

OUTSTANDING CIVIL ENGINEERING STRUCTURES BUILT IN POLAND

J. Biliszczyk^{1,2}, P. Hawryszków¹, R. Toczkiwicz², K. Żółtowski³

¹Wrocław University of Science and Technology, Faculty of Civil Engineering, Wrocław, Poland.

²Research & Design Office MOSTY-WROCLAW, Wrocław, Poland.

³Gdańsk University of Technology, Gdańsk, Poland.

e-mail: jan.biliszczyk@pwr.edu.pl

SUMMARY

The development of civil engineering in Poland has a 1000 year long history. This paper pays particular attention to outstanding structures created since the beginning of the 20th century. Innovative buildings, halls, stadiums, masts, high-rises and bridges are presented. It was in Poland where the first welded steel road bridge in the world and the highest radio mast were built. Europe's largest extradosed and innovative arch and composite bridges have been constructed recently.

Keywords: *Poland, History, Civil Engineering, Outstanding Structure, Pioneering Structure, Historic Structure, Building, Skyscraper, Mast, Hall, Bridge, Technology.*

1. SHORT INFORMATION ON HISTORY OF POLAND

The first historical ruler of Poland, Prince Mieszko I, united the Slavic tribes living in the area of present-day Poland. In 966 he adopted the Christian religion and this fact is considered to constitute the beginning of the Polish state.

Borders of Poland have changed many times since that time. Between 1795 and 1918 the Polish state was under the occupation of Austria, Prussia and Russia (the Partitions of Poland). Poland regained its independence in 1918.

The interwar period (1918-1939) witnessed intensive modernization of the country and consolidation of the lands separated by the annexationists. The development was interrupted by the outbreak of World War II. Final shape of Polish borders was a result of decisions made by the great powers after the war. It led to the resettlement of many people.

This brief historical introduction was necessary to explain that many structures important in the history of world civil engineering, erected by German or Austrian engineers, are today situated within the borders of contemporary Poland. On the other hand, outstanding works of Polish engineers can be found in Belarus and Ukraine. This paper discusses only those structures that are within the borders of present-day Poland.

2. DEVELOPMENT OF CIVIL ENGINEERING IN POLAND

Poland is a lowland country. The vast majority of its area is covered by fields and forests. Mountain regions, where stone is easily available as a building material, represent only 9% of the country's total area. The basic building material in medieval Poland was wood. Brick buildings were erected sporadically in the early Middle Ages [2]. Most frequently these were Christian churches. The first brick church was most probably built in Poznań in 965. In the 14th century king Casimir the Great (1310-1370) initiated a great program of public investment in stone and brick estates.

New materials and technologies in civil engineering were introduced in Poland through [2]: