**The New Orbital Highway and Truck Route**

**Fast delivery and technical know-how prove a winning combination in Qatar**

**Doka’s recent work on the new Doha Orbital Highway shows how a combination of slick logistics and technical supervision help to make even the most challenging projects possible.**

With both the national Vision 2030 and the FIFA World Cup 2022, Qatar isn’t short of reasons to ensure its national infrastructure is delivered. Furthermore, to showcase itself as a sustainable and technologically advanced nation and with just four years remaining before the World Cup, virtually all projects are on a strict timetable.

When dealing with simultaneous infrastructure development on such a massive scale, the issue of traffic congestion can often lead to significant delays across multiple projects, potentially hindering essential deadlines, making the daily lives of commuters a living nightmare. Ashghal (Public Works Authority) came up with the solution of building a new orbital highway and truck route that would circumvent the capital, allowing construction equipment, personnel and material to reach their various sites directly, reducing disruption for Qatar’s citizens and residents.

Having tendered the project in May 2014, the contract was awarded as a joint venture between QDVC and Bin Omran Trading & Contracting Company. The scope of the project involved connecting the Salwa Road to the North Relief Road with 47 kilometres of highway including five dual lanes for light vehicles, two dual lanes for heavy goods and industrial vehicles, six viaducts, seventeen bridges, and underpasses. With a delivery date scheduled for 2018, the success of the project would require the exclusive involvement of companies that could work fast without cutting corners.

While working on some mega-projects in Qatar, including the Doha Metro, Doka was selected for the construction of the major bridges and viaducts, thanks to its reputation for technical ability, understanding the importance of safety, and its ability to deliver large quantities of formwork at short notice.

As a massive project with multiple structures, Doka was faced with a tight delivery window meaning a preassembly strategy would be essential. This included the special electric stripping devices for bridge deck formwork, HEB1000 steel beam grill, and special steel parts such as adjustable plates and special fixing collars for the piers. Using a series of combinations such as Staxo 100 eco with steel profiles, Top 50, D3 and SL-1 HD shoring, Doka had to create unique shoring configurations and panels. This was one of the reasons why the engineering hours on the project exceeded 20,000 hours, which includes supervision on site.

Fulfilling the project’s safety requirements, Doka started from the beginning of the project.

In the preparation phase, elements such as the shoring erection sequence, weight to be

carried, integrated safety equipment on the material, access to the work area, and

dismantling sequences were all carefully calibrated by Doka’s engineers, providing a safe,

productive, and cost-efficient solution to complete the project. Some of the value-added elements used by the Doka team included 3D modelling, screw jack extensions for each shoring towers made with AutoLISP, and wood boxes cut by CNC machine.

Speaking on behalf of the client, Baptiste Ravoire, methods manager for the JV commented,

“Doka Qatar’s design team were both highly professional and flexible to our requirements. We

thoroughly appreciate the team’s technical skills and its ability to solve different challenges

encountered on the project. This project is particularly complex with tight contractual

constraints, and thanks to the support of Doka, we’ve been able to meet these requirements

and ensure the intermediate milestones were met on time.”

**In short:**

Project: New Orbital Highway and Truck Route – Package 2

Location: Doha, Qatar

Type of structure: Highway

Length: 47 km

Structure height: 18m

Overall length of bridge: 383m + 390m for Junction 3 structure

Longest span: 13,7m

Developer: Public Works

General Contractors: Ashghal QDVC, Bin Omran

Start of construction: May 2014

Systems used: Large-area formwork Top 50, Load-bearing tower Staxo 100 eco,

Load-bearing tower d3

Services: Ready-to-use service

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| Q:\Doka\Company\External Communication - Image\Press Releases (tbd)\In progress_2019\2019_4 New Orbital Highway - Qatar\Images\Word\New Orbital Highway_4.jpg | The Large-area formwork Top 50, Load-bearing tower Staxo 100 eco were used in  shaping Bridges 6A, 6B and 6C of Junction 6 while Ready-to-use service (RTU) was  utilized to form its cantilever decking and siding  Photo: New Orbital Highway\_1.jpg  Copyright: Doka |
| Q:\Doka\Company\External Communication - Image\Press Releases (tbd)\In progress_2019\2019_4 New Orbital Highway - Qatar\Images\Word\New Orbital Highway_2.jpg | The cantilever decking and siding of bridges 6A, 6B & 6C of Junction 6.  Photo: New Orbital Highway\_2.jpg  Copyright: Doka |
| Q:\Doka\Company\External Communication - Image\Press Releases (tbd)\In progress_2019\2019_4 New Orbital Highway - Qatar\Images\Word\New Orbital Highway_3.jpg | Large-area formwork Top 50 and Load-bearing tower formed Bridges 3A & 3B of  Junction 3.  Photo: New Orbital Highway\_3.jpg  Copyright: Doka |

**About Doka:**

Doka is a world leader in developing, manufacturing and distributing formwork technology for use in all fields of the construction sector. With more than 160 sales and logistics facilities in over 70 countries, Doka has a high-performing distribution network which ensures that equipment and technical support are provided swiftly and professionally. An enterprise forming part of the Umdasch Group, Doka employs a worldwide workforce of more than 6,700.

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