



## 3D MODEL OF NUCLEAR POWER PLANT KRŠKO FOR EXHIBITION IN THE WORLD OF ENERGY

**IB-PROCADD d.o.o.**  
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On Wednesday, July 6<sup>th</sup> 2011, opening ceremony of World of energy was held in Information center GEN in Vrbinja at Krško. Company GEN energija d.o.o. supplies a third of Slovenia with electricity. On their 10<sup>th</sup> anniversary they decided to build the first interactive multimedia center about energy and energetics, where visitors could actively learn about the world of energy, through different animations, models and interactive exhibits. The company IB-PROCADD d.o.o. made a 3D printed model of the Nuclear Power Plant Krško, which is exhibited in the ground floor in the World of Energy.



Picture 1: Company IB-PROCADD d.o.o. made an interactive 3D model of Nuclear Power Plant Krško

3D printed model represents a joint project of company GEN energija d.o.o., which was the client of the project, company Hüttinger from Germany, which was responsible for realization of the concept, design and build, and company IB-PROCADD d.o.o., which made the 3D model.



Picture 2: Part of IB-PROCADD d.o.o. team, who participated in the project

World of Energy provides a valuable knowledge and experience about the importance of energy, its use in everyday life, production technology and its economic, social and environmental aspects (GEN energija 2011)<sup>i</sup>. At the other side, it serves as a place for public discussion and exchanging controversial ideas about energy consumption and the energy supply of today and the energy supply in the future (Hüttinger 2011)<sup>ii</sup>.



Picture 3: Turbine building

Interactive multimedia center brings knowledge to all generations and special attention will be devoted to educational institutions, because they believe that schools do not give enough emphasis on science and technology.



Picture 4: Reactor building

In the World of Energy visitors can view two floors. In the first one, they have exhibited interactive objects which are showing how electricity is produced. Among them, is also exhibited 3D printed model, which was made in company IB-PROCADD d.o.o. In the second floor visitors can perform experiments related to electricity, electronics and magnetism. Emphasis was given to nuclear energy, although they promote all energy sources, including classic and especially renewable energy sources. Within the World of Energy also a laboratory was set up, where they can demonstrate a various experiments.

In the company IB-PROCADD d.o.o., we have realized the model on the basis of 2D and 3D files in 3D software Rhinoceros. We simplify the details and thickness of the details of those parts of model, which would be lost with reduction (stairs, railings, etc.). Despite the simplification, the final appearance of the

model is still precise, because all important details, that represents the generation of electricity, is still preserved and easily visible. After preparation of files for 3D printing, we have printed the model in parts, with ZCorporation 3D printer. The final size of the model is in area 3 x 4 meters. After we have 3D printed the model, the model had to be composed and at the end we added the lightening.



Picture 5: Setting up a 3D printed model in the World of Energy

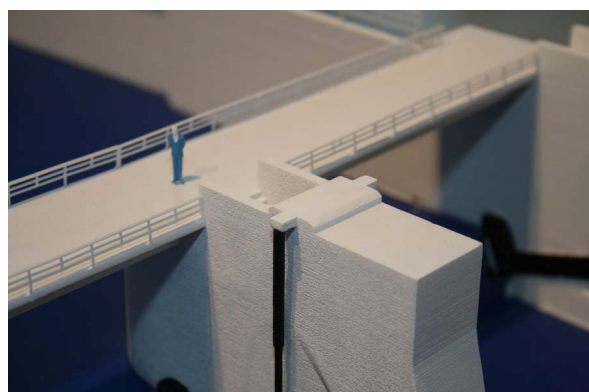
3D printed model of Nuclear Power Plant Krško is simple to use, because at the edge of the table they have placed a touch screen, which can be moved along the edge, in left and right direction. While we are moving the touch screen, it shows us descriptions and images of individual elements of NEK. At the same time, the elements are lightened up on the 3D printed model, to easier identification of the elements. The same content is displayed on a larger screen behind the model, which allows the presentations to a larger group of visitors.



Slika 6: Zaslona na dotik, na katerem se prikazujejo posamezne enote makete NEK

If you have not visited the World of Energy, we strongly recommend it, because they will drive you into the interactive world of electricity and energetics.

We also invite you to visit our web page, where you can find more information about innovative technologies [www.3Dt.si](http://www.3Dt.si), [www.ib-procadd.si](http://www.ib-procadd.si).



Picture 7, 8, 9 and 10: Details of a 3D model of Nuclear Power Plant Krško

<sup>i</sup> GEN energija. 2011. GEN energija odpira vrata informacijskega središča GEN in Sveta energije v Vrbini. Retrieved: <http://www.gen-energija.si/si/genovice/2011/311> (31. 08. 2011).

<sup>ii</sup> Hüttinger. 2011. Concept, Design & Build World Energy. Retrieved: [http://www.huettinger.de/english/visitor-centers/visitor-centers-list/gen\\_energija\\_2011.html](http://www.huettinger.de/english/visitor-centers/visitor-centers-list/gen_energija_2011.html) (31. 08. 2011).