

Planetarium GRAZ – Star Theatre and Science Multimedia Centre for Public Education and Entertainment

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Abstract

A concept of an innovative educational, research and entertainment complex – the Planetarium Graz, proposed for the capital of Steiermark, the second largest city of Austria, is presented.

1. Introduction

For decades the core mission of planetaria all over the world was to educate, inspire and entertain people, giving them an experience of science, culture and art. Nowadays, planetaria have become a place where the achievements and discoveries of the modern science are demonstrated to the broad public by means of innovative information and visualization technologies in a comprehensive and fascinating way. Along with universities, museums, libraries, theaters, concert and exhibition halls, the planetaria appear as a common and necessary attribute of an educational and cultural infrastructure of a big city in each developed country.

2. Motivation

The amount of planetaria and their accessibility to public is a worldwide recognized indicator of cultural wellness of a region and the efficiency of local educational and cultural policy. In that respect, the absence of a planetarium in Graz, the capital of Steiermark, the second largest city of Austria and a well-known international research and educational center, looks as a surprising disadvantage, which needs to be corrected. In view of that, an initiative aimed at providing Graz, and therefore – the Austrian and Styrian citizens as well as the visitors of the region, with an advanced, state-of-the-art, top-equipped planetarium has been initiated. By extensive use

of innovative information and visualization technologies, Graz Planetarium will enrich public with better understanding of the world around us and equip the next generation of explorers and scientists with the skills and desire to learn more about our Universe.

3. General concept

The proposed Planetarium in Graz will make a step forward and beyond the traditional planetarium concept. It will be organized in a form of an “innovative triad”, which brings together and keeps interrelated to each other three key functional elements: 1) Education, 2) Research, and 3) Entertainment (Figure 1).

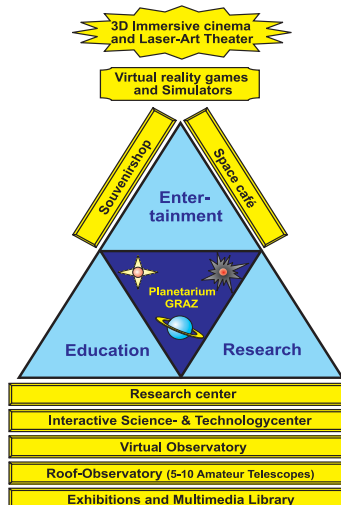


Figure 1: Planetarium Graz concept and structure

The proposed Graz Planetarium will have 16-meter dome theatre (Figure 2) of approximately 200 seats capacity and three advanced projection systems (fiber optic starball projector; digital projectors; laser vector-graphic system), including the 3D immersive cinema complex. The facility will feature an Interactive Science and Technology Centre, a Virtual Observatory, a Research Centre, a rooftop observatory, an exhibition hall, a Space Café and a Souvenir shop. The area of activities in the Graz Planetarium will cover:

- astro-nomy and science education programs
- school programs
- performances for children
- family shows
- popular science lectures
- laser art shows and concerts
- immersive cinema film demonstrations
- virtual reality games and simulators
- parties and talk-shows
- seminars, conferences and presentations.

The spectrum of educational offerings in the Graz Planetarium will extend from interactive demonstrations up to students graduate level coursework and teachers assistance and professional development programs.

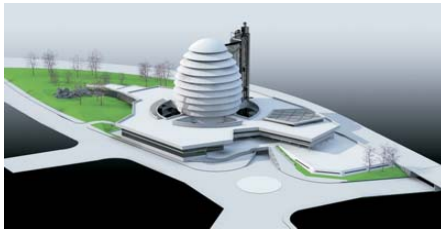


Figure 2: Planetarium Graz design project.

The specific feature of the Graz Planetarium project consists of the fact that the initiative to build this facility comes from a group of professional space physicists, astronomers and engineers, which are also prepared to provide day-to-day support and management of the planetarium during its operation. It means that the fundamentals and highlights of the modern astronomy and space science will be directly delivered and explained to the broad public in the Graz Planetarium by experts, which are an active part of the international community working in the front edge of space research. The primary goal of the project team is to use for creation of the planetarium in Graz as much as possible the available local a) intellectual potential, b) RTD infrastructure and c) human resources.

4. Conclusion remark

The city of Graz and Southern Steiermark region have all the necessary resources and potentials for establishing and successful operation of the planetarium. These include the extended professional astronomy and technology infrastructure with a knowledgeable highly qualified staff, and practically infinite source of the future planetarium visitor community, provided by the large local network of schools, universities and educational centres as well as by the extensive touristic infrastructure and the growing population of the region.

After been built, the planetarium in Graz will become an important, organic part of the city cultural infrastructure. Due to geographical specifics of Graz location, the city planetarium will play an important role in the cultural life of not only Austria, but of the whole Southern Europe, serving the intensification of cultural cooperation and contacts to the neighbouring Southern European countries and regions which do not have an analogous facility. It will increase the attractiveness and competitiveness of the city and whole region in the all-Europe international context.

Acknowledgements

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