017
year of creation



€700K
in turnover in 2019



97%
success rate

CONTACT

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CONSTRUCTING
NETWORKS



OPERATING AND
MAINTAINING NETWORKS

KYNTUS

SUPPORT FOR NETWORK CONSTRUCTION AND MAINTENANCE

The KYNTUS Group was created in 2018 by a number of experienced telecoms entrepreneurs. The company now supports operators and public service representatives in the construction and maintenance of their networks.



© Orizon Télécom



© Orizon Télécom



KYNTUS



2018
year of creation



€125M
in turnover in 2020

PRODUCTS AND SERVICES

Turnkey deployment of FTTH networks (studies, works):

- ▶ Turnkey ODF service zone, shared access point service zone;
- ▶ Project management;
- ▶ Network design studies;
- ▶ Basic Preliminary Design;
- ▶ Field studies - Survey and cell occupancy sheet survey;
- ▶ Route switching;
- ▶ Execution studies for carrying out works;
- ▶ Detailed Preliminary Design;
- ▶ Deployment, including civil engineering works;
- ▶ Measurements and reflectometry;
- ▶ End-to-end as-built drawings;
- ▶ Negotiation;
- ▶ Network pooling, decongestion of shared access points;
- ▶ New buildings (risers);
- ▶ Maintenance.

Turnkey deployment of radio networks (research/negotiation-work):

- ▶ Construction and maintenance of 4G/5G networks;
- ▶ Deployment of radio infrastructures (microwave relays, 4G/5G);

- ▶ Modernisation and upgrading of indoor/outdoor - macro/micro radio sites;
- ▶ Maintenance of radio sites;
- ▶ FTTS/FTTA networks;
- ▶ Fibre optic connection of radio sites;
- ▶ Additional services;
- ▶ Access management;
- ▶ Load studies (antennas);
- ▶ Electrical work on radio sites;
- ▶ Coordination of modernisation projects;
- ▶ Consulting (radio, core network, OSS/BSS);
- ▶ Processes and methods;
- ▶ Management of inter-departmental activities.

Operation and maintenance of fixed and mobile networks:

- ▶ Copper networks;
- ▶ FTTH networks;
- ▶ FTTE networks;
- ▶ Call centres;
- ▶ Business management.

CO-PRODUCTION

- ▶ Establishment of a local company, creation of a branch or a local works centre;
- ▶ Training of the local workforce, if required.

WORKING LOCATIONS

- ▶ Metropolitan France (entire territory), Reunion, Mayotte;
- ▶ Germany, West Africa (Togo).

REFERENCES FOR EXPORT ACTIVITIES

Togocell and Togocom in 2018 and 2019 (modernisation of the mobile network, deployment of 4G and FTTH training - deployment and connection).

OPERATIONAL MODES

- ▶ Turnkey services (fixed and mobile networks);
- ▶ Subcontracting or partnership with local companies.

Locations

- Registered office: 23 avenue Louis Bréguet, 78140, Vélizy-Villacoublay, France – Several dozen agencies throughout France
- Office in Germany: Adelmanstraße 2, D-84036 Landshut, Germany

CONTACT

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ACQUIRING THE
RIGHT EXPERTISEPREPARING AND
IMPLEMENTING YOUR PROJECT

LOGIC – ACADÉMIE DES TÉLÉCOMS

CONSULTING AND TRAINING IN THE TELECOMS AND DATA NETWORKS SECTOR

LOGIC was created in 2002 in order to group together the consulting and training activities carried out in the telecoms and data networks sector since 1997, and initiated as part of a sole trader company. In 2005, LOGIC created the "Académie Des Télécoms" brand with the main objective of developing a dynamic educational model focused on innovation and excellence.

2002
year of creation€1,491,344
in turnover in 2019FOR THE 2018-2019
ACADEMIC YEAR:

1,385

people trained, in initial
and continuous training94.7%
success rate

88%

integration rate
at over 6 months

PRODUCTS AND SERVICES

- ▶ Instructional design;
- ▶ Positioning assessments;
- ▶ Skills assessments;
- ▶ Customised telecoms/digital continuous training (in-person, blended learning, synchronous, or asynchronous);
- ▶ Level 4 and 5 certification training: Telecoms intervention technician (wired networks and mobile networks components), telecommunications network design and project manager, Tech 3.0, IoTTECH;
- ▶ Mapping of activities;
- ▶ Weighing up positions;
- ▶ HRM: auditing and upskilling (managers, HR departments).

WORKING LOCATIONS

Four working areas: Europe, Africa, Caribbean, and Pacific.

REFERENCES FOR EXPORT ACTIVITIES

ORANGE CIT, SPIN, TIGO, ANGLOBALE, OPT NC, OPT PF GROUP (ONATI, FARE RATA, VINI DISTRIBUTION), etc.

OPERATIONAL MODES

All our training projects are customised, so we can meet our customers' needs, taking contexts and specific features into account.

Locations

• Registered office: Centre d'affaires La Rivière, 47-49 rue Gutenberg, 42100, Saint-Etienne, France

Fax: +33 4 77 67 63 21

contact@cabinet-logic.com

Branch offices:

• New Caledonia: 106ter rue des Grives, 98809, Mont-Dore Sud

Tel.: +687 91 37 76

• French Polynesia: Fare Ute Centre building, 1 rue Francis Puara Cowan, 98713, Papeete

Tel.: +689 87 79 44 45

CONTACT

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CONSTRUCTING
NETWORKS



PREPARING AND
IMPLEMENTING YOUR PROJECT

MANCIPOZ GROUPE

CIVIL ENGINEERING WORKS FOR TELECOMMUNICATIONS NETWORKS

Mancipoz TP is a public works company specialising in civil engineering works related to the design of telecommunications networks. It is also qualified in railway signalling and telecommunications.



Mancipoz is involved in the installation and transport of fibre optic cables by air or water, and their connection. Thanks to its integrated design office, Mancipoz provides customised and turnkey services. Our team, which specialises in civil engineering and fibre optics, is more than capable of managing the local workforce that we intend to employ.

PRODUCTS AND SERVICES

► Civil engineering works related to the design of telecommunications networks, signalling, and railway telecommunications.
Fleet of five movable trenchers;

► Installation and transport of fibre optic cables by air or water, and their connection;
► Customised and turnkey study services.

CO-PRODUCTION

Training of the local workforce.

WORKING LOCATIONS

France, worldwide.

OPERATIONAL MODES

Partnership with other companies.

Locations

ZAC de Chantelot, avenue de Chantelot, 69520, Grigny, France



1998
year of creation



€5.1M
in turnover in 2020

CONTACT

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Mob.: +33 6 25 18 85 48 | www.mancipozgroupe.com



CHOOSING THE ESSENTIAL
HARDWARE AND SOFTWARE

MARAIS

CONSTRUCTION AND RENTAL OF TRENCHERS

Marais is a company specialising in the construction and rental of trenchers with drivers, for the installation of cables and infrastructures.



1962

year of creation of the
company Marais



€30M

in turnover in 2020



© Marais

PRODUCTS AND SERVICES

- ▶ Rental of ground trenchers with operator;
- ▶ Sale of trenchers;
- ▶ Mechanised installation.

WORKING LOCATIONS

Worldwide.

REFERENCES FOR EXPORT ACTIVITIES

Huawei, Ericsson, Maroc Telecom, Siemens, SFR, Orange, Bouygues, Eiffage, Vinci Inwi, Tunisie Telecom, Alcatel, etc.

Locations

- Registered office and factory: Durtal, Maine-et-Loire, France
- Subsidiaries: Tunisia, Ivory Coast, and South Africa
- Tesmec parent company: Milan, Italy
- Production factories: Italy and Texas, USA
- Subsidiaries: Australia, New Zealand, and Saudi Arabia



1993

first international
projects



**2005
-
2009**

creation of subsidiaries in Morocco,
Algeria, Tunisia, Australia,
and South Africa



2007

start of equipment
sales activity



2015

Marais joined the
Tescmec Group



2016

creation of a subsidiary
in Ivory Coast



2018

Marais entered the US
market through the
company Tesmec USA

CONTACT

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CHOOSING THE ESSENTIAL
HARDWARE AND SOFTWARE

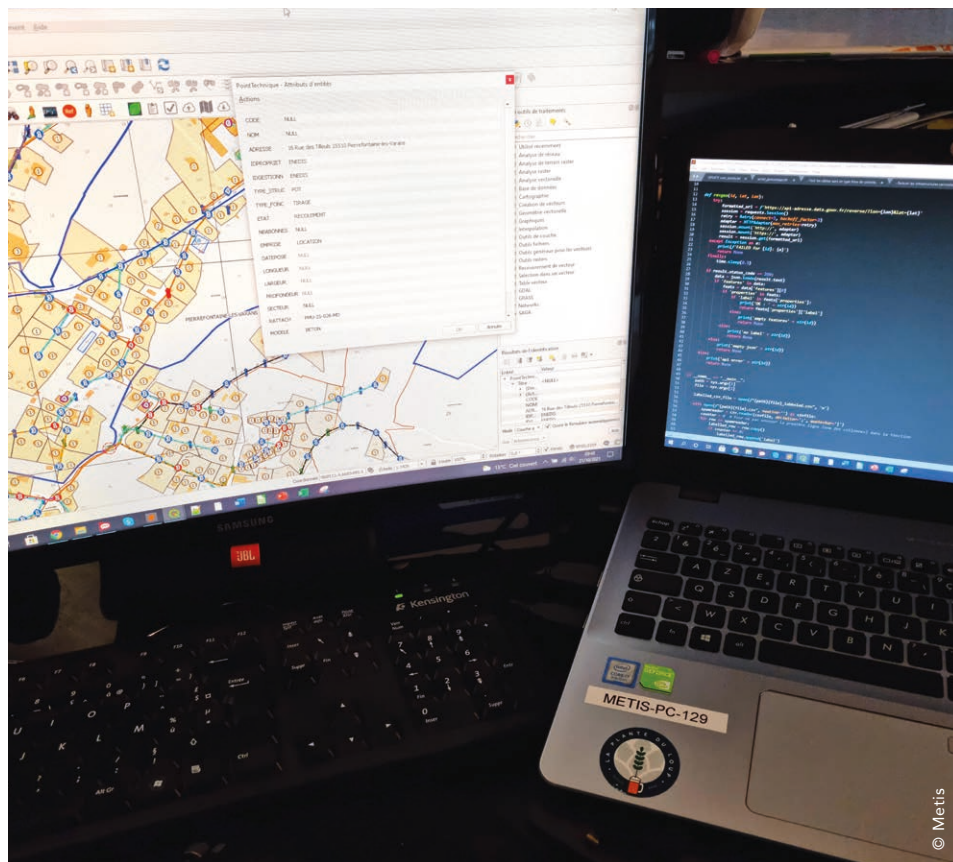


PREPARING AND
IMPLEMENTING YOUR PROJECT

METIS

GEOMATICS AND INDUSTRIALISATION OF STUDIES IN THE CONSTRUCTION SECTOR

Metis is an augmented design office specialising in network infrastructures. Our historical expertise is based on digital development in this territory. Supporting major network deployment purchasers is at the heart of our concerns.



METIS
RESEAUX



© Metis

Metis has a core business of geomatics and the industrialisation of studies in the construction sector through processes, agile methods, and data sciences. It offers online sales via the KAOA.IO platform.

PRODUCTS AND SERVICES

- ▶ Contracting authority assistance;
- ▶ Delegated project management;
- ▶ Design office specialising in network infrastructure;
- ▶ Auditing/reception/field surveys;
- ▶ Industrialisation of studies by data science;
- ▶ Online sale of study tasks: KAOA.IO.

CO-PRODUCTION

- ▶ Team training;
- ▶ Execution of works;
- ▶ Subsidiary design office in Tunisia.

WORKING LOCATIONS

All of France, Europe, Africa, and the Arab world.

REFERENCES FOR EXPORT ACTIVITIES

Our main customers: SPIE, Circet, Eiffage, Suez, Constructel, Sogetrel, Show you.

OPERATIONAL MODES

- ▶ Operator project managers (Orange, SFR, etc.);
- ▶ Public Initiative Network project managers;
- ▶ Customer satisfaction and input/output data definition process;
- ▶ Data science and geomatics.

Locations

Registered office: Lyon, France



2013
year of creation



€1.8M
in turnover in 2020



15
people + **23** in Tunisia
(subsidiary)



35
projects



3
innovations launched
in 3 years (GOTMI /
Guichettravaux.fr /
KAOA.IO)

CONTACT

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CHOOSING THE ESSENTIAL
HARDWARE AND SOFTWARE

NEKLAN

CONNECTIVITY AND NETWORK MARKET

Neklan is a company specialising in the connectivity and network market. With more than 4,000 items in stock, our range relies on our ability to manufacture and distribute quality products. To date, more than 5,000 customers have placed their trust in us.



Neklan 
Stay connected!



2008
year of creation



€20M
in turnover in 2020



50
people

PRODUCTS AND SERVICES

- ▶ Data networks;
- ▶ FTTx networks;
- ▶ Audiovisual I/T;
- ▶ Tertiary.

CO-PRODUCTION

- ▶ Opening of a production site in Morocco;
- ▶ Federation and training of NEKLAN distributors;
- ▶ Close collaboration with other members of the InfraNum federation.

WORKING LOCATIONS

- ▶ Europe;
- ▶ Africa.

REFERENCES FOR EXPORT ACTIVITIES

Numerous projects in telecoms (backbone, FTTx, data centres), computer networks, and low current networks (video surveillance, access control, etc.) relying on a wide network of distributors.

OPERATIONAL MODES

Listing and approval with contracting authorities:

- ▶ Direct sales to key accounts;
- ▶ Participation in calls for tender;
- ▶ Implementation of strategic partnerships;
- ▶ Development of an international distribution network;
- ▶ Strong presence on the ground.

Locations

- We have a new 6,000m² storage area in Lisses (91), France, and various production sites in Asia
- Presence in England, Spain, China, and Africa

CONTACT

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CHOOSING THE ESSENTIAL
HARDWARE AND SOFTWARE

NEXANS

CABLES, ACCESSORIES AND COMPONENTS FOR NETWORKS

Nexans is an industrial group specialising in the design, manufacture, and sale of cables, accessories, and components for energy, telecommunications, and data networks.



€6.5B
in turnover in 2019



34
countries with Nexans
factories, and a
worldwide commercial
presence



26,000
local experts

PRODUCTS AND SERVICES

Products:

- ▶ Optical cables for overhead and underground networks, ducts, and micro-ducts, BLITE range;
- ▶ Single- and multi-mode indoor optical cables (OM2, OM3, OM4);
- ▶ Copper (Cat.6, Cat.6A, Cat.7, Cat.7A) and optical solution for data centres and structured cabling in the LANMARK, LANACTIVE, and LANSENSE ranges;
- ▶ Cables and components for 4G and 5G networks, UPSKY range;
- ▶ Connection components for optical cables and FTTx networks:

- For the network core: optical patch panels, racks, cable heads, XPLOER and OPTESTAR ranges;
- For transport: splice boxes, LINX range;
- For distribution and underground, overhead, and façade access: street cabinets, splice boxes, BLACKBOX, OUTDROP, WALLDROP ranges;

- For indoor distribution and subscriber connection: DOMINO, VERTHOR, OTO ranges.

- ▶ Supervision and asset management solution for telecoms networks, INFRABIRD range.

Services:

- ▶ Training operational technical teams in the implementation of copper and optical cables and components for corporate networks, data centres, FTTH networks, and 4G/5G;
- ▶ Telecoms network engineering (backbone, FTTH);
- ▶ Management of fleets of reels (CONNECTED DRUMS);
- ▶ Engineering of supply chain solutions (SMART INVENTORY).

WORKING LOCATIONS

Within the scope of Telecoms and data, Nexans' activity is organised into four geographical areas: Europe, Middle East, Africa, and Asia.

WORKING LOCATIONS

Our export activities address several customer profiles, including telecommunications network, energy network, and rail network operators. We also rely on a network of in-country partner distributors and installers.

Locations

Only the locations related to equipment for telecommunications networks are listed below.

- Registered office and sales team: Paris La Défense, France
- Production sites in France: Fumay and Vigne-aux-Bois (Ardennes)
- Production sites and offices abroad: Morocco, Belgium, Germany, England, Poland, Sweden, Norway, China, Singapore, Dubai, and Saudi Arabia

CONTACTS

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Jean-Jacques SAGE, Technical Director of the Telecoms Systems Unit
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CHOOSING THE ESSENTIAL
HARDWARE AND SOFTWARE



CONSTRUCTING
NETWORKS



OPERATING AND
MAINTAINING NETWORKS

NGE CONNECT

INTEGRATED SOLUTIONS COMBINING TELECOMS NETWORKS

NGE CONNECT designs and deploys integrated solutions that combine telecoms networks, connected equipment, and software for operators, manufacturers, local authorities, and users. It has developed a Hypervisor, called R-smart®, that can remotely control infrastructures and equipment, and collect and disseminate data.



© NGE Connect



© NGE Connect

PRODUCTS AND SERVICES

- Design, implementation, and maintenance of wireless telecommunications networks (localised Wi-Fi, indoor Wi-Fi, low-speed networks);
- Design, implementation, and maintenance of smart solutions: video protection, lighting, access control, centralised technical management, building technical management, energy efficiency through consumption measurement and control, environmental sensors (air, waste, noise), mobility and parking, asset monitoring;
- Development of the interoperable, open and functional Hypervisor, R-smart®, to collect, store, analyse, and process data; supervise and manage equipment; transmit, display, and communicate information.

WORKING LOCATIONS

- France;
- United Kingdom.

REFERENCES FOR EXPORT ACTIVITIES

Deployment of Wi-Fi at several marinas operated by Premier Marinas in the UK.

OPERATIONAL MODES

- Setting up turnkey projects, including design, implementation, and after-sales support, by our own teams (studies, installation, network configuration, and software development);
- Partnership with innovative companies that manufacture connected objects and develop specific business applications.

Locations

- 133 boulevard de Gravelle, 76600, Le Havre, France
- Allée Charles Naudin, 06140, Biot Sophia-Antipolis, France



2011
year of creation



€2.5M
in turnover



35
employees



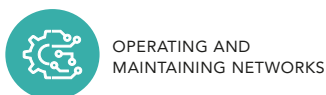
380
sites equipped, with
3,000 connected
devices



147
assistance and
maintenance
contracts

CONTACTS

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Hélène BIANCHI, Managing Director
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CONSTRUCTING
NETWORKSOPERATING AND
MAINTAINING NETWORKS

NGE INFRANET

FTTX, BTS, 5G, AND ASSOCIATED FIBRE NETWORKS

NGE INFRANET is a company that specialises in handling the design, deployment, operation, and maintenance support of FTTx networks, in the role of contracting authority and/or project management. It also deploys 5G BTS and associated fibres on operator sites.



© NGE Infranet



© NGE Infranet

PRODUCTS AND SERVICES

- Design office;
- Planning;
- Deployment;
- Operation in partnership with the operator(s);
- Maintenance;
- Funding.

CO-PRODUCTION

- Systematic creation of an office or branch in the country in question;
- Partnership with local service providers, training in NGE standards;
- After deployment, possible support for the structure in charge of operations over a very long period (up to 15 or 20 years).

WORKING LOCATIONS

France, Europe, Africa, and potentially Latin America.

REFERENCES FOR EXPORT ACTIVITIES

For digital infrastructure projects: United Kingdom, Morocco.

OPERATIONAL MODES

- Creation of ad hoc groups for each regional or national response to a call for tenders;
- Leadership for design offices, deployment activities, and through-life support.

Locations

- Ivry-sur-Seine (Île-de-France), France
- Multiple branches in France
- NGE/TSO offices abroad

CONTACTS

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Jean-Noël DE VATHAIRE, Managing Director
jndevathaire@ngeinfranet.fr | Tel.: +33 1 76 28 42 10



2007
year of creation



2017
integration into the NGE
Group under the name
NGE INFRANET



€220M
in turnover



600
employees



CHOOSING THE ESSENTIAL
HARDWARE AND SOFTWARE



CONSTRUCTING
NETWORKS



OPERATING AND
MAINTAINING NETWORKS

NOKIA

CRITICAL NETWORK PROVIDER

NOKIA builds critical networks for web, transport, energy, finance, distribution, healthcare, automotive, manufacturing, and public sector companies. We also create value based on our intellectual property and long-term research, led by Nokia Bell Labs.



© Nokia

NOKIA



1865
year of creation



€22B
in turnover

Our solutions for governments improve quality of life and help make vital decisions.

Our superfast smart networks are transforming the way cities, territories, and nations defend and protect themselves, and prosper.

We work in six major areas:

- ▶ Cities of the future, to make the cities safer, more efficient, more liveable, and more sustainable;
- ▶ Public safety, to intervene increasingly quickly;
- ▶ Governments, to accelerate the digital transformation of your services;
- ▶ Defence, to maintain a technological lead;
- ▶ Superfast plans, to ensure access to superfast broadband for all;
- ▶ Health, to improve patient monitoring.

PRODUCTS AND SERVICES

TELECOM SOLUTIONS

Fixed broadband networks:

- ▶ FTTx.

Mobile and wireless networks:

- ▶ 4G/5G private mobile networks;
- ▶ Microwave relays.

IP routing and optical transmission networks:

- ▶ IP/MPLS;
- ▶ DWDM.

CO-PRODUCTION

Training of the local workforce.

WORKING LOCATIONS

Worldwide: presence in 130 countries.

REFERENCES FOR EXPORT ACTIVITIES

References in all geographical areas of the world, both with telecom operators and in vertical sectors: energy, transport, public sector, large companies, etc.

Example of references for France (references of the same type on each continent): mobility (RATP, SNCF, Société du Grand Paris, Port of Le Havre), energy (Total, RTE, EDF), public sector (Ministry of the Interior, Ministry of Defence, Seine-et-Yvelines Numérique, Megalis Bretagne, Paris2Connect, local authorities, etc.), hotel industry (Club Med, Center Parcs, Accor, etc.).

OPERATIONAL MODES

- ▶ Direct sales;
- ▶ Indirect sales (sales to companies that are integrators, value-added resellers, etc.);
- ▶ Member of or subcontractor for consortia.

Locations

- Nokia Corp registered office: Espoo, Finland
- Nokia France registered office: Nozay (Essonne), France
- Subsidiaries on all continents

CONTACTS

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© Nokia



OPERATING AND
MAINTAINING NETWORKS



MARKETING YOUR
SUPERFAST BROADBAND

GROUPE NOMOTECH

RADIO LOCAL LOOP NETWORKS

The Nomotech Group deploys radio local loop networks (superfast radio). The company is also a provider of general and corporate Internet access, as well as an operator of Wi-Fi hotspot networks and IoT networks.



2003
year of creation



110
employees



PRODUCTS AND SERVICES

- Deployment and operation of electronic communications networks (superfast radio, Wi-Fi hotspots, IoT networks);
- Platform for aggregating and monetising data;
- Provision of internet access for individuals and businesses.

CO-PRODUCTION

- Local installation possible;
- Technology partnerships for skills transfer.

WORKING LOCATIONS

Most of our business is in France.

We have deployed and operated telecoms networks in almost 20 countries (Cambodia, Belgium, Portugal, England, United States, Dominican Republic, Barbados, South Africa, Gabon, Senegal, Tanzania, Congo, Brazil, etc.).

REFERENCES FOR EXPORT ACTIVITIES

- City of Cape Town (deployment and operation of the metropolitan Wi-Fi network with Orange);
- Solsi (deployment of a national radio network in Gabon);
- Vinci Airports (worldwide contract for more than 45 airports in 10 countries);
- GL Events (Wi-Fi coverage of Africa Cup of Nations stadiums);
- Morel Eprom (covering of living quarters in oil exploitation areas in several African countries).

OPERATIONAL MODES

All types of projects and legal arrangements.

Locations

- Registered office: Normandy, France
- Companies in Paris and Lyon, France
- Employees throughout the French territory (sales representatives and project managers)



4

operating companies,
3 project companies
(delegated company)



€30M
in turnover



x10
turnover in 10 years

CONTACT

Philippe LE GRAND, Vice-President
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ACQUIRING THE
RIGHT EXPERTISE

NOVEA

TRAINING CENTRE

Since 2006, Novea has been a centre for excellence in rural areas, through a public-private partnership between the Mont Saint Michel-Normandy urban community and ACOME. For 15 years, Novea has offered training courses related to jobs in fibre optics, based on pragmatic teaching, combining theory with practice. The training offered by expert trainers is varied and adapted to this constantly changing sector.



© Novea

Novea allow you to take part in sessions lasting from one day to one year in all areas of fibre optics, in relation to working in design, studies, works management, deployment, connection, measurement, and maintenance. As a sign of the quality of Novea training initiatives, the training centre, its apprentice training centre and its technical platforms have been give the 'Objectif fibre' label, and are Qualiopi certified.

PRODUCTS AND SERVICES

Training initiatives.

CO-PRODUCTION

Training of the local workforce.

WORKING LOCATIONS

Normandy, France.

REFERENCES FOR EXPORT ACTIVITIES

ACOME partnerships underway.

OPERATIONAL MODES

In-person and remote training.

Locations

- Registered office: ZA Teraactive - 50140, Romagny-Fontenay, France
- Training centre and main technical platforms: Mortain (Manche), France
- Remote sites on AFPA (French national association for adult professional training) technical platforms: Caen (Calvados), Évreux (Eure), and Rouen (Seine-Maritime), France
- Digital plumbers school by Novea: Saint-Lô (Manche), France



2006
year of creation



€767K
in turnover in 2020



300
students per year



75%
total validation rate for
the Fibre Optic Technician
qualification in 2020



83%
validation rate for one or
more skills blocks in 2020

CONTACT

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MARKETING YOUR SUPERFAST
BROADBAND NETWORK

NUMERISAT

INTERNET SERVICE PROVIDER

Numerisat is an Internet Service Provider (ISP) that develops and sells superfast broadband Internet access services via satellite, multi-operator 4G networks, and fibre optics, for white and grey spots in France and other European countries, for individuals and professionals.



Numerisat also offers event-based connection solutions that make it possible to deploy superfast broadband connections to guarantee the transmission of images in IP technology, or the Wi-Fi coverage of events using broadband and 4G satellite technologies, as well as VSAT solutions. Numerisat develops and sells its products in France, in certain European countries, and in Africa. Numerisat works with CNES (French National Centre for Space Studies) and the European Space Agency (ESA) to develop the uses of satellite broadband technologies, particularly in the field of telehealth.

PRODUCTS AND SERVICES

- ▶ VSAT solutions;
- ▶ Broadband satellite SES networks connection solutions;
- ▶ Satellite backhaul systems - 4G - Superfast radio networks;
- ▶ Streaming solutions:
 - Video distribution and streaming flight case: OfastBox;
 - Aggregation of 4G links and ADSL networks: Agreg. box.

WORKING LOCATIONS

- ▶ Belgium;
- ▶ Switzerland;
- ▶ Sub-Saharan Africa.

OPERATIONAL MODES

Association with local partners, international engineering companies, and satellite operators.

Locations

- Registered office: Le Bourget du Lac (Savoie), France



2016
year of creation



€420K
in turnover in 2020



100%
growth

CONTACT

Didier FLAENDER, President
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PREPARING AND
IMPLEMENTING YOUR PROJECT

ON-X

CONSULTING FIRM

ON-X Groupe is an independent French consulting firm that specialises in consulting and integrating digital technology into companies, administrations, and local authorities. With 30 years of experience in meeting these new challenges, our firm is organised into five divisions that support you in defining your strategy, navigating the major decision-making stages, and then managing your implementation projects.

- ▷ ON-X Digital Territories;
- ▷ ON-X Digital Infrastructure;
- ▷ ON-X Information System;
- ▷ ON-X Digital Security;
- ▷ ON-X XR.



PRODUCTS AND SERVICES

ON-X Groupe's Digital Territories division is involved in infrastructure and digital services projects (fibre optic, radio, satellite), which contribute to economic and territorial development. We work in the diverse areas of smart and sustainable territories, digital utilities, the cloud, and designing and deploying digital infrastructure across territories.

Our division specialises in public initiative networks and private networks.

Our consultants have in-depth knowledge of fibre optic, radio, and satellite technologies; the design, construction, operation processes and economy of telecoms; as well as public players (public initiative networks) and private players (operators, manufacturers).

Our missions relate to upstream strategy consulting during the positioning phases of our customers, be they local authorities or operators (master plans). They also relate to project management assistance during public procurement, works contract, public service delegation or partnership contract (PPP) phases.

Downstream, we are involved in the follow-up of contracts that require technical, financial, and technical-economic monitoring skills in order to provide our customers with advice on the prospects for market developments, through changes in technologies, uses, and needs.

In addition, a dedicated Digital Uses & Services team supports local authorities in defining a resilient digital strategy that is perfectly adapted to their region, and in its operational implementation.

WORKING LOCATIONS

- ▶ All of France (metropolitan France and overseas territories);
- ▶ Worldwide.

OPERATIONAL MODES

- ▶ Autonomous or project-based response with complementary skills, particularly in terms of legal and financial matters;
- ▶ Service centre for a particular area of expertise.

Locations

- Registered office: 15 Quai de Dion Bouton, 92800, Puteaux, France
- Branch: 78 allée Jean-Jaurès, 31000, Toulouse, France
- Branch offices: Laval and Lyon, France



1986
year of creation



190
people



€18.5M
in turnover in 2019



10%
growth per year for
several years

ON-X
GROUPE

CONTACT

Pierre PERROT, Associate Director
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MARKETING YOUR SUPERFAST
BROADBAND NETWORK

ORANGE

TELECOMMUNICATIONS OPERATOR

Orange is one of the world's leading telecommunications operators, operating in 26 countries, including 18 countries in Africa. Orange also offers telecommunications services to multinational companies under the Orange Business Services brand.



€42B

in turnover in 2019



143,000

employees as of 30 September 2020,
of which **60,000** work outside of
France



256M

customers as of
30 September 2020

Orange is a multi-service operator and true partner in digital transformation. It contributes its expertise to support the development of new digital services.

With its innovation centres, Orange supports States, local authorities, and entrepreneurs in their digital transformation, while also creating direct and indirect jobs.

PRODUCTS AND SERVICES

Orange carries out infrastructure and digital services operator missions, and/or supports public or private partners in carrying out these missions.

Infrastructure operator:

- ▶ Operator of fixed broadband and superfast broadband electronic communications networks;
- ▶ Operator of 2G/3G/4G/5G mobile electronic communications networks;
- ▶ Operator of infrastructures (underwater cable, backbones, backhaul, fixed and mobile access networks) on behalf of third parties, with turnkey or customised offers that include study, design, construction management, technical operation, and commercial operation.

Service operator:

- ▶ Communication services for the general public, companies, and public administrations;
- ▶ e-education, e-health, cybersecurity;
- ▶ Financial services (Orange Bank, Orange Money);
- ▶ Audiovisual services and content provider.

CO-PRODUCTION

- ▶ Creation of a local sector;
- ▶ Training and employment of the local workforce;
- ▶ Total or partial acquisition of local companies.

WORKING LOCATIONS

The Group is present in Europe and Africa.

OPERATIONAL MODES

In the countries of operation:

- ▶ Construction, operation, and marketing of broadband and superfast broadband electronic communications services (fixed and mobile);
- ▶ Responses to calls for tender;
- ▶ Public-private partnership;
- ▶ Acquisition of licenses;
- ▶ Partnership with local operators.

Outside the countries in which the Group operates:

- ▶ Responses to calls for tender;
- ▶ Acquisition of licences and/or operators;
- ▶ Partnership with local operators;
- ▶ Public-private partnership;
- ▶ Partnership with local operators.

Locations

- Registered office: 78 rue Olivier de Serres, 75015, Paris, France
- Europe: Belgium, Luxembourg, Spain, Romania, Poland, Slovakia, Moldova
- Africa/Middle East: Jordan, Morocco, Tunisia, Egypt, Senegal, Guinea-Bissau, Guinea, Sierra Leone, Liberia, Ivory Coast, Botswana, Democratic Republic of Congo, Central African Republic, Cameroon, Mali, Burkina Faso, Niger

CONTACT

Marianne BRUNAT, Director of Infrastructure Business Development,
Orange Wholesale & International Networks (WIN)
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PREPARING AND
IMPLEMENTING YOUR PROJECT

ORIZON GROUP

ENGINEERING AND TELECOMS NETWORK DESIGN OFFICE

Based in Rivesaltes in the south of France, our company is involved in the design and digitisation of network activities. Specialising in telecommunications networks for national operators and public initiative networks, the Orizon Group is contributing to digitising the territory, in order to connect the world of tomorrow.



€2M
in turnover
in 2020



40
employees



Drawing on our experience, the company's customers and partners include telecoms, civil engineering groups, companies, local authorities, developers, and planners.

Our 40 employees are thus spread across four different business sectors:

- ▶ Superfast broadband engineering studies;
- ▶ Low currents (alarm, access control, VDI) and urban video protection;
- ▶ Network topography, georeferencing, and detection (VERITAS certified);
- ▶ Fibre optic installation works.

PRODUCTS AND SERVICES

Fibre optic engineering design study:

- ▶ Letterbox list, connectivity;
- ▶ Cell occupancy sheet and switching;
- ▶ List of telecoms and low voltage posts;
- ▶ COMAC and CAP FT load calculation;
- ▶ Basic Preliminary Design/ Detailed Preliminary Design files;
- ▶ Netgeo integration;
- ▶ Block diagrams;
- ▶ Splice planes;
- ▶ Wiring plans;

- ▶ GIS/DWG/(Geofibre);
 - ▶ Horizontality and verticality;
 - ▶ As-built drawings files.
- Topography/georeferencing study and network detection:**

- ▶ Civil engineering Basic Preliminary Design/ Detailed Preliminary Design files;
 - ▶ Civil engineering execution files;
 - ▶ Civil engineering as-built drawings files;
 - ▶ Integration and layout plans for cabinets and shelters.
- Certified by the VERITAS office.

CO-PRODUCTION

Training of the local workforce.

WORKING LOCATIONS

France and worldwide.

OPERATIONAL MODES

- ▶ Putting together turnkey study files;
- ▶ Providing teams of surveyors on site;
- ▶ Partnership with other companies.

Locations

- Registered office: 3 Cami de Nèfiach, 66170, Millas, France
- Office: 7 avenue Alfred Sauvy, 66600, Rivesaltes, France



2017

creation of Orizon
Télécom (design office)



2019

creation of Orizon Installation
(installation works)



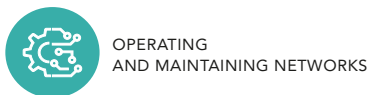
2019

creation of the Orizon
Group (management)

CONTACTS

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Jordan DA SILVA, Co-Manager
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www.orizon-group.com



CONSTRUCTING
NETWORKSOPERATING
AND MAINTAINING NETWORKS

PCE SERVICES

FIBRE OPTIC TELECOMMUNICATIONS NETWORKS

PCE Services is a French family business that was founded in 2011 by the De Ridder family. Its main business is designing and constructing fibre optic telecommunications networks. Mindful of the future, since 2020, it has been able to create its own niche in the deployment of charging terminals for electric vehicles in France. Its diversification continued in 2021, with the launch of the mobile business, from the design to the construction of radio base stations.



2011
founded by the
De Ridder family

10
employees in 2011

€38M
in turnover for the fibre



PRODUCTS AND SERVICES

Design office:

FTTx network studies and design.

Construction:

- ▶ Creation of network infrastructures and setting of posts;
- ▶ Civil engineering works – traditional and mechanised;
- ▶ Underground overhead pulling – transport;
- ▶ Fibre optic connection – continuity testing and reflectometry-processing and qualification;
- ▶ Works for diverting and burying telecoms network infrastructure.

Maintenance:

- ▶ Preventive or corrective maintenance operations and works on fibre optic infrastructures;
- ▶ Changing posts;
- ▶ Civil engineering repair.

CO-PRODUCTION

- ▶ Creation of a production site in the territories where contracts have been obtained;
- ▶ Training of the local workforce.

WORKING LOCATIONS

PCE Services operates in France and aims to be in Europe in 2022.

OPERATIONAL MODES

Setting up turnkey projects.

Locations

- Registered office: Parigny (Loire), France
- The company has eight production sites: Boulac (Haute Garonne), Les Landes-Genusson (Vendée), Hagetmau (Landes), Cruguey (Côte d'Or), Saint-Lô (Manche), Le Chateley (Jura), Le Grand Quevilly (Seine Maritime), Orsay (Essonne), France

CONTACT

Jonathan DE RIDDER, Managing Director
jonathan.deridder@pcservices.fr



2012
launch of the FTTH
activity



2018
creation of the design
office



2019
year of acquisition
of a stake in
Philippe Dumont



2021
launch of the Energy
and Mobile activities



300
employees in 2021



CHOOSING THE ESSENTIAL
HARDWARE AND SOFTWARE

PLP FRANCE

ACCESSORIES FOR INSTALLING AND SECURING TELECOMMUNICATIONS NETWORKS

Established in 22 countries, the Preformed Line Products (PLP) Group designs and manufactures accessories for installing and securing telecommunications networks and electrical networks (power transmission and distribution). PLP also works in the railway industry, solar infrastructure industry, and certain other specialised industries.



© Preformed Line Products



2013
year of creation



€20M
in turnover in 2020
(vs. €1.3M in 2015)



30
employees

The expertise shared across our 15 R&D centres (including three in Europe and one in Africa) allows us to offer operators personalised solutions for all types of new projects.

PLP factories, and the one in Buchelay in Yvelines, France, in particular, are equipped with testing resources to define and test the solutions according to the cables and specifications of the customer. PLP is the inventor of preformed technology (1947), which has been used for nearly 75 years worldwide by all operators on their communication and energy networks.

PRODUCTS AND SERVICES

- ▶ Accessories for ADSS cables on short-range networks (preformed anchors and suspensions);
- ▶ Accessories for ADSS cables on medium- to long-range networks (preformed anchors and suspensions, anti-vibration suspension clamps);
- ▶ Fittings and reinforcements for supports on wood/metal/concrete/composite brackets (consoles, cross beams and

pads, unit fastenings, coiling devices, sub-construction, bolting, strips, and loops), bracing equipment;

- ▶ Protection products for overhead fibre optic lines (wind vibration dampers, galloping protection, friction protection for cables);
- ▶ Indoor/outdoor optical units and junction boxes;
- ▶ Street and data cabinets;
- ▶ Racks;
- ▶ Accessories for mounting 5G antennas;
- ▶ Tests;
- ▶ Network inspection (drone) and data processing;
- ▶ Logistics services.

CO-PRODUCTION

- ▶ Qualification of cable/accessory torque (preformed);
- ▶ Co-design of products.

WORKING LOCATIONS

France, Belgium, Luxembourg, Liechtenstein, and French-speaking Sub-Saharan Africa.

REFERENCES FOR EXPORT ACTIVITIES

- ▶ France: Orange, ETC Group, Axione, Tisseo Services, Acome, Altice, Prysmian, Nexans;
- ▶ Belgium: DeNetCom;
- ▶ Export indirect : Infractive.

OPERATIONAL MODES

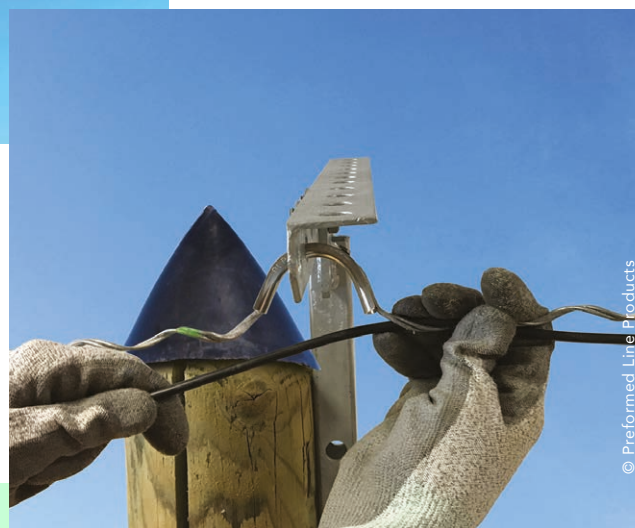
- ▶ Technical support and expertise (search for innovative solutions, numerous patents filed);
- ▶ Multi-channel sales strategy;
- ▶ Local partnership;
- ▶ Training.

Locations

- Preformed Line Products head office: Cleveland, Ohio, USA
- Preformed Line Products France: Buchelay, Yvelines
- Subsidiaries: Argentina, Australia, Austria, Brazil, Canada, China, Spain, Great Britain, Indonesia, Malaysia, Mexico, New Zealand, Poland, Czech Republic, Russia, Thailand, and USA

CONTACTS

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André ZITO, Sales Director
azito@preformed.com | Mob.: +33 6 15 53 20 68



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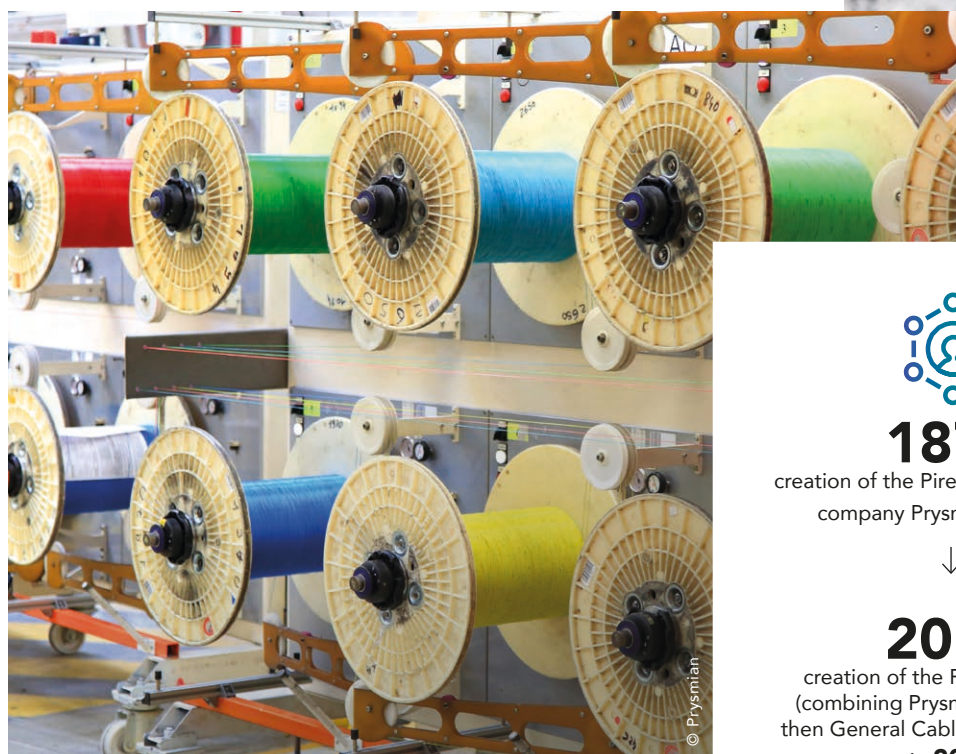


CHOOSING THE ESSENTIAL
HARDWARE AND SOFTWARE

PRYSMIAN GROUP

ENERGY AND TELECOMMUNICATIONS CABLES AND SYSTEMS INDUSTRY

The Prysmian Group is a company in the energy and telecommunications cables and systems industry. With more than 140 years of experience, and with a turnover of €11B, almost 30,000 employees across 50 countries, and 112 factories, the Group is well-positioned in high-tech markets. It offers the widest range of products, services, and technologies, and has extensive expertise.



1879

creation of the Pirelli Group, then the
company Prysmian in **2005**



2011

creation of the Prysmian Group
(combining Prysmian and Draka),
then General Cable joined Prysmian
in **2018**

It operates in the fields of underwater and underground cables, electricity transmission and distribution systems, special cables for applications in different industries, and medium and low voltage cables for the construction and infrastructure sectors. In the telecoms industry, the Group produces cables and accessories for audio/video and data transmission systems, with a complete range of fibre optic cables, optical and copper cables, and connectivity systems. Prysmian is a joint stock company, listed on the Italian Stock Exchange in the FTSE MIB Index.

PRODUCTS AND SERVICES

- Fibre optic cables with micro-module or loose tube technology for any type of installation (duct, overhead, underground);
- Optical connection equipment, from the ODF to the subscriber socket;
- Multi-pair telephone cables.

REFERENCES FOR EXPORT ACTIVITIES

The Prysmian Group addresses markets in several countries from its various locations (more than 50), which cover both local markets and "delegated" countries.

The Prysmian Group has been exporting its products and expertise from France for many years, through its various brands.

For many years, it has supported a large number of telecoms operators, be they independent or subsidiaries of large groups, in their deployments in multiple countries across the African continent; North Africa, West Africa, and East Africa. To name but a few, Prysmian has contributed to the deployment of the networks of several operators in Tunisia, Senegal, Ivory Coast, Togo, Mauritius, and Madagascar. It was also the main supplier for the backbone network deployed in Ivory Coast.

The Group also supports integrators on a regular basis, be they international or local, in purely telecoms projects, or projects that are more industrial or rail-based, such as those in Morocco, Senegal, and Tunisia. Prysmian France also exports its expertise in telecommunications cables to the United States.

Locations

- Europe: France, United Kingdom, Ireland, Spain, Portugal, Italy, Belgium, Netherlands, Germany, Denmark, Norway, Sweden, Finland, Russia, Switzerland, Czech Republic, Hungary, Romania, Turkey
- America: United States, Mexico, Colombia, Brazil, Chile, Argentina
- Africa: Tunisia, Ivory Coast, South Africa, Angola
- Asia: UAE, Oman, India, China, Vietnam, Thailand, Indonesia, Singapore
- Oceania: Australia, New Zealand



50

countries in which
we operate



112

factories



25

R&D centres



30,000

employees

Prysmian
Group

LINKING
THE FUTURE

CONTACT

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PREPARING AND
IMPLEMENTING YOUR PROJECT

RESOCITY

ENGINEERING, CONSULTING, AND PROJECT SET-UP AND MONITORING

Resocity is a company specialised in consulting, engineering, and operational monitoring of civil engineering and fibre optic infrastructure projects, with experience acquired on more than 1.5M connectible premises in France.



1995
year of creation



€2.4M
in turnover in 2020



40
employees

PRODUCTS AND SERVICES

- Pre-deployment consulting project management assistance (master plans);
- Multi-software GIS design and proprietary software developments;
- Complex management and oversight of regional fibre projects;
- Operational monitoring of civil engineering and fibre project management:
 - Sketch studies, preliminary project studies, Basic Preliminary Design studies, and Detailed Preliminary Design studies;
 - Assistance with the award of the works contract;
 - Execution studies, and approval;
 - Management of the execution of the works contract;
 - Scheduling, management, and coordination of the project;

- Works acceptance operations, optical measurements;
- Creation and analysis of files of executed works.
- Detection services, class A multi-network geolocation, simplified street layout through Inframap.

WORKING LOCATIONS

- Europe: France, Belgium;
- Resocity would like to develop in Germany, England, Italy, and Africa.

OPERATIONAL MODES

- Resocity provides personalised support throughout the engineering and deployment monitoring procedures we put in place;
- We gathered experience over the course of many years on some of the largest supported projects in France

CO-PRODUCTION

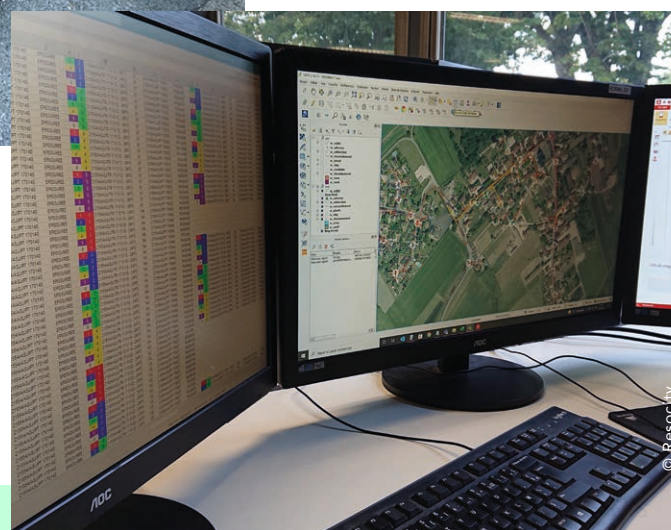
- Participation in the local economy:
 - Creation of regional branches;
 - Local partnership;
 - Provision of competent resources (we have a team of specialised and experienced people);
 - Training, studies, and operational monitoring.

Locations

- Registered office: Lille Métropole, France
- Branch office: Reims, France
- Branch office: Morlaix, France

CONTACT

Bernard STOCK, President
bstock@resocity.fr info@resocity.fr | Mob.: +33 6 78 00 44 72





PREPARING AND
IMPLEMENTING YOUR PROJECT



CHOOSING THE ESSENTIAL
HARDWARE AND SOFTWARE

SETICS

CONSULTING AND ENGINEERING FIRM / SOFTWARE EDITOR

Setics is a Telecommunications Consulting & Engineering firm specialising in high-speed broadband infrastructure based on wireline or wireless technologies. Services comprise strategic advisory on infrastructure, network audits, network design, project management, and quality checks. Setics also develops and distributes software tools, like the leading software Setics Sttar – an FTTx Design Automation software, used to generate complete network models for entire territories to local areas –, or Setics FiberState – a software designed for FTTx deployment monitoring and control. Setics clients include Operators, Design and Engineering firms, Investors, and Public Authorities.



2000
year of creation



40
telecom engineers
in 2020

Setics



€4.7M
turnover in 2018



€5.1M
turnover in 2019



€5.8M
turnover in 2020

PRODUCTS AND SERVICES

OUR MAIN CUSTOMERS:

- ▶ Telecommunications operators;
- ▶ Owners of telecommunications infrastructure;
- ▶ Regional local authorities;
- ▶ Infrastructure investors;
- ▶ Governments and telecom regulators;
- ▶ Design offices and communication network constructors.

OUR SERVICES:

Telecommunications consulting:

- ▶ Strategic, technical, and regulatory studies;
- ▶ Business due diligence;
- ▶ Opportunity studies;
- ▶ Feasibility studies;
- ▶ Market research.

Design and management of highspeed broadband network deployment:

- ▶ Production of preliminary studies;
- ▶ Carrying out and/or monitoring of preliminary project and project studies;

- ▶ Control or production of execution studies and executed work documents (as-built drawings);
- ▶ Field acceptance and acceptance operations.

Regional digital development:

- ▶ Design, management, and monitoring of FTTH projects;
- ▶ Contracting authority/project management assistance;
- ▶ Strategic studies for local authorities;
- ▶ Assistance with contractual project set-up;

- ▶ Technical and economic studies for financial or governmental institutions.

Production and marketing of software tools:

- ▶ Setics Sttar software for general design (layout, cost, BoM) and optimisation of the detailed production of FTTH networks;
- ▶ FiberState software for management of technical network acceptances;
- ▶ Mapping and management tools for geographic information systems (GIS).

WORKING LOCATIONS

- ▶ France;
 - ▶ Overseas territories.
- International:**
- ▶ Europe;
 - ▶ Africa;
 - ▶ North America.

REFERENCES FOR EXPORT ACTIVITIES

Main markets where Setics is present, whether it is for services and/or the Setics Sttar software.

- ▶ Europe: United Kingdom (more than 10 customers), Ireland, Germany (more than 5 customers), Estonia, Finland, Italy, Spain, etc.;
- ▶ West Indies and Caribbean;
- ▶ Africa: Gabon, Ivory Coast, Nigeria, Morocco;
- ▶ North America: Canada.

Locations

- Registered office: 7 rue Biscornet, 75012, Paris, France
- Offices abroad: Eupener Straße 165, 50933 Cologne, Germany

CONTACT

Richard TOPER, Founder & Chairman
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PREPARING AND
IMPLEMENTING YOUR PROJECT

SMART WORLD PARTNERS (SWP)

DIGITAL DEVELOPMENT FOR TERRITORIES

Smart World Partners (SWP) is involved in all public or private projects relating to digital development for territories. SWP's partners, all of whom come from the world of consulting or are telecoms operators with at least 10 years of experience, have significant expertise and a rich benchmark for the digital development of territories, smart city projects, or even data centre initiatives, together with the pragmatism and creativity to produce solutions that are relevant for the territories in question.



© Smart World Partners



© Smart World Partners



2020
year of creation



€750K
in forecast turnover

In particular, we have references in project management assistance for the awarding of public service delegations or superfast broadband public-private partnerships, FTTH in particular, as well as in the creation of regional broadband master plans. We provide due diligence and advisory services for financial players investing in superfast broadband networks in territories.

PRODUCTS AND SERVICES

- ▶ Digital development master plan;
- ▶ Master plan for the digital transformation of territories;
- ▶ Feasibility study for superfast broadband, smart city, and data centre projects;
- ▶ Project management/contracting authority assistance;
- ▶ Due diligence and technical lender advice for financial players.

CO-PRODUCTION

Training and transfer of skills to local teams.

WORKING LOCATIONS

All of France, Europe, Africa.

REFERENCES FOR EXPORT ACTIVITIES

- ▶ Assistance with negotiations and the finalisation of the fibre optic public-private partnership contract for the SOGEM electricity company present in Mali, Senegal, Mauritania, and Guinea with the Envol Technologies /SONATEL consortium;
- ▶ Assistance provided to the French Development Agency for support for the Benin electricity company in a call for tenders for fibre optics and a data centre;
- ▶ Digital development master plans for Guinea, Togo, and Gabon (missions carried out by the President of Smart World Partners in a previous consulting firm);

- ▶ Evaluation of the public service delegation of Axione Gabon for the operation of the fibre optic land-based backbone and the ACE underwater cable landing station (mission carried out by the President of Smart World Partners in a previous consulting firm).

OPERATIONAL MODES

Working on all study, consulting, and contracting authority assistance services, in collaboration with legal, financial, and technical partners.

Locations

- Registered office: Montpellier, France
- Branch offices: Paris, Nanterre, France

CONTACT

Pierre-Michel ATTALI, President
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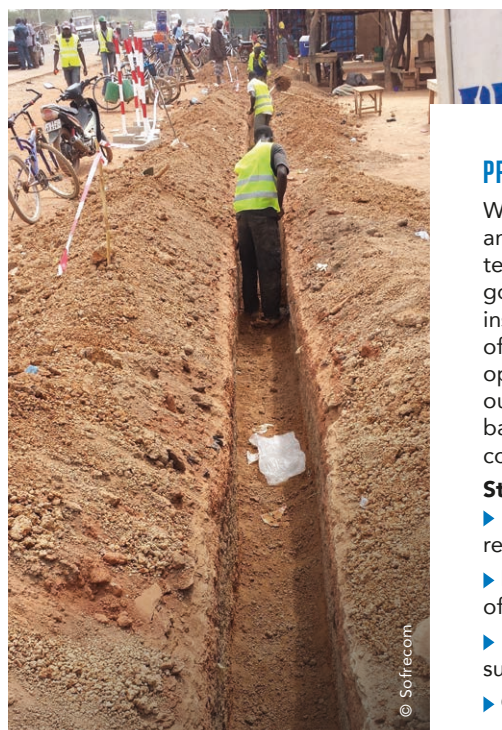


PREPARING AND
IMPLEMENTING YOUR PROJECT

SOFRECOM

CONSULTING AND ENGINEERING

SOFRECOM, a subsidiary of the Orange Group, is a consulting and engineering company specialising in telecommunications. SOFRECOM supports the digital development and transformation projects of its customers, who include telecommunications operators, governments, and international institutions. We boast four key areas of expertise: strategy and marketing; engineering and deployment of networks and information systems; development and integration of solutions; change management and skills development.



PRODUCTS AND SERVICES

We support the development and digital transformation of telecommunications operators, governments, and international institutions. From the definition of the strategy through to its operational implementation, our approach is global and based on exchange and co-construction:

Strategy and marketing

- Monitoring and market research;
- Definition and implementation of strategic plans;
- Merger and acquisition support – due diligence;
- Obtaining external funding;
- Definition of product and service roadmaps;
- Definition and implementation of distribution models;
- Digital acceleration and marketing analytics.

Technological transformation and modernisation (networks and IS)

- Audit of technical or functional architectures and recommendations;
- Support for the implementation of an IT master plan;
- Modelling and business planning;
- Supplier management and negotiation support;
- Network engineering (design, definition of technical architecture and deployment engineering for mobile, fixed, and broadband networks);
- Transformation and deployment governance: project management (small and medium industries) using Agile methods.



1966
year of creation



2,000
employees

Service development and integration

- Development of applications and websites, and deployment of digital assets (portals, e-shop, customer relations channels);
- Project management using Agile methods, design thinking, devOps, etc.;
- Managing and deploying an IT change roadmap;
- Outsourcing: We have the ability to take on the entire process of creating customer activity (site search, formalities, logistics, and recruitment).

Our customers can choose between two engagement models: resource engagement or results engagement.

Change management and skills development

- Assessment and auditing of the organisation and recommendations;
- Maturity assessment: digital, Agile, or customer experience;
- Definition and coordination of the transformation plan: adaptation of the organisation; performance, innovation, and products;
- Change management;
- Skills development and set-up of educational programmes;
- Defining, monitoring, and leading transformation plans.

WORKING LOCATIONS

More than 100 countries, on four continents.

REFERENCES FOR EXPORT ACTIVITIES

Governments

- National digital strategies and digital government: Congo, Benin, Mauritania, Ivory Coast, Indonesia, Albania, Niger, Algeria;
- Broadband engineering and deployment: Benin, Burkina Faso, Cameroon;
- Development of e-services as part of a digital government strategy: Morocco, Tunisia, Ivory Coast;
- Creation of digital schools (training fibre technicians): Benin.

Operators

- Definition and implementation of marketing and sales strategies (B2B, B2C, and wholesale): Orange: all countries, Ethiopia, DRC, Thailand, Indonesia, Lebanon;
- Launch and transformation of operators: Ethiopia, Iran, DRC, Georgia, Polynesia, Niger, Tunisia, Libya, Belgium;
- Fibre design and deployment: KSA, Angola, Burundi, Zambia;
- Mobile network deployment (all generations): more than 200 projects worldwide.

Institutions and international organisations

- GSMA: mobile payment interoperability studies in Africa;
- World Bank: feasibility study of the Cotonou Djougou security loop (Benin), study of the promotion of broadband and universal service (Mauritania);

- African Development Bank: study for the implementation of digital identity (Congo, DRC, Mauritania);
- ELM (KSA): Development of e-government solutions.

OPERATIONAL MODES

- TelCo specialist: Inter-departmental expertise, covering all the TelCo sector activities;
- Set-up of complex projects from start to finish;
- Managing complex transformation projects using Agile methods;
- Skills development strategy and training plans;
- Maturity audit and assessment: digital, service quality, Agile, technical architectures;
- Service quality plan;
- Service continuity management plan.

Locations

- More than 11 offices, on four continents:
- Europe: Head office: France – Other: Georgia
- Africa: Morocco, Tunisia, Algeria, Ivory Coast, Benin
- Asia/Middle East: Indonesia, UAE, Saudi Arabia
- America: Argentina



Sofrecom
The Know-How Network

CONTACTS

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Elias SAAB, CCO of the SOFRECOM Group
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SOGEA EST BTP

DIGITAL INFRASTRUCTURES

Sogea is involved in the design and construction of digital infrastructures.



© Sogea Est



© Sogea Est

PRODUCTS AND SERVICES

- ▶ Turnkey design;
- ▶ Civil engineering works;
- ▶ Fibre optic works (pulling and connection);
- ▶ Acceptance file and data integration.

CO-PRODUCTION

Training of the local workforce.

WORKING LOCATIONS

- ▶ Grand Est region in France;
- ▶ Germany;
- ▶ Belgium;
- ▶ Luxembourg.

REFERENCES FOR EXPORT ACTIVITIES

<https://www.sogea-est.fr/vinci/fibre-optique/>

OPERATIONAL MODES

Partnership with other companies.

Locations

- Registered office: SOGEA EST BTP, 415 avenue de Boufflers, 54520, Laxou, France



2000
launch of the civil engineering activity



2016
launch of the optical activity



€25M
in turnover in 2020



€10M
in turnover in 2021

CONTACT

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© Sogea Est

CONSTRUCTING
NETWORKSOPERATING AND
MAINTAINING NETWORKS

SOGETREL GROUP

TELECOMS, SECURITY, AND SMART CITY MARKETS

Sogetrel is an independent French company specialising in the telecoms, security, and smart city markets. The Group's turnover has increased by 20% per year, and reached almost €760M in 2020. It has a workforce of 5,000 women and men, and more than 100 locations in France, Switzerland, Belgium and Germany.



Sogetrel

Sogetrel is continuing its growth in the rapidly expanding markets for digital development in the superfast broadband sector, and is accelerating its development in digital uses and solutions. Today, our businesses contribute to the development of superfast broadband network infrastructures and digital uses and services for territories, companies, and citizens.

PRODUCTS AND SERVICES

Sogetrel operates in three major markets:

- ▶ The fixed and mobile network infrastructures market, all technologies combined – Communication networks;
- ▶ The smart city market, for digital usage and services (EVCP, smart lighting, building, metering);
- ▶ The electronic security market – Security and Safe City.

We address these market segments thanks to two main complementary activities:

- ▶ The "Design and Build" project business line combines the design and construction of infrastructure networks and digital solutions. Sogetrel bears overall responsibility for the project;
- ▶ The "Digital Field Services" intervention business line combines deployment, connection, after-sales service, and maintenance of installations, and public and

corporate on-site solutions. Sogetrel completes more than 4M operations a year through this line.

WORKING LOCATIONS

Able to operate in Europe – including France, Germany, Switzerland, Belgium – as well as Africa.

REFERENCES FOR EXPORT ACTIVITIES

Deutsch Telecom, Proximus, Gulsat, Swisscom, Telecom Italia, Canal+, etc.

OPERATIONAL MODES

Sogetrel supports you at every stage of your project, from design through to maintenance, without forgetting implementation and commissioning. Sogetrel has a sales team of more than 250 people who can be mobilised for your projects, and it has specialised tools and business IS that focus on customers and employees.

Locations

- Registered office: 143 avenue de Verdun, 92130, Issy-les-Moulineaux, France
- More than 100 locations in France, Germany, Switzerland, and Belgium



€760M

in turnover in 2020



1985

year of creation



5,000

employees



Over 100

locations in France,
Switzerland, Belgium

CONTACT

Loïc MAHUT, Major Projects & International Sales Director
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PREPARING AND
IMPLEMENTING YOUR PROJECT



INVESTMENT FUNDS

STOA

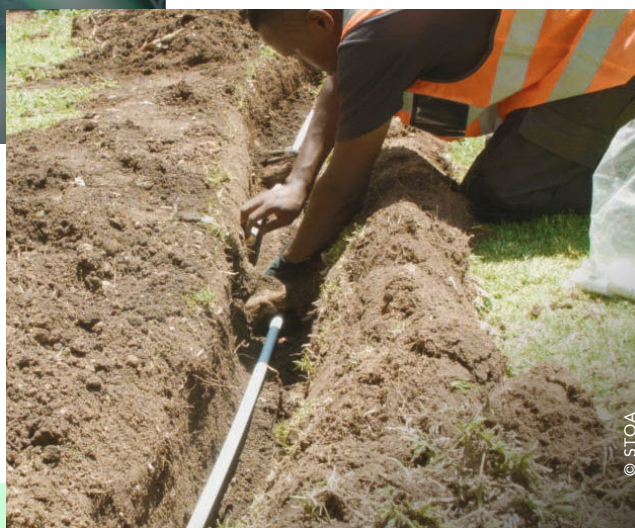
INVESTMENT IN INFRASTRUCTURE PROJECTS

— A public limited company that was created by Caisse des Dépôts and the French Development Agency in October 2017 to invest equity capital in infrastructure projects (telecoms, energy, environment, transport, social infrastructure) in emerging countries.



© STOA

stoa
INFRA & ENERGY



© STOA



€600M

to invest in infrastructure



€280M

invested in 8 operations,
at around €100M per
year since 2018



BETWEEN

€10M and €50M

in investments per operation

STOA invests in greenfield projects (or brownfield extensions with significant investment needs) with a demonstrable impact on development, on a long-term basis. STOA is active in telecoms and digital technology, with a strategy of investing in shared infrastructures (fibre, towers, data centres, underwater cables, etc.), in operators (fixed and mobile) and related subjects (ESCO, IoT, e-Government).

PRODUCTS AND SERVICES

- Co-investment/equity investment in telecoms and digital infrastructure projects or acquisitions with an ambitious development project. Active participation in governance;
- Participation in project development (in consortium mode) at the upstream stage,

in co-funding alongside strategic partners, contribution to development studies (post feasibility), contribution to the structuring of the operation (negotiation of contracts, funding research and structuring, environmental and social components, governance).

WORKING LOCATIONS

Emerging and developing countries.

- Africa (the whole continent);
- Latin America (the whole continent, except Chile and Uruguay);
- South-East Asia;
- Middle East.

REFERENCES FOR EXPORT ACTIVITIES

STOA has made several investments in the telecoms and digital sector:

- Etix Everywhere (Morocco, Ghana) – sold in 2020;
- Metro Fiber Network (shared FTTx network in South Africa).

OPERATIONAL MODES

- Investing in a specific project;
- Investing in a platform or project portfolio;
- Investing in a developer supporting project assets.

Locations

- Registered office: 151 rue Saint-Honoré, 75001, Paris, France
- Offices abroad: consultancy present in São Paulo since 2018, Nairobi (opening 2021), and local presence through the French Development Agency/Proparco network in Africa (Abidjan, Casablanca, Johannesburg, Lagos, Nairobi, Douala), in South-East Asia (Bangkok, New Delhi), in Latin America (Mexico, Colombia) and Istanbul in particula

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Mohamed BEN-OSMANE, Investment Director
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PREPARING AND
IMPLEMENTING YOUR PROJECT

STRATEGIC SCOUT

PUBLIC-PRIVATE PARTNERSHIPS FOR THE DIGITAL ECONOMY

Our consulting firm, which was founded in 1998, specialises in public-private partnerships in the digital economy. Strategic Scout supports hundreds of public and private players in France, Africa, and around the world, as they enhance their infrastructure by encouraging private players to invest alongside them in order to supplement the roll-out of advanced broadband and digital services.



1998
year of creation



€732,870
in turnover in 2019



Our customer base consists mainly of local authorities, electronic communications operators, and Governments in metropolitan France, overseas territories, and internationally. Our services are based on a set of values, including independence, creativity, and responsiveness, in service of our customers. For each study or project, we put together a dedicated team providing the appropriate expertise: strategy, project management, technical knowledge, economics, finance, or law. Our dedicated teams are drawn either from the company's internal resources or from partners with whom we maintain regular relationships.

PRODUCTS AND SERVICES

Local authorities, governments, and financial institutions

UPSTREAM STUDIES:

- ▶ Geomarketing studies, demand-driven studies, technical-economic analyses;
- ▶ Definition and assessment of scenarios;
- ▶ Development of business plans;
- ▶ Master plans for regional digital development;
- ▶ Engineering design;
- ▶ Definition of projects and recommendation of the most appropriate set-ups (work or service contracts, leasing, concession, public-private project companies);
- ▶ Geographic information systems (GIS).

CONTRACTING AUTHORITY ASSISTANCE:

- ▶ Preparation of tender documents, bid's analysis, negotiations, and drawing up contracts for public procedures (public procurement contracts, public service delegation, concessions, public-private project companies);
- ▶ Monitoring the deployment and the technical and economic operation of public initiative networks: studies, deployments, and acceptance of works;
- ▶ Technical and economic auditing of public initiative networks and development scenarios;
- ▶ Assistance with the renewal or transfer of public initiative networks;
- ▶ Preparation of grant application files;
- ▶ Assistance in commercial relations with operators: pricing, drawing up contracts;
- ▶ Training of directors and executives;
- ▶ Regulatory and competition consulting.

Telecommunications operators, manufacturers, and digital integrators

- ▶ Technical and economic studies;
- ▶ Drawing up master plans;
- ▶ Audits and expertise;
- ▶ Assistance in the production of partnership offers in response to public-private partnership procedures;
- ▶ Methodology and management of operations for maintenance and operation;

- ▶ Assistance with the way service provider control is managed;
- ▶ Telecommunications litigation.

WORKING LOCATIONS

Africa, Middle East, French West Indies, New Caledonia, and Metropolitan France.

REFERENCES FOR EXPORT ACTIVITIES

- ▶ IFC World Bank – Government of Jordan;
- ▶ European Investment Bank – Government of Mauritania;
- ▶ State of Gabon;
- ▶ Level 3 communications;
- ▶ OPT (Postal and Telecommunication Service) – New Caledonia;
- ▶ Martinique Prefecture;
- ▶ Local public company for the digital development of French Guiana;
- ▶ Gyalink.

OPERATIONAL MODES

Strategic Scout is a company dedicated to the success of its customers' projects, based on customised, creative methodologies. In order to respond to their needs in a personalised way, we have developed a support methodology that applies to the different stages of a project, from its design to its implementation. As a result, Strategic Scout is able to assist its customers, either throughout the duration of a project or on a specific task during its lifetime.

Locations

Registered office: 27 rue de
Lisbonne, 75008, Paris, France

CONTACT

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PREPARING AND
IMPLEMENTING YOUR PROJECT

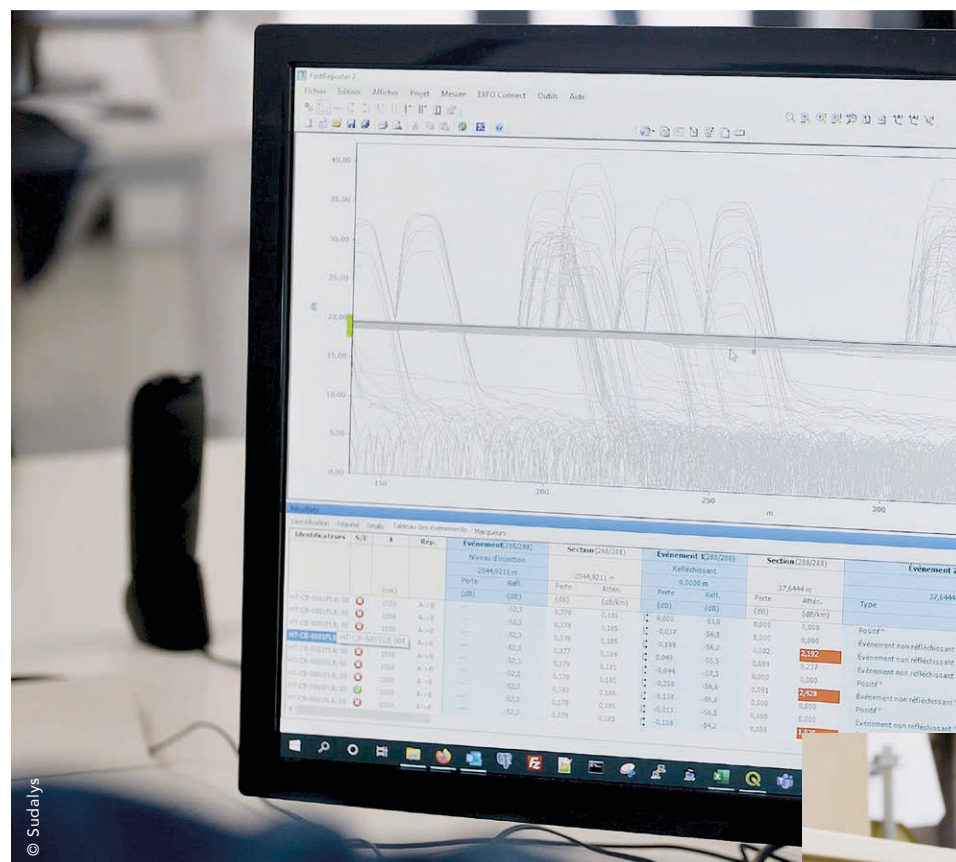


ACQUIRING THE
RIGHT EXPERTISE

SUDALYS

ENGINEERING, QUALITY CONTROL, AND BUSINESS SOFTWARE

SUDALYS is a design, engineering, support, and control office, which was founded in 2015 to meet the needs of local authorities and operators that wish to ensure the quality of operation of their telecoms infrastructures.



2015
year of creation



25
employees



Over €2M
in turnover



>10%
growth per year

As an expert in passive and active fibre networks, SUDALYS works on existing infrastructures and those that are being deployed, in their various phases of execution, from an administrative, regulatory, and technical point of view. SUDALYS advises its customers on their digital development projects, and offers a range of support services during the network design, construction, and operation phases. SUDALYS relies on an experienced multidisciplinary team, which includes telecoms experts, engineers, geomatians, and IT developers.

PRODUCTS AND SERVICES

Assistance with the deployment and operation of project owners

- ▶ Execution of passive engineering and network architecture studies;
- ▶ Sourcing of equipment and companies;
- ▶ Contract preparation and analysis;
- ▶ Contractual and technical monitoring of contract life cycles;

- ▶ Ensuring proper execution until acceptance;
- ▶ Development of operating processes;
- ▶ Development of technical maintenance specifications.

Fibre optic expertise

- ▶ Inspections of reflectometry and PMD/CD long-distance optical links;
- ▶ Auditing of fibre optic infrastructures in operation to qualify the status of assets and update the databases;

- ▶ Network performance auditing, in order to investigate the consumption of WAN links.

Development of business software

EASY EXPLOIT is an innovative tool for managing and operating fibre optic networks and telecoms infrastructures. SUDALYS created the first tool for managing fibre optics, based entirely on the Grace THD superfast broadband data model.

CHEKIT is a mobile application that works with a web interface designed to improve the daily monitoring of sites and maintenance actions.

CO-PRODUCTION

- ▶ Training of local technicians;
- ▶ Partnership with local players.

WORKING LOCATIONS

- ▶ Currently: Europe, West Africa, Caribbean;
- ▶ Under development: Canada, North Africa.

REFERENCES FOR EXPORT ACTIVITIES

Benin operator: Isocel Telecom.

OPERATIONAL MODES

- ▶ Setting up turnkey projects;
- ▶ Partnership with other companies;
- ▶ Responses to private or public contracts;
- ▶ As part of R&D, adapting our software to the specific needs of our customers.

Locations

France

CONTACT

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PREPARING AND
IMPLEMENTING YOUR PROJECT

TACTIS

CONSULTING, ENGINEERING, AND PROJECT SET-UP

Tactis is a consulting, engineering, and project set-up group that supports public and private players in all their digital infrastructure and services projects, particularly those involving:

- ▶ Deployment of digital infrastructure: fixed broadband and superfast broadband network access (FTTH/FTTx, radio networks), 4G and 5G mobile networks, private mobile networks (PMR), Wi-Fi, fibre optic backbones, underwater cables, space communications, data centres, indoor networks, networks of sensors/connected objects, video protection, migration to DTT, etc.;
- ▶ Development of smart and resilient cities : digital inclusion, citizen participation, innovative ecosystems, data management and cyber security, digitalization of city services such as : mobility and e-mobility (charging station network, ...), electricity and lighting (smart grid, ...), waste management, security, etc.



TACTIS



100

projects in 25 countries,
representing more than €5B
in public/private investment
in the projects monitored



Over 40

public-private partnerships in
the telecommunications and
digital infrastructure sector



Over 75

employees

We also carry out due diligence in the telecommunications sector, with investors and sellers (FiberCo, TowerCo, TelCo, data centres, etc.).

PRODUCTS AND SERVICES

Telecommunications networks

- ▶ 5G uses, experiments, and coverage;
- ▶ Mobile cellular networks;
- ▶ 4G fixed networks;
- ▶ Professional mobile networks;
- ▶ Internet of Things;
- ▶ FTTH access networks;
- ▶ Public initiative networks (PIN);
- ▶ Indoor radio coverage;
- ▶ Submarine cables;
- ▶ Metropolitan networks;
- ▶ Telecommunications backbones.

Smart Infrastructure

- ▶ Sensor networks;
- ▶ Smart public lighting;
- ▶ Video protection;
- ▶ Air quality;
- ▶ Smart grids;
- ▶ Micro grids;
- ▶ Data centres;
- ▶ Shared telecommunications infrastructure;
- ▶ Regional Wi-Fi.

Smart Territories

- ▶ Hypervision;
- ▶ Regional innovation strategy;
- ▶ Digital inclusion and mediation;

- ▶ Setting up public-private partnerships;
- ▶ Community animation.

CO-PRODUCTION

With specialised law firms, financial experts, investment banks, etc.

WORKING LOCATIONS

French leader in contracting authority assistance for local public authorities (more than 40 customers).

- ▶ Europe: France, United Kingdom, Germany, Austria, Monaco, Belgium;
- ▶ Africa: Morocco, Algeria, Tunisia, Burkina Faso, Benin, Cameroon, Central African Republic, Ethiopia, Democratic Republic of the Congo, Republic of the Congo, Rwanda, Mauritius, Madagascar, Ghana, Ivory Coast, Guinea, Senegal, Mauritania, Mali, Togo, Chad.

REFERENCES FOR EXPORT ACTIVITIES

French Development Agency, European Commission, Smart Africa Alliance, World Bank, African Development Bank, AFRICA 50, European Investment Bank, FRATEL (Association of French-speaking Telecommunications Regulators), ART (Cameroon), ARCEP (Gabon),

National Infrastructure Commission, ASTON network of sustainable cities, etc.

Our recent representative projects: Smart city Kigali (Rwanda), Casablanca video protection and smart signalling (Morocco), Smart city in Diamniadio (Senegal), Digital development master plan for several countries: Benin, Burkina Faso, Cameroon, Senegal. Superfast broadband plan for France and the United Kingdom.

- ▶ Geomarketing, economic modelling, FTTH project engineering in Germany, the UK, Morocco, and Mauritius with private investors;
- ▶ Fibre optic backbone audit and monitoring/control: Burkina Faso, Guinea, Central African Republic, Gabon, Republic of Congo, Mauritania.

OPERATIONAL MODES

- ▶ Strategic and operational studies;
- ▶ Setting up turnkey projects;
- ▶ Partnership with other companies.

Locations

- Head office in France: 43 rue des Meuniers, 94300 Vincennes
- Subsidiaries: Rwanda and Morocco



CONTACT

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CHOOSING THE ESSENTIAL
HARDWARE AND SOFTWARE

TELENCO

DESIGN, MANUFACTURE, AND DISTRIBUTION OF EQUIPMENT FOR TELECOMS NETWORKS

Specialising in the design, manufacture, and marketing of solutions for the deployment of superfast broadband networks, the Telenco Group offers its services to operators and their subcontractors through its French and foreign subsidiaries (Germany, United Kingdom, Senegal, Ivory Coast, Mexico). In addition to its network equipment range, the company provides technicians with the necessary equipment for the deployment and maintenance of telecoms networks.



PRODUCTS AND SERVICES

Network equipment:

- ▶ Post line hardware;
- ▶ Anchoring and suspension;
- ▶ Optical connection boxes;
- ▶ Last mile access;
- ▶ Fibre optic cables;
- ▶ Connectivity solutions;
- ▶ FTTA networks;
- ▶ Data centres.

Equipment for technicians:

- ▶ PPE;
- ▶ Site safety;
- ▶ Signalling;
- ▶ Pulling-rodging;
- ▶ Power tools;
- ▶ Tools;
- ▶ Telecoms tools;
- ▶ Consumables;
- ▶ Testing and measurement equipment.

WORKING LOCATIONS

- ▶ Metropolitan France and French overseas territories;
- ▶ United Kingdom;
- ▶ Germany;
- ▶ Ivory Coast;
- ▶ Senegal;
- ▶ Mexico.

REFERENCES FOR EXPORT

ACTIVITIES

Orange, British Telecom, Sonatel, Côte d'Ivoire Télécom, Eircom, Telmex, Totalplay, etc.

OPERATIONAL MODES

Telenco has chosen to be close to the field and to its customers, in order to ensure its offer is relevant and appropriate. The R&D department designs solutions that are adapted to field issues. Telenco's engineers also combines their market knowledge with the expertise of renowned manufacturers to co-develop qualified solutions. With this in mind, Telenco markets its products through its own sales network, subsidiaries, and agencies worldwide. As a pioneer in French B2B commerce, the Telenco e-commerce site meets a growing need for availability and responsiveness in superfast broadband deployment markets.

Locations

• Head office: ZA Valmorge, 38430, Moirans, France

Branches and offices:

- France: Grenoble, Nanterre, Martinique, Reunion
- Europe: Swindon (UK), Kirchheim-Heimstetten (Germany)
- Africa: Dakar (Senegal), Abidjan (Ivory Coast)



1999

year of creation



€143M

in revenue in 2020



+36%

growth
compared to 2019



2011

creation of the distribution
subsidiary

CONTACT

Laurent CONRAD, Managing Director
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Mob.: +33 6 83 70 16 40



CHOOSING THE ESSENTIAL
HARDWARE AND SOFTWARE

VIAVI SOLUTIONS FRANCE

MEASUREMENT AND ELECTRONIC TESTING EQUIPMENT

VIAVI Solutions is a company specialising in the production of electronic measurement and testing equipment for optical and mobile telecommunications networks (4G and 5G). The two main business lines of the VIAVI Solutions Group are network and service solutions, and optical security and performance.



€100M

in consolidated
turnover per year. In the early
2000s, this figure was less than
€10M



220

employees: approximately 120
on the Saint-Étienne site in the R&D
and Production department, 70 on the
Saint-Herblain site, and 30 on the Plaisir
site (78) for the commercial business

VIAVI
VIAVI Solutions

Our optical fibre testing and measurement solutions are designed by the French subsidiary, VIAVI Solutions France, which is based in Saint-Étienne and was created in 1995. They are sold worldwide, through the network of the VIAVI Solutions Group and its partners. Thanks to its in-depth expertise, VIAVI Solutions France helps operators and companies and their ecosystems to deploy, maintain, optimise, and develop the most complex networks. Our optical testing solutions allow us to test these networks throughout their life cycle: from design to deployment, commissioning, validation, and through-life support, both for infrastructures and services.

PRODUCTS AND SERVICES

- ▶ Testing of fibre continuity;
- ▶ Optical attenuators;
- ▶ Inspection and cleaning of optical connectors;
- ▶ Traffic clamps;
- ▶ Fault locators;
- ▶ Fibre optic monitoring systems;
- ▶ Fibre sensing;
- ▶ Optical sources;
- ▶ MPO multi-fibre ribbon cable testing equipment;
- ▶ Optical reflectometers;
- ▶ Report editing software;
- ▶ Automation of tests;
- ▶ Fibre characterisation tester (PMD, CD, AP, etc.);

- ▶ Optical spectrum analysers;
- ▶ PON network testers;
- ▶ Photometers;
- ▶ Network tests and certifications;
- ▶ Laboratory and production tests;
- ▶ Corporate networks;
- ▶ Avionics tests;
- ▶ 5G radio testing.

CO-PRODUCTION

Development of measurement modules that are embedded in manufacturer equipment (OTDR embedded, OSA, etc.).

WORKING LOCATIONS

VIAVI Solutions is present in 137 countries..

REFERENCES FOR EXPORT ACTIVITIES

The products developed by VIAVI Solutions France are sold on five continents. Some examples of countries that have placed significant orders:

- ▶ France, Germany, Ireland, United Kingdom, Italy, Spain, Belgium;
- ▶ Algeria, Morocco, Tunisia, South Africa, Angola, Saudi Arabia, UAE;
- ▶ India, China, South Korea, Philippines, Vietnam, Thailand, Singapore, Australia;
- ▶ United States, Mexico, Costa Rica, Brazil, Chile, Venezuela, Colombia.

Our customers are located in the following business sectors:

- ▶ Telecommunications/Service Providers (over 200 telecoms operators, etc.);
- ▶ Enterprise, cloud, and data centres;
- ▶ Manufacturers (network equipment manufacturers) and contractors (NOKIA, Cisco, etc.);
- ▶ Avionics, railway companies, energy companies, etc.;
- ▶ Military.

OPERATIONAL MODES

- ▶ Large centre for expertise and innovation (several patents and cooperation);
- ▶ Indirect or direct sales;
- ▶ Global services centre;
- ▶ Training.

Locations

- VIAVI SOLUTIONS Group, Registered office: Arizona, USA
- Sales offices: Germany, UK, Italy, Spain, Russia, Dubai, India, China, Singapore, South Korea, Japan, Mexico, Brazil, USA, Canada, etc.
- VIAVI SOLUTIONS France: R&D and Production in Saint-Étienne; sales office in Plaisir (78) and Saint-Herblain (44) with its subsidiary Expandium, which designs monitoring solutions for mobile networks (2G to 5G and rail networks)

CONTACT

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CONSTRUCTING
NETWORKS



OPERATING AND
MAINTAINING NETWORKS



MARKETING YOUR SUPERFAST
BROADBAND NETWORK

WEACCESS GROUP

DEVELOPMENT OF "PRIVATE LTE 4G" SOLUTIONS

WeAccess is a company specialising in the development of "private LTE 4G" solutions for companies, as well as 4G telecoms networks supporting PMR applications, corporate telephony, and business applications (mining sites, port sites, industrial sites, etc.)



WE ACCESS
group

PRODUCTS AND SERVICES

- ▶ 4G transmitters at different power levels;
- ▶ 4G network core/start-up/smart card/management system;
- ▶ Training and technology transfer for sites operating 24/7;
- ▶ Second level technical assistance and supervision.

CO-PRODUCTION

- ▶ Implementation of a private 4G site;
- ▶ Technology transfer assistance.

WORKING LOCATIONS

France and French-speaking Africa.

REFERENCES FOR EXPORT ACTIVITIES

Burkina Faso gold mines, port containers.

OPERATIONAL MODES

- ▶ Turnkey assembly of "private LTE" solutions;
- ▶ Technology transfer and training of targeted company personnel;
- ▶ Second level support (updating, correction, project management assistance);
- ▶ Choice of terminals;
- ▶ Assistance with LTE licence applications for local regulatory authorities.

Locations

Rouen : 59 rue Caroline Herschel
76800 Saint Étienne du Rouvray



1995
year of creation



€2M
in turnover



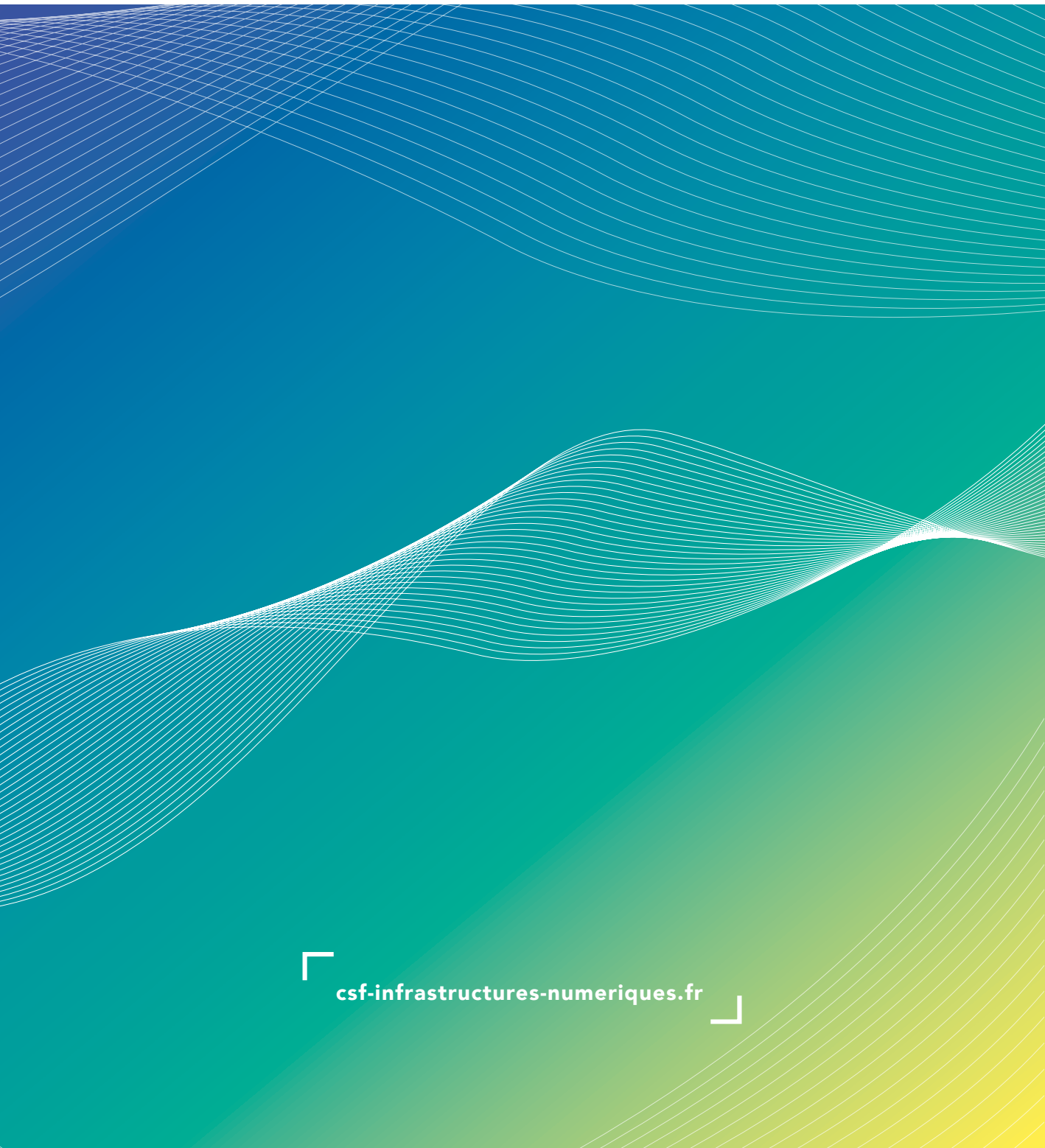
10%
growth

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