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## *ImPossible Design*

### *Design & prototype competition for young designers*

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**The motive** for organising the competition “ImPossible Design“ is to promote additive manufacturing (the so-called “3D printing“) based on the principle of “layer by layer“ manufacture, which allows the release of designers' creativity and innovativeness in new product development. Additive manufacturing significantly changes the concept of product design, enabling the manufacturing of objects which are difficult or impossible to produce with the use of other technologies.

**The aim** of this competition is to promote young designers, engineers and architects, as well as to encourage students to model objects of complex shapes by applying 3D software tools.

The most successful solutions will be awarded 3D printers and a scanner at the winners announcement ceremony during the exhibition “ImPossible Design – A\_MADAM“, which will be organised in September 2019 within the manifestation “The Researchers' Night“ in Belgrade.

The competition “ImPossible Design“ is a part of promotional activities of the “A\_MADAM“ (Advanced Design for Optimal Dynamic Properties of Additive Manufacturing Products) project, which belongs to the group of “Marie Skłodowska-Curie“ actions within the European Commission's Horizon 2020 programme. All information about the A\_MADAM project can be found on [www.a-madam.eu](http://www.a-madam.eu).

#### ----- Competition rules -----

### I Organisers

The organisers of the competition are the universities and companies engaged in the implementation of the “A\_MADAM“ project:

- Faculty of Mechanical and Civil Engineering in Kraljevo, University of Kragujevac (Serbia)
- Department of Industrial Engineering, University of Bologna (Italy)
- “Plamingo“, Gračanica (Bosnia and Herzegovina)
- “Studio Pedrini“, Bologna (Italy)
- “Topomatika“, Zagreb (Croatia)

### II Deadlines

- Applications for the competition will be received from 1 November 2018 to 1 May 2019
- The jury will render its decisions on the winners between 2 May and 1 June 2019
  - Audience voting will be allowed from 2 May to 1 June 2019

- Announcement of the results of the competition on the websites [www.a-madam.eu](http://www.a-madam.eu) and [www.3dimpuls.com](http://www.3dimpuls.com) starting from 20 June 2019.
- The winners announcement & awards ceremony and the exhibition of the award-winning models will be held in September 2019 within the manifestation “The Researchers' Night“ in Belgrade. The venue and date will be announced on the abovementioned websites.

### III Categories

Those eligible to participate in the competition are:

- **Students, designers, engineers aged 18-35**  
Citizens of the Republic of Serbia, Bosnia and Herzegovina and all EU countries are eligible to participate in the competition, and the award-winning authors will have to present their personal identity documents for the verification of their affiliation with the corresponding category.

### IV Topic

- Household utility objects,
- Decorative objects,
- Clothing and footwear items
- Jewellery,
- Masks and parts of cars, motorcycles and bicycles

### V Application method

One participant can apply for the competition with up to three 3D models in the corresponding category. 3D models must have **dimensions smaller than 190x240x300 mm**. The wall thickness of models must be greater than 0.8 mm.

Models are applied and sent via the web page [www.3dimpuls.com/konkurs](http://www.3dimpuls.com/konkurs). The application of models consists of the following elements:

1. 3D model in one of the following electronic formats (according to the sequence of desirability): STEP, IGES, X\_T (Parasolid), STL, 3ds, VRML, OBJ; maximum size up to 25 MB,
2. One photograph of the 3D model in JPEG format, width more than 600 pixels, maximum size up to 5 MB, which will be posted on the website [www.3dimpuls.com](http://www.3dimpuls.com) so that the audience could vote;

3. Data about the author which will be entered in the electronic form on the web page for application.

The organiser keeps the right to accept or reject the applied 3D model which is considered to be inappropriate for the topic of the competition, plagiarism or which technically does not fulfil the minimum criteria defined by the competition, without any special explanations. 3D models with offensive or pornographic content will be rejected.

## VI Evaluation of applied models

The professional jury will award the prizes to three most successful authors selected after the evaluation of models. Each author will be represented by his/her model that obtains the highest score. The professional jury that will decide upon the winners will be composed of professors from the faculties of engineering and arts, engineers, designers, businessmen from Serbia, Bosnia and Herzegovina, Croatia and Italy.

The competition is intended to inspire young designers to develop complex models, the ones that are difficult to manufacture by conventional technologies. The criteria for evaluation will be as follows:

- complexity of shapes of 3D models;
- aesthetic qualities of 3D models;
- use value of the modelled object;

The audience award will be determined on the basis of the number of votes collected on the website [www.3dimpuls.com](http://www.3dimpuls.com) in the period from 2 May to 1 June 2019.

The information about the awards ceremony will be sent via e-mail to the addresses stated in application forms and posted on the websites [www.a-madam-eu](http://www.a-madam-eu) and [www.3dimpuls.com](http://www.3dimpuls.com) from 20 June 2019.

## VII Awards

Two types of awards will be given:

- Three awards by the professional jury
- One audience award
- According to the estimation of the jury, special awards can also be given, and the audience will be duly informed about it.

The winners of the competition will be awarded certificates and 3D printers (MakerBot® Replicator® 2X), and a 3D scanner (MakerBot®Digitizer™Desktop).

The prototypes of 3D models, on the basis of which the authors are awarded, will be made by the coresponding additive manufacturing process and exhibited at the official ceremony.

The names (with the written consent of the authors) or aliases of the awarded authors as well as the photographs of their models will be posted on the websites [www.a-madam.eu](http://www.a-madam.eu) and [www.3dimpuls.com](http://www.3dimpuls.com).

## VIII Copyright

Participants must be the sole authors of the 3D models they submit. It means that the participants in the competition must have inalienable copyright on their 3D models, as defined by the applicable laws on copyright. Copying models without the permission of their authors is strictly prohibited and punishable by law. The organiser disclaims liability in case of violation of this right by a third party. If the Organiser suspects that a participant has applied with a 3D model not covered by his/her authorship, it can ask for an additional proof of authorship or remove that model from the competition without any further explanation.

The Organiser has the right to use all 3D models submitted within the competition exclusively for the promotion of results of the competition in any form and any media. The Organiser will tend to state the name of the author, but will not be held responsible if the editorial board of the other medium does not do the same. If used for this purpose, the Organiser will be free from any charges by the authors of photographs for the competition.

## IX Protection of personal data

During the application for the competition, the Organiser will require that all participants provide their names, surnames and e-mail addresses which will be used exclusively for sending information about the results of the competition. In addition, the Organiser will require that the winners of the competition provide their unique personal numbers for the purpose of unambiguous identification.

All collected personal data will be treated as confidential and will be covered with a certain degree of cryptographic security.

The names of the winners will be used for the promotion of the winners, unless the authors, during the identification of the winners, require in writing that they should be presented by the alias they choose.

If an adequate legal procedure impugns the authorship of the award-winning models, the Organiser will keep the right to reveal the identity of the author of the award-winning model without his/her consent, after notifying the author about the initiation of that procedure and the intention to reveal the identity of the author of the award-winning model.

## **X Other provisions**

The use of any type of computer code, virus or anything that may disturb, unable, incur damage to or abuse voting is prohibited. Such actions may result in the elimination of participants of the competition and/or the prohibition of voting for the one that has violated the mentioned rules. If it is estimated or suspected that a participant manipulates the votes in any way, the Organiser will keep the right to disqualify them from the competition and disregard the votes for their models without any further explanation.

If an author is prevented from taking over the award at the organised ceremony, it will be possible to take it over from the Organiser in accordance with the agreement between the author and the Organiser. This agreement must be reached within 30 days after the official awards ceremony.

By applying to the competition, all previously stated conditions are accepted.

All complaints will be settled by the Organiser of the competition. The complaints are sent via e-mail to the contact address [a\\_madam@mkfv.kg.ac.rs](mailto:a_madam@mkfv.kg.ac.rs) until 30 June 2019. The Organiser will be obliged to consider well-grounded complaints and respond to them within 5 working days upon the expiration of the deadline for sending complaints.