Power Climber® Plays Major Role in Caracău Viaduct Project

Power Climber's parent company BrandSafway recently completed a major project to rehabilitate Romania's Caracău Viaduct. This project included multiple access challenges, and Power Climber played a large role in its successful completion.

Built in 1946 of reinforced concrete, the Caracău Viaduct is 264m long and includes a central arch that is 100m wide and 64m high. In addition, the structure has cantilevered concrete walkways extending 3m on either side of the railway track preventing direct access to the arch from the top of the viaduct.

The contractor, SCCF Mures, was able to access most of the viaduct substructure by using temporary catwalks and platforms. However, the arch itself was a major challenge. The contract called for inspecting and coating the concrete, so access to all surfaces was required, including the outsides and underside of the arch.

Traditional scaffolding was impractical due to the expense, equipment and labor involved. So SCCF Mures reached out to Hünnebeck, a BrandSafway company, for an alternative access solution. After many discussions, a new idea was proposed involving the QuikDeck® Suspended Access System combined with steel monorails and swing stages. QuikDeck platforms would be suspended beneath the cantilevered walkways on either side of the viaduct. Dual steel monorails would then be attached to the bottom of the platforms running the full length of the viaduct. Finally, swing stages attached to trolleys would be suspended from the monorails allowing access to all faces of the arch. There would be three swing stages in all—one suspended on each side of the viaduct providing access to the outside faces of the arch, and a third suspended beneath the arch providing access to the underside.

At this point the team reached out to Matthieu Gorris, sales manager at Power Climber's Belgium headquarters. Gorris and his team worked directly with their counterparts at BrandSafway and Hünnebeck to review and refine the plan. The Power Climber team recommended using electric trolleys with the monorails to allow workers on the swing stages below to move laterally without having to return to the platform. They also recommended wire winders be installed on all the swing stages to prevent wire rope from dangling below and causing potential damage.

The Power Climber team then went to work manufacturing the swing stage platforms and sourcing trolleys from vendor partners. There was a very short timeframe to deliver all products to keep the project on schedule, and every component had to be manufactured. Ultimately, all products were delivered to the work site on time. "It was a pleasure working on this team," said Gorris. "Everyone was motivated to succeed, and when everyone is motivated, good things happen. Things get done."

This innovative approach to accessing arched concrete bridges has value far beyond the Caracău Viaduct. There are many similar arched concrete bridges throughout the world. All of them have the same need for inspection and maintenance, and all of them present similar access challenges. Thanks to the combination of QuikDeck and Power Climber technology and equipment, we now can provide access to the underside of concrete bridges easier, faster, at lower cost and with less equipment than ever before.