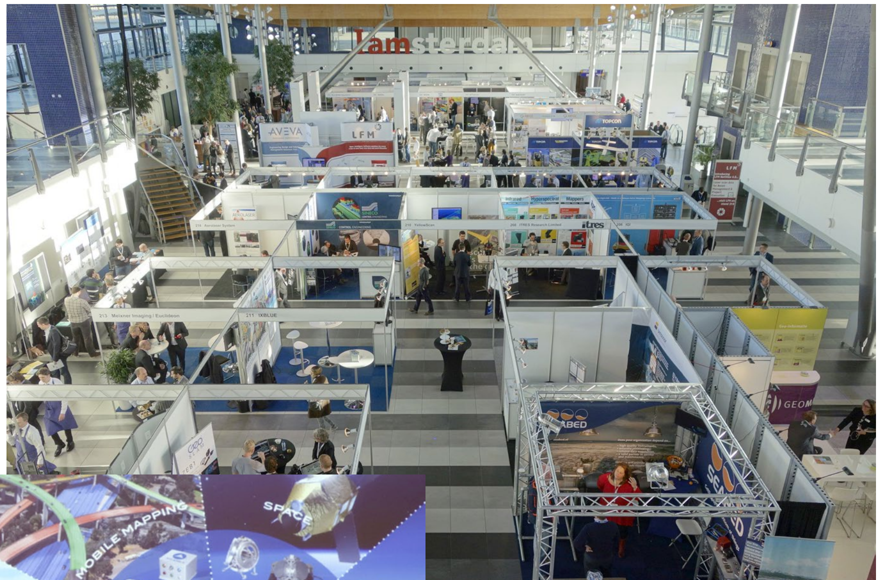
IR. JAN LOEDEMAN

SPAR-E & ELMF 2014

Like the first combined edition in 2013, the SPAR-E & ELMF 2014 events again offered a well-organized and attractive program and exhibition[1]. With 621 attendees, a 15% increase over the 2013 edition, conference director Lisa Murray said, "We heard nothing but positive comments from attendees and exhibitors."



I amsterdam: the exhibition hall with its high ceiling and large glass walls on both sides contributes to an open and light atmosphere on the ailes between the booths.

Conference Kick-off

In his welcome speech, SPAR-E's chairman Alistair McDonald predicted the current global LiDAR market will expand by a factor of nearly three by 2020. He foresees an escalating demand for 3D imaging and UAV-based sensors, resulting in revolutionizing applications.

Valentine de Leeuw from the ARC Advisory Group[2] office in Belgium kicked off the three keynotes with "State of the Market: 3D Measurement"[3]. He stated, "The simple equation 'growing urbanization = more infrastructure = more 3D scanning' represents a 'mega trend.'" With a projected compound annual growth rate of more than 11 per cent, the global market is expected to expand from US$1.5 billion in 2013 to approximately US$2.55 billion by 2018.

In one of the pre-conference product previews on Monday, iXBlue—a French player in the global markets for positioning, navigation and imaging—presented the ATLANS-C, its newest glass-fiber based IMU. See: www.ixblue.com/products/atlans-c

When relating that growth rate to the three operational scanning ranges short-middle-long, the bulk of the total market expansion will be in the relative large market segments of short and middle scanning, worth US$500–550 million each in 2013. On the other hand, the much smaller market segment of mainly aerial long range scanning will grow from around US$100 million in 2013 to no more than US$170 million in 2018.

The largest individual markets (10–15% in 2013) with the largest projected compound growth (12+% over 2014–2018) are: Automotive, Engineering & Business Services, and Aerospace & Defence. Entertainment is a small market (1.3% in 2013) but with a high growth potential, whereas the opposite holds for the tenfold larger government market.

DotProduct's Tom Greaves demonstrating the company's highly successful DPI7 hand scanner. It is a Kinect-like structured-light scanner mounted on the back of a tablet-PC.

In addition to urbanization and price erosion as driving factors, de Leeuw expects growth in structured light scanning and in synergy between scanning and 3D printing. He also identified four inhibitors. In addition to economic instability, the other three inhibitors are potential "lack ofs": in the first place a lack of experienced users, followed by a lack of trained service providers and finally, a lack of complete workflow automation. (Hey educators, wake up!)

The main issue to keep an eye on is the global technology change induced by wireless internet for real time information via cellphones and tablets, making numerous electronic devices obsolete and drastically changing the economy of scale. Therefore, the core of the market developments in 3D measurement inevitably will be in software development, with hardware becoming a commodity due to drastic price erosion according to De Leeuw.

The second keynote, by Peter van Blyenburgh, president of the global organization Unmanned Vehicle Systems International[4], based in Paris, consequently hammered home that flying devices called drones, UAVs and the like should be branded correctly as "RPAS"—Remotely Piloted *Aircraft* Systems. According to current regulations worldwide, an RPAS used for professional use *is* an aircraft by definition, irrespective of how lightweight it may be. Whether one likes it or not, when using an RPAS for airborne scanning or imaging, one must deal with aviation regulations and thus with the national aviation authority. However, Blyenburgh sighed, "When it comes to changing regulations, 'everything takes a hell lot of time in aviation' due to the need for political backing."

This ball game, he explained, is in the US strikingly different from that in Europe. The driving force for getting political attention in Europe is "job creation." Moreover, he observed that aviation regulators are more proactive with respect to civil use of RPAS than the RPAS-industry itself. He advised the audience to abandon solo actions and to form an RPAS user-community aimed at defending the most lucrative working place for RPAS-based scanning and imaging: urban areas. In Europe, the initial incremental integration of civil RPAS in aviation regulations is scheduled for 2016.

The last keynote speaker, Shabty Negri, COO of Mantis Vision[5], Israel, addressed the state of the professional

Riegle's RiCOPTER supplied with the company's 3.6 kg (8 lb) VUX-1 lidar scanner was one of several dedicated remotely piloted aircraft systems (RPAs) on exhibit. See: www.riegl.com/products/uasuav-scanning/new-riegl-vux-1/

3D scanning world in 2020 with the question “Evolution or Revolution?”[6] His answer: no changes in market segments, but the future lies with the “prosumer.” The prosumer concept, he explained, is to offer small, cheap but professionally developed high-tech 3D solutions to consumers by means of immediate online interaction. In short: the future in 3D is in the mobile apps market driven by professional-consumer synergy.

From this perspective Negri specifically referred to the introduction in 2010 of the Kinect sensor, a structured light scanner for short-range applications, as a typical example of adopting a low cost device for professional solutions. In his view, three main market drivers are: declining costs for components due to the economies of scale, software development, and web-enabled applications for cellphones. Adding 3D-printing services plus cost-effective 3D printers for the mass-market to these drivers opens an attractive inroad towards new types of users that are not part of the 3D scanning market today. Negri’s three-range picture of the future for 3D devices and services fits well into the one Valentine de Leeuw portrayed.

On the Exhibit Floor

For several reasons I spent more time on the exhibit floor compared to last year’s event. In the first place I liked to discover evidence of product trends as indicated during the keynotes. The appearance this year of the UAV—or RPAS—did not surprise me at all, but their sheer number did. Big names like Leica, Topcon, and Riegl all had their own devices on display. New to this year’s event was Dutch RPAS developer Aerialtronics[7], who shared its booth with RPAS service provider Skeye BV[8]. Both companies are seeking market opportunities in the USA.

Pieter Franken, Managing Director at Skeye BV, fully confirmed Peter van Bleyenburgh’s comments (1) that an RPAS *is* an aircraft and (2) that its professional use must be in full compliance with aeronautical regulations issued by national aviation authorities. Illegal usage of RPAS currently is a widespread occurrence, Franken commented.

The presence of RPAS definitely wasn’t the only clear token of new trends in the 3D scanning and imaging industry. Just a few examples: DotProduct’s Tom Greaves, when asked about the success of their Kinect-like DPI7 hand scanner[9], with a big smile proudly showed me a bunch of business cards: “All new leads!” NavVis, a

Riegl’s Night at The NEMO – A real highlight

As an offsite element added to the conference on Tuesday night, “Night at the NEMO” was organized by Riegl in a venue nearby the location of SPAR-E & ELMF. The NEMO—in English misleadingly dubbed “science center”—is a brilliantly-designed and set up technology museum specifically aimed at primary school kids. Even out of service with only the few guests attending the Riegl party, the museum clearly demonstrated its real virtue. Despite their age, most visitors were tempted to try the displayed experiments. Whether this reception primed the atmosphere for the upcoming dinner party, I do not know, but Riegl’s Night at the NEMO became a true SPAR-E & ELMF highlight, offering a lovely atmosphere for meeting people, which in the end is the purpose for such an event. Memories of Salzburg popped up in my mind, washing away those of the “Happy Hour” the night before.

One of the around 30 light sculptures that are on display in and along the city's many canals as part of the 2014-15 "Amsterdam Light Festival".
For a 3 min. video impression see: www.youtube.com/watch?v=jycJLDUz-Yo

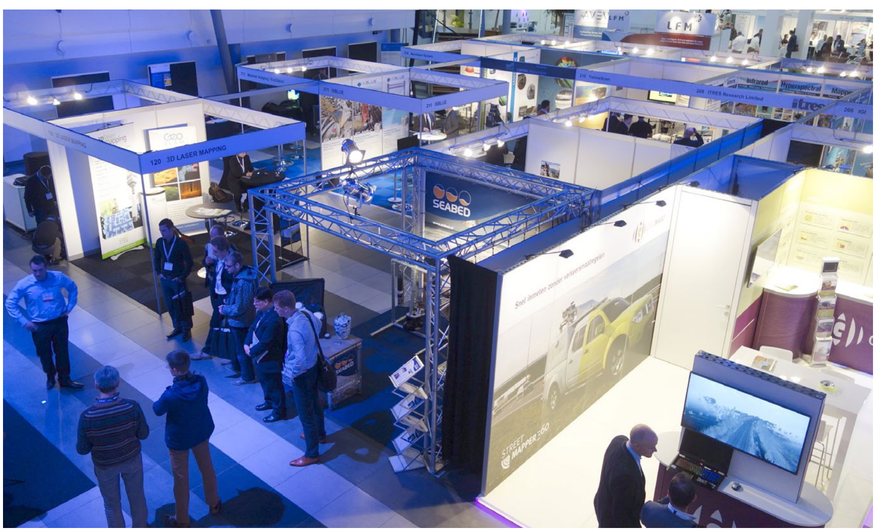
new German start-up, demonstrated their M3 indoor mapping trolley[10], an elegantly looking product functionally comparable to Viametris' iMMS[11], which was on display as well.

What I missed this year

One of my favorites, SPAR-E's "Experts' Preview," part of the Monday afternoon program during the previous events, had been skipped for undisclosed reasons. A real lack in my view. During the closing session the panel presented seven "trends and takeaways." Several are well-known from panel discussions in preceding years, amongst these smart "as maintained" models replacing traditional "as designed" models. The "BIM to scan" takeaway, based on the idea to use during a building's life cycle point clouds in combination with "as designed" models, fits in the same application domain.

What I picked-up in the lobby

I heard more than one person say, "Give us ELMF-Salzburg back!" To this someone else responded, "Should the shows be split up again?" Further inquiry resulted in the funny but illustrative statement: "This combined show is a bit like a married couple that shares everything but keeps its bedrooms separated."



Exhibition floor on Monday afternoon during one of the pre-conference indoor mobile mapping demos.

What turned out in the end

Remembering my 2013 recap subtitled "ELMF & SPAR-Europe, a promising tandem?" I became somewhat puzzled about this year's show. Attendance records were set, but compared to 2013 the exhibits were definitely less extensive, both in space and in number of exhibitors. A comparison between the 2014 program guide and the one of 2013 revealed the following figures: 41 exhibitors in total, against 50 in 2013, of which 14 were new in 2014, against 24 on the 2013 list that were missing in 2014. Based on my past experience, my question to Diversified Communications would be, "Where are you going?" And the answer is most likely, "Making it happen is a challenge." ∎

References

1 www.sparpointgroup.com/europe/conference-programme
2 www.arcweb.com/about-arc
3 www.sparpointgroup.com/news/vol12no50-whats-driving-our-market
4 uvs-international.org/
5 www.mv4d.com/about/
6 www.sparpointgroup.com/news/vol12no50-a-new-kind-of-scanning-professional
7 aerialtronics.com/contact/company-details/
8 www.skeyebv.nl/
9 www.dotproduct3d.com/DPI7.php
10 www.navvis.com/explore/trolley/
11 www.viametris.com/

Ir. Jan Loedeman is an agricultural engineer by education and recently retired from a long career in teaching surveying, photogrammetry and GIS at Wageningen University in the Netherlands. He is also a former editor of *GIM Magazine*.