



Campus Bridge Würzburg,
Germany

Allplan in practice

FLOWING CROSSOVER

"Panta rhei" – "everything flows" – is the short version of one of the central teachings of the Greek philosopher Heraclitus, which states all being is in constant motion or is in becoming.

However, those who have to partake in daily business traffic could all too easily disprove this postulate. Because often nothing flows for a long time. Repeatedly forced to stop and wait, people curse each excruciating stoplight in their way whilst grinding their teeth. The state of Bavaria commissioned a very special pedestrian and bicycle path bridge built between the old and new campus of the University of Würzburg to protect drivers from such a fate of the standstill. This overhead crossing

will not only ensure that Heraclitus is right, but it will also visually form a literal "flowing crossover."

There is more behind the "campus bridge" than the pure avoidance of stopping traffic. The new university campus Hubland North is located on a former US military base: the Leighton area. After the US forces left this in 2009, the state of Bavaria purchased part of the land for the University of Würzburg and had parts of the former military



facility converted for university use. According to a framework plan developed for the conversion of the former military terrain, a "green belt" was meant to connect this new campus to the old campus, now Hubland South. The campus bridge, as an accessible connection between both campus areas, was to blend harmoniously into this green belt and fit in with the striking urbanistic situation, as a gateway to the city.

The team of Dr. Schütz Ingenieure (Kempten), Kolb Ripke Architekten and POLA Landschaftsarchitekten (both Berlin) created a design that was implemented in a single-stage realization competition at the turn of the year 2011/2012: a sophisticated structure, consisting of two narrow concrete strips converging into a small square above the street. Due to the two different bands, the bridge has a short staircase and a long ramp on each side. This results in a side view of a liquid wave-like motion, which is reminiscent of a sinusoidal curve. In addition to the special aesthetics, the four different ends also serve a pragmatic purpose of opening up different paths to the campus grounds.

With a total length of 109 meters, the semi-integral arched bridge with its mere 3.5 meter wide reinforced concrete bands is almost delicate and thus fits perfectly into the green landscape. It only reaches its maximum width of 7.15 meters at the intersection of both bands above the street. Inward tilted steel bar railings contribute to the flowing dynamics of the bridge. LEDs are integrated into the handrails, which also stage the campus bridge at night as the gateway to the city.

Dr. Schütz Ingenieure used Allplan Engineering to model the iconic structure. With Allplan Engineering software, it was possible to optimally illustrate the complexity of the bridge in the 3D modeling. In the process, the 3D modeling of reinforcement drawings in particular contributed to clarity and accuracy, allowing good control for laying the iron before construction. Thanks to the existing terrain, a simple terrain model was created within a very short period of time. Work on the bridge was overall easy and straightforward thanks to the showing and hiding of layers.




The city of Würzburg, among others, found that such a perfectly shaped structure that is impressive even in the smallest of details is worth it. They saw their new campus bridge in second place for the Antonio Petrini Award 2014. Additionally, it was nominated as one of three walking and bicycling bridges for the German Bridge Construction Award 2016. It is therefore not only a pleasure to stroll on the campus bridge, but it is beautifully conceived and deservedly has done very well for the city of Würzburg. Or in other words: "Everything flows."

PROJECT INFORMATION IN AN OVERVIEW

- > **Focus:** Bridge construction
- > **Software used:** Allplan Engineering

PROJECT DATA

- > **Client:** State Building Authorities of Würzburg
 - > **Architect:** G. Pahl, Dr. Schütz Ingenieure, Kempten; T. Kolb, Kolb Ripke Architekten, Berlin; POLA Landschaftsarchitekten, Berlin
 - > **Planning time:** 2012 – 2013
 - > **Building time:** 2013 – 2014
 - > **Total length:** 109.01 m
 - > **Spans:** 8.80 m / 11 m / 11 m / 11 m / 40 m / 11 m / 11 m / 11 m
 - > **Arched span:** 40 m
 - > **Width:** 3.5 m / 7.15 m
 - > **Total costs:** EUR 2.1 million
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"In order to plan complex structures, you need a program like Allplan, which does not restrict you in the planning stage"

Gerhard Pahl, project manager,
managing director or the partners
of Dr. Schütz Ingenieure

THE CUSTOMER

The engineering office of Dr. Schütz Ingenieure was founded in 1958 and is active in the areas of building construction, civil engineering, industrial construction, bridge construction and historical buildings through independent consulting engineers in the construction industry. They aim for optimal planning while taking into account their decades of experience and the latest technical developments,

while at the same time meeting deadlines, economic requirements and design requirements.

the managing directors are
Dipl.-Ing. (Univ.) F. Rudolf Schütz,
Prof. Dr.-Ing. habil. Karl G. Schütz,
Dipl.-Ing. (FH) Gerhard Pahl and
Dr.-Ing. Bernhard Mohr.

ABOUT ALLPLAN

ALLPLAN is a global provider of BIM design software for the AEC industry. True to our "Design to Build" claim, we cover the entire process from the first concept to final detailed design for the construction site and for prefabrication. Allplan users create deliverables of the highest quality and level of detail thanks to lean workflows. ALLPLAN offers powerful integrated cloud technology to

support interdisciplinary collaboration on building and civil engineering projects. Around the world over 500 dedicated employees continue to write the ALLPLAN success story. Headquartered in Munich, Germany, ALLPLAN is part of the Nemetschek Group which is a pioneer for digital transformation in the construction sector.

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