

Professional scientific sessions for art, architecture and urban planning Thursday evenings

Held in: Conference hall of Herampey Consulting Engineers

Date: 01.08.2019

Title: Laser scanning of urban buildings and spaces.

Speakers and panel members: Mr. M. Boroumand and Mr. S. Boroumand.

The first speaker was Mr. S. Boroumand that explained what “point cloud” is. These are a complex of points or cloud that in a tridimensional space define the surface of an object through the laser scanners. The BIM (building information modeling) is a new manner to scan a building, used for design, building, exploitation or demolition of it. The BIM helps us to have all information gathered in a model, that permit us to share it with all groups involved in the project. The advantages of this program is that it permits to be gathered in a sole model, giving the optimal results. Another advantage compared with traditional systems is that it is tridimensional giving the calculation of time and cost spending. Coordination, precision and more quality, ensure time and costs savings.

Mr. Boroumand gave these explanations to introduce H-BIM system used for new buildings but useable for existing buildings (H is heritage).

H-BIM is used for historical sites and buildings, having the possibility to analyze their various aspects like architectural construction, architectural style, historical and archeological aspects. These information are used for the maintenance or renovation of the structure.

The advantage of H-BIM compared with the traditional systems is that it permits the collection of data in a platform, minimizing the errors. Mr. Boroumand explained how the system can be used and how easy is to work it with.

Talking about projects the BIM was used, Mr. Boroumand talked about the Yenghi Emam carvansarai that is considered a building situated the silk road project, under UNESCO supervision. He explained the details of this building and scanned by MPI company.

The second speaker was Mr. M. Boroumand that talked about his personal experience since he began his university studies, when the equipment used in the field were of old generation. He spoke about his professional experience with cultural heritage organization.

Mr. Boroumand presented the process of transformation occurred during the last 20 years that increased the accuracy of the devices, reducing the complexity of their use.

Mr. Boroumand talked about different projects realized in Iran using modern scanning devises and how easy was their use and at the same time how the results were accurate.

During the session the presents watched a video program that introduced the latest techniques and equipment for laser scanning of monuments, buildings and structures.

The projects that Mr. Boroumand and his colleagues worked on are the followings:

Center of Iranian architecture, Olympic Hotel in Tehran, Noushin underground city, Chitgar forest in Tehran, Yenghi Emam caravanserai, Vank monastery in Isfahan, Jenah city in Hormozgan region.