

WORKING SMARTER BUILDING FASTER

VBC Balanced Cantilever Carriage



Efficient bridge construction

Constructing large bridges is a challenging process. Realising complex work processes under tight time schedules with high quality requirements and in a cost-efficient manner requires a reliable partner.

Therefore, PERI is offering an efficient complete solution as well as engineering support and further services. The high-load-bearing system VBC is able to build large bridge structures remarkably quickly. As the formwork and cantilever carriages come from a single supplier, our customers benefit from lower coordination expenses and increased implementation reliability.

Large structures in very little time

The tried-and-tested PERI System VBC impresses with its very simple and quick handling characteristics and the possibility of concreting very large sections. As such, the Balanced Cantilever Carriage facilitates the swift construction of superstructures and saves labour costs at the same time.

Flexibility due to VARIOKIT

With the VARIOKIT Engineering Construction Kit, the rentable system components can be made available very quickly. The cantilever construction equipment can be flexibly adapted to a wide variety of bridge cross-sections and geometries.

VBC Balanced Cantilever Carriage



Time-saving

Reduction in construction time due to possibility of concreting large sections of up to 5.75 m in length, as well as a high load-bearing capacity and integrated hydraulics.



Cost-effective

As VBC can be rented from PERI, no financing or pre-investment is necessary, which minimises risk and long-term costs for our customers.



Easy set-up and high level of safety

Simple application as well as safe access solution and its compatibility with PERI UP enables safe working conditions.



Multiple features - One solution

Integrated hydraulics

Thanks to the fully integrated hydraulics for moving and aligning the formwork, the system is fast and simple to operate.



Lower workload

Only two ties are required for each A-frame, reducing the amount of time and staff required.



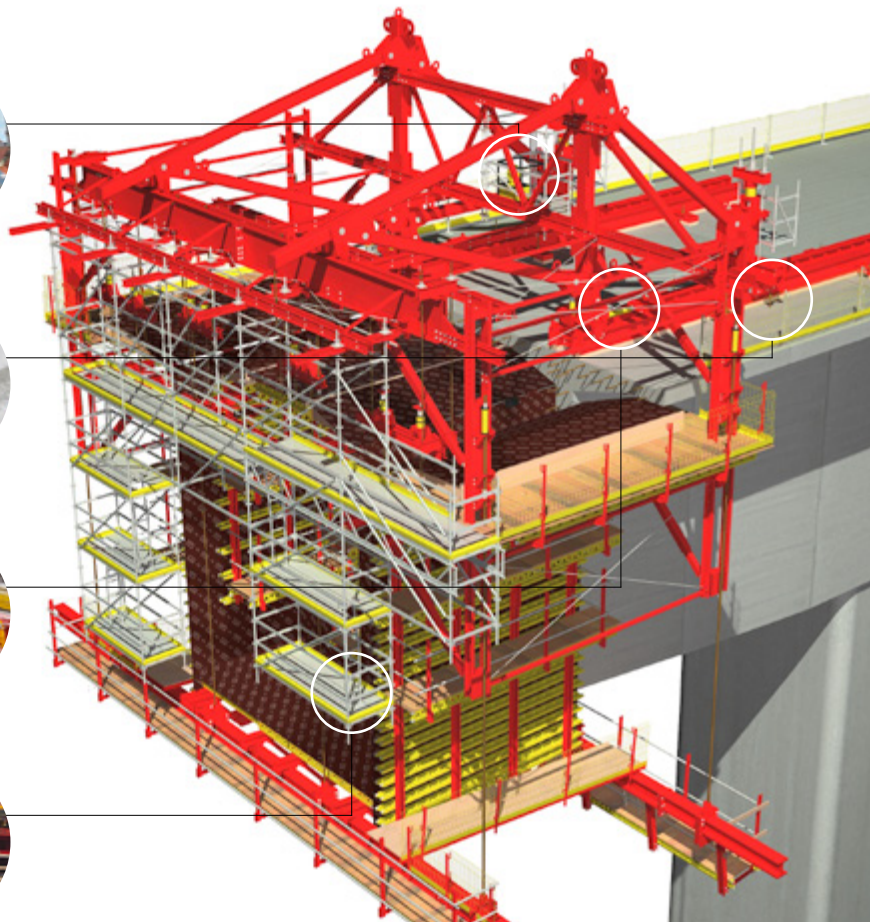
No unintentional movement

The equipment is always mechanically secured when it is moved forward to the next cycle.



Safe access

Modular working platforms and access to all working areas due to compatibility with PERI UP.



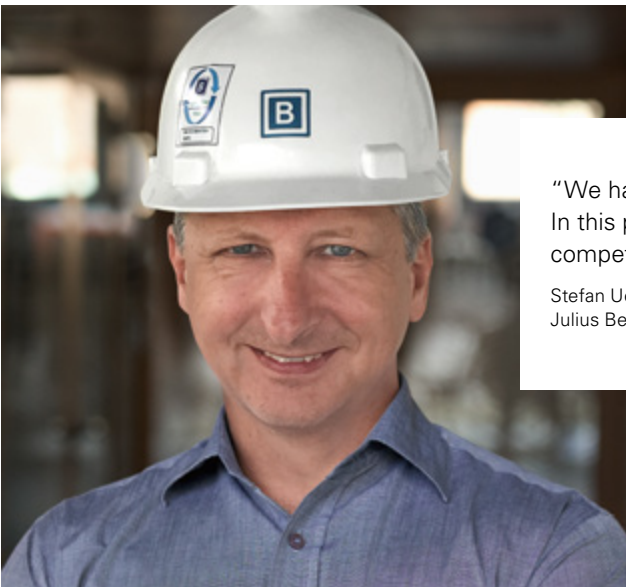
Reference projects



PERI assisted with the project by providing a sophisticated engineering solution and a customised system combination.



Reusing four VBC Balanced Cantilever Carriages reduced costs and the personnel required.



Second Niger Bridge | Nigeria

Julius Berger Nigeria PLC, Abuja

Since its completion, the 1.60 km Second Niger Bridge has connected the Nigerian cities of Asaba and Onitsha, helping to decongest traffic on the existing bridge over the River Niger. The VARIOKIT VBC Balanced Cantilever Carriage ultimately proved to be the right choice for the formwork required for the 630 m of bridge deck with three lanes in each direction, and spans of 150 m each. PERI supplied a total of four VBC Balanced Cantilever Carriages which were reused for the individual sections. This made the shuttering process particularly efficient and considerably reduced the number of personnel required. The cycle time per segment was a maximum of seven days. It was possible to combine PERI UP efficiently with the VBC solution. Thus, uninterrupted access was constructed for the site personnel, keeping them safe when working above the water.

“We have a strong and reliable working relationship with PERI. In this project, too, we worked together to solve challenges competently and save costs.”

Stefan Uelzmann, Project Manager
Julius Berger Nigeria PLC, Abuja



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The carriageway slab formwork of the formwork carriage made it possible to reduce the degree of penetration.



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The VBC was easy to dismantle as the time-consuming process of anchoring the rails to retract the carriages was not necessary.

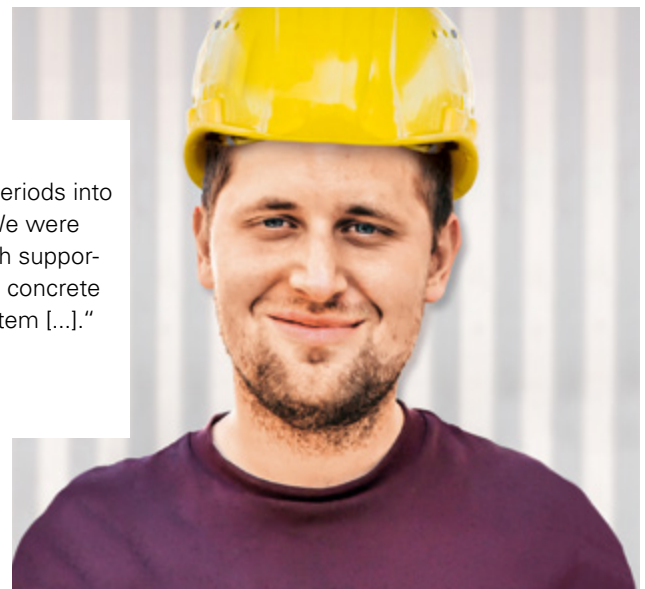
Inn bridge in Terfens | Austria

ARGE (PORR/Strabag), Zirl

The Inn Bridge reconstruction project in Terfens, which is in an earthquake zone on the A12 motorway, was one of the largest bridge construction projects to be carried out in Western Austria. By using the VBC Balanced Cantilever Carriage together with formwork, PERI provided the client with a comprehensive and time-saving solution, which made it possible to complete the project on time despite the demanding construction schedule. The VBC system made it possible to construct the 5.70-m-long concreting sections, thus reducing the number of concreting cycles to only four per bridge support structure. Due to its high flexibility and simple alignment, it was possible to concrete the respective segments in weekly cycles and adapt the projection of the cross girders in the grid. Additionally, the supporting structure had a spacing of only 50 cm. Furthermore, the fully integrated hydraulics simplified the process of adjusting and calibrating the formwork from one section to the next. Given the fact it is convenient to operate, the system could be moved to the next cycle quickly and easily.

„The fact that we had to take the River Inn’s high-water periods into account meant that the schedule was very demanding. We were able to reduce the number of construction phases on each supporting structure by two due to the fact that we were able to concrete 5.70 m section lengths with the PERI VARIOKIT VBC system [...].”

Bernhard Ramsauer, Site Manager
ARGE (PORR/STRABAG), Zirl, Austria



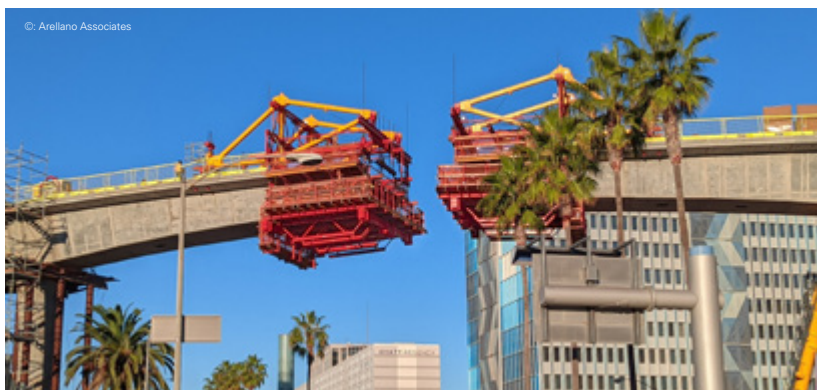


LAX Automated People Mover | Los Angeles

LAX Integrated Express Solutions, Los Angeles

Los Angeles International Airport has made an effort to relieve congestion for people travelling to and from the third-busiest airport in the world. As a key component of that endeavour, a 3.6-km-long Automated People Mover was built to reduce traffic and provide quicker access to terminals and transportation stations for the travelling public. The circumstances of the project meant that traditional falsework methods could not be built for this project.

PERI designed a cast-in-place segmental bridge construction method utilizing formwork travellers. The resulting VBC Balanced Cantilever Carriage system used six VBC formwork travellers with formwork for a total of four spans. Each of the four spans had 13 to 17 segments measuring 4.6 m and closure pours at the midspan. Combining this with PERI UP ensured that a large number of users could pass each other and transport material safely. PERI provided support with engineering and planning solutions starting from the initial project design phase.



The construction required crossing operational roadways. PERI faced the specific requirements by developing a customised system.



PERI built a custom solution for travelling formwork to fulfil design, efficiency and sustainability plans.

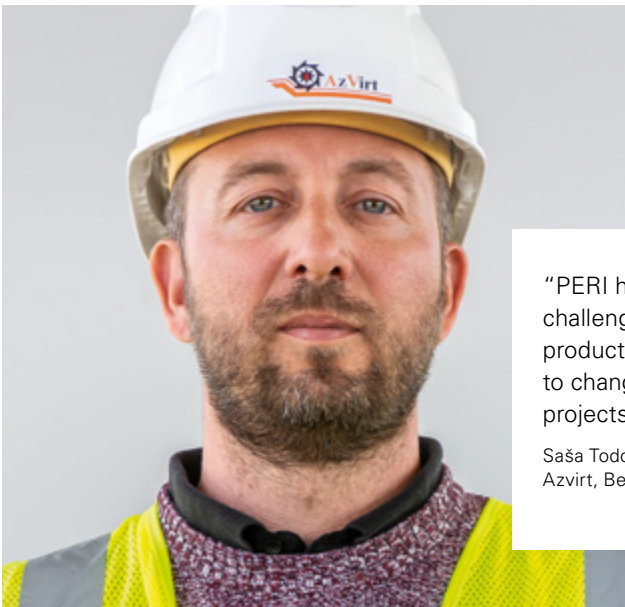


Sava Bridge | Serbia

Azvirt Ogranak Belgrade



The construction site staff have been successfully trained to use the VBC system independently, which includes the skills required to operate the hydraulic presses used for moving the structure.



“PERI has once again proven to be a reliable partner for all the challenges of such a complex project. Thanks to their wide range of products, they were always able to respond quickly and efficiently to changes in the project dynamics, which are almost inevitable in projects of this nature.”

Saša Todorović, Project Manager
Azvirt, Belgrade, Serbia

The bridge over Sava at Šapac with a length of 1352 m is the largest structure on the new Ruma - Šabac - Loznica route. The most challenging part of the project was the main bridge construction, featuring a sandwich cross-section with a span of 40 m to 155 m. The central spans were constructed using free cantilever construction technology. A total of 4 pairs of VBC Balanced Cantilever Carriage cages, each weighing approximately 80 tonnes, were installed on the starter and adapted to the variable geometry. Hydraulic presses made it possible to move the structure weighing over 80 tonnes to the next concreting cycle. VBC was combined with various PERI scaffolding, formwork and engineering solutions. These easily adaptable systems made it possible to complete what was an extremely complex project. Due to the fact that pre-assembled segments of the PERI system were delivered directly to the construction site, it was possible to shorten the construction time.



Top Product Features

- Fast construction progress due to concreting of large sections, making it possible to achieve a weekly cycle
- Cost-efficiency due to lower staff requirement and labour costs due to straightforward set-up and fully integrated hydraulics
- Safe access solutions thanks to the ability to combine with PERI UP
- No investment risks as it is a rentable solution
- Smooth and trouble-free process as formwork and traveller are from a single source, not to mention PERI on-site support
- Holistic and sophisticated project solutions through PERI Engineering and project management solutions

Technical Details



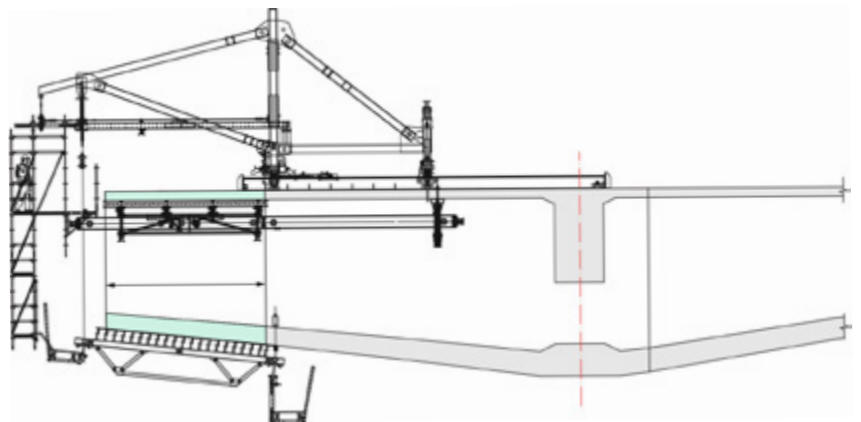
Concreting of up to 5.75 m large sections

Concreting section weight up to 300 t for standard applications with two main frames

Fully hydraulically equipped for easy and fast movement and formwork adjustment

Compatible with VARIOKIT and PERI UP Scaffolding

Tie-free back reversing



Watch the VBC video now:

