

Paris, 5 June, 2019

## A LIGHTWEIGHT FOOTBRIDGE DESIGNED TO CONNECT TWO CROSS-BORDER SHORES ON THE RHINE SITE OF GAMBSHEIM-RHEINAU (67)

Located about thirty kilometres from Strasbourg, the municipality of Gamsheim (67) has been welcoming since the 5<sup>th</sup> of June, the largest aluminium footbridge in Europe open to the public, with a span of 62.5 m. As part of a sustainable development and soft mobility approach, this new link, parallel to the RD2 road and the hydroelectric plant, will enable cyclists and walkers to benefit from a safe route over the Rhine, linking France and Germany.



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Ingérop - a major player in engineering and consulting - won the call for tenders from the Bas-Rhin Department, as prime consultant (design, dimensioning, control) for this program. The latter is part of a real cross-border dynamic between the two countries supported by the "Passage 309" Association - Association for the tourism development of the Rhine site of Gamsheim / Rheinau and surroundings. Equipped with an exceptional vibratory behaviour, the footbridge will contribute to the comfort of access for riverside residents and will allow them to discover this ecotourism area and its fish pass.

### Connect the two banks safely

Until the facility was commissioned, cyclists were forced to share the RD2 road with motorists. This busy road did not include any facilities dedicated to their travel between the two banks of the river.

The Gamsheim footbridge has been designed to allow walkers and cyclists to enjoy the rural environment and ecosystem of the Rhine in a safe way, thanks in particular to the immediate proximity of Europe's largest fish pass.

As this new bridge had to be built alongside the RD2 road and a hydroelectric plant, existing structures had to be combined to build an independent track that would blend into the landscape.

The structure, with a clear width of 3 m, in accordance with technical recommendations, allows cyclists and walkers to enjoy a reserved space and to cross the power canal of the hydroelectric plant peacefully. Walkers can now travel to France or Germany thanks to this footbridge, which completes a first crossing overlooking the locks, carried out during the first phase of the project in 2018. In parallel, the German road services had also built a footbridge on the mobile barrier.



### Ingérop's expertise in the design and selection of the construction material

The new 30-ton footbridge consists of an isostatic span and is characterized by a span of 62.5 m. For its construction, Ingérop strongly recommended the use of aluminium:

"This is undoubtedly the most relevant material for this gateway project. It is light, easy to install and resistant to corrosion, making it easier to maintain the structure over time," says Nicolas Rouzet, Head of the River Engineering Structures Department at Ingérop.

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## An in-depth analysis of the structure's behaviour

For this major project, Ingérop also demonstrated its expertise in testing and commissioning, to ensure the comfort of users during the crossing, on foot or by bicycle.

Thus, after the structure was completed, the vibratory behaviour of the footbridge was scrupulously tested at the workshop held on the 28<sup>th</sup> of May. During this dynamic loading test, which proved conclusive, the structure was stimulated under real conditions to measure and verify its reactions under the action of a group of people passing by. The tests also resulted in the installation of instrumentation devices.



This stage of the construction allowed the observation of the deformation and acceleration of the structure when pedestrians crossed, who were then able to share their feelings during the journey on the footbridge.

After this measurement and analysis phase, the bridge was transported on the 4<sup>th</sup> of June from the workshops, located only 800 m away, to its final location. In order to reduce the nuisance, the oversized convoy was deployed at night and the RD2 road was closed for safety reasons. The bridge was finally installed the next day using a 500-ton crane.

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## Financing of the operation

Europe contributes to 50% of the bicycle and pedestrian crossing (€5.936 million including VAT).

The total cost of the operation amounts to €9.886 million including VAT and includes, in addition to the cycling and pedestrian crossing of the Rhine, the reconstruction of the two decks on the locks, the repair of engineering structures and the renewal of the wearing course over 5 km.

This cost is distributed as follows:

- France : €7.306 million
- Germany: €2.580 million

The operation is co-financed as follows:

- Interreg V (European funds): €2.968 million
- French State: €2,500 million
- Bas-Rhin Department: €2.020 million
- Regierungs Präsidium de Freiburg : €1,200 million
- EDF/CERGA : €0.573 million
- Grand Est region: €0,450 million
- City of Rheinau : €0,090 million
- Passage 309/City of Gamsheim: €0.085million



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## MAIN ACTORS

- Project owner: Department of Bas-Rhin
- Project management – Design: Ingérop
- Project management – Construction Works: Department of Bas-Rhin
- Architect: STRATES
- Construction of the aluminium footbridge:
  - Principal contractor: DEMATHIEU & BARD
  - Aluminium fabricator: SIEFFERT Workshops
- External Control: CEREMA

## Visuals on request from the press office

### **About Ingérop**

A leading player in France and with a strong international presence, Ingérop is an engineering and consulting group in sustainable mobility, energy transition and living environment. The group is present in all construction sectors:

Building, Energy & Industry, Water & Environment and City & Mobility. Independent, based in Rueil-Malmaison (France), it employs nearly 2,000 employees and expects to generate sales of more than €253 million in 2019, including more than 27% internationally. Operating in more than 70 countries, Ingérop continues its steady development both in France and abroad thanks to its shareholder independence, technical expertise, capacity for innovation and proximity to its clients.

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