**2022 国际大学生建筑设计与数字建模竞赛**

** 地理场景建模与表达方向竞赛任务书**

**一、建模与表达要求**

1、根据所选择区域的历史文化、风俗样貌及地域特点，选取能反映当地特色、经济文化发展的“一带一路”沿线铁路及站房典型景观。

2、根据选取景观与三维模型实际应用场景的特点，自主选取数据源、建模工具及表达平台；鼓励参赛者发挥创造与创新能力，自行开发插件完成模型构建与表达。在数据采集、三维建模与展示表达过程中，注重保真度与艺术性统一、模型功能与应用场景统一的原则。

3、模型覆盖范围与精度：根据参赛者面向的实际应用场景自定，但需满足如下要求，模型覆盖区域不应低于100m2、单边长度不低于5m；模型主要人工地物要素无明显缺漏、几何精度不低于5cm；模型纹理可体现真实景观，无明显缺漏。

4、参赛铁路站房景观模型内容要求如下：

（1）景观要素：以铁路站房、站台、含铁路要素的沿线典型场景等人文景观要素为主，以植被、水域等自然景观要素为辅。

（2）建模数据：包含但不限于无人机和地面平台采集的点云和影像数据；

（3）模型格式：osgb，obj，ifc，dae，dxf，kml，3ds等。

（4）实施方案：科学、创新、适用方案。

（5）建模理念：三维模型构建与展示表达应体现创新性、艺术性、实用性、科学性等设计理念。

**二、作品要求**

1、参赛作品需同时提交建模与表达方案文档，三维模型和渲染效果图。

2、采用图文及表格形式详细阐述建模与表达方案，以docx格式提交作品方案，中文使用宋体四号字，28磅行距，不多于20页、1.5万字，英文使用Times New Roman四号字，28磅行距，不超过35页，1万词。

3、以电子版三维模型提交作品，并附相应可展示平台的版本，表明构建的城镇数字化景观的主题；如自主构建三维展示平台，需同时提交平台部署文件。

4、效果图：彩色，不多于5页，A3图幅，电子版可提交jpg、png、pdf等常用格式。

**\*注：**参赛作品所采用软件不限。本次大赛组委会也推荐使用武汉大势智慧科技有限公司相关软件，包括云端地球（https://earth.daspatial.com/）、重建大师、模方、贴图大师、dasviewer等，软件下载地址为https://www.daspatial.com/cn/download，相关问题请联系刘磊（手机号：17692202215）。武汉大势智慧科技有限公司将提供限时免费使用及培训（最终解释权由武汉大势智慧科技有限公司所有）。

**2022 Belt and Road International Student Competition on Architectural Design and Digital Modelling**

**Competition Guidelines**

**(Category C: Scene Modelling and Visualization)**

**Ⅰ. Modelling and Visualization Requirements**

1. You shall choose a landscape based on the history, culture, customs, and geography of your chosen region. The landscape shall be typical of railways and stations along the Belt and Road, and reflect the characteristics and economic and cultural development of your chosen region.

2. You shall choose your data source, modelling tools, and visualization platforms according to the features of your chosen landscape and the application scenarios of the 3D model. We encourage participants to set their creativity and innovation capacity free and complete the modelling and visualization with your self-developed plug-ins. One principle is to be followed during the process of data collection, 3D modelling, and visualization: You shall pay attention to the unity between fidelity and artistry, and between the model’s functionality and application scenarios.

3. Coverage and accuracy of the model: The parameters vary according to each participant’s application scenarios. However, the following requirements must be met: The coverage area should be no less than 100m2, with the length of one side no less than 5m. There should be no obvious omissions in the main artificial surface features of the model. The geometric accuracy should be no less than 5cm. The texture of the model should be able to represent the real-world landscape without obvious omissions.

4. Requirements for the submitted landscape models of railway stations are as follows:

(1) Landscape features: mainly cultural landscapes such as railway stations, platforms, and typical scenarios characterized by railway features along the Belt and Road, supported by natural landscapes such as vegetation and waters;

(2) Modelling data: including but not limited to point cloud and image data collected by drones and ground platforms;

(3) Model formats: osgb, obj, ifc, dae, dxf, kml, 3ds, etc.;

(4) Implementation plan: It should be scientific, innovative and applicable;

(5) Modelling concepts: The 3D modelling, display, and visualization should embody design concepts such as creativity, artistry, practicability, science, etc.

**Ⅱ. Entry Requirements**

1. Your submission shall include a modelling and visualization proposal, a 3D model, and renderings.

2. Your modelling and visualization proposal shall be illustrated by text and graphics, and submitted in .docx format. If it’s in Chinese, use Song font with 14-point characters and 28-point line spacing, no more than 20 pages and 15,000 words; For English submissions, use 14-point Times New Roman font with 28-point line spacing, no more than 35 pages and 10,000 words.

3. Your 3D model shall be submitted in the electronic format, where you shall also attach a version to be visualized on given platforms, and indicate the theme of the digital town landscape you have constructed. If you have developed your own visualization platform, a configuration file should also be submitted.

4. Your renderings should be color images with no more than 5 pages of A3. Electronic versions should be submitted in common formats such as jpg, png, and pdf.

\* Notes: The software used in the entries is not limited. The Organizing Committee recommends software of Daspatial Technology Co., Ltd., including DasEarth (https://earth.daspatial.com/), GET3D Cluster, ModelFun, ModelPainter, DasViewer, etc. Download link: https://www.daspatial.com/cn/download. For limited-time free use and training, please contact LIU Lei (Cell: 0086-17692202215). Daspatial Technology Co., Ltd. reserves all rights for final interpretation.