



Future-Sat AFRICA

DIGITAL SKIES - EVERYONE CONNECTED

Addis Ababa, Ethiopia, 4th-6th October 2016



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FUTURE-SAT AFRICA REPORT 2016

INTRODUCTION

by Adrian Hall, COO Extensia

When we were first invited to organize a summit focused on the satellite sector, we were unsure if this was the right thing to do. Most of the talk in Africa at the moment is on fibre deployment, TV Whitespace, 3G/4G, LTE etc. so why would we organize an event around a technology that many people see as the 'old solution' to Africa's connectivity needs. Surely, in today's advanced connectivity agenda, satellite is only used to reach the parts other technologies cannot reach? Yes it is true that fibre cannot reach everywhere. Even now, 54% of the population of sub-Saharan Africa still live at least 25km from the nearest fibre node.

But over the course of coordinating the agenda for this summit, we came to realise, that the satellite sector has many tricks up it's sleeve to ensure it remains as essential to supporting the future of Africa's connectivity agenda as it has been to the past.

SMART Cities, Connected Communities, Digital Governments and Millennium Development Goals are all key drivers for improved connectivity. Ironically, rural communities, humanitarian agencies, health workers, schools and remote workers are among those for whom, improved connectivity would bring the biggest advantage and yet these are the people who are not being reached.

The reality is, there will never be, a single solution to Africa's connectivity needs.

When you lay fibre, it is essential to ensure that redundancy is in place, to prevent extended service interruption, in case of fibre cuts or breakage. Satellite is a perfect solution for this.



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While GSM mobile is by far the most prolific technology in Africa, true, uninterrupted mobility is disrupted by geographical black spots and restricted network coverage. In these instances, satellite can support terrestrial networks to fill gaps, provide reliable redundancy and backhaul and provide the only solution to providing affordable access solutions to sparsely populated areas. The integration of technologies, and the development of heterogeneous networks which incorporate the best solution for the best situation is essential to providing reliable, robust and affordable services.

Over the 3 days of the Future-Sat Summit, we heard from the leaders of the global satellite sector, that connectivity needs can be resolved, not just with satellite, but at least by incorporating satellite elements to wider connectivity needs. Satellite is not the only solution, it is not the best solution to solving the puzzle of Africa's connectivity agenda but it is the best solution in the right environment.

We look forward to walking with Africa's ICT leaders on their journey to ubiquitous connectivity and hosting future events which will continue to guide, connect and engage.



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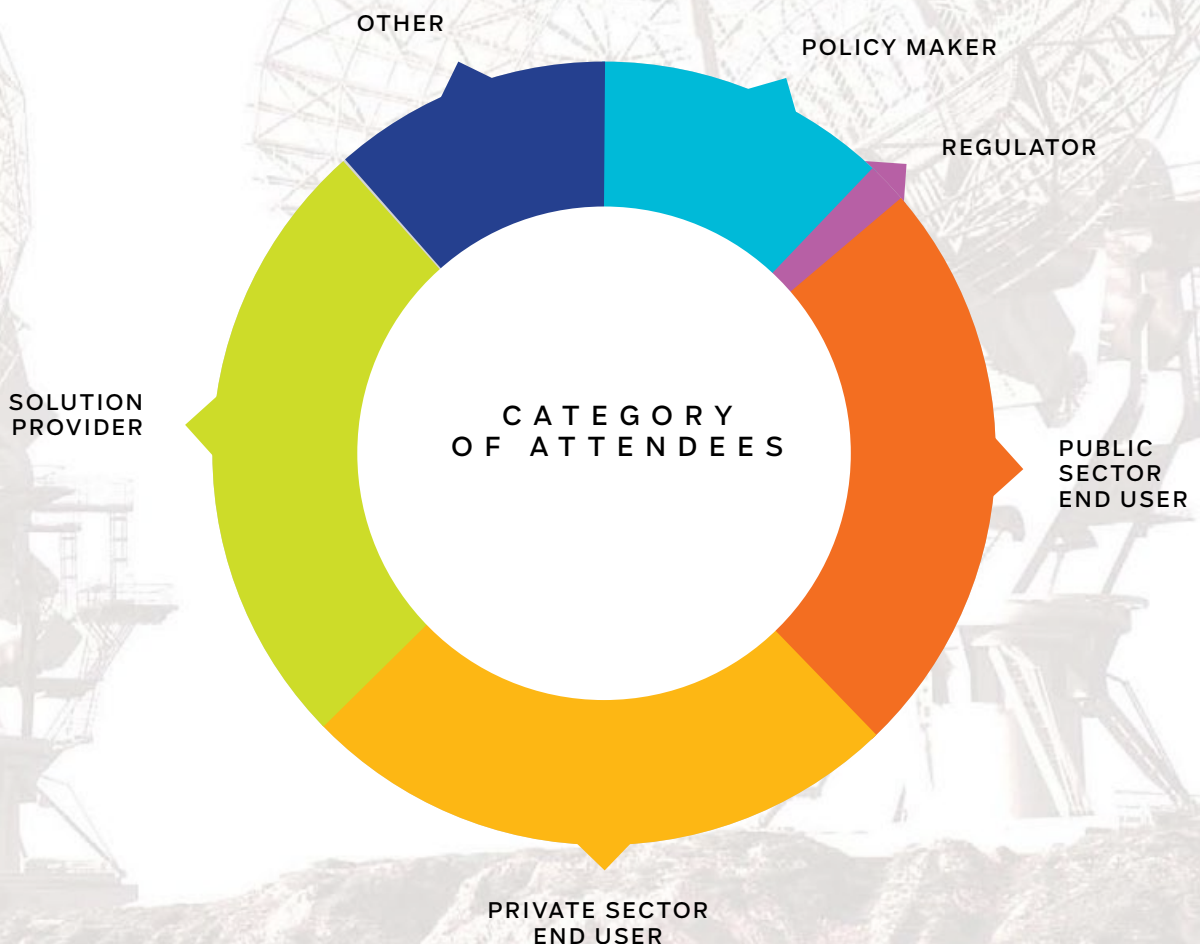


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FUTURE-SAT AFRICA 2016: A WORLD ON OPPORTUNITY, A REGION OF CHANGE

by Madanmohan Rao, Conference Chair

Over 270 delegates from 124 individual organisations across 28 countries (of which 17 are African nations) gathered in Addis Ababa for the inaugural Future-Sat conference. They engaged in three days of discussion and collaboration on Africa's satellite industry, its impacts and future directions. Countries represented included: Angola, Belgium, China, Egypt, Ethiopia, France, India, Italy, Israel, Kenya, Mauritius, Morocco, Mozambique, Namibia, Nigeria, Rwanda, Senegal, Singapore, Somalia, South Africa, Spain, Sudan, Tanzania, UAE, Uganda, UK, USA, Zambia



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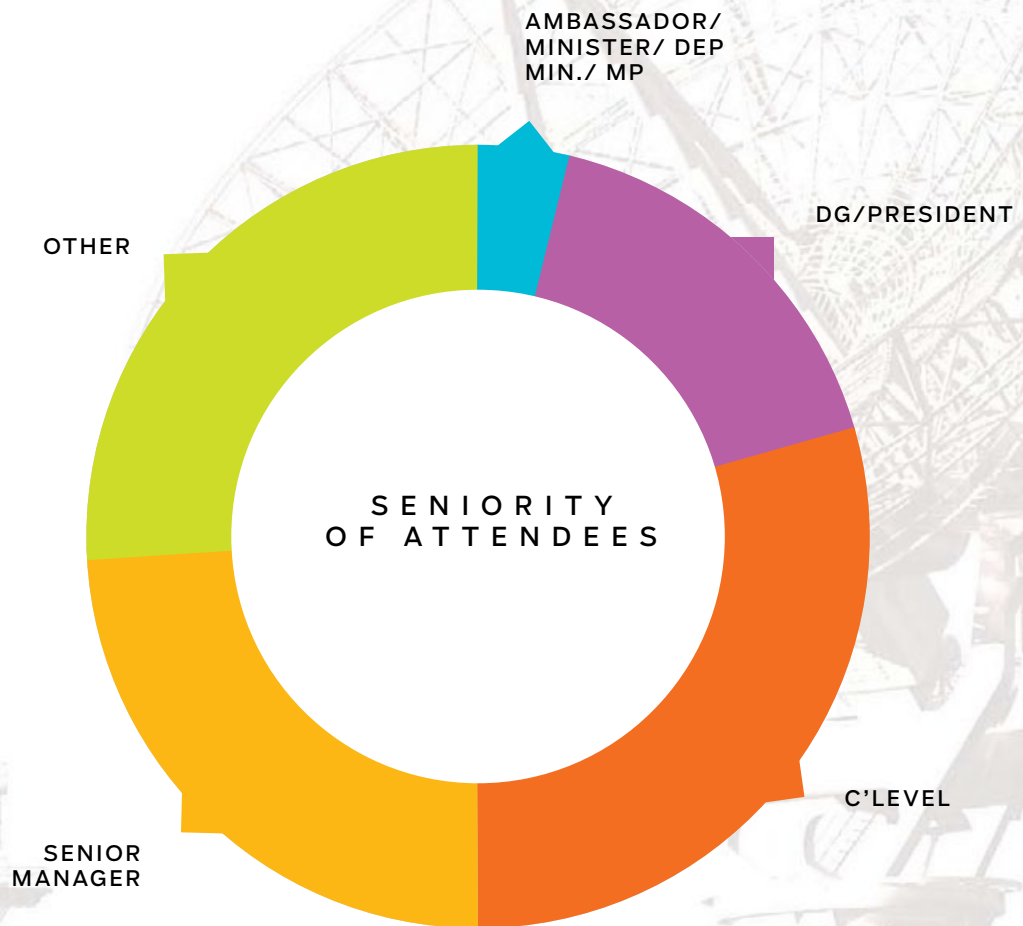
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We enjoyed insights from 70 speakers who delivered 21 sessions including 2 workshops and a Round Table session. Case studies were presented from across the region: iMlango school project in Kenya; UNSAF project for schools in Tanzania; National Library Project in South Africa; Media Library Network of Angola; AIESEC youth leadership (Ethiopia); and CIF microfinance network (Burkina Faso, Togo, Benin, Senegal, Mali). Major emerging initiatives include OneWeb, with 648 LEO satellites slotted for full service in 2020.





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Here are ten important takeaways and calls to action from the conference track of Future-Sat 2016; they will also be addressed in future editions of the conference. In addition, attendees expressed a desire for the next edition of the conference to address topics such as hybrid networks, Smart Africa, USOF, converged business models, deep-dive case studies of satellite in multiple sectors, licensing agreements, industry forecasts and market rules.

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1 TECHNOLOGY EVOLUTION

New waves of technologies are redefining how governments and industry can partner to deliver services. Tech sectors are evolving rapidly in parallel, as well as converging and colliding with other sectors. This makes satellite 'defensive' in some areas of disruption (eg. spectrum allocation for mobile), as well as an industry leader in others (eg. disaster response solutions, geographical mapping, deep space communications).

It is important to understand that ICTs offer complementary capabilities, and governments need to adapt their plans to ecosystem-thinking. There will always be multiple connectivity options for affordability and access.

2 IMPACTS

ICTs have improved business and education, and can help tackle corruption via transparency. There needs to be more sensitisation on the role of satellite in connecting the unconnected, eg. RascomStar in DRC. Satellite helps cover areas hard-to-reach by terrestrial, eg. remote deserts, mountains.

In humanitarian emergencies, communications means information, connection and life. Satellite emergency communications transform aid delivery and save more lives, eg. during the Ebola crisis. The UN Crisis Connectivity Charter has been put together by nine satellite companies, with clear points of contact for each satellite operator (see www.ETCluster.org). Signatories now include GVF, SES, IntelSat, ArabSat, HispaSat, Thuraya, YahSat, Eutelsat and Inmarsat.

Analytics helps understand, monitor and improve logistics during disaster responses. The satellite sector is ahead of any other private sector in achieving a formal charter with the UN and NGOs for disasters.



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3 SPECTRUM PROTECTION

Mobile operator spectrum is important but should not be allotted at the cost of vital satellite services. The GVF and SSI initiatives are protecting the interests of the satellite sector and end-users in this regard (see www.satellite-spectrum-initiative.com).

There are numerous real cases of interference from deployment of wireless systems in C-band. The relationship between satellite and terrestrial wireless should be collaborative, not antagonistic.

4 SECURITY AND RESILIENCE

The 'new Africa' is witnessing rapid mobile growth – but cybercrime is rising faster here than anywhere else in the world. Companies and countries need to draw up their telecom threat map and devise appropriate response strategies. Categories of cybersecurity preparedness include legal, tech, organisation, capacity building, and cooperation.

Capacity building in security includes IT security, digital forensics, university courses, and industry-academic cooperation. Satellites provide cyber-resilience and data connectivity backup to millions. Unfortunately, satellites have also become a battleground as countries jam each other's signals.

5 BUSINESS MODELS

There is an important need to find 'triple-win' success in wireless communications: for the operator, government and community. More cross-cutting cooperation is needed within the satellite sector and with others externally, eg. Airbus has become first industrial partner of the African Space Programme

All available technologies need to be roped in to offer complementary services, but more creativity is needed in business models and value exchanges. Policymakers, regulators and industry need to be aware of the whole ecosystem of communications and collaborate on new frameworks; the old ways of industry activity are not working.



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6 CUSTOMER NEEDS

Industry and government need to focus on what the B2C and B2B customers want from their communication services. These service parameters include availability (any time), accessibility (any place/device), and affordability (price).

There are still big digital gaps in Africa. Over 340 million people in Sub-Saharan Africa need to travel 50 kilometres to access the Internet. Satellite can help bridge this gap, and offer relevant services and efficiencies to farmers via IoT, e.g. automated reporting to reduce costs, reduced field travel costs, and improved safety.

7 ACADEMIC RESEARCH AND CAPACITY BUILDING

More satellite data needs to be shared with academics and NGOs to come up with case studies and stories of satellite use, eg. during disasters. Policies from different regimes need to be harmonised; this calls for better collaboration between government, industry and academia.

Courses need to be developed to train the next generation of Africa's engineers and policy makers in this converged digital world. Local research and curriculum will help identify needs, aspirations and solutions unique to Africa's context.

Africa has a huge youth dividend; government and industry should help youth unlock a better future. The next generation of youth leaders should be world citizens, self-aware, empowering others, and solution oriented. Youth are looking out for such opportunities via experiential learning, volunteering experiences, professional internships, and study tours/exchanges.



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8

ENTERPRISE COMPUTING

The SMAC stack (social, mobile, analytics and cloud) is transforming enterprise computing and business services delivery. The corporate and government CTO needs to include satellite as a resilience strategy.

More enterprises will move to cloud. There are 50 different cloud regulations in countries around the world, and enterprises operating on a pan-African basis need to master this growing complexity to serve their own communication needs.

9

METRICS

A mix of quantitative and qualitative metrics is needed for Return on Investment (RoI) calculation and forecasting, e.g. banking metrics (improved money access, higher revenues, FDI), education metrics (increased literacy, higher incomes), broadcasting metrics (advertising revenues, social cohesion, more channels) and humanitarian metrics (faster/better response to re-build damaged communities, control of refugee crisis, social development).

RoI should focus along the entire value chain and contact network: users, operators, distributors, and government. Satellite investments are huge, hence some RoI measures may take long, but deliver significant value to investors and stakeholders. It is estimate that a 10% increase in broadband penetration correlates to 1.38% increase in GDP. Social capital metrics are also important, e.g. stories and multi-media capture of ICT4D in action, such as telemedicine & cataract detection.



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10 NATIONAL AGENDAS

Case studies were presented of national ICT initiatives such as EthERNET (Ethiopia Education and Research Network) and Entoto Observatory. Such initiatives need to be interlinked and scaled up, e.g. EthERNET is peering with SudREN, KENET, and SolmaliREN.

The Ethiopian Space Science Society is promoting space science/tech in Ethiopia and east Africa. Space science can help Ethiopia in land resource monitoring, precision agriculture, watershed management, regional planning and development.



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THE ROAD AHEAD

Africa is poised to reap satellite benefits, thanks to its vastness, resources and sectoral strengths. Africa has 45% mobile penetration, and will reach 54% by 2020; satellite will help mobile operators reach this goal. An estimated 89% of African households are still not connected to Internet; low-cost site economics is key to connecting them.

Digital service development is taking place in the total satellite industry value chain. For example, Climate Corporation used satellite data for agricultural projections; it was bought by Monsanto for a billion dollars. But it is no longer true that content and application development only takes place elsewhere outside Africa; there is a lot of regional content creation as well.

Emerging trends include HTS (high-throughput) satellites, and fibre-like capacity with O3B. Terrestrial fibre bridges the digital divide between West and Africa, but not between urban and rural Africa – satellite will play a major role here.

Governments need to master the new telco ecosystem, which is different from everything before. As per ITU recommendations, African governments need to ensure transparent and predictable regulatory regimes, safeguard development, manage scarce resources, and clearly define targets. Emerging policy best practices are blanket licensing for VSATs, frequency co-ordination, and harmonised standards.

Governments should adopt and adapt best practices, but not blindly copy experiences from other countries. National agendas and plans can provide targets and stimulus for the industry, eg. broadband penetration, sectoral impacts.



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Satellites seem to be at the fine line between science and science fiction, especially as the first major technology to help create real-time global consciousness. Satellite is big business, satellite data is big business as well.

In sum, the satellite industry has tremendous opportunity ahead in redefining and revitalising itself in the emerging 21st century communications landscape.

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INTELSAT
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YahClick, Africa's #1 satellite broadband service is expanding its footprint across Africa adding an additional 19 countries with the launch of Al Yah 3 in early 2017.

YahClick's connection has been utilized by a wide range of industries including governments, large enterprises, educational institutions, NGOs, SMEs and home users across the continent. The service has been the answer to those frustrated with the lack of a reliable high-speed internet.

To find out more, or to become an official YahClick Service Partner, please contact us on africa@yahsat.ae

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SUMMIT PRESENTATIONS

- Future Sat Africa - GVF, Satellite Spectrum Update
 - Future Sat Africa - AFRINIC Overview
- Future Sat Africa - Gondwana - Affordable Mobility
 - Future Sat Africa - GVF - Return on Investment
 - Future Sat Africa - The Egyptian Satellite Company
- Future Sat Africa - The Role of Satellite in Connecting the Unconnected
 - Future Sat Africa - Ethio Telecom
- Future Sat Africa - SES Effective Policy and Regulation for Satellite
 - Future Sat Africa - Skyvision Maximizing Return on Investment
 - Future Sat Africa - Thuraya Affordable Mobility
- Future Sat Africa - Space Applications for Sustainable Development of Africa
 - Future Sat Africa - OneWeb overview
- Future Sat Africa - NuRAN Wireless Business Case for 2G in Rural Africa
 - Future Sat Africa - Satellite Licensing and Regulatory Expertise
 - Future Sat Africa - Satellite Network Reliability
 - Future Sat Africa - Effective Policy and Regulations for Satellite
 - Future Sat Africa - Crisis Connectivity Charter
 - Future Sat Africa - Emergency Telecommunications Cluster



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FEEDBACK

‘Very Exciting, Organised perfectly’

(Advisor to the Minister, MCIT Ethiopia)

‘Very informative and well organised’

(MP, National assembly Namibia)

‘Thank you for the perfect organisation of the FutureSat Summit : It appears to us it was a big success, especially as it was its first edition.’

(Director Africa, Airbus Defence and Space)

‘I found the event very useful and it was a big success.’

We need a bigger presence at this event’

(SVP Global Regulatory and Governmental Strategy, SES)

‘Very useful content and good speakers’

(VP Africa, Eutelsat)

‘Very pleased with the conference’

(Marketing, Business Development, Thuraya)

‘Very Informative and challenging’

(Head of procurement, NCC Nigeria)

‘I enjoyed the varieties of the focuses, it was very valuable to be able to gather insights from all the speakers’

(Senior Telecom and Regulatory expert, MCIT Ethiopia)

‘On behalf of the entire GVF team at the FutureSat Africa Summit, my thanks and sincere congratulations on an extremely well executed event.’

(Chief International Programme Development, GVF)

‘The event was very good’

(Founder, GlobalTT)

‘Congratulations for the very profesional organisation and the success of the event’

(President, Holistic Innovation Institute)

‘It was very good and productive in that it touched both technological and policy issues’

(Head of IT, Save the Children)

‘Terrific experience of Learning and sharing from the right people within companies specialised in ICT and Satellite.’

(Senior Professor, Ethiopian Universities Partnerships)

‘Well Organised’

(Executive committee member, Hormuud Telecom)

‘Excellent!’

(Country Director, AIESEC)



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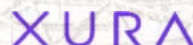
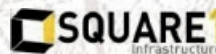


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EXTENSIA BRIDGE ADDRESS CLIENT'S NEEDS AND CHALLENGES WITH THE BEST IN CLASS SOLUTIONS

Extensia have leveraged our unique position to partner with the most relevant solution providers to address Africa's development objectives. We constantly assess the market for the most innovative solution providers and we Bridge the early stage discussions between 'Buyer and Seller' to ensure a good fit. Extensia partners include:



Extensia Bridge Partners provide innovative solutions in the areas of:

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- Network Security ● Messaging ● Training ● Consulting ● Analysis
- Digital Libraries ● mGovernment and much more.

Extensia Bridge in house consultants can aid your procurement processes, translating your objectives into workable roadmaps and managing your vendor selection processes where required.

Contact Adrian Hall: ah@extensia-ltd.com +44 (0)7876 351 005





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LETTER OF ENDORSEMENT

AS THE SINGLE and unified voice of the global satellite industry, GVF (the Global VSAT Forum), an independent, non-partisan and non-profit organisation with 200+ members from more than 100 countries, was delighted to collaborate with Extensia Limited, and the Ethiopian MCIT, in the development, preparation and delivery of the 2016 Future-Sat Africa Summit.

The Forum – which is headquartered in London and brings together organisations engaged in the delivery of advanced broadband and narrowband satellite services to consumers, and commercial and government enterprises worldwide, a broad-based membership representing every major world region and every sector of the satellite industry – was pleased to bring to the Summit not only its advice on details of programme content during the planning stages of the event, but also to contribute to the line-up of speakers with representatives of its Secretariat and of its network of Correspondents around the world.

This first iteration of Future-Sat Africa was an outstanding success in terms of the quality of the programme, and the quality and quantity of the range of invited stakeholders present in the audience – an audience that was fully engaged throughout the duration of the programme.

Following this successful result GVF is pleased to confirm our collaboration with Extensia Limited for the 2017 Future-Sat Summit.

GVF is very happy to have had the opportunity to work with the excellent team from Extensia Limited all of whom were continually open and receptive both to ideas and to recommendations as to potential contributors from the member organisations of GVF.

The Extensia post-event report, written by Madanmohan Rao, the Summit Chair, is an excellent reflection and analysis of the 2016 event and amply illustrates that the 2016 Summit has established an profoundly important benchmark for the development of the next Summit is what GVF hopes will be an ongoing annual series.

David Hartshorn

Secretary General

GVF

