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## TURNING HEADS IN GDANSK

**Cezary M. BEDNARSKI**

Architect  
Studio Bednarski Ltd  
London, UK

[cezary@studio-bednarski.com](mailto:cezary@studio-bednarski.com)

### Summary

In June 2015 the city office of Gdansk, a historic port city in northern Poland announced an invited design competition involving an opening bridge across the Motława River in Gdansk. In April 2016 London based STUDIO BEDNARSKI Ltd as architects working with SCHLAICH BERGERMANN PARTNER as bridge engineers, won this competition, to which seven design teams were admitted. Our main design objective was to create a functional work of art, which becomes a water based sculpture when the bridge deck is opened for navigation and united with the island, which protects the deck from ship impact.

**Keywords:** historic context; movement; turning pedestrian bridge; structure as art; design competitions

### 1. Introduction

Bridge design competitions frequently end up in controversies, both because of the way they are run as well as designs that win them. In the UK context the latest high profile competition scandal is that of the so called Garden Bridge. In Poland we now have a new bridge design competition calamity in Warsaw where, as it seems is the norm in Poland, anybody that has a clean criminal record and paid taxes is admitted. The client seems to have had no interest at all in the design skill and experience of the potential participants, who to prove their competition-worthiness had to submit some 80 pages of bureaucratic forms and documents. In the end 128 (!) designers were admitted to this 'invited competition'. In the context of how bridge design competitions are organised and run in Poland, the Gdansk contest, which was semi-private, stood out. First of all the organisers invited only seven teams with suitable experience.



Fig. 1. Bird's eye view of Gdansk - bridge location



Fig. 2. View of bridge parked on stone island

### 1.1 Site analysis

The highly sensitive site for the bridge is located next to Gdansk Old Town and Europe's oldest and largest surviving port crane, dating back to 1444. On one side of the Motlawa river is the Old Town, which was rebuilt after the Russian and allied air forces reduced it to rubble in March 1945. Very narrow path and historic buildings on the Old Town side meant that it was not advisable to suggest any heavy works on that side. On the island side every square metre of land is of value to the developer, and so it was not in the interest of the developer to place any bridge related gear inland.

### 1.2 Main design drivers

The bridge will link the new development with the Old Town creating not only a new access route but also a river based attractor and a destination in itself. The key issues that informed the design were as follows:

1. The main design objective was the creation of a functional work of art, which becomes a water based sculpture when the bridge deck is open for navigation and united with the island that protects the deck from ship impact.
2. Minimal intervention at both sides of the river – a bridge without abutments ( lack of space, high cost, historic context ). Works to river walls to be at an absolute minimum, and the need for installation of dolphins to be removed as in the context of the narrow waterway and delicate bridge any dolphins would be too visually aggressive ( as they are now at the new Gdansk Olowianka Bridge, mentioned above )
3. Concentration of all works in one place away from public spaces, with minimal interruption to navigation during construction and maintenance
4. Lowest possible cost in use, among others through minimal energy demand during opening
5. Maximum waterway width left for navigation, only 4.5 m taken away from the river width for the island
6. Navigation channel width requirement meant that the bridge would need to be asymmetric and so its form must express this.



Fig.3. Day and night view of bridge in pedestrian use mode

### 1.3 Materials and products

The bridge beam will be made of stainless steel, as will be all parapets. In elevation the lower inclined sides of the structural steel box will be peened to receive leather-like sheen and texture. The removable stainless steel outward inclined cladding to the glass holding brackets will be mirror polished, reflecting rippling of river water. A continuous slot between these two planes will carry a linear LED strip light, which will shed gentle light on the textured structural box.

## 2. Conclusion

- Design competition results correlate directly to the quality and clarity of information provided by the organisers, to the quality and experience of the competition jury, and to the calibre of designers that they attract
- It is totally unacceptable for bridge design competitions to be held for architects, they must always be held for architect + engineer design teams