www.bbrnetwork.com

Edition 15 | 2021

CONNECT

THE MAGAZINE OF THE GLOBAL BBR NETWORK OF EXPERTS

ELEVATED POST-TENSIONING TAKES OFF IN NZ

Multi-level commercial and residential buildings

70TH ANNIVERSARY OF BBR GEOTECHNICAL TECHNOLOGY

Celebrating BBR's global achievements

HIGH PRODUCTIVITY FOR NEW BRIDGE

Cost- and time-effective solution in Poland

TRANSFERRING LOAD WITH BBR H BARS

Work at Yusufeli Dam, Turkey

BBR TENDONS STILL STRONG AFTER 45 YEARS

Nuclear inspection & testing at Ringhals

A Global Network of Experts

www.bbrnetwork.com

The BBR Network is recognized as the leading group of specialized engineering contractors in the field of post-tensioning, stay cable and related construction engineering. The innovation and technical excellence, brought together in 1944 by its three Swiss founders – Antonio Brandestini, Max Birkenmaier and Mirko Robin Roš – continues, more than 75 years later, in that same ethos and enterprising style. From its Technical Headquarters and Business Development Centre in Switzerland, the BBR Network reaches out around the globe and has at its disposal some of the most talented engineers and technicians, as well as the very latest internationally approved technology.

THE GLOBAL BBR NETWORK

Within the Global BBR Network, established traditions and strong local roots are combined with the latest thinking and leading edge technology. BBR grants each local BBR Network Member access to the latest technical knowledge and resources – and facilitates the exchange of information on a broad scale and within international partnering alliances. Such global alliances and co-operations create local competitive advantages in dealing with, for example, efficient tendering, availability of specialists and specialized equipment or transfer of technical know-how.

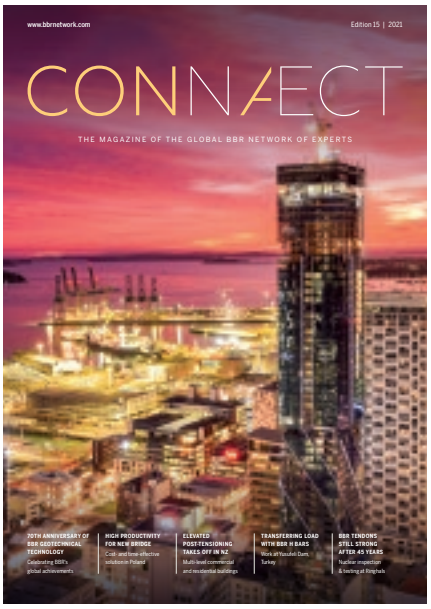
ACTIVITIES OF THE NETWORK

All BBR Network Members are well-respected within their local business communities and have built strong connections in their respective regions. They are all structured differently to suit the local market and offer a variety of construction services, in addition to the traditional core business of post-tensioning.

BBR TECHNOLOGIES & BRANDS

BBR technologies have been applied to a vast array of different structures – such as bridges, buildings, cryogenic LNG tanks, dams, marine structures, nuclear power stations, retaining walls, tanks, silos, towers, tunnels, wastewater treatment plants, water reservoirs and wind farms. The BBR™ brands and trademarks – CONA®, BBRV®, HiAm®, HiEx, DINA®, SWIF®, BBR E-Trace and CONNÆCT® – are recognized worldwide. The BBR Network has a track record of excellence and innovative approaches – with thousands of structures built using BBR technologies. While BBR's history goes back over 75 years, the BBR Network is focused on constructing the future – with professionalism, innovation and the very latest technology.

BBR VT International Ltd is the Technical Headquarters and Business Development Centre of the BBR Network located in Switzerland. The shareholders of BBR VT International Ltd are BBR Holding Ltd (Switzerland), a subsidiary of the Tectus Group (Switzerland) and KB Spennteknikk AS (Norway), a subsidiary of the KB Group (Norway).



Dedication meets versatility

We are delighted to welcome you to the 2021 edition of the BBR Network's CONNÆCT magazine! One thing's for sure, it's been an extraordinary year – and within the following pages, there are insights into equally extraordinary achievements all around the globe.

While many industries were forced to halt work because of the Covid-19 coronavirus outbreak, the construction industry quickly adapted its already well-developed health and safety systems to accommodate new hygiene measures and working methods. The results of this speedy adaptation can be seen in the Portfolio section where the wide diversity of projects admirably demonstrate the versatility and scope of BBR technologies and techniques.

Many bridge projects have been realized – in locations from the frozen landscapes of northern Scandinavia to sunny coastlines in the Indian Ocean. Productivity was boosted during construction of a major bridge in Poland, green objectives were achieved in Norway and technical challenges were well met in Malaysia, Australia and New Zealand, while new landmark bridges in Dubai and Auckland are set to transform waterscape panoramas.

This year, we reflect on the 70th Anniversary of the first BBR ground anchoring project and, in a special celebratory feature, are proud to showcase the achievements of BBR engineers and technologies – and offer an overview of latest BBR geotechnical strand anchor and bar technologies.

Elsewhere in this edition, you can read about record-breaking post-tensioned ground slabs in New Zealand, pioneering building projects in Singapore and Croatia and an exciting new retail center in Serbia. The strength of BBR geotechnical and bar technologies has been applied to Yusufeli Dam in Turkey and for a major development scheme in Croatia. Maritime, nuclear and structural strengthening schemes show the breadth of BBR technologies and techniques in the MRR section.

In a year that has been like no other, BBR VT International has achieved significant advances in technological development, as well as successfully testing BBR stay cable technology to the new *fib* Bulletin 89 guidelines – and ultimately proving its indestructibility!

We congratulate and thank everyone for their great contributions and huge dedication, in challenging circumstances, to an outstanding performance for customers everywhere.

Marcel Poser
Chairman, BBR VT International Ltd

José Manuel Illescas
Vice Chairman, BBR VT International Ltd

Highway interchange, La Réunion, Indian Ocean

Stressing in the sun

Thanks to the efficient and expert installation of BBR post-tensioning, a massive concrete pour – a record on the island of La Réunion – for a new highway interchange was achieved on schedule. Cédric Brunner of French BBR Network Member ÆVIA has shared some photographs and details of the project.

The beautiful island of La Réunion in the Indian Ocean is one of four overseas territories administered by France. Work is underway to construct the Nouvelle Route du Littoral (NRL), a coastal expressway which will link the island's two main urban centers of St Denis and La Possession, as well as forming part of the RN1 national road. When opened, it will replace the existing often congested coastal road which runs at the foot of cliffs and is exposed to risks from landslips and extreme weather conditions.

Post-tensioning work involved installation and stressing of 22 BBR VT CONA CMI internal 2706 tendons up to 110m long for a new interchange which will connect the NRL and the Barachois district of St Denis. This design allowed the achievement of a shape with variable inertia reaching 1.30m thickness in middle of the main span.

The viaduct forming the interchange is 112m long and 12m wide. During a huge 30-hour concrete pour over one weekend last September, some 200 mixer trucks delivered 1,400m^3 of concrete to complete the viaduct deck.

TEAM & TECHNOLOGY

Owner – Région Réunion
Main contractor – PICO
Technology – BBR VT CONA CMI internal
BBR Network Member – ÆVIA Câbles et Manutention (France)


Record PT
concrete pour