



DGI 2020: GEOINT FOR THE 21ST CENTURY

Transformation and modernisation were never far from discussion as this year's Defence Geospatial Intelligence (DGI) conference and exhibition got underway at London's Royal Lancaster Hotel towards the end of January.

Despite the security and intelligence-sharing question marks hovering over Brexit and Huawei's involvement in Britain's 5G infrastructure, it was very much 'business as usual' as delegates converged on London

for what is billed as the world's leading geospatial intelligence conference. As US Secretary of State Mike Pompeo stated on his visit to the capital a few days later, the UK-US intelligence relationship would

Pictured above: More than 650 GEOINT professionals attended this year's conference and exhibition. Photos: GeoConnexion / Worldwide Business Research

remain "deep" and "strong," a sentiment that was largely shared by the 650-strong contingent of military and GEOINT experts from home and abroad that attended this popular three-day event.

Modernising FGD

As usual, the main conference was preceded by a Focus Day that, this year, chose 'Modernising Foundation Geospatial Data'

DGI Geospatial Intelligence
for National Security



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Pictured above: Left: one of the many panel sessions in progress over three days at London's Royal Lancaster Hotel (right). Photos: Worldwide Business Research / Royal Lancaster London'

as its theme. The term (FGD) applies to varied source data that are integrated, error-corrected and correlated for operational use.

The morning session featured guest keynotes from Vanessa Lawrence C.B., and Anthony Vinci. The former, a past Director General of Britain's Ordnance Survey and currently geospatial advisor to the World Bank Group, explored how better quality FGD could transform future operations while Anthony Vinci, Technology Leader with Bridgewater Associates and a former CTO for the US National Geospatial Intelligence Agency (NGA), looked at the economic opportunities and challenges for the GEOINT Enterprise.

A twin-track afternoon programme concentrated on leveraging commercial innovation and on applying automation, AI and ML respectively. Outsourcing, Public-Private Partnerships, accountability and responsibility were just some of the topics under discussion in a dozen presentations. These concluded with a panel session in which representatives from the NGA, USGS, the UK's National Centre for Geospatial Intelligence (NCGI) and the EU Satellite Centre (EUSATCEN)

debated how best to drive forward innovation in modernising FGD.

Leveraging geospatial

'Leveraging Geospatial Intelligence to Enhance Security and Defence' was the theme for the opening day of the main conference, co-chaired by John Kedar, Geospatial Strategy Advisor and Ingrid Vanden Berghe, Chief of Belgium's National Geographic Institute.

The event opened with Lt. Gen. James Hockenfull, Chief of Defence Intelligence at the UK Ministry of Defence (MoD), setting out the three key challenges for defence intelligence. "We are trying to expand our horizons of how the enterprise works; make sure that our customers are provided with what they need at the right time, and move from being an organisation that has been historically based on single subject experts (who carry much of that knowledge in their heads), to a much more integrated, data-centric enterprise."

How those challenges are being addressed was described in two subsequent keynotes that reported on how GEOINT organisations in the US and

UK are being transformed to tackle new threats. In the first, NGA Director, Vice Admiral Robert Sharp, made his debut at DGI by reaffirming the need for strong transatlantic ties. "We need each other, and meaningful partnerships are the key to success in dealing with the challenges and opportunities that our nations are facing."

A fast-changing world

Since his appointment in February 2019, Sharp has forged ahead with organisational changes initiated by his predecessor, Robert Cardillo, not least with NGA's outreach to industry and academia. He emphasised the need for ongoing improvement. "Each and every day is an opportunity for us to think through how we can be better. The world is changing fast, and for us to be the best at what we do, we need to change faster and better than anyone else."

In answer to a question from the floor, Sharp agreed that we have become too reliant on GPS for assured Position, Navigation and Timing (PNT) functions and that a shortfall of talent in this discipline was a cause for concern, but that alternatives were being explored.

A UK perspective on organisational transformation was presented by Brigadier Chris Middleton, Commander of the National Centre for Geospatial Intelligence (NCGI) at RAF Wyton.

Again, little more than a year had elapsed since his appointment as the Centre's first commander but much had been accomplished. The identified need to re-boot innovation, to reinvent internal and external relationships, and to keep pace with change by rebalancing skills, had been tackled in what Middleton described as a process of "deliberately-initiated destructive change".

Fundamental change

Going forward, the need to exploit a greater range of data sources, to integrate disciplines and to adopt new technologies



(From L-R): Keynote speakers Vice Admiral Robert Sharp, Brigadier Chris Middleton and Dr. Lisa Porter at the rostrum. Photos: GeoConnexion.

would, he said, be critical. “But above all, what we are looking to do at the NCGI is to fundamentally change the relationship between people, data and technology and bring them as close together as we possibly can.”

In pursuit of this, requirements managers are being deployed across all NCGI disciplines. These sit alongside and work with analysts to instil quality into the system across all domains. A single cross-discipline Operations Centre has been established to get the bigger picture and set priorities while, in the pipeline, is a new Data Office that will make the Centre’s data library more accessible and deliver data in the right format as and when needed. Not least, the NCGI will increase points of presence across its customer base to more quickly and clearly understand needs and deliver bespoke solutions that confer an edge.

Modernising its defence-wide R&D effort was the topic addressed by Dr. Lisa Porter, Deputy Under Secretary of Defense for Research and Engineering at the US DoD. This modernisation is being pursued against a background of emerging kinetic and non-kinetic threats from the likes of Russia (e.g. the Avangard HGV), North Korea (ICBM developments) and China (strategic competition and cyberthreats) ... all of which point to a return to Great-Power Competition.

Laser focus

Those threats are spelt-out in the summary to the 2018 National Defense Strategy¹. And while Secretaries of Defense have since come and gone with alarming regularity, Porter said there had been a consistent laser-focus on enacting its recommendations, including reform of the Department for greater performance and affordability.

Porter was candid in stating the Department’s need for modernisation. “Frankly, our current architecture predated emerging threats such as hypersonics, space and cyber ... all of which are now contested environments that call for timely and persistent surveillance”.

To partly rectify this shortcoming, the Department has established a new Space Development Agency (SDA) and is implementing what Porter calls a ‘proliferated architecture’ with a particular, although not exclusive, focus on how constellations of Low Earth Orbit (LEO) satellites can support space-based activities such as missile detection, communications and global navigation.

“We are aiming for a point where we have true persistence and can react in a timely fashion to very advanced threats,” said Porter, who went on to outline some of the spin-off benefits of a proliferated architecture, including much improved resilience in a contested environment, greater agility in developing new capabilities, and closer

collaboration with industry partners.

Packed programme

In total, more than a score of keynote speeches and some 50 panel sessions, practitioner and innovation case studies, workshops, fireside chats and leadership discussions were included in a packed programme over the three days. A ‘Dragon’s Den’ session gave participants the opportunity to predict what new GEOINT game changer technologies might be waiting in the wings, while a ‘Women in Intelligence Lunch’ co-hosted by Abigail Page, International Adviser to Britain’s Geospatial Commission and Ingrid Vanden Bergh, Head of Belgium’s national mapping agency and a former president of EuroGeographics, attracted more than 40 to a sit down lunch, networking session and discussion.

As always, industry was well represented at the event, with principal sponsor, Esri, joining some 45 other companies to showcase their solutions both on stage and in an accompanying exhibition.

In a change of venue for 2021, the DGI Conference and Exhibition will be held at the InterContinental London – The O2, from 1-3 February. More details from organisers Worldwide Business Research at: <https://dgi.wbresearch.com/>

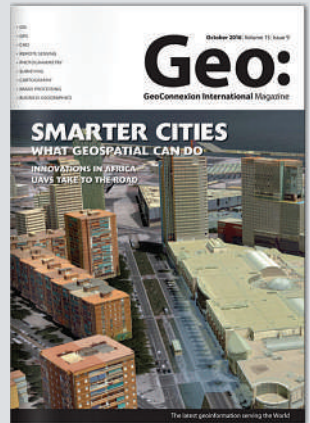
¹ <https://dod.defense.gov/Portals/1/Documents/pubs/2018-National-Defense-Strategy-Summary.pdf>

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