

# WE MAKE IT POSSIBLE







### OUR MISSION & PURPOSE

Every structure carries loads and is subject to forces on an ongoing basis, and this can lead to material deformation or failure. It may therefore be necessary to strengthen the structure at critical areas or to control the behaviour of the ground on which it stands.

This is where VSL can take action... As a specialist in post-tensioned and cable-stayed structures, foundations and ground engineering, VSL contributes to the design and construction of major engineered structures and maintains, repairs and upgrades all structural systems that guarantee safety and durability.

Our purpose lies in understanding a structure as a whole - its structural components, environment and use - in order to propose and deliver the best technical solutions to turn even the most complex schemes into reality.

How do we do it? Our strength comes from our three-pillar approach that combines engineering and construction methods, everevolving in-house structural systems and technologies, and operational skills for project execution: this approach allows us to achieve the best results for our clients' projects.

#### **ACTIVE IN 4 KEY MARKETS**

CONSTRUCTION
OF TRANSPORT
INFRASTRUCTURE

CONSTRUCTION OF BUILDINGS

CONSTRUCTION
OF INDUSTRIAL &
ENERGY-PRODUCING
STRUCTURES

ASSET
PRESERVATION,
STRUCTURAL
REPAIRS &
UPGRADING

#### A 3-PILLAR APPROACH TO MAKE OUR CLIENTS' PROJECTS POSSIBLE

CREATIVE ENGINEERING & EFFICIENT METHODS

NEW & EXISTING STRUCTURES

NEW & EXISTING STRUCTURES

OPERATIONAL SKILLS IN COORDINATION & EXECUTION





### **VSL TODAY**

#### 4 KEY AREAS OF EXPERTISE

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## CONSTRUCTION SYSTEMS & TECHNOLOGIES

We ensure the development and constant improvement of our portfolio of in-house technologies, including post-tensioning systems, stay-cables, ground anchors and VSoL® systems for retained-earth walls.

CIVII

#### CIVIL WORKS

We help our clients with construction designs and methods, and provide operational skills for specific applications such as bridge deck erection, containment structures and heavy lifting.

VSL

#### FOUNDATIONS & GROUND ENGINEERING

We are specialists in ground engineering and special foundations thanks to our long history of proven design and build capabilities gained on the most complex and varied projects.

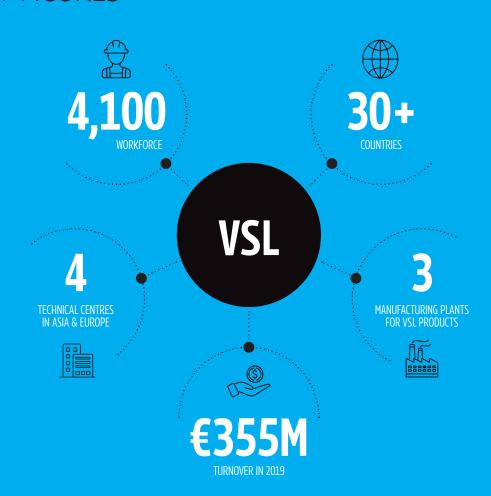
# ASSET PRESERVATION, STRUCTURAL REPAIRS & UPGRADING

We offer tailored services to suit your structure's life cycle, from inspections and assessment through to repair works and upgrading.





#### KEY FIGURES





1/ EFFICIENCY 2/ CREATIVITY 3/ RELIABILITY

# 1/WE PROVIDE EFFICIENT & QUALITY SERVICES



#### A CONSTRUCTION PIONEER 'MADE IN SWITZERLAND'

VSL stands for Vorspann System Losinger, a wire prestressing system first patented in Switzerland in the early 1950s. VSL was a pioneer of post-tensioning, which very quickly became a revolutionary technical solution that helped broaden horizons for civil and construction engineers, allowing them to push the boundaries of structural design further.

Throughout our history, we have continued to develop our products, equipment and construction technologies to respond to increasingly stringent specifications in terms of quality, performance and speed of construction.

Today, VSL's headquarters are still based in Bern, Switzerland.

#### DEVELOPING TAILOR-MADE DESIGNS EXECUTED BY HIGHLY EFFICIENT METHODS



Our added value lies in our ability to bridge the gap between design and construction through our multi-faceted expertise, ranging from design technologies to technical and operational skills. We understand all the challenges that have an impact on a project: physical constraints, complex geology, difficult scheduling, dense urban environments, budget and many more.

#### MASTERING SYSTEMS & EQUIPMENT

We champion innovative in-house technologies, which we constantly develop, challenge and improve right from conception through to testing and implementation. This ensures we manage technical, operational and economic risks more efficiently.

Our rigorous testing processes and facilities enable our experts to evaluate our systems and material through performance and behavioural tests designed to guarantee that they meet a project's specifications and the standards required for legal certification. This approach also ensures the highest standards of quality and longevity.



In addition, we design and fabricate specialist construction equipment such as launching gantries and lifting frames for the erection of bridges, which require dedicated teams with specialist knowledge to oversee the whole project cycle. Our pool of specialists also takes care of our equipment in the long term to guarantee the highest quality of service, at every stage in the lives of our machines – from design to decommissioning – for our clients worldwide.

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#### BENEFITING FROM OUR LOCAL PRESENCE & SHARED KNOWLEDGE

The matrix structure of our organisation combines geographic proximity to our clients and markets with the experience and expertise of four Business Lines to support our local businesses worldwide: VSL Technologies, Civil Works, Ground Engineering and Repair & Preservation.

Each project benefits from the support and expertise of VSL's Business Lines specialist, centralised supply chain and technical centres. This allows the sharing of processes and good practices through access to a pool of materials, equipment and resources in order to provide the highest level of service to our clients wherever their projects are.

## NURTURING VSL'S COLLECTIVE KNOWLEDGE & BRAINPOWER

In a business where technical excellence is key and technologies and regulations are constantly evolving, we favour long-term relationships with our employees, as the skills and experience that they develop with us mean they become highly specialised in their fields.

We cultivate the continuous training and development of our staff to guarantee outstanding performance and safety. Our VSL Academy opened its doors in Bangkok in 2008 with the ambition of applying VSL's technical excellence and ever-growing quality and safety standards throughout our network. The Academy is equipped to provide theoretical sessions and workshops, as well as written exams and practical assessments, to ensure

the trainees have the required skills to guarantee adoption of the best working procedures. So far, 2,500 trainees of 30 different nationalities have taken part in the training programme.





# 2/ CREATIVITY IS IN OUR DNA

### CULTIVATING INNOVATION

Innovation is at the heart of our culture and the key to our success: it takes place at every step of the life cycle of projects or products, and is initiated by everyone, including engineers, managers and marketing staff as well as site workers. We have two distinct innovation processes that nurture each other: short-term innovations driven by individual projects and long-term innovations through R&D.

VSL has registered 370 patents to date and invests a significant budget in innovation both through projects and R&D. We also adopt an open approach to innovation, working with external partners such as universities and laboratories in order to maximise opportunities and to identify interesting technologies at an early stage.

#### PIONEERING TECHNOLOGY

VSL stands at the forefront of setting internationally-applicable technical standards and guidelines thanks to our experts, who are active members of various technical committees of organisations such as FIB, PTI, IABSE and EN.

We work to the industry's latest standards and technologies and have adopted BIM as an integral part of our development process to improve the planning, design, construction and operation of the structures we build and to facilitate the work of our clients and others we collaborate with.









# 3/WE ARE RELIABLE PARTNERS

#### PROTECTING LIVES AT WORK

#### Health & Safety is the n°1 priority

for VSL and the Bouygues Construction Group. Together with all BYCN entities, VSL has adopted 12 basic H&S rules that are applied and followed strictly on all construction sites globally.

In addition, we set up annual H&S improvement objectives to focus our efforts and allow us to measure progress. These include accident rates; H&S training for workers, site supervisors and project managers, as well as top managers; and H&S action plans and a vigilance index, involving site inspections by management.

## BEING A MEMBER OF BOUYGUES CONSTRUCTION



2018 key figures

#### RESPECTING ETHICS

#### **VSL's business practices** are

governed by integrity, honesty, fair dealing and full compliance with the law, as established in the Bouygues Group's Code of Ethics.





# WE'RE READY TO MAKE YOUR PROJECT POSSIBLE!



www.vsl.com