

TU Delft Geomatics Day Provides Insight into Future Careers



On Friday 22 June, some 150 people – including many current geomatics students – gathered at the Science Centre of the Delft University of Technology (TU Delft) for Geomatics Day, chaired by [Mathias Lemmens](#) (programme director of the MSc in Geomatics for the Built Environment, and senior editor of 'GIM International'). The aim of the day was twofold: firstly to allow students, alumni, other geoinformation professionals and industry members to meet, and secondly to explore how geomatics contributes to better understanding, management and shaping of the built environment. It proved to be a valuable day, connecting students and young professionals with representatives from renowned companies such as Esri, Sweco and Tensing.

In the morning session, a total of 25 students on TU Delft's MSc in Geomatics programme took to the floor to present the results of five projects. The wide range of topics of the presentations showed once again the breadth of the geomatics field. The projects varied from building a Sky View Factor web portal based on point cloud data to choosing optimal bicycle routes in urban areas. Other topics highlighted to the Geomatics Day participants included monitoring subsidence of housing using advanced sensors – focusing on the possible combination with InSAR data – and how the implementation of the vario-scale mapping technique can be improved to better meet the needs of end users of cadastral topographic data.

Real-world scenes from images

The presentation on the 3D mapping of the Floriade 2022 site also attracted significant attention. Floriade is an international exhibition and garden festival held every 10 years in The Netherlands, and the organisers wanted to be able to create a lightweight 3D model of their venue. To meet this need, the students developed open-source software called NARUX3D which converts 2D models into 3D models. Although there were still some issues with reflective and transparent materials, the overall results were quite impressive.

3D visualisation of geodata

In the afternoon, professionals from various companies and governmental organisations presented a number of innovative geomatics solutions. Some of the inspiring topics that were addressed included the combination of augmented reality (AR) with GIS, offering new opportunities for applications such as urban planning, and the impressive solutions the gaming industry offers for visualisation of the real world in addition to the fictional worlds created in video games. For example Unity, a cross-platform game engine – primarily used to develop both three-dimensional and two-dimensional video games and simulations for computers – offers great possibilities for 3D terrain visualisation of geodata.

The Municipality of Rotterdam gained a lot of attention with its presentation on the digital 3D building model of the city (the 'digital twin') which is based on data in CityGML format. The 3D city model of Rotterdam is freely available to anyone who wants to use it. The vision behind 'Rotterdam 3D' encompasses four elements: it serves as a foundation for all key registers, it is part of all primary processes, it is useful for all kinds of applicants, and it is open and exchangeable. The 3D visualisation of geodata opens up many new opportunities, such as for involving citizens in urban planning projects (co-creation), and 3D city models also have huge potential for supporting the 'smart city' concept.

Geomatics career opportunities

The participating companies also each had a small booth at the Geomatics Day venue, creating a good networking opportunity and enabling talented geomatics students to interact with potential employers. The day was successfully concluded with networking drinks, bringing students, alumni, academics, companies, governmental organisations and even the media together to reflect on the growing importance of geomatics data being visible in multiple dimensions. Days like these are always beneficial, because they provide a good indication of what is going on in the fascinating world of gathering, processing, visualising and using geographic information. After all, [where would we be without geomatics?](#)



High attendance at the Geomatics Day 2018 in TU Delft's Science Centre. (Photo: OTB TU Delft)

