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Report: First European Aerial Surveying Summit

Generating Sustainable Business for an Innovative Industry

By Michaela Neumann • January 16, 2019

Today's digital societies require a continuous supply of updated, reliable and correct geodata, and new technologies are arriving with increasing speed. The manned aerial survey is by far the main source of high-resolution geographical data in the geoinformation ecosystem. This article looks back on the first edition of the European Aerial Surveying Summit, which was held in Denmark in December 2018.

When people talk about geographical data and its creation, then satellites or unmanned aerial vehicles (UAVs or 'drones') – ubiquitous in the daily media stream – often spring to mind. Lately, mobile surveying systems have started to take on a growing role in data capture, especially in urban areas. While all these sources are playing an important part in the geoinformation ecosystem, the main source of high-resolution geographical information remains, overwhelmingly, the manned aerial survey.

require a coherent geographical dataset in the accuracy and resolution band of better than 25cm (and for engineering processes down to under 3 cm).

Many processes are already migrating to three-dimensional data. A specific example is the area of flood prediction and protection measures, where an increase in geometrical accuracy can help to prevent catastrophic events. Additionally, flood events are subject to regional influences, and updated high-resolution height models are scarce and inconsistent across national and state borders. Other areas that are increasingly dependent on high-resolution height information include 5G network planning and power transmission, both of which are crucial elements of digital societies.

drone applications are not yet suited for wide-area surveys, and mobile mapping

systems are restricted to movement along roads or rails and provide only the horizontal perspective.

Intense networking during joint Christmas dinner at COWI headquarters.

Aerial imagery market size

In terms of the size of the market, most sources agree that the global aerial imagery market currently has a value of between US$1.5 billion and US$2.3 billion, and a compound annual growth rate (CAGR) of between 11.5% and 14%. The global airborne Lidar market is estimated to generate US$1.3 billion to US$1.8 billion at a CAGR of 16-22%. With North America being responsible for 35-45% of the global share, Asia 20-30%, and Europe 15-25%, the value generation is considerable.

At the same time, and despite this impressive market size, the European aerial survey industry is facing challenges: a new wave of market protectionism and isolationism, prices spiralling downwards, tighter airspace regulations, a lack of

The state of the aerial surveying industry

From 5-7 December 2018, representatives of the European Aerial Surveying Industry gathered in Elsinore/Helsingør, just north of Copenhagen in Denmark, at the first European Aerial Surveying Summit to address market opportunities and challenges. The Danish engineering company COWI, which with its mapping division is one of Europe's major geodata suppliers, hosted the meeting, supported by the sponsorship of Hexagon, RIEGL, CAEAviation and Teledyne Optech. Exclusively dedicated to discussing the state of the aerial surveying industry, the event was the first of its kind in Europe in a long time.

Simon Musaeus, SVP of COWI's mapping division, stated: "Originally, we aspired to give a platform for communication across the sector to inform and understand the options for improving collaboration and businesses. After announcing the summit, the response from the industry was overwhelming, which indicated that we all – acquisition companies, industry suppliers and public agencies – felt a strong need to address the same issues jointly."

On a mission: gathering the data from the air.

The agenda was designed to give a holistic view of the environment and room for open discussion on all relevant aspects of today's aerial surveying industry in Europe. Denmark counts among the countries with the best-developed geodata infrastructure in Europe. Adam Lebech, representative of the Danish Agency for Digitization, opened the conference with a warm welcome note and underscored the increasing relevance of data in general to the rapidly digitizing Danish society. From

imagery and 3D programme at HWS, shed light on the reality of present-day aerial surveying data capture.

Aerial mapping of The Netherlands

Every year, a full aerial survey of The Netherlands is conducted two to three times to satisfy the needs of a growing number of users for relevant information. On the other hand, the rapidly growing demand creates considerable challenges: the data capture is often limited to a particular season (e.g. ‘leaves on’ or ‘leaves off’) and, within this time window, can only be carried out in cloud-free conditions. Imagery capture additionally requires a minimum sun angle to avoid shadows, which means operating during the busiest hours of the day. With three very active international airports, Dutch airspace is one of the densest and most strictly regulated in the world, which makes it very difficult to gain access for survey purposes. Despite the importance of geodata collection for the government, it has become clear that the air traffic control authorities and regulations are not willing to prioritize the operations. Unfortunately, this is no exception in Europe.

Strong interest at technology sessions.

Key requirements

The discussion on general topics that the industry perceives as crucial to resolve led to the highlight of the summit – a workshop at which all 50 participants identified

which would strongly support the digital societies of the future and generate sustainable business for an innovative industry in Europe:

1. European funding for a large-scale data acquisition programme for high-resolution and high-accuracy 3D data. A good example is the North-American 3DEP
2. Cooperation with and support from the civil aviation authorities to better prioritize aerial survey for the capture of geoinformation that is crucial for governmental planning processes
3. To define, maintain and promote quality, safety, ethical and business requirements for the aerial surveying industry and provide certifications that are acknowledged Europe-wide to ensure a predictable quality and delivery of the data generated in a sustainable way
4. Education of the decision-makers and the general public about the important role that high-resolution geodata from aerial survey plays on the route to digitalization.

The group of participants agreed unanimously to start the formation of an industry association. This body shall act as a professional counterpart to national and supranational funding agencies, promote the use of aerial surveying data, ensure sustainability of the services by certification, and serve as a platform for communication and cooperation among the industry stakeholders to enact positive change. The working group to prepare the formation of the association consists of Simon Musaeus (COWI), André Jadot (Eurosense), Rachel Tidmarsh (Bluesky),

2019.

The summit was brought to a positive close with words from Søren Reeberg of SDFE, who welcomed the decision and commented that positive cooperation with the industry is also expected from the public sector. The organizers and participants are now looking forward to the next European Aerial Surveying Summit later this year.

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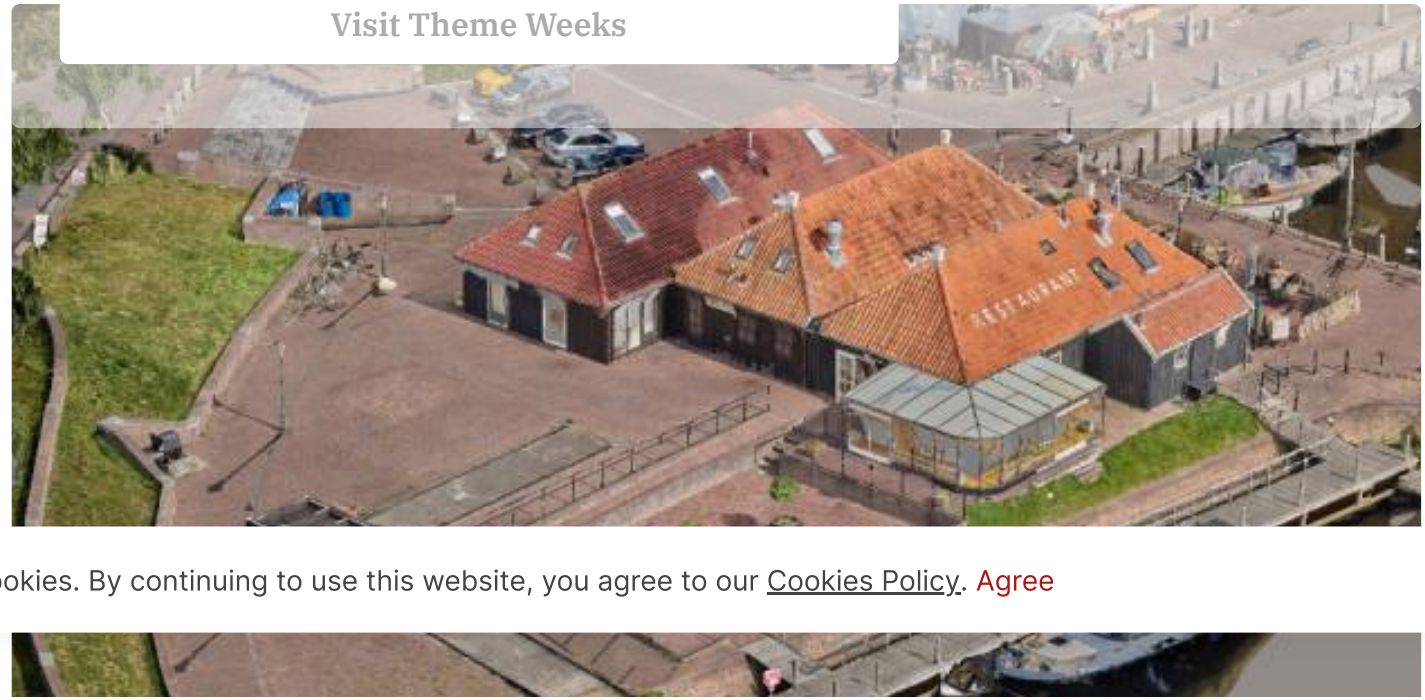

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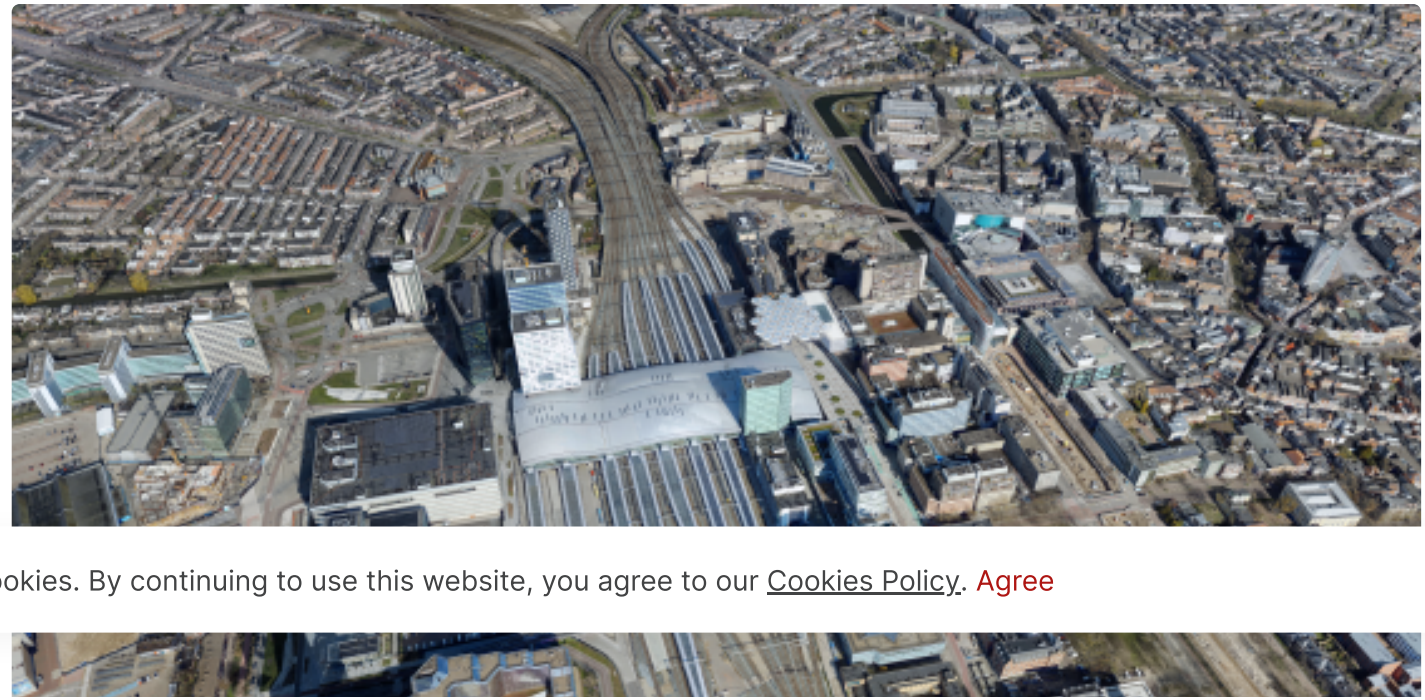

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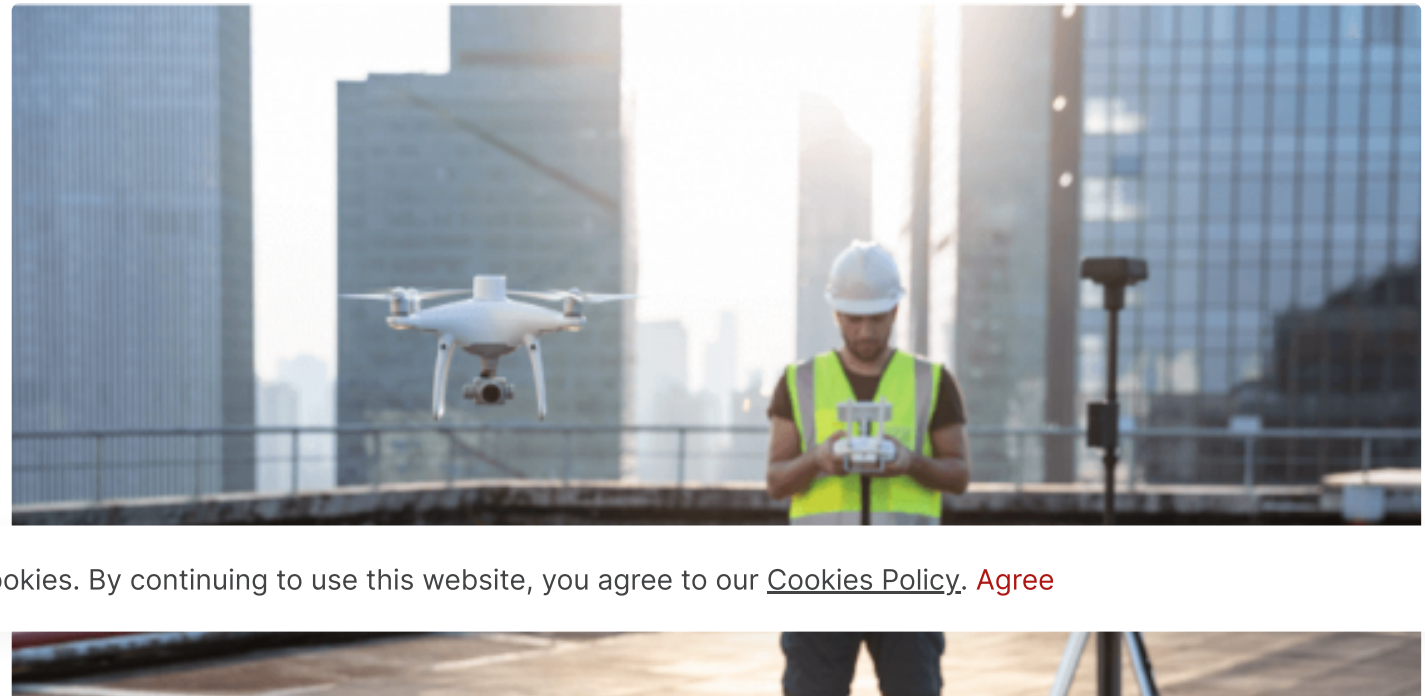

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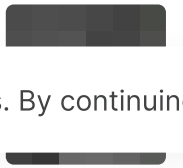

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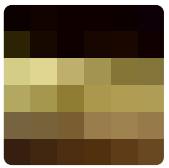

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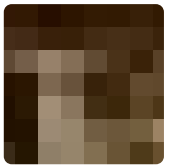

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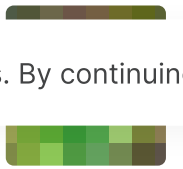

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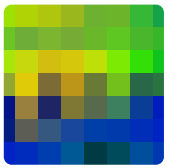

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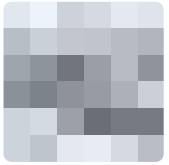

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