SOLETANCHE FREYSSINET

SOILS STRUCTURES NUCLEAR

2012
ACTIVITY REPORT

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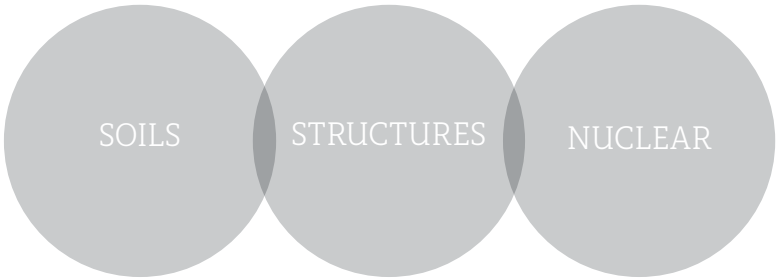
Soletanche Freyssinet, a dynamic group with strong growth and development momentum, performed well in 2012, recording a 13% increase in revenue to €2.5 billion despite the economic downturn in a number of countries.

In our three business segments - soils, structures and nuclear - we built on our specific areas of expertise to work on major infrastructure projects around the world and on our local roots and long-term customer relationships to carry out thousands of smaller projects. Business was particularly brisk in North America, Australia, Mexico and France; and volume held steady in Asia, Latin America and Africa.

Applying our integrated business model based on state-of-the-art expertise, ability to devise highly effective solutions and exacting and creative capabilities, we strive to deliver the excellence our clients deserve while enforcing rigorous safety standards on our worksites. In 2013, we will build on this model to step up our expansion.

JÉRÔME STUBLER
Chief Executive Officer
of Soletanche Freyssinet

3 BUSINESS SEGMENTS



5 BRANDS

SOLETANCHE BACHY · MENARD · TERRE ARMEE · FREYSSINET · NUVIA

As the world leader in soils, structural and nuclear engineering, the Soletanche Freyssinet Group brings together an unparalleled array of specialised civil engineering capabilities.

Operating in some 100 countries, its 19,000 employees meet the needs of clients by devising and implementing solutions tailored to the specific features of each project, whatever its complexity and scale.

Working on thousands of projects every year, they help design, build, maintain and repair a wide variety of structures. Their expertise, combined with a culture of technical excellence and strong technological creativity, help boost the performance and durability of each structure.

Russky Island Bridge in Vladivostok, Russia

COORDINATION COMMITTEE

Manuel Peltier

Deputy Chief Executive Officer, Freyssinet

Marc Lacazedieu

Chief Executive Officer, Menard

Jérôme Stubler

Chief Executive Officer, Soletanche Freyssinet, Chairman, Soletanche Bachy, Freyssinet, Nuvia and Terre Armée

Jean-Philippe Renard

Executive Vice President, Central and Eastern Europe, Asia Pacific, Latin America, Iberian Peninsula, Major Projects Division, Soletanche Bachy

Yann Grolimund

Executive Vice President/ Chief Financial Officer, Soletanche Freyssinet

Didier Verrouil

Executive Vice President, Eurofrance, United Kingdom and North America, Soletanche Bachy

Bruno Dupety

Chairman, Soletanche Freyssinet

Pierre-Yves Bigot

Human Resources Director, Soletanche Freyssinet

KEY FIGURES

19,000 employees

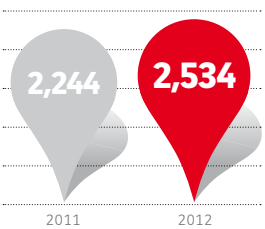
80 countries of location

100+ countries of operation

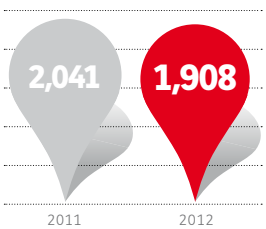
€2 billion order backlog

€2.5 billion revenue

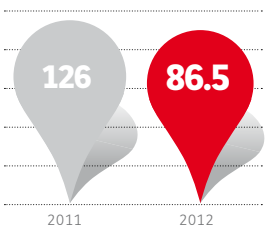
Revenue
in € millions



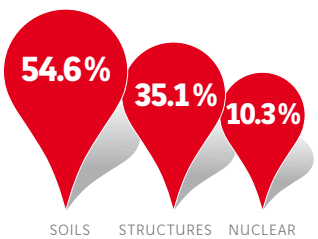
Order backlog
in € millions



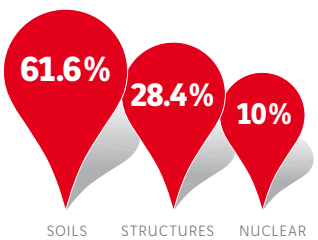
Operating profit
from ordinary activities
in € millions



Managed workforce
by business segment



Revenue
by business segment



SOILS

SOLETANCHE BACHY

Special foundations and ground technologies

9,500 employees

2012 revenue: €1,392m
(managed revenue*: €1,459m),
up 15.4% from 2011

MENARD

Ground reinforcement and improvement

800 employees

2012 revenue: €170m,
down 3.8% from 2011

STRUCTURES

FREYSSINET

Integrated technical solutions in new construction and structural repairs

5,700 employees

2012 revenue: €518m,
(managed revenue*: €597m),
up 6.6% from 2011

TERRE ARMEE

Retaining structures and precast arch tunnels

800 employees

2012 revenue: €202m,
up 26% from 2011

NUCLEAR

NUVIA

Specialised expertise for the nuclear industry

2,200 employees

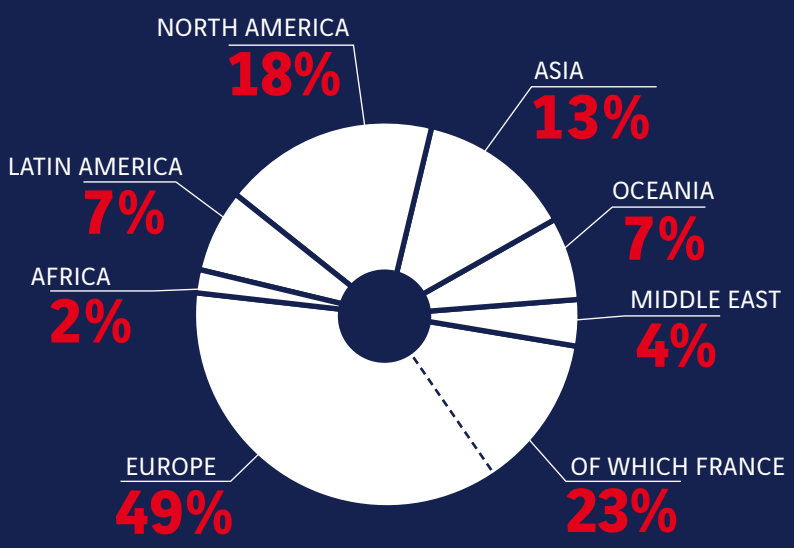
2012 revenue: €252m,
up 17.3% from 2011

Bridges
Stadiums
Dams **Hydraulic structures** Roads Mines
Nuclear sites
Transport infrastructure
Tunnels Ports Buildings
Car parks...

* Revenue including the share of revenue in jointly controlled companies

ALL OVER
THE WORLD

Revenue by geographical area



LOCATIONS

- Abu Dhabi
- Algeria
- Argentina
- Australia
- Azerbaijan
- Belgium
- Botswana
- Brazil
- Bulgaria
- Canada
- Chile
- China
- Colombia
- Costa Rica
- Czech Republic
- Dubai
- Egypt
- El Salvador
- France
- Georgia
- Germany
- Guadeloupe
- Guatemala
- Honduras
- Hong Kong
- Hungary
- India
- Indonesia
- Ireland
- Italy
- Japan
- Jordan
- Kazakhstan
- Kuwait
- Luxembourg
- Macau
- Malaysia
- Martinique
- Mexico
- Monaco
- Morocco
- Mozambique
- Netherlands
- New Zealand
- Nicaragua
- Oman
- Pakistan
- Panama
- Peru
- Philippines
- Poland
- Portugal
- Qatar
- Reunion Island
- Romania
- Russia
- Saudi Arabia
- Serbia
- Singapore
- Slovakia
- Slovenia
- South Africa
- South Korea
- Spain
- Sweden
- Switzerland
- Thailand
- Turkey
- Turkmenistan
- Ukraine
- United Kingdom
- United States
- Uruguay
- Venezuela
- Vietnam
- Zambia

NEW ACQUISITIONS

Soil Engineering, United Kingdom
The company, based in Leeds, Yorkshire, is a British leader in ground investigation, soils and injection engineering, geotechnical and environmental consulting and laboratory testing.

March Construction, New Zealand
Based in Christchurch, Canterbury, for the past 40 years, March Construction specialises in foundation piling, water and wastewater infrastructure and dewatering systems.

US Wick Drain, United States
Founded in Wilmington, North Carolina in 1993, US Wick Drain specialises in ground improvement through the supply and installation of wick drains.

Geofundaciones, Colombia
Based in Bogota, the company builds deep foundations and works in soil stabilisation, with a focus on port and road infrastructure.

MNdeni, South Africa
MNdeni, founded and operating in South Africa and also operating in neighbouring Mozambique and Botswana, repairs structures and buildings.

Coor Nuclear Services, Canada
Coor Nuclear Services provides radiation protection and decontamination services to Canadian nuclear operators.

Envinet, Czech Republic and Slovakia
Based in Trebic, Czech Republic, Envinet delivers a broad range of services to nuclear industry clients: projects and engineering, radiometric systems and radiation control, industrial automation, laboratory systems and software development.

As a global and local group, Soletanche Freyssinet has a network of about 160 companies in nearly 80 countries across five continents.

POSITION & STRATEGY

"Soletanche Freyssinet is a dynamic group with strong growth and development momentum."

SYNERGIES

INNOVATION AND R&D

SUSTAINABLE DEVELOPMENT

> Australia – The Barangaroo seafront development, one of the world's largest such projects, is transforming a 22-hectare former container terminal into a new precinct in the heart of Sydney. Menard Bachy is designing and building the peripheral basement retaining wall, including a 13,000 sq. metre diaphragm wall and 650 ground anchors, in conjunction with the Soletanche Bachy engineering teams.

SYNERGIES

Soletanche Freyssinet's dovetailing business segments form a good fit. The Group leverages their complementarity and creates synergies to boost its capabilities and performance and **to offer its clients a comprehensive and integrated range of speciality services.**

The Resonance plan is designed to generate and coordinate further interaction and cooperation enabling the Group to expand and reinforce the excellence it owes its clients. **A large number of commercial, geographical and technical synergies were forged in 2012, as well as synergies in human resources, sustainable development, information systems and communication.**

> The Barangaroo worksite teams in Australia (Menard Bachy / Soletanche Bachy)

Project synergies

The Group's five entities pool their unique capabilities to tackle highly complex and technically challenging projects. The year's many such projects included the Barangaroo seafront development in Sydney, Australia, which brought together Menard Bachy and the Soletanche Bachy engineering teams, and soil consolidation for the future Wynn Cotai casino in Macau, on which Menard and Soletanche Bachy's Hong Kong subsidiary Bachy Soletanche Group Limited worked in tandem. In Canada, Agra Foundations joined Geopac on the Port Royal and Gardens Residential Development projects (along with Soletanche Bachy's North American subsidiary Nicholson). In Toronto, Geopac and Reinforced Earth joined forces on the Stockyards project. In Russia, Terre Armée and Freyssinet are working together on the Arkhangelsk mine project. In South America, Freyssinet and Soletanche Bachy are working in tandem to benefit their clients on such projects as post-tensioned floors for the Insurgentes Rouz, Mitikah 4, Patriotismo Metropoli 2 and Museo del Mar in Mexico and the dry-dock repair project in the port of Belgrano, Argentina. Lastly, Nuvia's special nuclear engineering capabilities are combined with the specialities of the other Group's business segments on such projects as the PTR tank reinforcement at Fessenheim in France, where Nuvia Travaux Spéciaux and Soletanche Bachy worked together.

> Fessenheim nuclear power plant, France (Nuvia Travaux Spéciaux / Soletanche Bachy)

Technical synergies

Beyond such geographical and project-related convergence, technical synergies are also being forged. Menard and Terre Armée have been pooling their speciality expertise to serve their clients for many years. They have carried out some 20 projects that combine Reinforced Earth® (e.g. for embankment) and CMC Controlled Modulus Columns (for support) to cope with a broad range of constraints and deliver a highly effective service while keeping costs under control. In 2012, Menard and Terre Armée brought these synergies to bear on the Garden State Parkway - Bass River Bridge Widening project in the U.S. state of New Jersey, in which a lane will be added to the bridge in each direction.

Geographical synergies

With their unique expertise, the Group's five entities operate around the world. The Group's goal is to further expand the networking process so as to offer its entire portfolio of services and capabilities to the broadest possible range of clients. This involves mutual support: when a Group company already has an established presence in a country, it may be asked to help another Group company set up an agency or a subsidiary. This paves the way for the newcomer, helping it to more rapidly gain familiarity with local markets and the local business environment and pooling offices and resources. New subsidiaries set up in 2012 included Freyssinet Kuwait, Freyssinet Philippines, Freyssinet Tierra Armada Peru, Freyssinet Tierra Armada Colombia, Menard Mexico and Freyssinet Tierra Armada Panama.

> Arkhangelsk mine, Russia (Terre Armée / Freyssinet)

Communicating together

Soletanche Freyssinet offers outstanding expertise in specialised civil engineering across structure design, construction, maintenance and repair. To draw attention to the broad sweep of its portfolio and its range of integrated speciality services, its entities pool their participation in events related to their fields of activity. For example, in April in Santiago, Chile, Soletanche Bachy Chile and Freyssinet Tierra Armada hosted a joint stand at Expomin; in June, Soletanche Bachy, Menard and Terre Armée were all three partners at the International Symposium on Ground Improvement in Brussels, Belgium; and the same month, Nuvia and Freyssinet joined each other as exhibitors at the Nuclear Engineering Fair in Nizhny-Novgorod, Russia.

A CONVENTION TO PREPARE THE FUTURE

Synergies were the overarching theme at the Group's convention in Mexico City in April 2012. The three-day event, which followed the first founding convention held in Paris in 2009, brought together nearly 300 managers from all five Soletanche Freyssinet entities and from all over the world. The convention was a key milestone in the rollout of the Group's strategy of creating multi-segment synergies in many different fields. The Group's broad range of expertise underpins its strength and sets it apart. As projects become more complex, solutions based on synergies are a major drawing card for clients and a major focus of the Group.

> Belgrano port, Argentina (Soletanche Bachy/Freyssinet)

> The finishing touches are put on the Tunnel Dismantling Machine at CSM BESSAC's plant. The unprecedented technical innovation will be used on the Hong Kong metro.

INNOVATION AND R&D

In each of its business segments, innovation is a key focus of Soletanche Freyssinet's activity. The R&D teams are continuously devising and developing new, ever more efficient, competitive and sustainable solutions **to meet the challenges inherent in every project.**

Working on the most demanding projects, engineers, technicians and operators concentrate on satisfying the client by bringing state-of-the-art technologies to construction, repair and services. Employing new processes, equipment and technologies to adapt to the constantly changing configurations and constraints of the thousands of projects carried out every year, the R&D teams generate a continuous flow of innovations.
The Group invests substantial resources in the R&D to devise forward-looking solutions that meet its clients' technical and economic challenges.

> TDM at work underground in Hong Kong

Soletanche Bachy
The Tunnel Dismantling Machine in action in Hong Kong

As underground spaces are increasingly put to use, interference between old and new underground structures is a growing problem. The need to address the issue becomes more pressing as time goes on. The Hong Kong Island Line metro extension project, in which a tunnel of the new line was connected to an existing tunnel, is a case in point. The operation required the dismantling and filling of part of the tunnel currently in service. Carried out in one of the world's most urbanised environments and in a very complex geological setting, this phase of the project prompted the consortium, which includes Bachy Soletanche Group Limited and CSM BESSAC, to develop a special machine, the TDM (Tunnel Dismantling Machine). Using compressed air technology, it was designed and manufactured in the CSM BESSAC plant in France. The machine moves backwards inside the tunnel to be dismantled, removing the arch segments one by one under a pressure of 2.8 bars. As the TDM moves backward, its mechanical arm applies shotcrete on the tunnel wall to ensure the temporary stability of the ground. Then, every 2 metres, the tunnel is backfilled with lean concrete. Operators remain behind the TDM bulkhead and work under standard atmospheric pressure. Once the existing tunnel section has been dismantled and backfilled, a slurry TBM is used to re-excavate the connection between the new tunnel and the existing line.

Soletanche Bachy
Cit'Easy: a compact plant for urban worksites

Soletanche Bachy designed and developed the Cit'Easy process to optimise diaphragm wall construction in urban areas. In 2012, a new desanding unit was added to the plant. Cit'Easy comes in three stackable modules, each the size of a shipping container, and can be transported on only two semi trailers and rapidly assembled at the worksite. The ultra-compact plant with its reduced footprint is particularly useful on worksites using the XS hydrofraise.

Freyssinet
ANZAC Bridge maintenance: a large worksite

Freyssinet developed new solutions for its part of the ANZAC Bridge upgrade in Sydney Australia. To reduce vibration due to wind and rain, Freyssinet fitted helical contour ridges to the existing HDPE sheaths using a welding robot, without interrupting traffic. Freyssinet installed dampers from its Internal Radial Dampers (IRD) range to absorb any residual vibrations. To reinforce the stay cable anchorages, Freyssinet devised a special method for replacing the filler. In parallel, following a decision to improve the permanent access systems, a lift was installed in each tower and access to all of the bridge's deck-level anchorages was provided.

Brûlé, S. *et al.* on arxiv : http://arxiv.org/abs/1301.7642.

Menard
Anti-earthquake cloaking to deflect waves

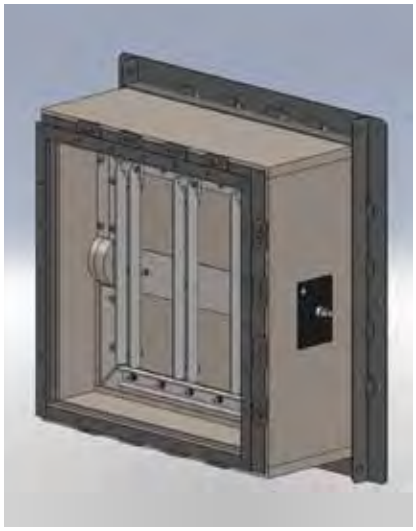
Working with the French National Centre for Scientific Research (CNRS), Menard is studying the interaction between seismic waves and soils that have been rendered anisotropic. The goal is to disrupt or deflect seismic waves to prevent the devastating damage an earthquake can inflict on a structure. Meta-materials are currently able to divert propagation of light waves around an object and reconstruct propagation behind, thus rendering the object invisible in the wave field. The goal is to adapt this process to seismic waves by creating what amounts to "anti-seismic belts". In August and September 2012, the process underwent full-scale testing at worksites in Grenoble and Lyon. The results lived up to expectations: the waves were deflected. An article was submitted to a leading scientific journal.

UNIQUE SOFTWARE TO TRACK AND MANAGE INFRASTRUCTURE

At the end of 2012, Soletanche Freyssinet's subsidiary Advitam launched ScanPrint IMS (Infrastructure Management System). The software, the only one of its kind currently on the market, centralises data from individual structures (bridges, walls, signs, etc.), linear infrastructure (roads, tunnels, pipelines, etc.) and area infrastructure (green spaces, basins, etc.) and integrates software tools dedicated to each segment (motorways, roads, railway lines, major bridges and tunnels, stadiums, etc.). ScanPrint IMS builds on state-of-the-art web technologies and its interface was devised in conjunction with leading motorway and construction companies and French, European, American public authorities.

Terre Armée and Menard
Controlled Modulus Columns (CMC) + Reinforced Earth®: the winning soil and wall combination

Bringing two one-of-a-kind technologies - Reinforced Earth® and CMC - together in a single solution opens up a broad range of possibilities. For the past decade, Menard and Terre Armée have been teaming up to carry out joint projects that combine ground improvement using Menard's CMC technology and Reinforced Earth® walls and embankment. Some 20 such projects have been completed to date, including the 40-hectare Penn Park sports complex in the U.S. city of Philadelphia, which also used Nicholson Construction micropiles, and the Garden State Parkway - Bass River Bridge Widening project in the U.S. state of New Jersey.
For the latter, Soletanche Freyssinet Group R&D funded a full-scale instrumented test to quantify and confirm the technical compatibility of the two processes. A final report and technical recommendations are being drawn up and will serve as a basis for further cooperation.



Nuvia
New-generation fire dampers

Nuvia's specialised subsidiary, Vraco, has developed a unique fire damper design. The "dry sealing surface" technology gives the product exceptional operability at high temperatures, a quality particularly appreciated by operators needing to manage the hot gases and smoke propagated through a nuclear ventilation system in the event of a fire. Unlike dampers with an "intumescent seal", these dampers are mechanically sealed via a system of flaps and specially machined reverse-slope seats that are fitted to the tunnel body using a high-precision joining process. Vraco is the only fire damper manufacturer whose products are accredited by the French Institute for Radiological Protection and Nuclear Safety (IRSN) with the technical support of the French Nuclear Safety Authority (ASN) and certified by CTHEN (Technical Centre for Approval of Nuclear Equipment).

Nuvia
HiRAM, a portable assay monitor

Developed and deployed by Nuvia Limited, the HiRAM (High Resolution Activity Monitor) substantially reduces the time needed to inspect and assay site waste. Mounted on a tractor-trailer, the monitor is made up of a turntable connected to a high-resolution gamma ray spectrometer (HGRS) and a laptop. The system takes about 15 minutes to analyse a 1 cu. metre bag of waste or earth with an average detection level of 10^{-3} Bq/g of Cs-137 and 10^{-3} Bq/g of Co-60. The results can be analysed immediately to determine the waste category - very weak or weak radioactivity - since the HiRAM includes scintillators that can detect very low intensity gamma radiation. In 2012, the HiRAM was used throughout the United Kingdom, including in London and at the Magnox Hunterston site, as part of large-scale soil remediation projects.

> The Group believes that safety is the key to performance and is mobilising employees at all levels to implement its Zero Accidents safety policy.

SUSTAINABLE DEVELOPMENT

Soletanche Freyssinet's sustainability policy rests on the conviction that its values and expertise help achieve the economic, environmental and social goals of its clients and of society at large and constitute **growth opportunities.**

The policy, shared by the Group's five companies, focuses on three major objectives: managing the quality, health, safety, environmental and social risks and impacts of its activities; creating value for the clients and anticipating their needs; and consolidating its social and civic engagement. To roll out the policy, the Group introduced special indicators and an action plan for the period 2011-2013. **Throughout 2012, a wide variety of initiatives were taken by all the teams to help the Group and its entities meet their goals.**

HONG KONG METRO

QUALITY, SAFETY AND ENVIRONMENTAL EXCELLENCE RECOGNISED

Soletanche Bachy's Hong Kong subsidiary Bachy Soletanche Group Limited won three of the four main prizes awarded on 26 September 2012 by Mass Transit Railway (MTR), the Hong Kong mass transit operator, to the companies working on its new rail line projects. These included the MTR Grand Safety Award, for the establishment of a genuine safety culture, which went to the XRL 811A project.

Workplace health and safety

With the Zero Accidents goal as the single objective, the Group initiated a series of actions to foster changes in behaviour. A key part of the system consists in encouraging managers to set an example and become visibly involved. "Managing safety" training was carried out for top managers to strengthen the safety dialogue and commitment. Other actions included incentives to report dangerous situations and thus increase vigilance and prevent accidents; more frequent "preventive observation inspections"; and the alert requirement on worksites as devised by the Group's Canadian subsidiaries Agra Foundations and Geopac, with STOP (Stop/Think/Organize/Proceed) cards distributed to all employees.

Tools have also been designed to draw attention to various aspects of safety and to provide information and training. At Soletanche Bachy, a multilingual instructional DVD covering general worksite safety and safety issues specific to each workstation was rolled out across the Group to support orientation of newly hired and temporary employees. A film was also produced to raise employee awareness of risks associated with noise.

Environmental quality and protection

New environmental quality and protection initiatives were taken within the Group in 2012. For example, Soletanche Bachy launched an eco-worksite label that sets out 10 fundamental environmental criteria; and the Health and Safety Passport distributed to newly hired and temporary workers was expanded to become a Health, Safety and Environment Passport that includes recommendations on environmental protection. The environment has thus become a day-to-day focus on worksites, with the Group's five companies constantly striving to reduce the impact of their activities. Freyssinet, for example, built wildlife crossings along hydraulic structures on the A62 and A64 motorways in France to ensure habitat continuity for a number of species.

AVERAGE GREENHOUSE GAS EMISSIONS IN 2012

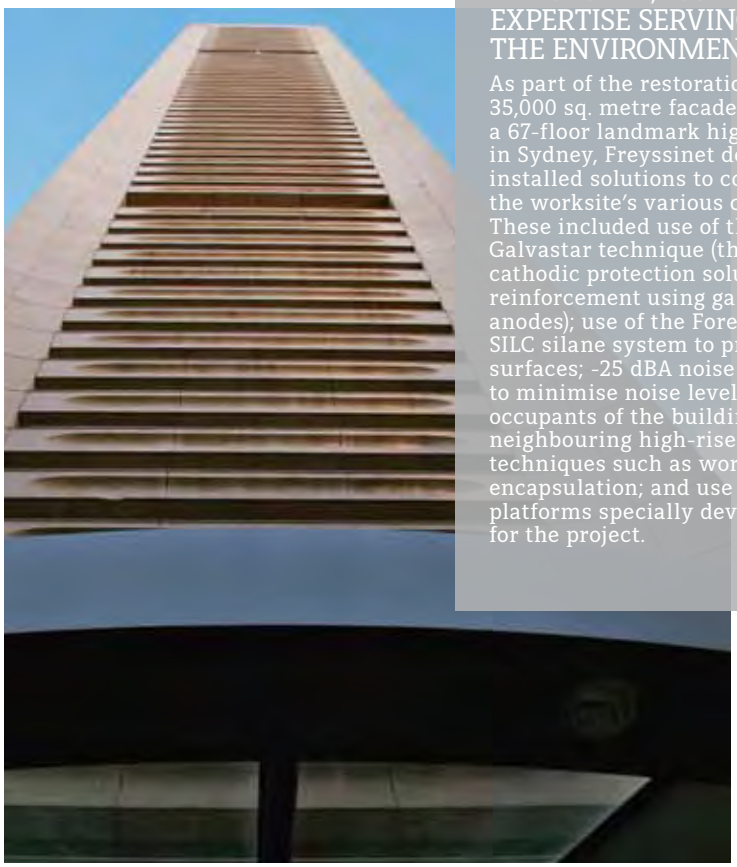
66 geq* CO_2 /€
revenue
* gram equivalents

13 teq* CO_2
per capita
* tonne equivalents

SAFETY INDICATORS IN 2012

9.65
frequency rate
Number of lost time workplace accidents x 1,000,000/number of hours worked

0.47
severity rate
Number of days of lost time due to workplace accidents x 1,000/number of hours worked



MLC TOWER, AUSTRALIA

EXPERTISE SERVING THE ENVIRONMENT

As part of the restoration of the 35,000 sq. metre facade of a 67-floor landmark high-rise in Sydney, Freyssinet devised and installed solutions to cope with the worksite's various constraints. These included use of the Foreva® Galvastar technique (the Freyssinet cathodic protection solution for reinforcement using galvanic anodes); use of the Foreva® Fuge SILC silane system to protect surfaces; -25 dBA noise abatement to minimise noise levels for the occupants of the building and neighbouring high-rises using techniques such as work zone encapsulation; and use of work platforms specially developed for the project.

Ecodesign and control of greenhouse gas emissions

To quantify and mitigate the environmental impact of its structures, Soletanche Bachy developed its Prism tool in 2011. Freyssinet, Terre Armée and Menard also rolled it out in 2012. The software, which calculates a structure's environmental impact over its life cycle, is used to assess and reduce greenhouse gas (GHG) emissions at all stages of a project. For example, the alternative solution proposed for the extension of the Quai des Flamands in Cherbourg, France, reduced GHG emissions by 45% compared to the baseline solution. Another illustration of the commitment to ecodesign is LEED (Leadership in Energy and Environmental Design) certified projects such as the Bancomer and Reforma towers in Mexico and the Banco Popular and Repsol head offices in Spain.
Today, Soletanche Freyssinet's expertise is recognised by its peers. Under auspices of the European Federation of Foundation Contractors (EFFC), the Group chaired the work that culminated in the development of a software tool that calculates carbon emissions for all foundation contractors.

TRAINING IN 2012

2,492
hours of environmental training

79,812
hours of safety training

WOMEN EMPLOYED

15.18 %
women in management positions

PORT OF LOMÉ, TOGO
A SUSTAINABLE WIN-WIN PROGRAMME WITH LOCAL COMMUNITIES

Before starting construction, the project team worked with the local communities to identify their expectations and apprehensions with regard to the project. A large number of initiatives were then taken to improve the daily lives of local employees, their families and local residents, including job creation, development of land set aside for re-located residents, new roads, drainage and installation of drinking water pumps.

R&D serving the environment

Soletanche Freyssinet leverages R&D to support its environmental programme and develops techniques and processes such as Geomix and Cit'Easy that use fewer raw materials and have a smaller environmental footprint. Care is taken to reduce the noise emitted by the techniques employed – especially the Rapid Impact Compaction technique – and to use methods that optimise consumption of worksite machinery and thus reduce CO_2 emissions (15-20%) and the number of decibels (between 3 and 5). In terms of applications, the Group also offers specific environmental services and technologies such as power generation, soil remediation, management of natural and industrial risks, environmental impact modelling - such as the EAR-is method, which models noise and vibration levels generated by a site and tracks them in real time - and waterproofing solutions designed for use in cost effective and reliable Reinforced Earth® storage tank construction.

Social responsibility

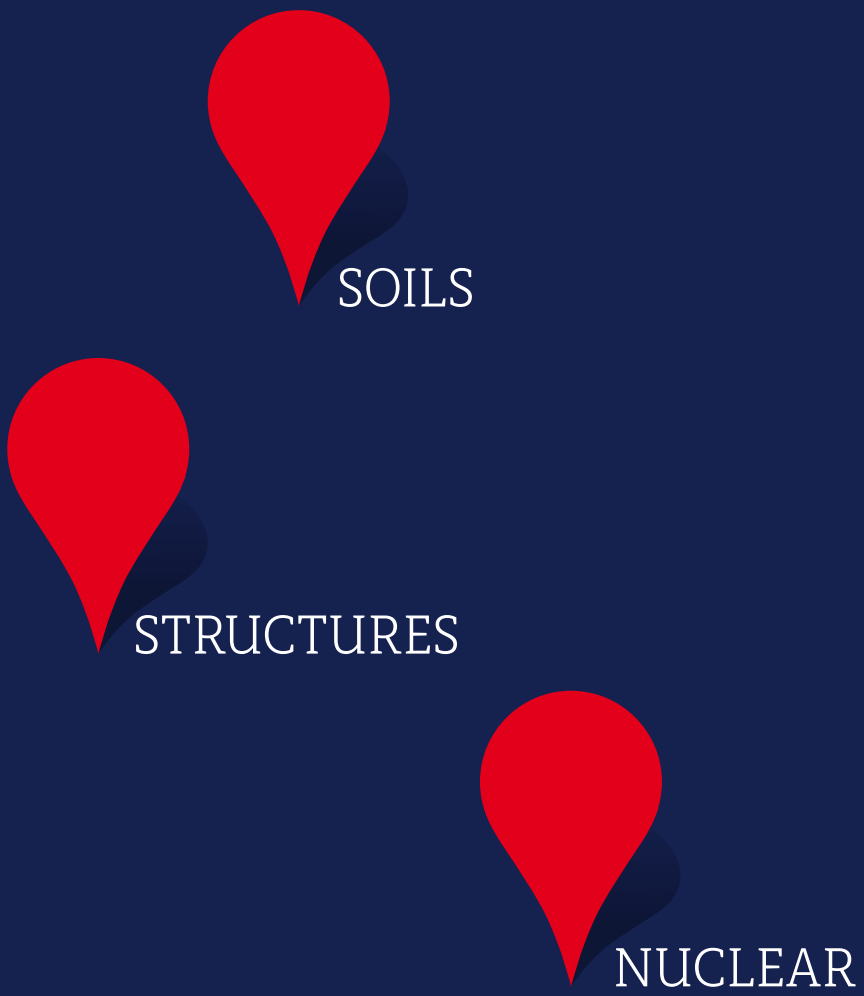
Alongside the day-to-day projects, Soletanche Freyssinet is also an active member of the scientific and technical community. The Group takes part in a long list of research programmes, including the Bentoval project (bentonite sludge recycling) carried out by its specialised subsidiary Sol Environment in partnership with ADEME (the French environment and energy management agency). As a respected leader in its field, the Group invests in transmitting its design-build experience via presentations at engineering schools and universities and active participation in international conferences. The Group's companies also work with NGOs; examples include the work done by engineers at Terre Armée's U.S. subsidiary Reinforced Earth Company with Engineers Without Borders. The Group's CSR engagement also includes dialogue with the stakeholders of each project.

Human resources

Soletanche Freyssinet's main asset is its 19,000 employees representing a broad range of nationalities, skills, jobs, backgrounds and cultures. Their diversity – a Soletanche Freyssinet hallmark – echoes the diversity of assignments on offer. The Group's commitment to its teams includes attention to each employee's personal and professional development. With the integration of new talents, initiatives are amplified. Training is a case in point. PM+, the six-day training programme for project managers, imparts project management standards and best practices (400 engineers from 30 countries will have received this training by 2014). Lastly, building on its international dimension, Soletanche Freyssinet is preparing its future and the future of the industry as a whole by working within the n+i network, which trains bicultural engineers to be able to work all over the world.

2012 ACTIVITY

"In our three business segments, we built on our specific areas of expertise to work on major infrastructure projects around the world and to carry out thousands of smaller projects."


SOILS
STRUCTURES
NUCLEAR

> Hong Kong - the Central - Wan Chai Bypass project involves the construction of an underground expressway crossing the island east to west. Bachy Soletanche Group Limited is building 57,000 sq. metres of diaphragm walls and barrettes with a thickness of between 1 and 1.5 metres.

SOILS

SOLETANCHE BACHY

As a world benchmark in foundations and soil technologies, Soletanche Bachy delivers a comprehensive range of geotechnical processes, special foundations, underground works and soil improvement and remediation techniques. Building on its track record, **Soletanche Bachy brings its integrated skills to the development of major infrastructure projects.**

In 2012, Soletanche Bachy recorded strong growth of 15%, due in part to the good performance of its subsidiaries in France and North America and to the integration of entities acquired in 2011 in Canada (Bermingham), the United Kingdom (Roger Bullivant) and Turkey (Zetas). In 2012, Soletanche Bachy worked on a wide variety of projects around the world, including waterproofing and repair of large dams, marine structures, metro tunnels in large urban areas, deep foundations for high-rise buildings and historic landmark refurbishment.

Significant projects included: Crossrail and Lee Tunnel, United Kingdom; Wolf Creek Dam, United States; El Teniente mine, Chile; Hong Kong airport; National Art Gallery, Singapore; Reforma and Bancomer high-rise buildings, Mexico; T6 light rail, France; Ceva, Switzerland; Odeon tower, Monaco; several port projects including Puerto Brisa, Colombia, and Montevideo, Uruguay, and the Singapore, Hong Kong and Kuala Lumpur, Malaysia, metros.

In addition to these projects, Soletanche Bachy signed significant contracts in Togo (container terminal in the port of Lomé), Dubai (Terminal 3 in the port of Jebel Ali), Colombia (Puerto Bahia), Cameroon (Lake Nyos dam), Hong Kong (Goldin Financial Center) and Poland (Second World War Museum in Gdansk).

ISLAND LINE (HONG KONG)

A SERIES OF TECHNICAL CHALLENGES

Rapid urbanisation in Hong Kong and the steady increase in the use of public transport prompted an in-depth review of the island's transport system. In 2009, Mass Transit Railway decided to extend the Island Line towards the western Sai Yin Pun district and the new city of Kennedy Town. The WIL 703 contract, in which Soletanche Bachy subsidiaries Bachy Soletanche Group Limited and CSM BESSAC were involved, covered a tunnel with a length of about 850 metres to be bored through soft soils by a slurry TBM and an 800-metre tunnel to be blasted through solid rock. The project required dismantling of an existing tunnel. This highly complex operation was carried out by means of a TDM (Tunnel Dismantling Machine), which was specially designed with the help of CSM BESSAC and built in the company's plant in Toulouse, France.

PORT OF JEBEL ALI (DUBAI)

AN EXCEPTIONALLY EFFICIENT TERMINAL

Capacity will be increased in the port of Jebel Ali in Dubai – notably to accommodate new-generation container ships – with the construction of a third terminal, to be built by the TOA-Soletanche Bachy consortium. With its 1,860 metre long quay, 17-metre depth and 70-hectare storage area, Terminal 3 will be one of the world's most modern and efficient port facilities.

EIFFEL PALACE (HUNGARY)

MODERNISM WITHIN A HERITAGE BUILDING

The Eiffel Palace project in the historic centre of Budapest involves the renovation of an office building for the DVM Group. Soletanche Bachy's subsidiary in Hungary, HBM, is responsible for the infrastructure / demolition works package. The main challenge is to retain the building's historic landmark facades while adding five underground parking levels inside the building. The company shored the outside of the facades and then demolished the flooring, jet grouted the existing foundations to reinforce them and built 3,800 sq. metres of diaphragm walls to a depth of 17 metres.

CHÂTILLON - VÉLIZY - VIROFLAY T6 LRT (FRANCE)

A MAJOR PROJECT IN A VERY DENSE URBAN ENVIRONMENT

Soletanche Bachy is participating in the construction of the 1,600 metre underground section of the T6 LRT system between Vélizy and Viroflay. As part of a consortium, Soletanche Bachy is more specifically in charge of diaphragm wall construction and special works at the sites, i.e. the launching, emergency and ventilation shafts and the Viroflay-Rive Gauche and Viroflay-Rive Droite stations.
In addition to the broad range of technologies employed, the challenge will be the construction of the two stations in successive phases so as to avoid interrupting traffic in a very dense urban environment.

PORT OF LOMÉ (TOGO)

A LEADING PORT FACILITY

The 18-month project financed by Togo Terminal (Bolloré Group) consists in building the port's third container berth. The project involves the construction of the 450-metre quay wall (dredged to a depth of -15 m ZH), turning circle and entry channel using the combi-wall method (alternating metal tubes and sheet piling).
In parallel, 1,900,000 cu. metres of dredging will be necessary.
This project will give Togo one of West Africa's most efficient port facilities, which will be able to accommodate new-generation container ships. Soletanche Bachy is working with Sogea-Satom and EMCC on the project, which got under way in June.

MENARD

From design to construction, Menard proposes and implements innovative foundation solutions based on high-performance ground improvement and reinforcement processes **to make construction possible on otherwise unsuitable soils.**

In 2012, the company's results held steady thanks to a large number of projects. Menard worked on a wide variety of projects throughout the year, including roads, heavy industry, storage, port and airport facilities as well as industrial and commercial buildings.

Projects included participation in work on the future LNG terminal in Dunkirk, France; the S8 expressway construction project in Poland; the extension of the General Electric technology centre in Dammam, Saudi Arabia; the construction of the Gemalink container terminal in Vietnam; the Kutubu Central Processing Facility as part of the PNG LNG project in Papua-New Guinea; the port expansion project in Gulfport, Mississippi, USA; and the Barangaroo seafront project in Sydney, Australia.

In addition to the many ongoing projects in 2012, Menard also signed several new contracts including the Terminal 3 apron at the Jakarta airport, the Wynn Cotai casino in Macau and the Ichthys LNG project in Australia.

PORT OF DUNKIRK (FRANCE)

A PORT ON A SOLID FOOTING

Following a geotechnical investigation to determine the techniques to be used, Menard consolidated the submarine slope for the future LNG terminal in Dunkirk, completing the project in seven months. The slope, made up of fine sands and silts to a depth of more than 30 metres, is subject to liquefaction in an earthquake. To stabilise the soils, Menard used two techniques in combination: vibroflotation for the sands and stone columns for the silty materials.

GEMTEC TECHNOLOGY CENTRE (SAUDI ARABIA)

AN UNUSUAL METHOD IN SAUDI ARABIA

General Electric's GEMTEC in Dammam rests on clayey sands reaching a depth of 9 metres. Stone columns were installed four years ago to consolidate them. To support new buildings, Menard proposed inserting additional stone columns between the existing inclusions by means of a dry bottom-feed process that was new to Saudi Arabia, generated less pollution and allowed the centre to continue operating during the consolidation works.

ICHTHYS LNG DEVELOPMENT PROJECT (AUSTRALIA)

STABILISATION OF 400,000 SQ. METRES OF MANGROVES

Menard Bachy is working on the Ichthys offshore gas field project, an environmental and technical challenge due to the nature of the site, which lies between mangroves and tidal mud flats and has very weak soils. To address these technical difficulties, the company proposed innovative ground improvement solutions involving dynamic replacement over 250,000 sq. metres and stone columns over 25,000 sq. metres, the latter to be installed from onshore facilities in parallel with reclamation work. The challenge was met by installing a free hanging vibroflotation system derived from the V-Rex mounted on a 135-tonne crane. The novel approach will achieve the technical objectives of long-term settlement and short and long term stability.

WYNN COTAI CASINO (MACAU)

VACUUM CONSOLIDATION IN MACAU

Working with Soletanche Bachy in Hong Kong, Menard won the ground improvement contract for the Wynn Cotai casino project in Macau. The goal is to raise the undrained cohesion (Cu) of the soft clays from an initial 8 kPa to a minimum 20 to 25 kPa – the value varying from place to place – to prepare for the excavation work needed to create the underground levels and limit the size of the provisional retention structures. To do this, the company opted for the Menard Vacuum™ consolidation process. It consists in installing vertical and horizontal drains and a waterproof membrane to create a vacuum in the soft clay and offers many advantages: cost reduction, time savings and limited settlement outside the area treated.

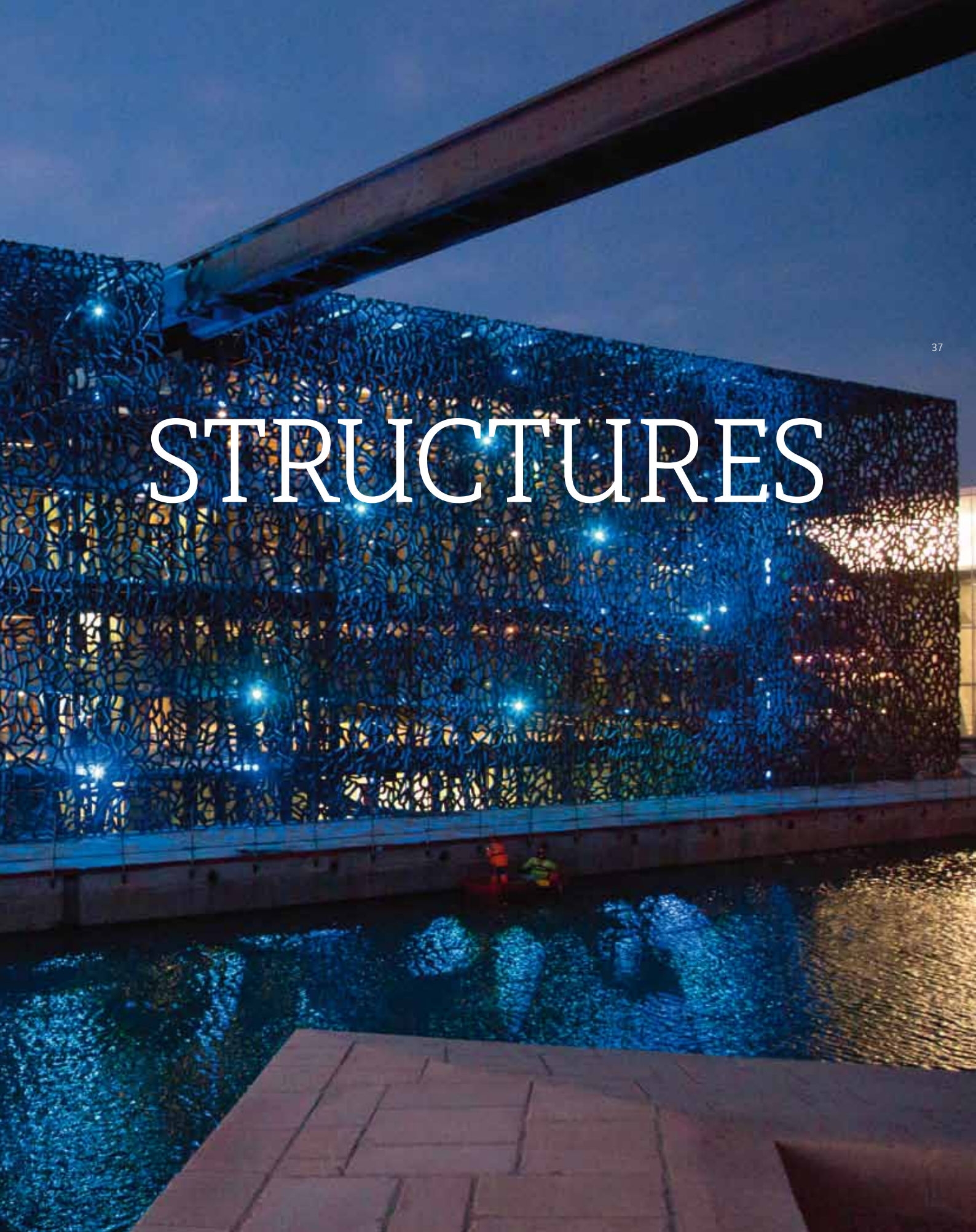
WAREHOUSES (UNITED STATES)

TWO LARGE PROJECTS IN NEW JERSEY

In Jersey City, northeastern New Jersey, Menard is working on two warehouses for Goya Foods (photo 1) and Prologis (photo 2). Each of the two industrial brownfield sites required the installation of more than 11,000 Controlled Modulus Columns (CMCs). In the first project, 400 mm diameter CMCs are being installed to depths of up to 15 metres. The second project poses additional technical difficulties due to heterogeneous geotechnical conditions and depths of more than 25 metres. A total of nine drilling machines are being used to complete these projects on a very tight schedule.

> France - The Museum of European and Mediterranean Civilisations (MuCEM) is being inaugurated in 2013 just as Marseille takes over as European Capital of Culture. Freyssinet supplied and installed the 310 branched columns around the exhibition rooms and designed and built the footbridges giving access to the terrace.

STRUCTURES



TERRE ARMÉE

Terre Armée, world leader in earth retaining structures and a specialist in precast arch segments for cut-and-cover tunnels, **brings its one-of-a-kind proprietary technologies and processes to projects around the world.**

In 2012, Terre Armée increased its revenue by 26% as a result of major projects and good results in France, the United States (PPP motorways, projects in Texas) and Canada (mining projects). Volume expanded in mining countries, notably at the AK6 diamond mine in South Africa and the Karara iron ore mine in Australia. During the period, Terre Armée was involved in a large number of major projects of all kinds, including SKM in South Korea; Los Vaqueros dam in the United States; Mediterranean bypass in Morocco; Barro Alto mine in Brazil; Rosario project in Argentina; Ranchi Ring Road in India; Port of Boston Motorway in Australia; and SREW in Salt Lake City.

The year's new contracts notably included I-595 and the airport in Fort Lauderdale, Florida, and access to the port of Esperance in Australia.

SUWON KWANGMYEONG MOTORWAY (SKM) (SOUTH KOREA)

A 2.6 KM TECHSPAN® TUNNEL

In South Korea, Freyssinet Korea's Terre Armée department won the contract to build a 2.6 km cut-and-cover tunnel to complete the 27 km expressway between the city of Suwon and the western suburbs of Seoul. The tunnel is made of TechSpan® arches that are prefabricated on site. The project is Terre Armée's largest-ever structure of this kind. Each arch segment consists of two sections that are placed next to each other and then covered with backfill. A total of 3,666 elements will be placed in record time. Up to 20 metres of arches can be built per day using this technology.

WINDSOR ESSEX PARKWAY (CANADA)

HISTORIC PROJECT IN ONTARIO

In Canada, Terre Armée's local subsidiary Reinforced Earth is currently building 34,000 sq. metres of Reinforced Earth® walls and 70 structures (bridge abutments, tunnels, etc.). The contract, one of Reinforced Earth's largest ever, is part of the major Windsor Essex Parkway project in which large structures are being built to improve highway traffic in Ontario. Freyssinet Canada and Menard's subsidiary Geopac are taking part in the project.

BARRO ALTO II MINE (BRAZIL)

AN EXPRESS PROJECT

As part of the Barro Alto nickel mine extension project, Terre Armée's Brazilian subsidiary Tierra Armada built an 8.25 metre high Reinforced Earth® retaining wall. The 963 sq. metre wall is faced with 18 cm thick TerraClass® panels. Work got under way in May 2012 and was completed in August.

MEDITERRANEAN BYPASS (MOROCCO)

100 KM MOUNTAINSIDE HIGHWAY

Northern Morocco, a key link in the trade route between Africa and Europe, suffers from a lack of roads. To open up the region, 250 km of existing roads are being upgraded and 300 km of new sections are being built to form a Mediterranean bypass. As part of this programme, Terre Armée worked in a consortium with Moroccan and Egyptian companies to build Reinforced Earth® structures using the GeoMega® system. The overall project covered the upgrade of two sections of the existing road (37 and 76 km respectively) and the construction of 40 retaining structures with heights of 6 to 25 metres.

KARARA IRON ORE MINE (AUSTRALIA)

TERRE ARMÉE SETS OUT TO WIN THE AUSTRALIAN MIDWEST

Terre Armée's local subsidiary Reinforced Earth Australia built a 30 metre high Reinforced Earth® retaining wall at the Karara iron ore mine in western Australia using TerraMet® facing panels, whose light weight and structural strength make them particularly well suited to industrial and mining applications. The company also worked on the system that recovers water from mine tailings. The mining complex will supply northeastern China with magnetite concentrate.

FREYSSINET

As world leader in specialised civil engineering, Freyssinet brings its **specialised expertise, ranging from prestressing to structural reinforcement and maintenance, to major projects on five continents.**

Freyssinet's 2012 revenue rose 7%, notably as a result of its positions in the United Kingdom, North America, Mexico and Australia and of the handover of major projects such as the Russky Island and Golden Horn bridges in Vladivostok, Russia. At the end of the year the Middle Eastern market was improving, while the sharp slowdown continued in Spain.

Bridge projects set the pace in 2012, with major bridges completed or under contract on all continents including Port Mann, Canada; Verdun-sur-Garonne, France; Kumhokang, South Korea; and San Marcos, Mexico. Freyssinet's very high quality and technically sophisticated capabilities were also used in the construction of the MuCEM museum in Marseille, France. The company's structural repair and maintenance expertise was employed in the Pannecière dam reinforcement project in France and the Hammersmith Bridge project in London. Freyssinet also upgraded the Bucharest, Romania city hall to earthquake standards, repaired the ANZAC Bridge in Australia and La Frontera Bridge in Mexico and reinforced the Iligan cement plant in the Philippines.

Freyssinet also secured significant orders, including the contract to repair the MLC Tower in Australia and a major contract to supply and install pre-stressing at the Hebron GBS (Gravity Based Structure) oil facility, where up to 1,200,000 barrels of crude will be stored.

PORT MANN BRIDGE (CANADA)

19 MONTHS OF INTENSIVE WORK

The new 10-lane Port Mann Bridge near Vancouver with its 288 stay cables was opened to traffic on 18 September 2012. Freyssinet Canada Limited and the Group's Major Projects division helped build the imposing structure – now Canada's widest bridge – by supplying 2,000 tonnes of cable strands and providing technical support for their installation. The cable stays are arranged in four arrays on either side of the towers erected in the centre of the deck and are equipped with Freyssinet IRD and IHD dampers.

ILIGAN CEMENT PLANT (PHILIPPINES)

A TECHNICAL FEAT

The Iligan cement plant project on the island of Mindanao, in which the preheater tower will be repaired and reinforced and the plant will be upgraded to seismic standards, is a further addition to Freyssinet's list of engineering feats. The project, carried out in part by Freyssinet Philippines, which was specially set up for the purpose, devised several repair and reinforcement methods and adapted existing methods to accommodate the region's extreme climate. The project was successfully completed, along with an exemplary workplace safety awareness-raising campaign for local staff.

VERDUN-SUR-GARONNE BRIDGE (FRANCE)

A SUSPENSION BRIDGE ANCHORED ON THE BANKS OF THE GARONNE

Built under a public-private partnership (PPP) between the Tarn-et-Garonne General Council and VINCI, the Verdun-sur-Garonne bridge, which has a 168 metre main span, bears the hallmarks of Freyssinet's expertise. The technical department helped design the many solutions used in the structure's suspension system. Due to the dimensions of the bridge, a bearing cable made up of 185 Cohestrand® type strands was used, and this in turn called for the design of outsized anchors and saddles. The Verdun-sur-Garonne bridge suspension system was derived from cable-stayed bridge technology and has the same advantages in terms of durability (100-year cable lifespan) and maintenance.

MLC TOWER (AUSTRALIA)

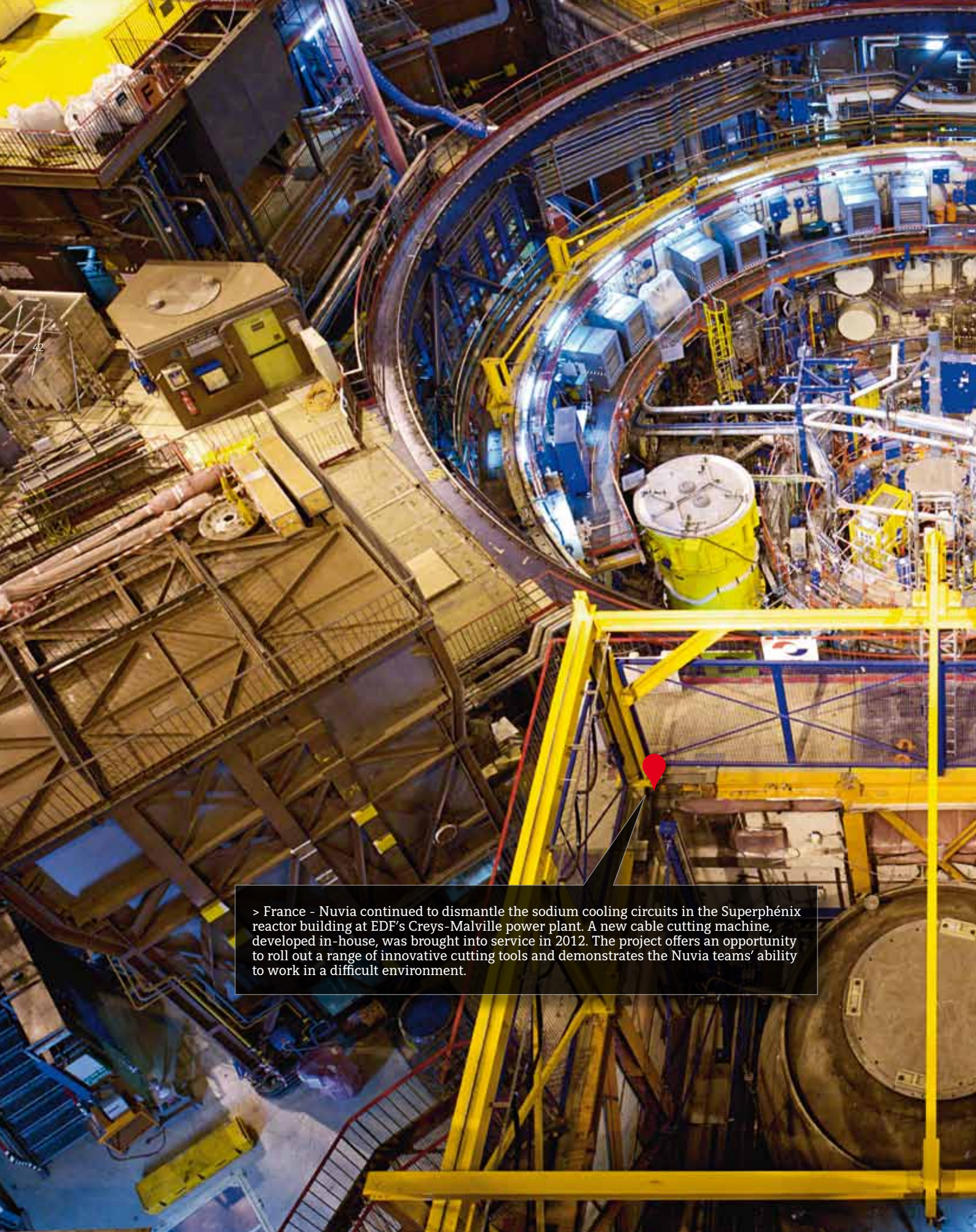
CONCRETE REJUVENATION

Freyssinet is using its Foreva® process to carry out maintenance on the MLC Tower building, a Sydney skyline landmark. The building was the country's tallest reinforced concrete structure when it was built in 1978. It gradually deteriorated and now needs a range of comprehensive refurbishment treatments. Freyssinet will assess the status of the outside facade, restore the performance and strength of the facade panels, improve the appearance of the building and draw up a specific maintenance schedule.

PANNECIÈRE DAM (FRANCE)

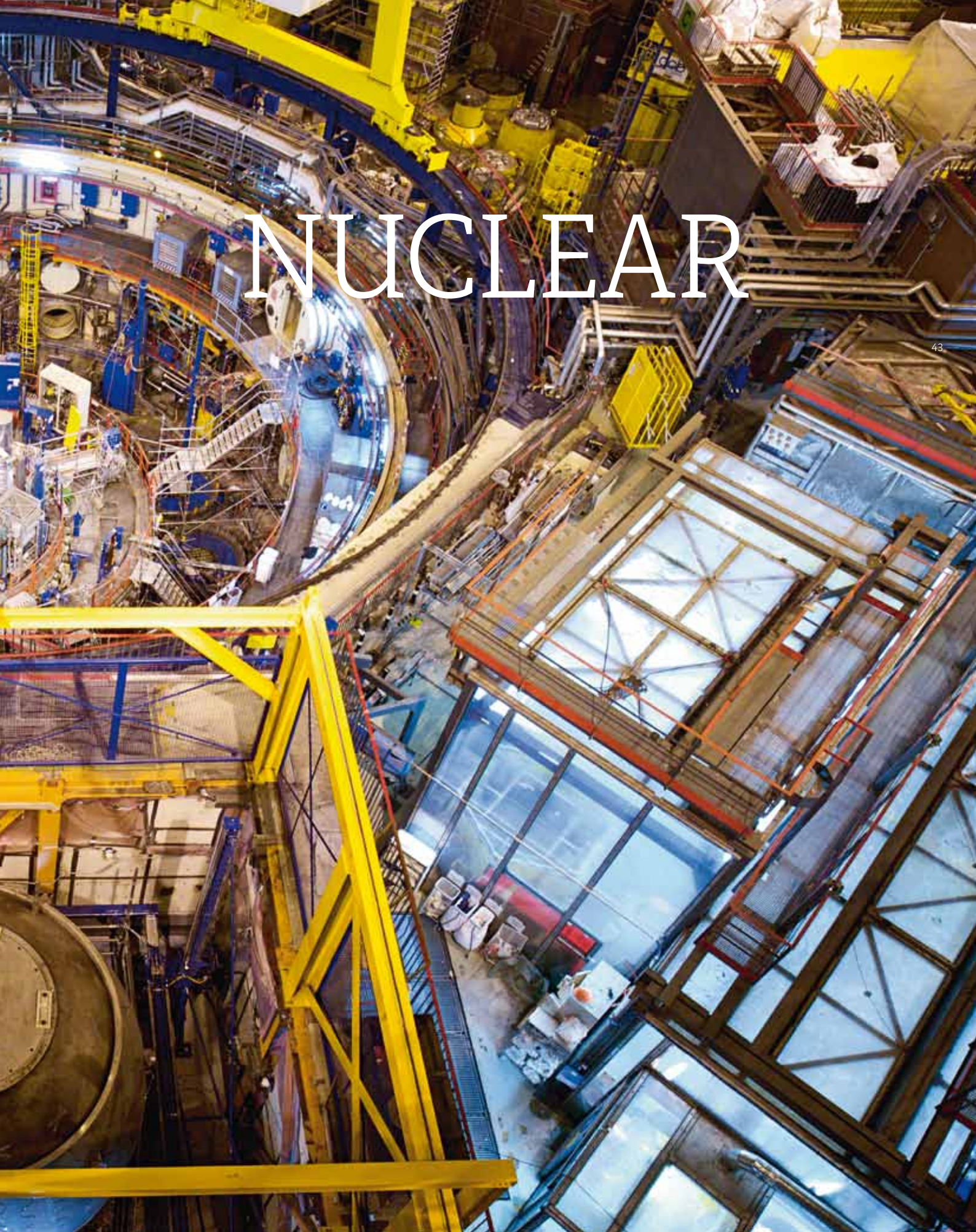
REPAIR SYNERGIES

The 350 metre long Pannecière dam with a retention capacity of 80 million cubic metres required reinforcement to bring it into compliance with the new seismic regulations. In synergy with other Group companies, Freyssinet carried out a series of projects based on its Foreva® range of repair solutions. The company's work notably included stabilisation and reinforcement of all arches, removal of asbestos-containing facings (MTS) and concrete repair. Freyssinet also reinforced the arch that houses an EDF power plant.



> France - Nuvia continued to dismantle the sodium cooling circuits in the Superphénix reactor building at EDF's Creys-Malville power plant. A new cable cutting machine, developed in-house, was brought into service in 2012. The project offers an opportunity to roll out a range of innovative cutting tools and demonstrates the Nuvia teams' ability to work in a difficult environment.

NUCLEAR



NUVIA

Bringing together one-of-a-kind capabilities in nuclear works, Nuvia covers the entire life cycle of civilian and military nuclear facilities. 2012 was a good year for the company, with revenue increasing by 17% compared to 2011.
Business activity reached an all-time high in Nuvia's two main markets, France and the United Kingdom.

In France, Nuvia continued its nuclear logistics, decontamination and waste management activities, notably at EDF's Penly power plant. The company also took part in the safety upgrade at Fessenheim; the reactor building dismantling project at Creys-Malville; the dismantling of the casemates at Chooz (confirming its leadership in this business activity); and the installation of seismic dampers at the ITER site. Nuvia France also expanded its fire protection expertise on cable-stayed bridges in Australia and at several power plants in China and teamed with Nuvia Limited to build a strategic Franco-British physics research complex.

In the UK, Nuvia Limited continued its work on the SDP project at the Sellafield site, focusing on the construction of a test bench to demonstrate the waste management process while broadening the scope of its activities. Projects included demolition of a radiological research laboratory; development of the HiRAM soil remediation system; participation in the British submarine dismantling project; construction of automated workshops; and renovation of the remote manipulator arms at the Magnox Berkeley site.

Other markets were also a focus, and the Group's recently created subsidiaries Nuvia Canada in Canada and Nuvia Nordic in Sweden also contributed to its growth.

NUVIA FRANCE/ESSOR

EXTENSION OF LOGISTICS CAPACITIES

On 1st January 2012, in a move that broadened its range of services, Essor took charge of managing and maintaining specific tools alongside NTS as part of its comprehensive worksite support services for EDF's Penly power plant, which also include nuclear logistics, radiation protection and waste and warehouse management.

NUVIA FRANCE/MECATISS

ROLL OUT OF A NEW PROCESS FOR CABLE-STAYED BRIDGES

To manufacture and install a fire protection system on the cable-stayed ANZAC Bridge in Sydney, Mecatiss developed a new epoxy resin injection process. It was used to produce 240 castings, which were delivered in October.

NUVIA FRANCE/MILLENNIUM

WORK ON THE CONSTRUCTION OF AN EXPERIMENTAL PHYSICS LABORATORY

France and the United Kingdom are jointly building a 2,000 sq. metre experimental physics laboratory. Nuvia Limited, in the UK, and Millennium and Nuvia Travaux Spéciaux for Nuvia France completed the ventilation, mechanical, civil engineering and safety design studies for the sensitive, high-performance site.

NUVIA FRANCE / NUVIA TRAVAUX SPÉCIAUX

OPERATING ACROSS THE ENTIRE CIVILIAN NUCLEAR SECTOR

Following the Unit 1 safety assessment at Fessenheim, EDF asked Nuvia Travaux Spéciaux (NTS) to take on design and construction of the Unit 1 PTR cover building. This was a substantial challenge, given the technical complexity of the project, which among other things includes management of an outdoor nuclear zone. At Creys-Malville, NTS is deconstructing the secondary sodium lines; and at the ITER site in Cadarache, NTS has completed the installation of seismic dampers for the future TOKAMAK reactor.

NUVIA FRANCE/SALVAREM

AT LA HAGUE, A PROJECT SHOWCASES THE COMPANY'S EXPERTISE

As part of the waste retrieval and packaging projects at Areva's La Hague site, Salvarem teams cleared the slab of the High Activity Oxide (HAO) building silo. Clean-up work, including dismantling of the casemate and HAO hydraulic transfer, continued throughout 2012, with the company deploying its full range of capabilities.

NUVIA FRANCE/VRACO

AT THE HEART OF THE CHINESE EPR

As part of the EPR project in Taishan, China, currently in phases 1 and 2, Vraco delivered 68 fire dampers (accounting for 20% of its 2012 output) to its client. Manufactured and inspected within Vraco's premises, the dampers were shipped to the site between the first quarter of 2012 and the first quarter of 2013.

NUVIA LIMITED

A MAJOR PLAYER IN THE SELLAFIELD DISMANTLING PROJECT

As part of the dismantling of Building 38 at Sellafield, Nuvia Limited assigned no fewer than 500 engineers to work on the Silos Direct encapsulation Project (SDP), a crucial part of the site clean-up in which radioactive waste is encapsulated in cement. Nuvia Limited performed a full-scale simulation to validate the entire process. A partnership between Nuvia Limited and VINCI Construction UK, VNS, was set up. It will install final equipment at the site.

NUVIA LIMITED

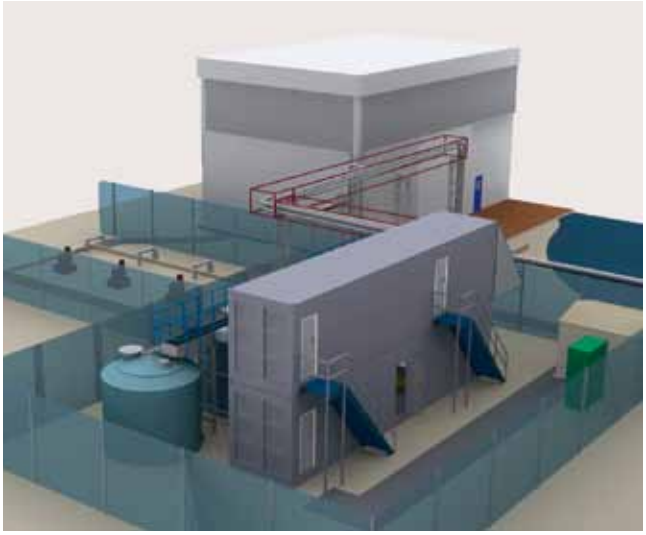
DISMANTLING OF BRITISH SUBMARINES

Nuvia Limited undertook work in the former Soviet Union to decommission redundant nuclear submarines. The UK Government has now engaged Nuvia to provide support to the development strategy for the dismantling of the decommissioned submarine fleet.

NUVIA LIMITED

RADIOACTIVE WASTE PROCESSING AT THE BERKELEY SILO

In 2011, Nuvia Limited signed a contract with Magnox to process the radioactive waste at the Berkeley silo. The project consists in retrieving and processing all the radioactive waste from the silo. As part of the project, Nuvia Limited also refurbished the silo's waste retrieval system to facilitate future operations.



NUVIA LIMITED

TREATMENT OF THE TRAWSFYNYDD SITE

The Trawsfynydd power plant was shut down permanently in 1991 and has been defueled. Radioactive effluents from the site are processed at a facility comprising a filter bed system, ion exchangers and oil separators, the AETP (Active Effluent Treatment Plant). Nuvia Limited will soon be introducing a modular plant, the MAETP (Modular Active Effluent Treatment Plant).

NUVIA LIMITED

OPERATION CLEAN BEACHES

In 2012, Nuvia Limited continued beach monitoring at Sellafield and Dounreay. The purpose of the project is to ensure that no radioactive particles are present. The inspections are carried out by a system specially developed by Nuvia Limited, the Groundhog™.

NUVIA NORDIC

POWER PLANT REPAIRS

Nuvia Nordic covers more than 30% of the power plant radiation protection market in Sweden. Nuvia Nordic mobilised over 100 operators during unit shutdowns.

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