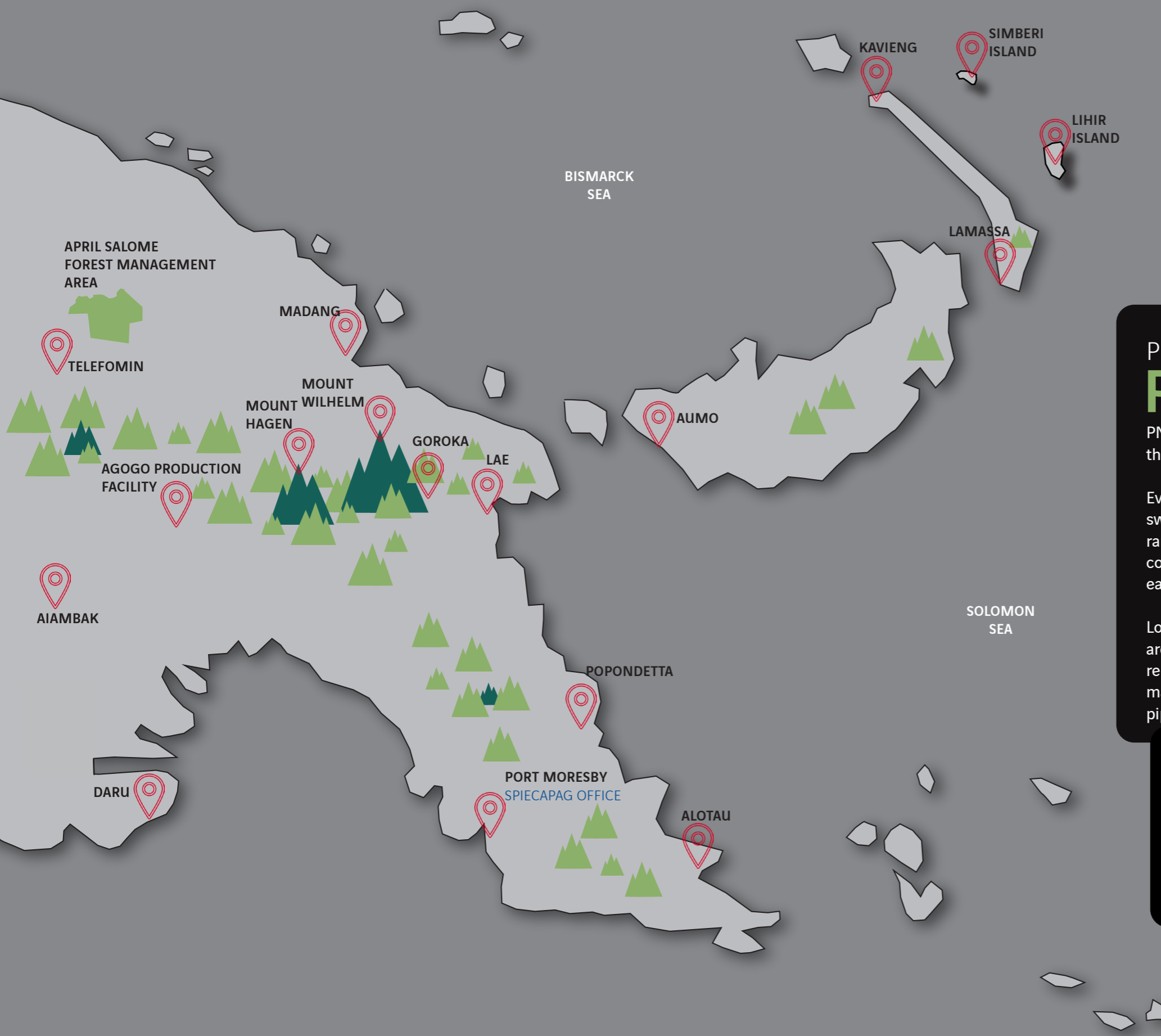


PAPUA NEW GUINEA SPIECAPAG CAPABILITY STATEMENT



SPIECAPAG



PIPELINE CONSTRUCTION **PAPUA NEW GUINEA**

PNG is like no other place on earth. It presents some of the biggest challenges that can be faced on any project.

Every facet of the country is extreme, from the lowland crocodile infested swamps, through the dense rainforest and up into the highland mountain ranges. Infrastructure projects traverse unique ecological systems, crossing countless seismic fault lines and encountering an array of animal species. With each province comes a different culture and an assortment of languages.

Logistically, PNG is one of the hardest places on the planet to move freely around, with limited road networks outside of the major cities and with many remote islands. That, combined with some of the toughest terrain in the world, makes PNG a country where experience counts in successfully installing pipeline infrastructure.



PNG has more languages than any other country: **800+**

Average annual rainfall: **1,200mm to 10,000mm+**



1



The highest peak is **Mount Wilhelm** at **4,509m**

PNG is listed number **4** on the list of Global Seismic Risk by Countries



2

SPIECAPAG EXPERTISE

OUR EXPERTISE - YOUR ADVANTAGE

Spiecapag has completed some of the most challenging pipeline construction projects in the world, and these have been achieved by continually pushing the boundaries of construction techniques through innovative design and systematic construction techniques. We maintain fleets of specialised equipment, specifically designed to safely build pipelines in some of the most challenging environments on earth.

Services we offer

- Onshore pipelines and associated facilities for energy, resources and utilities sectors
- Onshore and near-shore pipelines and pipeline remediation
- Horizontal Directional Drilling (HDD) trenchless installation
- Pipeline repairs
- Procurement and logistics to regional and remote sites
- Design and routing studies

Fields of expertise

- Onshore and near-shore pipelines for the energy and resources sector including compression, pumping and metering stations
- Water supply and distribution networks
- Slurry, fuel lines and mining transfer pipelines

Projects recently completed/underway in mountainous terrain

- Papua New Guinea: PNG-LNG, 468km of varying diameter (32" to 2")
- Greece: TAP (Trans Adriatic Pipeline), 185km of 48" pipe
- Albania: TAP (Trans Adriatic Pipeline), 215km of 48" pipe
- Canada: TMP (Trans Mountain Pipeline), 166km of 48" pipe



FOCUSED ON THE COMMUNITY

Offering employment and training opportunities to local individuals, and supply-chain opportunities to local companies. Working alongside Spiecapag's experienced project staff, local individuals and communities gain skills and opportunities.



GLOBAL BEST PRACTICE

Working on projects across the globe, Spiecapag can genuinely offer continuity to key staff. This builds a strong corporate memory and opportunities for our people.



FLEXIBLE & COOPERATIVE MANAGEMENT

Spiecapag has the experience to quickly integrate with and work alongside other businesses, be they other contractors on site, joint venture partners, or financiers.



FINANCIAL STABILITY

Part of a profitable group that has an annual turnover of \$77 billion. The group has a credit rating of A- by Standard and Poors, and A3 by Moody's



SAFETY

TRIFR (Total Recordable Injury Frequency Rate) of 0.0 for Australian activities.



INNOVATION

Bring new ideas to the table, be they in delivery partnerships, safety, quality, procurement & logistics, community engagement, financing or



EFFICIENCY & PROFICIENCY

Use of Spiecapag's in-house specialist pipeline plant, overseen by experienced, in-house project managers and

Recent Projects

Simberi / SBGM / Papua New Guinea

Renewal of 500m+ DN1000 HDPE DST Pipeline and seawater intake pipeline. The pipeline had been in service since 2007 and ran from the process facility in Pigiput Bay south east out to the seabed.

Initially our scope involved welding the new pipeline, stringing and fitting ballast to allow the mine to restart operations, however due to a new bathymetric survey, the alignment was radically redesigned. We worked closely with the client to provide custom designed and fabricated new restraining and support mounts, and were able to continue the replacement operations without significant delay.

The new pipeline and route included several turns and the many more ballast blocks required additional towing capacity. Spiecapag co-ordinated the increase in scope and managed the towing and final sinking utilising 6 vessels.

All construction works completed December 2021 in time for the planned mine restart of processing operations.

TK050 and TK2050 / Newcrest / Lihir PNG

Two DST pipelines for Newcrest Lihir gold mine. The project involved the removal and replacement two DN1200 HDPE outfall pipelines, 190m and 236m in length. These HDPE outfall lines ran directly from the mine mill through a sea wall and out to sea. ROV inspections observed major damages to sections of the pipeline with much of the pipeline unsurveyed.

Our HK250 drill rig was mounted on a custom frame atop the tailings outfall and by using a grab-packer, removed the damaged HDPE line. Due to site constraints, the new 236m of DN1200 HDPE replacement pipeline was strung high above active mine process facilities using 6 cranes and 3 excavators, pulled into place with a Van Leeuwen pipe pusher.

The project was highly successful and through close collaboration with Newcrest, Spiecapag and its HDD subsidiary HDI-Lucas, was able to find solutions for several challenging aspects of the project.

MOSA Ground Stabilisation / Newcrest / Lihir PNG

Spiecapag Australia and Vinci subsidiary Menard Oceania in a JV (MOSA JV) are currently installing rock anchors to secure the open pit highwall allowing for continuation of pit expansion. The approach uses 20m to 80m long post tensioned anchors installed via drill rig and shotcrete to prevent uncontrolled movement of the pit wall.

After collaboration with the client, a custom high-temperature resistant concrete was developed to counter the high temperatures of the rock face caused by sub-surface geothermal activity.

The project has passed the trial stage involving approx. 500 anchors. The total project will involve more than 6000 anchors and take several years to complete protecting cultural heritage while, unlocking years of extended mine life and optimising the pit expansion programme. Bringing expertise from over 10 countries, Spiecapag continues to develop the skills of its workforce including over 70% nationals.

PNG LNG Onshore Pipeline / ExxonMobil / PNG

Over 450km of onshore pipelines to transport natural gas from the Hides Gas Conditioning Plant (HGCP) to the Omati River, and condensate from HGCP to the Kutubu Central Processing Facility.

This greenfield project from the PNG highlands to the coast involved 2,400 local employees, of which 1,900 were customary landholders along the pipeline route. Spiecapag delivered the project in a way that gave local communities opportunities and training that would be useful in the future. One of the greatest challenges on this project was logistics to very remote locations, with the linepipe transported on barges up the river network to our lay-down yard, and roads and bridges being constructed along the remainder of the route.

Another significant challenge was the terrain, with very steep slopes along that route where we used a combination of spider excavators and cable system to install the infrastructure.

Kutubu Oil Pipeline / Chevron Niugini / PNG

Built in the 1990s, Spiecapag constructed 171km 508mm pipeline from the Southern Highlands through mountainous and swampy terrain to a landfall in the Kikori River near the Kikori township. The project brought oil from the Kutubu field down from the highlands for Chevron Niugini and was the first major infrastructure development in the region.

Value We Bring

Focused on community engagement

Spiecapag has a long legacy of supporting and engaging traditional landowners and locals in the construction of their projects. In support of this commitment, Spiecapag developed and implemented a Capacity Building Program.

A key fundamental of this program is to ensure lasting



benefits in terms of employment and commercial opportunities beyond the time-frame of the pipeline project. Spiecapag works closely with the customary landowners in selecting programs and projects that have longterm sustainability economic benefits to the community.

Industry Leading Safety and Innovation

The word 'Safety' has become synonymous with the construction industry expectations, and Spiecapag has an enviable safety record, made possible by an innovative approach to managing new and complex risks. All employees are empowered to assess their work-site risks and implement appropriate controls. Employees are also encouraged to innovate new ideas and continually improve the controls and management of risks.



International compliance accreditation

Spiecapag is committed to complying with best practice methods. To support this commitment, and because Spiecapag constructs on an international scale, Spiecapag holds multiple ISO accreditations: 9001 Quality Management Systems, 14001 Environmental Management and 18001 Occupational Health and Safety.



PNG LNG ACCOMPLISHMENTS

Esso Highlands awarded Spiecapag the contract for Engineering, Procurement and Construction of the onshore pipeline and affiliated infrastructure for the PNG LNG Project in December 2009. The scope of work for the contract consisted of over 450 kilometres of onshore pipelines to transport natural gas from the Hides Gas Conditioning Plant (HGCP) to the Omati River, where it connects to the offshore pipeline, and to transport the condensate product from HGCP to Kutubu CPF.

Successfully engaging with local communities is always critical to our success, and this was no exception in PNG: we employed 2,400 locals, of which 1,900 were customary landholders along the route of the PNG-LNG onshore pipeline.

Local content was a top consideration as Spiecapag was committed to performing the works in a way that gave local communities opportunities and training fit for future works. As such, training schools were established to leave a legacy of skilled workers in the community.

The project presented a wide variety of challenges including :



Logistics – the pipeline route was 293km with no existing access routes, pipes were transported from the cargo ship on to barges and brought up the river network to the Kopi lay-down yard, roads and bridges were constructed to allow access along the remainder of the route.



Slopes – in the highlands section some slopes were so steep that normal pipeline equipment could not be used. Spiecapag used a combination of spider excavators and a cable system to install the pipes.



Rain – The project was subject to continuous downpours which resulted in roads being washed out and landslides. Work continued throughout, with mitigation measures put in place.



**28
MILLION
MAN HOURS**



**0.25
TRIFR**



**8 CAMPS
3 WITH 1,000
PERSON
OCCUPANCY**

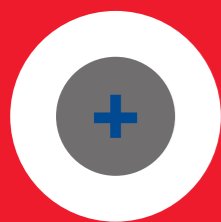




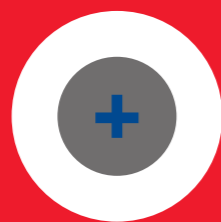
HDI LUCAS

HORIZONTAL DIRECTIONAL DRILLING

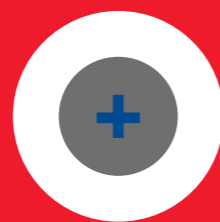
HDI Lucas, our directional drilling subsidiary, has drilled over 8,000m in PNG, including under rivers and through mountain ridges. Where the best option is straight through the mountain, or under a natural feature, our proven ability to mobilise effectively and deliver reliable outcomes has been proven time and again.



**WORLD RECORD
HOLDER FOR
LARGEST VOLUME
OF PIPE BY HDD
IN A SINGLE SHOT
- 1,820M OF 48"**



**OVER 2,000
HOLES
DRILLED**



**2,000,000+
METERS
INSTALLED**



**WORK
PERFORMED
IN MORE
THAN 40
COUNTRIES**



GEOCEAN

ENTREPOSE

SHALLOW WATER WORKS

For more than 30 years, Geoccean has successfully executed marine work projects on all continents, in very diverse climatic conditions and with varying logistical challenges. Geoccean performs turnkey projects under EPCI-type contracts, or for public works contracts in the oil and gas, mining and chemical industries.

Geoccean stands out from its competitors through its ability to work also on landfalls in shallow-water zones, where it uses its line of specialised equipment developed in-house.

Geoccean owns and operates a fleet of marine assets, including a dedicated pipelay barge, suited to offshore oil and gas works. The Geoccean *Portis* barge is equipped with a 500t crane and S-lay system.

Fields of expertise:

- Design and turnkey construction of offshore and coastal works: submarine pipelines, import and export terminals (CBM, SPM), moorings, wharves and jetties
- Specialised works: trenching for submarine pipelines, pipeline landfalls, other bespoke works

Technologies

- *Abyss* remotely operated submarine excavator
- *Max* and *Super Max* marine excavators for shallow water trenching
- *Masurca* trenching system



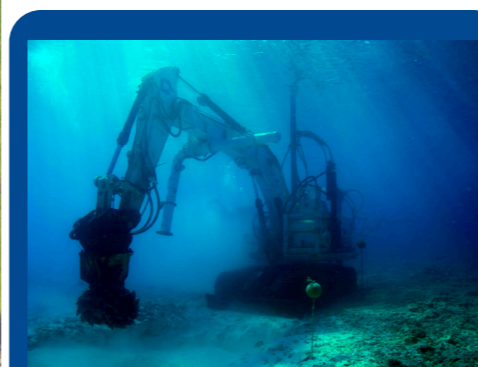
34+
YEARS EXPERIENCE



**+ 1 MILLION
MANHOURS LTI FREE ON
PROTIS BARGE**



**PERFORMED MARINE
PROJECTS IN OVER
+40 COUNTRIES**



ABYSS



Super Max

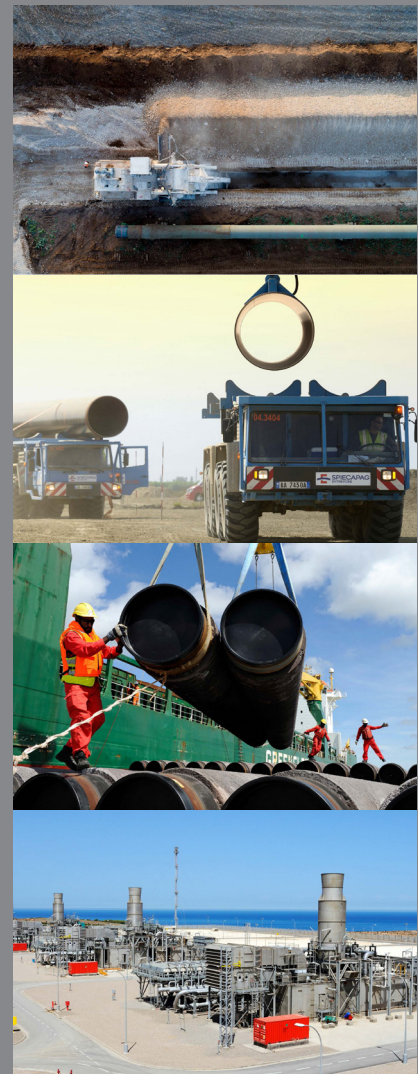


Spiecapag's membership of the Vinci Group provides our clients with assurances of solid parent company backing. At A\$77 Billion (46.4 billion Euro) in 2021 revenues, Vinci Group's strength in financial and construction markets can make all the difference on complex projects.

Simple benefits include enabling Spiecapag to leverage of the global buying power associated with a large entity, and our use of Vinci's systems, processes, and research and development to provide a safer, reliable and world class service to our clients.

Vinci Construction employs thousands of people in over 100 countries. The business provides a wide range of services for its infrastructure projects, including financing, design, construction, and maintenance.

Within the group there are divisions with expertise in all constructions fields that are ready and willing to assist with any specialist requirements.



Spiecapag Niugini

Level 11, MRDC Haus
Cnr Of Musgrave St and
Champion Parade
Port Moresby, National
Capital District
Papua New Guinea

Phone +675 75 288 576
PNG@spiecapag.com

Australian Regional

Headquarters
Level 12, 145 Eagle Street
Brisbane
QLD 4000 - Australia

Phone +61 7 3014 2190
Fax +61 7 3145 0079
Australia@spiecapag.com

International Headquarters

Immeuble Indefense
2313 Bvd De La Défense
F-92000 NANTERRE

Phone +33 1 57 60 95 15
Fax + 33 1 57 60 97 78
Communication@spiecapag.com



SPIECAPAG