

Understanding
Improving

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GENERAL
INFORMATION



“PROGRESS THROUGH INNOVATION”

- > REVENUE GREW 5% TO 424 MILLION EUROS
- > NET PROFIT INCREASED BY 12% FROM 16 TO 18 MILLION EUROS
- > ICEACSA GRUPO MADE A SOUND CONTRIBUTION TO THE GROUP RESULT IN ITS FIRST FULL YEAR
- > NETHERLANDS: ALL-TIME HIGHEST RESULT FOR THE SECOND YEAR IN A ROW
- > FRANCE AND THE USA STRONGLY IMPROVE THEIR RESULT
- > INTERNATIONAL INNOVATIONS AND INNOVATION HUB PAY OFF
- > GROWTH IN LATIN AMERICA

THE BOARD ANTEA GROUP 2018

left to right

Gerard Sanderink
Rob van Dongen
Yde van Hijum

President
Member
Member



“YOU CAN ONLY REAP THE REWARDS IF YOU SOW
THE SEEDS FIRST”

PROGRESS THROUGH INNOVATION

PROGRESS THROUGH INNOVATION IS THE BEST WAY TO SUM UP 2018 — A YEAR IN WHICH WE MADE SIGNIFICANT INVESTMENTS IN OUR CAPACITY FOR INNOVATION AND WERE ABLE TO REAP THE FIRST REWARDS OF OUR INNOVATIONS. WE WERE ALSO ABLE TO FURTHER EXPAND OUR POSITION AS AN INTERNATIONAL FIRM, FOR INSTANCE, BY REINFORCING THE INTERNATIONAL CONNECTIONS BETWEEN THE VARIOUS COUNTRY ORGANIZATIONS.

Results

The 2018 figures are an excellent continuation of the preceding year. Our revenue grew by over 5%, while our profits were up from €16 million in 2017 to €18 million. Antea Group Netherlands achieved its best result ever for the second time in a row, with the thousand-day plan helping to increase profitability, client focus, capacity for innovation and visibility. Antea Group Belgium also continued the positive trend, improving its result in comparison to 2017.

France and the United States

We also saw positive developments in France and the US. Antea Group USA enjoyed a sharp growth in profit, thanks to a recovering oil and gas market, the diversification of services and customers and improved productivity. In France, significant investments have been made in the organization's optimization over the past two years, including through the 'Smart Builders' program, which paid off in 2018, leading to an improved result and a positive outlook for the future.

Spain and Latin America

ICEACSA Grupo's first full annual result deserves a special mention. This newcomer made a positive contribution to the group result in 2018, nicely playing the role of 'stepping stone' in Latin America. The network helped to increase the number of joint projects in countries such as Panama, Colombia and Mexico.

Capacity for innovation

In 2018, we invested a significant part of our operating profit in the development of new products and services, which resulted in over 100 promising innovations both large and small in 2018.

We have made major progress in the fields of data science, sensing and 3D printing in particular and have set ourselves apart from our competitors on the market. The development of our innovation hub in Orléans, France — a central place where we can bundle our knowledge and expertise to come up with multilateral innovations — will enable us to further build momentum over the next few years.

Internationalization

We remain focused on internationalization. In 2018, we increased and improved cohesion between the country organizations, which ensured that we could support globally operating clients from different countries with multinational project teams. Now that we have an international team, we can share our knowledge and join forces to work on international projects and tenders. Internationalization also means that we are continuing to expand our global network, for example through the acquisition of the Polish engineering and consultancy firm Tractebel. This will give us access to markets in Eastern Europe.

Reaping the rewards

You can only reap the rewards if you sow the seeds first, and we were able to reap plenty of rewards in 2018, with the first revenues materializing following previous investments in organization and innovation. At the same time, we continue sowing seeds for the future. We made it clear in 2018 that we have great potential as a group, especially in a world that is demanding the knowledge, expertise and linking power of engineers and consultants more than ever. This is a role that we want to make the most of all over the world.

ORANJEWOUND N.V.

Oranjewoud N.V., the top holding of Strukton Groep and Antea Group, is a listed company holding interest in companies operating both nationally and internationally.

Companies belonging to Oranjewoud N.V. are active in the areas of civil infrastructure, railways, technology and buildings, environment, spatial development and recreation. With its range of holdings, Oranjewoud N.V. covers the entire process, from preliminary studies, consulting, design, planning and organization, right up to realization, management and operation.

Oranjewoud N.V. is listed on the Euronext N.V. Amsterdam stock market and is 98,20% owned by Sanderink Investments B.V. It currently employs over 10,000 people and generated €2.3 billion in revenue in 2018.

Gerard Sanderink is CEO of Oranjewoud N.V.

SUPERVISORY BOARD

Herman G. B. Spenkelink Chairman
Rianne P. J. M. Jans
Jan P. F. van Zeeland

CORPORATE PROFILE

Antea Group is an international engineering and environmental consulting firm. We specialize in full-service solutions in the fields of environment, infrastructure, urban planning and water.

By combining strategic thinking, multidisciplinary perspectives and technical expertise, we do more than effectively solve client challenges: we deliver sustainable results for a better future.

With more than 3,300 employees in over 90 offices around the world, we serve clients ranging from manufacturers and global energy companies to national governments and local municipalities.

Antea Group comprises the European (Netherlands, Belgium, France, Spain, Poland), North and Latin American (USA, Brazil) and Asian (India) engineering and consultancy operations of Oranjewoud N.V.

Our promise

- We have the global insight, technical acumen and local delivery capacity to work through even the most complex environmental issues.
- Through innovation, integrity, technical expertise and spatial project management, we will provide you with results with a focus on real business solutions.
- We combine and balance client-specific goals with stakeholders' expectations and regulatory requirements.

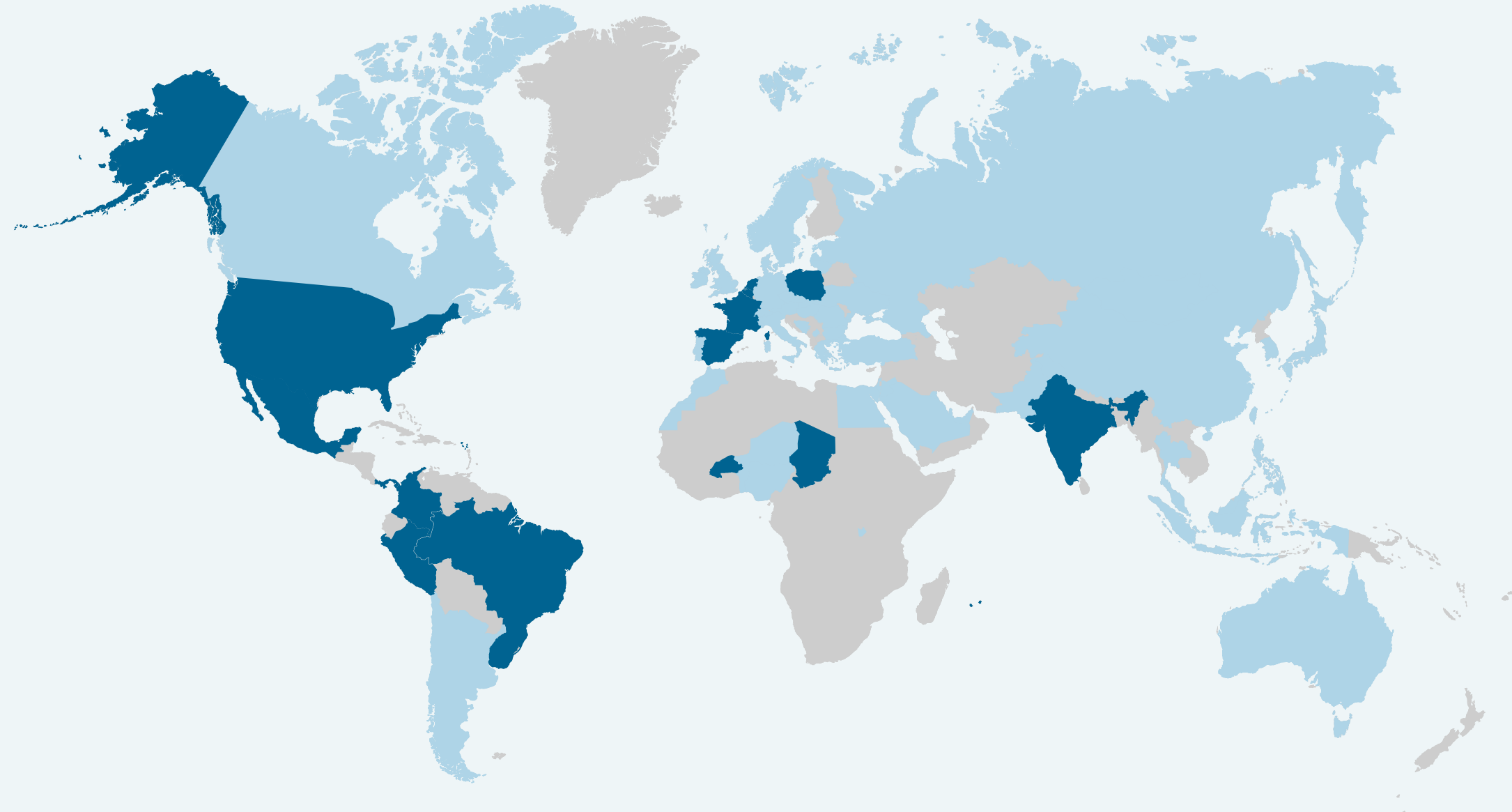
Our values

- We protect the earth, allow for business growth and safeguard social well-being.
- We are committed to innovation and continuous improvement.
- We are committed to the communities in which we live and work.
- We are a trusted partner and devoted to maintaining strong relationships with our clients.

Antea Group
Understanding today. Improving tomorrow.



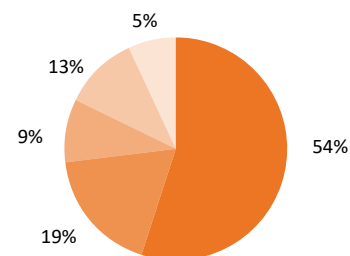
FACTS & FIGURES



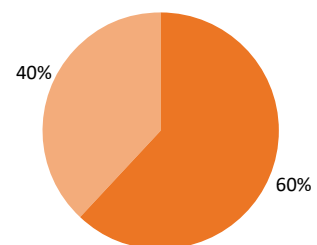
■ ANTEA GROUP
■ INOGEN

TOTAL REVENUE

2018 | € 424 M
 2017 | € 404 M



- ENVIRONMENT (2017: 55%)
- INFRASTRUCTURE (2017: 18%)
- URBAN PLANNING (2017: 9%)
- WATER (2017: 11%)
- OTHER (2017: 7%)



- PRIVATE 60% (2017: 62%)
- PUBLIC 40% (2017: 38%)

EMPLOYEES WORLDWIDE ANTEA GROUP (HC)

	2018	2017
TOTAL	3,213	3,160
NL	1,487	1,439
FR	837	839
USA	384	385
BE	207	201
ES*	100	88
IND	173	187
BRA	25	21

* including Mexico, Panama, Colombia

Inogen ENVIRONMENTAL ALLIANCE
Global Thinking, Local Delivery
 Antea Group is a founding partner of the Inogen Environmental Alliance, a global network of consultancies with:

- 70 associates
- over 6,400 employees
- projects completed in over 120 countries



SECTORS IN WHICH WE OPERATE

ENVIRONMENT

The all-encompassing environment is a complex phenomenon. Thoroughly interdependent ecosystems and natural resources - air, water, soil, climate - merge to create the world we live in. We appreciate this interconnectedness and the broad range of stakeholders driving environmental action. By leveraging our expertise and resources, we provide solutions that manage environmental impact and restore natural conditions.



INFRASTRUCTURE

Roads, bridges, water supply, railways and underground tunnels - they are the arteries of society, essential for livability, accessibility and economic growth. However, infrastructure is more than just connecting two points. We understand that the focus is much broader, a comprehensive undertaking involving legislation, regulation and communication. We develop infrastructure solutions that strengthen our built environment without detracting from our natural environment.



URBAN PLANNING

As the global population grows, urbanization increases and, as a result, the design and use of land is becoming more and more complex. We understand both the technical and political aspects of urban planning. Through research, analysis and sound engineering principles, our solutions ensure spatial plans are fully incorporated into the fabric of our communities and market value is maximized.



WATER

Water, an essential part of everyday life, can be viewed from many perspectives - scarcity, flooding, drinking, transportation and transformation into energy. Water management is multi-faceted and requires a delicate balance between social and economic needs. We understand current water concerns and translate our hydrology, ecology and environmental knowledge into solutions that support efficient use of this natural resource, protecting the livelihoods of future generations.



COUNTRY-SPECIFIC INFORMATION





ANTEA GROUP NETHERLANDS CAN LOOK BACK ON AN EXCELLENT YEAR IN ALL RESPECTS — NOT ONLY BECAUSE OF OUR RESULTS, BUT ALSO BECAUSE LOTS OF PIECES OF THE PUZZLE FELL INTO PLACE IN 2018. OUR INVESTMENTS IN INNOVATION, CUSTOMER FOCUS, PROFITABILITY AND VISIBILITY PAID OFF WITH CONCRETE RESULTS.

“We invested significantly in our capacity for innovation in 2018, which resulted in dozens of promising innovations both large and small. Together with partners and knowledge institutions, we are busy experimenting with new products and services. We are market leaders when it comes to data and sensing, drone technology and 3D bridge printing. We are also starting to reap the benefits of the first innovation processes.”

Menno Smits, CCO The Netherlands
Rob van Dongen, CEO The Netherlands



“A YEAR THAT SAW ALL THE PIECES OF THE PUZZLE FALL INTO PLACE”

MAJOR INVESTMENTS IN TALENT, PARTNERSHIPS, EXPERTISE AND TECHNOLOGY

The Netherlands

Second year in a row

Our revenue was up 5% to €212.9 million and our net profit increased 7.6% to €12 million. These figures were our best ever result for the second year in a row, as it turned out we could go one better yet again, following our excellent performance in 2017. All of our business lines contributed towards this result, with Environment & Safety and Urban Planning & Water doing particularly well.

Guided by the thousand-day plan

We naturally benefited from the booming economy, which resulted in increasing demand for our services in all of the sectors we operate in. But we also made sure last year that our organizational set-up would allow us to get the most out of these favorable circumstances. The thousand-day plan guided us and by focusing on innovation, on our customers, on our profits and on raising our profile, we were able to develop new products, explore new markets, strengthen our customer base and lay solid financial foundations.

Customer satisfaction and quality

The pieces of the puzzle fell into place for all of these themes in 2018 and our market and media visibility was greater than ever. Adapting and refining our internal processes helped us to increase our profitability, while a new customer relationship management system and regular customer satisfaction surveys gave us a better picture of our customers and their needs. This was a contributing factor in raising our customers' satisfaction and improving the quality of our work.

Innovation

We also made major investments in innovation in 2018, which resulted in dozens of promising innovations both large and small. We are market leaders when it comes to data and sensing, drone technology and 3D bridge printing, and we are also experimenting with new products and services, together with knowledge institutions and market players. We are now reaping the benefits of the first innovation processes, one example being the JLD Dike Stabilizer. Our efforts and those of our partners have helped to create a unique, market-ready product. Given the major challenge when it comes to reinforcing dikes in the Netherlands, this concept is sure to be profitable.

Looking to the future

The work of engineers is shifting. We have noticed that the market increasingly wants us to help brainstorm on tomorrow's social challenges on a strategic level. How do we create a healthy, safe living environment? How do we maintain quality of life in our cities? And how do we enable the transition towards sustainable energy sources?

As an engineering firm, we want to play a key role in these challenges over the next few years. We will therefore continue to make major investments in talent development, new expertise, partnerships and technology, so that we, together with customers, partners and knowledge institutions, can find solutions that will make our living environment safer, healthier and a better place to live.



Bodem Digitaal Op de Kaart (BDOK, Digital Soil Mapping)

More research is needed to protect employees from the health risks that soil contamination poses at excavation sites. At present, different sources need to be consulted, which is inefficient and time-consuming. Bodem Digitaal Op de Kaart (BDOK, Digital Soil Mapping) puts an end to this by allowing users to create fully automated reports conforming to laws and regulations in a matter of minutes. BDOK is the product of a partnership between Antea Group and Nazca Solutions.

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Understanding

BDOK prevents the duplication of research. By efficiently re-using soil data for advice on excavations, part of our traditional soil consultancy work becomes fully automated. The data comes from verified government sources and is supplemented by user data. BDOK possesses accurate soil data from municipalities, provinces, water boards and environment agencies.

Improving

BDOK's quick collection, calculation and automated reporting of soil data ensures more efficient work processes for contractors, grid managers and consultancy firms. Besides saving time, BDOK also creates new opportunities. We are now delivering services related to occupational health and safety and giving advice to new customers and customer groups. What is unique to Antea Group is the settlement of accounts based on the number of reports created by users (price per unit).

<https://www.anteagroup.nl/nl/diensten/bodem-digitaal-op-de-kaart-bdok>



Watergraafsmeer Dike Reinforcement

Situated in the Watergraafsmeer district, Amsterdam's Ringdijk is part of an urban center. The dike has been reinforced over a length of one kilometer using the JLD Dike Stabilizer, which strengthens the dike's core without changing its appearance. This has been proven to be less disruptive to local residents and is more sustainable and less costly. Using this technology enabled Antea Group to meet the demands of residents and preserve most of the existing trees growing on the Ringdijk. In addition, it helped Antea Group meet the aim set for the High Water Protection Program (Hoogwaterbeschermingsprogramma) of reinforcing dikes more efficiently, faster and at a lower cost.

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Understanding

Cooperation was key within the development. Thanks to a successful partnership between JLD-Contracting B.V., the High Water Protection Program (POVM), Deltares and the Amstel, Gooi en Vecht Water Board, an innovative, manageable dike reinforcement method was developed within five years. Antea Group designed the calculation methodology and oversaw the test and validation stage, detailed engineering and monitoring.

Improving

The JLD Dike Stabilizer is unique in that it is the only reinforcement method with a life cycle monitoring system. By monitoring each dike stabilizer, the safety of the dike can be tracked in real time and the dike manager knows how strong the dike is at any given time. With the JLD Dike Stabilizer, the Netherlands possesses an innovation that offers a better, socially responsible solution to high river water levels worldwide.

<https://www.anteagroup.nl/nl/nieuws/start-uitvoering-eerste-project-met-de-jld-dijkstabilisator>



Asset Management Using Augmented Reality

Only few Augmented Reality applications that have truly enriched our daily practices come to mind, but together with our partners Centric and Insider Navigation, Antea Group has developed a concrete, new Augmented Reality application for indoor navigation. Schiphol Airport offered the opportunity for a pilot project that has led to a successful Proof of Concept.

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Understanding

Asset management of architectural and systems-related building elements is often a time-consuming process. How much more efficient would it not be to relay real-life data digitally and on location by means of simple positioning? The Indoor Positioning System links markers (a type of QR code) to digital information and presents these with great accuracy on the right objects and at the right locations. The technology was presented at the Augmented World Expo (AWE) in 2018 and will be widely used in 2019 for our projects and customized solutions for customers.

Improving

Augmented Reality for indoor navigation can be used without prior knowledge to manage assets faster, more accurately and more efficiently in real time. In addition, it allows inspectors to view or modify data on-site, which makes the margin of error previously caused by stacks of paper and Excel lists a thing of the past - a stroke of efficiency when it comes to quality, optimization, accuracy and data visualization.

<https://www.anteagroup.nl/nl/nieuws/persbericht-innovatieve-inspectietechniek-antea-group-op-beurs-m-nchen>



INNOVATION IS THE DRIVING FORCE BEHIND OUR ENGINEERING. IT REQUIRES US TO HAVE A CLEAR UNDERSTANDING OF THE ISSUES AND CHALLENGES OUR CLIENTS FACE AND TO MAINTAIN OUR TOP-LEVEL TECHNICAL EXPERTISE. THESE TWO DIMENSIONS ARE KEY IN DEVELOPING ENGINEERING SOLUTIONS. INNOVATION IS THEREFORE NOT A LUXURY: IT IS A NECESSITY.

“Antea Group in France innovates in many different ways and we consider the different sources of innovation equally important. It is crucial for us to structure processes that will help us identify all the projects and implement those we have identified as important.”

Pascal Voyeau, CEO France



“THE CAPACITY TO INNOVATE REVEALS JUST HOW DYNAMIC ENGINEERING CAN BE”

INNOVATION IS THE DRIVING FORCE BEHIND OUR ENGINEERING

France

Innovation is Part of the DNA of Antea Group in France

Innovation is a key feature of Antea Group’s ‘Smart Builders’ corporate strategy. A few years ago, we decided to devote 1% of our revenue to R&D. It was a first step that bore fruit. By mobilizing our resources, we could quickly build better relationships with research laboratories, state representatives, other innovative companies and, naturally, our clients seeking innovative solutions. But we also wanted to change our daily practices, so in 2018 we decided to distinguish between R&D activities and internal innovation projects.

R&D Projects as Transformative Agents

R&D projects require the cooperation of our partners (universities or companies) to tackle complex issues. With their help, we were running more than 10 projects in 2018, including those focusing on reducing micro-pollutants, water reuse, thermoactive geo-structures, geophysical investigations on remediation, efficient implicit parallel patterns, the reuse of crude soils and clogging risks in geothermal wells. The experts working on these projects will help us grow and evolve in our engineering. Investing in R&D has helped us to think dynamically so that we can always come up with and offer new technical solutions for our clients.

Two of our R&D projects are showcased on the following pages: the Experimental and Numerical Study of the behavior of tropical soils carried out in our Soils and Rock Mechanics Laboratory, and the Cycle Terre project on the reuse of crude soils in the Grand Paris area.

Rapid Changes Through an Innovative Approach

In 2018 we wanted to change the way we work by distinguishing internal innovation processes, which are those that would have the quickest impact on our everyday practices. We wanted to encourage all of our teams to work on the challenges we face in the process of transforming our processes. Our teams now have the opportunity to suggest and help implement innovative approaches to aid marketing, digital, organizational or environmental transformations. It is key for us to achieve a quick and visible impact on the way we run our company.

Engineering Excellence: Innovating With and For Our Clients

A third source of innovation and progress worth mentioning is projects directly initiated by our clients, who seek our help in running innovative projects or providing solutions to engineering challenges. We find these projects exciting. One such project we take pride in is the sustainable water resources management project carried out for Nestlé in Lebanon.



‘Cycle Terre’ Project: Recycled Raw Earth Materials

Following the Europe-wide Urban Innovative Actions call for proposals, Antea Group’s ‘Cycle Terre’ (Earth Cycle) project, carried out in collaboration with the French city of Sevran and Grand Paris Aménagement, won in the circular economy category. The project focuses on the reuse of soil extracted from the construction sites of future train and subway stations in the Greater Paris region, for on-site recycling into raw earth building materials.

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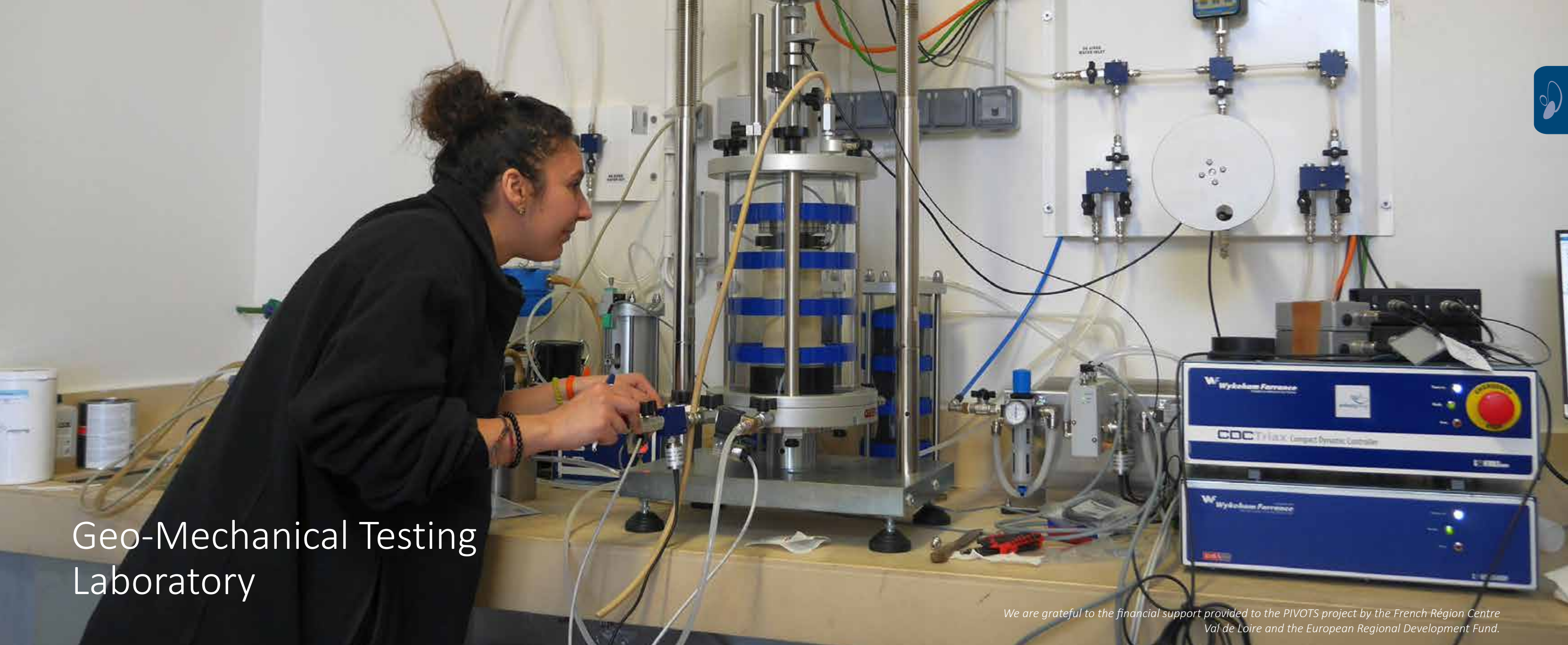
Understanding

Excavated materials represent around 90% of urban waste, which is a key issue in all construction sites in the Greater Paris development project.

The goal of the ‘Cycle Terre’ Project is to create a low-carbon plant to produce recycled building materials. The challenge is to make this process become a leading example in the industry in order to establish a solidarity-based sector in the economy for the reuse of materials excavated from large earthwork sites as raw earth building materials.

Improving

As a player in the circular economy striving for improved use of local resources, Antea Group wanted to take part in this innovative project. Our teams are using their expertise to optimize the conditions of material reuse, which includes the characterization, sorting and checking of materials, as well as tracking them in monitoring data systems.



Geo-Mechanical Testing Laboratory

We are grateful to the financial support provided to the PIVOTS project by the French Région Centre Val de Loire and the European Regional Development Fund.

Antea Group's geo-mechanical laboratory in France has a long history, dating back to the founding of Antea in France in 1994. Using sophisticated equipment, the highly skilled team conducts a wide variety of tests at the laboratory, ranging from the identification and mechanical testing of soils and rocks to highly technical tests such as oedometer swelling tests on frozen soils or the accelerated aging of geothermal grouts. The laboratory supports our engineers in the optimization of works design, the latter being more and more innovative as new tests and prototypes are created every year.

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Understanding

Antea Group has had offices in the West Indies for several years. The construction of new dams in Guadeloupe has played an essential role in the agriculture sector, since the island is known to have a high level of seismic activity. The seismic resistance of these dams must be assessed using dynamic non-linear analyses that require specific input on the properties of the materials.

Improving

In research for a PhD thesis, started in 2018 and conducted in the laboratory, state-of-the-art equipment (dynamic triaxial cell, resonate column) is being used to study how tropical soils react to seismic activity. This should give us a better understanding of the associated risks.



Integrated Water Resources Management at Mount Lebanon

Located in the heart of Mount Lebanon and housing the highest concentration of Lebanese cedars, the Shouf Biosphere Reserve acts as a source of natural spring water for Southern Lebanon. It is also one of the most important hydrogeological catchment areas in the Middle East. This region is home to two mineral water bottling plants operating within a protected natural environment.

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Understanding

Antea Group performed a comprehensive quantitative and qualitative study for Nestlé Waters on the water resources available in the reserve. The aim of the study was to characterize and assess the vulnerability of the water resources and then to involve the relevant stakeholders in the sustainable management of these resources.

Improving

The study concluded that while water is available for the time being, these water resources remain fragile in the long run. Meanwhile, local water providers only take a few initiatives due to public policy constraints. This results in a lack of infrastructure maintenance and a deterioration of the services provided. Consequently, our study team proposed the establishment of a basin committee, which would lead to active cooperation between all the relevant parties involved in water resources management in Lebanon, both in the public and the private sectors.



OVER THE LAST FEW YEARS, GLOBALIZATION, TECHNOLOGY AND CONSUMER EMPOWERMENT HAVE BROUGHT ABOUT UNPRECEDENTED CHANGES IN THE ENVIRONMENTAL CONSULTING INDUSTRY. THESE CHANGES HAVE REQUIRED US TO TAKE A CRITICAL LOOK AT OUR BUSINESS AND EVALUATE NOT ONLY WHAT WE DO, BUT MORE IMPORTANTLY, HOW WE DO IT.

“It’s an exciting time for the environmental consulting industry as it moves from an era driven by regulation and compliance to a new era where environment, health and safety are strategic functions with the ability to create brand value and company growth. In addition to simply reducing liability and risk, business leaders now have the opportunity to leverage their EHS programs to enhance their reputation, attract and retain talent and improve share prices. This paradigm shift is encouraging and is also requiring environmental consultants, like Antea Group, to respond in kind with innovative service offerings that provide the flexibility, scalability and overall experience they desire.”



Brian Ricketts, CEO USA

“AS A NEW GENERATION OF EHS LEADERS TAKES THE HELM, WE MUST PROVE WE UNDERSTAND THEIR UNIQUE NEEDS, BRING VALUE-ADDING INSIGHTS AND DELIVER A START-TO-FINISH EXPERIENCE THAT IS FIT-FOR-PURPOSE AND UNCOMPLICATED”

MEETING OUR CUSTOMERS WHERE THEY NEED US

USA

Evolving Our Services to Deliver Value and Accelerate Growth

Our ability to evolve our capabilities is critical to our company success and business growth. As such, we are committed to continuously upgrading our service offerings to deliver timely and relevant responses to our customer needs. Much of this relies on the talent we hire, the relationships we build and the insights we turn into actionable strategies. The following are a few examples of how we have evolved our services to deliver value for our customers and accelerate growth for our firm.

No Time to Waste

With over 14,000 chemical spills reported in the United States each year, a timely and well-planned response is critical to limiting environmental and community impacts and reducing costs. Through our retooled Incident Management service (AIM), we focus on speed and cost reduction through experienced agency engagement, cutting-edge clean-up technologies and dedicated response teams available to mobilize anytime, anywhere across the country, so that customers can focus on returning their asset to full operation.

Low Risk Doesn’t Mean No Risk

Proactively managing EHS risk is not just a concern for manufacturing or industrial facilities. Office space, warehouses, data centers and retail locations, while low risk, still must ensure regulatory compliance and safety standards to meet employee and customer expectations. Our RiskRight EHS® service gives companies the ability to manage compliance issues and create proactive programs for safe and productive workplaces in a customized way that addresses their unique, but still significant EHS concerns at their facilities across the globe.

Compliance in Your Shopping Cart

With over 550,000 Underground Storage Tanks in the United States that contain petroleum or hazardous substances, we put our decades of industry experience to work to develop an e-learning delivery platform, offering virtual courses that make it easy for owners and operators of Underground Storage Tanks to ensure compliance and safety at their facilities. Our courses, designed to meet federal and state-specific regulatory requirements, can be purchased and completed online 24/7, saving customers time, money and the hassle of coordinating in-person training options.



Incident Management Support for Crude Oil Pipeline Release

A major oil and gas company needed immediate support responding to a pipeline spill that released over 20,000 barrels of crude oil in a wheat field located in a remote part of the US. Within 24 hours, Antea Group incident management staff were on-site to oversee the spill response activities, including investigation of the extent of the release, soil sampling, excavation and treatment, and development and reporting of clean-up goals to the state regulatory agency. In total, over 1,000,000 cubic yards of soil were excavated and treated by thermal desorption and the land was returned to agricultural use.

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Understanding

That the greatest opportunity to reduce long-term cost and limit risk from a hazardous material release is during the initial response period.

Improving

Speed and efficiency from initial emergency response to interim response, moving organizations from a reactive state to proactively managing their site to closure.

<https://us.anteagroup.com/en-us/case-studies/emergency-response-crude-oil-pipeline-release>



Global EHS Services for a Technology Company

A technology company was challenged with managing lower-risk EHS concerns for non-manufacturing, office-based employees in several locations around the globe. To better understand and effectively manage these risks and compliance issues, Antea Group was hired to act as the client's EHS department, responsible for ergonomic assessments, safety program development, workers' compensation management, accident investigations, environmental permitting and chemical management. With Antea Group and its global network of EHS professionals managing the day-to-day EHS issues, the client gained peace of mind knowing that employee safety was in the hands of experts.

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Understanding

The unique needs of lower-risk facilities and that they require an approach customized to company culture, local regulations and language.

Improving

The way low-risk facilities maintain a healthy workplace, preserve brand reputation, reduce business risk and meet stakeholder expectations.

<https://us.anteagroup.com/en-us/case-studies/global-ehs-services-technology-company>



Custom Enterprise-Level E-Learning Solution for Storage Tank Operator Training

A global retailer with multiple US stores including fueling operations needed an efficient “one-stop shop” solution for UST Operator training. Antea Group created a customized, dedicated website for the client on which employees can take training without worrying about payment and provide critical store-level data in a customized user form. The platform allows the corporate EHS group administrative access to manage their workforce’s compliance across the enterprise, as well as view store-level insights. Additionally, because this client had a large portfolio of work, we could offer attractive pricing, thereby meeting their needs for price, quality and convenience.

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Understanding

That owners and operators of underground storage tanks need a convenient resource to ensure safety and regulatory compliance across their systems.

Improving

The delivery of training courses and certifications through an online platform that meets federal and state-specific requirements for underground storage tank operations.

<https://ustoperator.anteagroup.com>



WE CAN LOOK BACK ON A SUCCESSFUL YEAR. FIRSTLY, WE SUCCEEDED IN EXCEEDING OUR FANTASTIC RESULT FROM 2017. WE ALSO TOOK SIGNIFICANT STEPS TOWARDS THE FUTURE. WITH A NEW MARKET APPROACH, WE AIM TO PLAY AN EVEN MORE PROMINENT ROLE IN THE MARKET. OUR GOAL IS TO USE OUR EXPERTISE AND DARING TO DEVELOP SOLUTIONS FOR THE LARGE AND COMPLEX SOCIAL ISSUES COMING OUR WAY.

“We can look back on a successful year with excellent results once again. We also used this year to prepare our organization for the future, with shaping a new approach to the market as our main focus. In this, we will be concentrating on four socially relevant issues and their associated ‘ecosystems’.”

Jan Parys, CEO Belgium



“SOLVING COMPLEX SOCIAL ISSUES MEANS OUR CONSULTANTS NEED TO TAKE ON A FRESH ROLE”

GUIDING CLIENTS TOWARDS RELEVANT SOLUTIONS

Belgium

A successful year

In 2018, we were once again given the opportunity to implement a large number of fantastic projects at home and abroad. We also used the year to prepare our organization for the future, with shaping a new approach to the market as our main focus. In this, we will be concentrating on four socially relevant issues and their associated ‘ecosystems’: livable city, energy transition, coast and harbors. This means that we not only want to be visible to our clients, but also to the entire network of stakeholders, government bodies and knowledge institutions who influence client issues.

A fresh role as consultant

By establishing new connections and broadening knowledge and skills, we want to help clients solve complex issues. This approach requires that we, as an engineering and consultancy firm, take on a fresh role. We want to be the ‘pivot’, the party capable of developing solutions together with clients, stakeholders and knowledge institutions. This requires an entrepreneurial spirit, effective collaboration and capacity for innovation. Over this last year, we aligned our organization and our processes with this objective. For example, we will now be working with self-managing teams. This is less hierarchical, more geared to fast adaptation, and allows more scope for personal initiative.

Livable city

One of the ecosystems focuses on the ‘livable city’. In 2018, we already started on the first breakthrough projects in this area in the Brussels region. Brussels and its suburbs are currently facing a severe housing shortage. There is a need for urban compaction; however, this

must be accomplished in a sound, sustainable way.

At Antea Group, we are carrying out studies into inner city revitalization for municipalities like Machelen and Zaventem, but we are also developing designs for new city plans where we investigate possible future-proof solutions together with the stakeholders.

Energy transition

One area in which we have been making significant steps is the energy transition in Belgium. We want to offer cities and municipalities smart alternatives to central energy systems like nuclear energy. One breakthrough project we are particularly proud of is the development of an innovative energy system for the largest inner-city project in Belgium: a former abattoir site in Antwerp. At this site, we are working together with energy companies, the public sector and businesses on district heating that uses waste water to generate heat.

Coastline and ports/harbors

We have seen that the expertise we have accumulated in the area of ecosystems is also of interest to parties abroad. Based on our in-depth expertise of coastlines and estuaries, we have been asked to come up with solutions for the protection of the coast in Benin in West Africa. For example, we are currently coordinating the realization of a 6km-long submerged breakwater for the national government. This project was one of the reasons behind us setting up Antea Benin, together with Antea France. This is just one example of how we are joining forces as a group to add value abroad as well.



Sustainable Heat Production by Using Waste Water

The City of Antwerp will redevelop the Slachthuis site into a residential area offering room for recreation, facilities such as a school, small-scale activities and local businesses. Commissioned by Fluvius and Aquafin, Antea Group predesigned the heat production unit supporting the heating network. The heating network will be fed by a heat pump using effluent from the water purification installation. Antea Group was responsible for the technical preliminary study and the calculation of the technical and financial aspects of the business case. The Slachthuis site is part of a new urban development and is set to become the largest inner-city housing project in Flanders, with a maximum of 2,400 homes. This project is unique in Belgium due to both the technique used (HP > 1 MW) and the scale of the new development.

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Understanding

The design of the most sustainable energy generation unit within the specified conditions – ecological, economic and technical – based on a forecast of energy demand profiles, district heating layout and the available waste heat from the waste water.

Improving

Smart combination of multiple technologies for heat generation at the highest efficiency levels along with the lowest CO₂ emissions according to specified financial boundaries. Use of a simulation model for technology selection and dimensioning on an hourly basis - securing the lowest heat price and the highest degree of reliability - while guaranteeing comfort for future residents.



Winterbeek: Large-Scale River and Riverbank Remediation Operation

Years of industrial discharge have strongly contaminated the Winterbeek River at the 16-kilometer stretch between Tessenderlo and Scherpenheuvel-Zichem, where it flows into the Demer. Not only water quality has been affected: the sediment, the banks and the surrounding area (63.5 ha / 157 acres) have also been severely polluted by heavy metals, chemical salts and ionizing radiation material (radium). Antea Group was asked by VMM and OVAM to design the soil remediation project, to make up the technical scope of the works and follow up on the works.

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Understanding

The watercourse has a naturally meandering structure and a rich natural environment has developed in the valley. After taking stock of the present pollutants, the complex assignment was to strike a balance between remediation objectives, the prevention of structural damage to the existing valuable vegetation, nature objectives for the valley, the feasibility and the cost of the remediation operations.

Improving

Given the fragility of the natural environment, classic assessment frameworks were not applicable. BATNEEC principles tailored to the local problem were applied to develop the appropriate assessment and remediation specifications. The remediation operation was designed in a cross-business unit effort. The selected remediation approach is based on dredging the sediment and underlying riverbed combined with sediment traps, on the one hand, and excavation and stabilization of the riverbank and surrounding grounds on the other.



Brussels' Peripheral Municipalities on Urban Planning Policy

Living, moving and working together in 2040: cities and municipalities are facing major challenges. How do you deal with a dual objective such as climate change adaptation and urban densification? How can you ensure that quality of life is not compromised? And is all of this possible without affecting a town's unique character? Antea Group supports municipalities in the development of a strategy on urban densification and urbanization and in the translation of such strategy into a spatial development plan.

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Understanding

A solid analysis of urban stratification is crucial for developing an ambitious strategy. How has the urban fabric been woven together and what is the DNA of the town center? How can we further densify conveniently located places without encouraging car use? How do we set the right preconditions based on climate scenarios for water, drought and heat? Where are there opportunities for strategic densification or the development of high-rise buildings without compromising the privacy of existing homes? Antea Group is carrying out this analysis in several municipalities on Brussels' northern periphery, such as Wemmel, Machelen, Zaventem, Kraainem, Opwijk and Merchtem.

Improving

Antea Group supported the municipality of Opwijk in developing a densification strategy, by means of a spatial development plan (RUP). Bond Beter Leefmilieu set up the project 'Attractive city and town centers for a climate-neutral Flemish Brabant' to look for smart urban planning strategies together with municipalities. The results were published in a 'cookbook' containing examples and tools that can be used by the cities and municipalities. The municipality of Opwijk's RUP was included in the book as a best practice for increasing building densities using an area-based approach.

Spain

“Incorporated in ANTEA Group, the companies of ICEACSA Grupo have broken all previous records when it comes to contracting and revenue. Having created employment and generated profits, the companies’ professional development and sustained and sustainable growth is guaranteed.”

*Fernando Illanes Álvarez, Managing Director
ICEACSA Grupo*



Colombian National Road Network

Data collection and analysis of traffic information using the Colombian national road network’s verifiable technology.

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Understanding

The consultancy contract awarded to ICEACSA Group by the National Roads Institute (INVIAS) was aimed at collecting data categorized by axes and movement on more than 10,000km of the Colombian national road network.

The work was carried out in a consortium with the Colombian company Joyco.

Improving

The data was collected using cameras, which provided 36 hours of continuous video at each of the points. This graphic sample was then analyzed using computer vision software in order to detect and count all of the vehicles using the road and assign them to one of 9 different categories. A reliability rate of more than 95% per category was achieved.

India

“Unihorn India has achieved a 2% increase in revenue compared to the year 2017.

In view of the perceived stricter environmental regime, prevailing and foreseeable future market conditions, and competition, the management expects the company to achieve a limited lower revenue in 2019.”

Krishna Murthy, Unihorn India



Climate Adaptation and Rehabilitation of Water Structures in Southern India’s Cauvery Delta

Together with Unihorn, Antea Group is providing technical advisory support for the implementation of a decision support system, flood risk mapping, the set-up of forecasting and warning systems and the preparation of a feasibility study. The work also includes the development of a hydrological model and 1D and 2D hydraulic and coastal mathematical models, hydraulic modelling, ground water modelling and the preparation of flood risk maps using GIS.

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Understanding

Development of models, improvement in water structures and the set-up of a decision support system in the Cauvery channels will help to control water flow and support stakeholders in promoting judicious use of the limited water resources available.

Improving

The study’s output will support farmers in adapting to climate change, while also making sure that sufficient water is available to improve agricultural growth and ensure sustainable use of water resources.

Brazil

“The Brazilian operations delivered very strong results in 2018. Previous investments in the improvement of internal processes, stronger marketing efforts and increasing client loyalty have contributed greatly towards this accomplishment.”

Hilton Lucio, Managing director Antea Brazil



Financial and technical evaluation of reforestation projects and the associated impacts on water resources

The quantification and financialization of reforestation efforts and the associated impacts on water resources are poorly understood. Antea has been hired in Brazil by a major brewing company to better understand these projects in order to evaluate their feasibility and scalability. The project is still in progress, but significant lessons have already been learned.

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Understanding

Antea Group has been contracted to quantify the results of reforestation projects in Brazil.

Improving

The results will be used to improve existing models and support better decision-making processes for these projects.

FINANCIAL
INFORMATION



The Netherlands



The economic situation was stable in **the Netherlands** in 2018. The labor market is developing rapidly, resulting in high demand for good labor, while supply remains tight. We are confronted with this, but many of our (government) clients are also looking for well-trained and skilled staff and fish in the same pond. Antea Netherlands was able to maintain its leading position in 2018 mainly due to the increased focus on clients, innovation, profitability and visibility and again achieved a higher revenue and higher operating profit. The backlog increased to €91.2 million (2017: €84.0 million). At 1,487, the workforce is higher than in 2017 (1,434).

Belgium



Price pressure, strong competition and relatively high tender costs continue to influence development in **Belgium**. Antea Belgium nevertheless achieved an increase in revenue, a stable operating profit and the backlog has risen to €32.1 million (2017: €31.8 million). The number of employees has increased slightly (2018: 207 and 2017: 201).

France



The slight recovery of the economy in **France** stagnated in the last quarter of 2018. Due to the civil protests, (government) clients are reluctant to give orders. Antea France has managed to hold its own in the turbulent market and has achieved a fractional increase in the operating profit. The backlog has fallen to €56.6 million (2017: €57.7 million). The number of employees is virtually stable with 837 (2017: 839).

USA



The diversification of the products and services offered by Antea in the **United States** was continued in 2018. Due to the decrease in the number of Environmental Liability Transfer (ELT) projects, revenue fell slightly, but the operating profit increased. This is partly due to a recovering oil and gas market, but also to improved productivity. The backlog has fallen to €44.3 million (2017: €53.0 million) and the number of employees is quite stable with 384 (2017: 385).

Spain



Iceacsa Grupo in **Spain** and Latin America, acquired at the end of 2017, performed satisfactorily in 2018. Both the revenue and the operating profit contributed positively to the results of the Group. Iceacsa had 100 employees at year-end 2018 (2017: 88).

India



Unihorn **India** has achieved a 2% increase in revenue compared to the year 2017. The operational result was 6.5% compared to 9.3% the year before. This reduction has been caused by strategical investments in diversification. The backlog has fallen to €4.4 million (2017: €6.2 million). The number of employees was 173 (2017: 187).

Brazil



Antea Group acquired a majority interest in Antea **Brazil** in December 2017. The revenue of Antea Brazil in 2018 was €1.9 million, the operating result was 15.3%. Antea Brazil had 25 employees at year-end 2018 (2017: 21).

CONSOLIDATED STATEMENT OF FINANCIAL POSITION (in thousands of euros)

	December 31, 2018	December 31, 2017
Non-current assets	247,175	307,127
Current assets	226,475	196,024
Total assets	473,650	503,151
Total equity	285,632	311,539
Non-current liabilities	44,237	52,213
Current liabilities	143,781	139,399
Total equity and liabilities	473,650	503,151

These figures are unaudited

CONSOLIDATED STATEMENT OF INCOME (in thousands of euros)

	2018	2017
Total operating income	424,240	403,996
Project costs of third parties	(131,056)	(124,470)
Net Revenue	293,184	279,526
Staff costs	(229,651)	(220,452)
Other operating expenses	(31,840)	(29,653)
Depreciation and amortization	(8,326)	(9,289)
Total operating expenses	(269,817)	(259,394)
Operating profit (EBIT)	23,367	20,132
Net finance revenue/(costs)	137	480
Share in profit after taxes of associates	54	46
Profit before taxes	23,558	20,658
Income tax	(5,575)	(4,664)
Net profit	17,983	15,994

These figures are unaudited

KEY FIGURES (in thousands of euros)

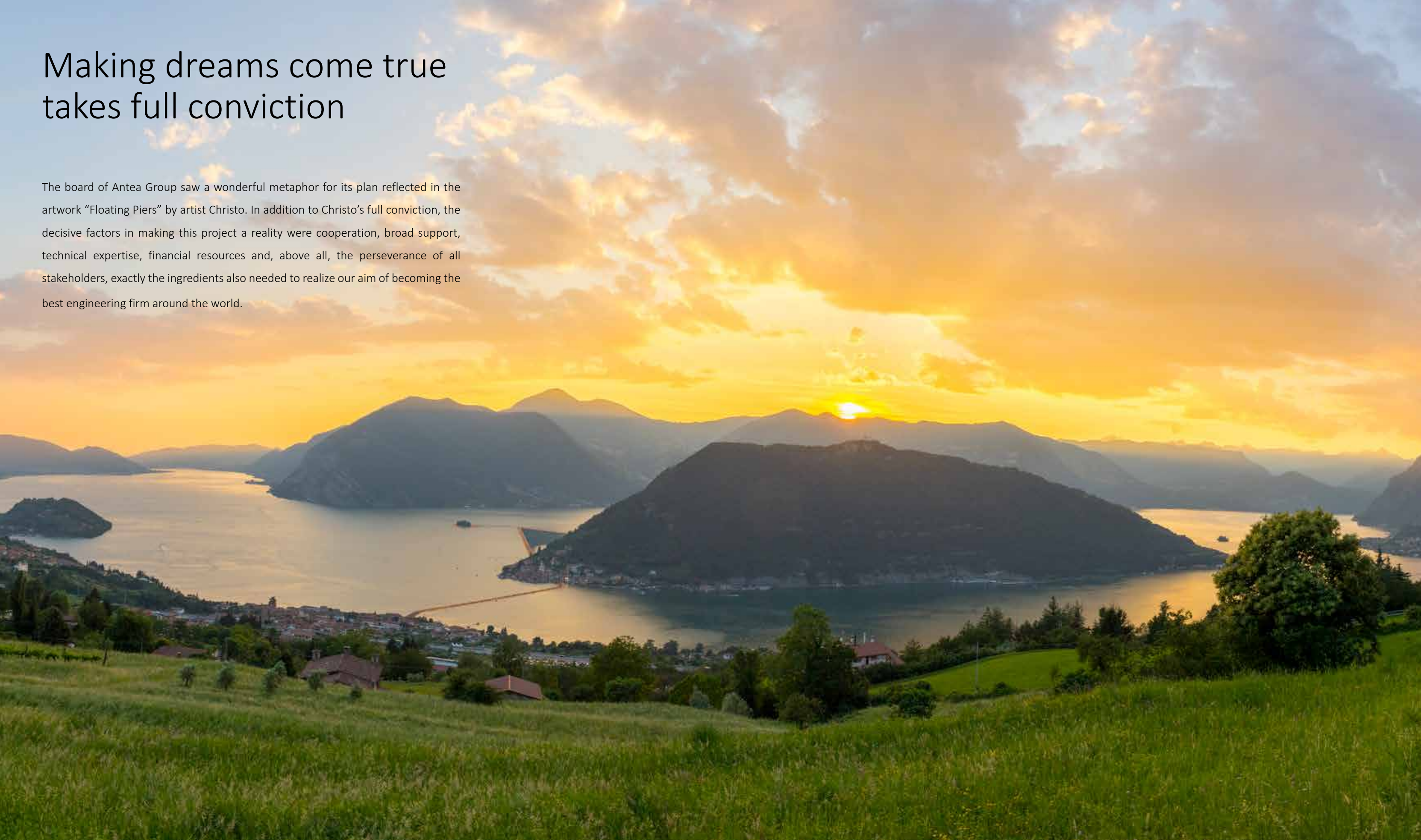
	2018	2017
Netherlands		
Total operating income	212,933	202,853
Operating result (EBITA)	16,014	15,370
Net result	11,981	11,134
France		
Total operating income	102,511	100,262
Operating result (EBITA)	4,125	3,686
Net result	3,097	2,590
USA		
Total operating income	72,174	75,313
Operating result (EBITA)	2,775	1,660
Net result	834	2
Belgium		
Total operating income	27,009	24,047
Operating result (EBITA)	1,937	1,944
Net result	1,181	1,060
Spain (Iceasca Grupo)*		
Total operating income	8,076	1,185
Operating result (EBITA)	436	202
Net result	252	140
India		
Total operating income	2,936	2,872
Operating result (EBITA)	191	267
Net result	233	283
Brazil**		
Total operating income	1,904	-
Operating result (EBITA)	291	-
Net result	132	-
Other		
Total operating income	(3,303)	(2,536)
Operating result (EBITA)	(362)	204
Net result	273	785
TOTAL Antea Group		
Total operating income	424,240	403,996
Operating result (EBITA)	25,407	23,333
Net result	17,983	15,994

* consolidated since acquisition date November 27, 2017

** in 2017 minority share, so not consolidated

Making dreams come true takes full conviction

The board of Antea Group saw a wonderful metaphor for its plan reflected in the artwork “Floating Piers” by artist Christo. In addition to Christo’s full conviction, the decisive factors in making this project a reality were cooperation, broad support, technical expertise, financial resources and, above all, the perseverance of all stakeholders, exactly the ingredients also needed to realize our aim of becoming the best engineering firm around the world.



Understanding today.
Improving tomorrow.