THE POWER OF WHERE –
THE VALUE OF GEODESY TO SOCIETY
Moderator
Mr. Nicholas Brown
Co-Chair, UN-GGIM Subcommittee on Geodesy

Opening Address
His Excellency Ambassador Peter Thomson
UN Secretary-General’s Special Envoy for the Ocean

Safer and more resilient communities
Dr. Tulu Besha Bedada
Director General, Geospatial Information Institute, Ethiopia

Economic benefits from investment in geodesy
Dr. Martine Woolf
Leader of Positioning Australia program, Geoscience Australia

Our lifestyle is improved by geodesy
Prof. Paul Becker
President of Federal Agency for Cartography and Geodesy, Germany

Sustainable development has geodesy at its core
Mrs. Paloma Merodio Gómez
Vice President of the National Institute of Statistics and Geography, Mexico
As a mother, I know the pain of losing your unborn child.

but GPS allows healthcare teams to visit the women wherever they are.

Dahabu devised a plan to use GPS trackers to keep pregnant women...

Now we have located pregnant mothers in rural areas, let's go visit them.
“Science of measuring the shape, orientation and gravity field of the Earth and how it changes over time.”
Sustain the entire value chain

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Source: Production Transmission Access Application

- COAL / SUN
- POWER PLANT
- POWER LINES
- HOME SUPPLY
- CHARGED PHONE
Sustain the entire value chain

Source Production Transmission Access Application

COAL / SUN POWER PLANT POWER LINES HOME SUPPLY CHARGED PHONE

GEODEalic INFRASTRUCTURE IAG SERVICES

The Power of Where
Sustain the entire value chain

Source Production Transmission Access Application

- COAL / SUN
- POWER PLANT
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- HOME SUPPLY
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Source Production Transmission Access Application

- GEODETC INFRRASTRUCTURE
- IAG SERVICES
- INTERNET
- SATELLITES
- LOCATION ENABLED
THE POWER OF WHERE

Opening Address

*His Excellency Ambassador Peter Thomson*
United Nations Secretary-General's Special Envoy for the Ocean

Global Geodesy Ambassador
THE POWER OF WHERE

Environmental monitoring for safer and more resilient communities

Dr Tulu Besha Bedada
Director General of the Geospatial Information Institute, Ethiopia
If you can’t measure it; you can’t manage it.

Source: Dr Anna Riddell, Geoscience Australia
Safer, more resilient communities need geodesy

2011 JAPANESE TOHOKU TSUNAMI
28,000 killed

Geodesy improves predictions of tsunami size and impact area to provide early warning information used to optimise evacuation routes, minimise crowding and panic.
COORDINATE REFERENCE FRAME

Source: Digital Globe
Safer, more resilient communities need geodesy
Safer, more resilient communities need geodesy

Geodesy is used to improve weather forecasts
- GNSS data can lead to forecasts of the same accuracy 10 hours earlier

(Status in 2016)
Safer, more resilient communities need geodesy
Safer, more resilient communities need geodesy
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Economic benefits from investment in geodesy

*Dr Martine Woolf*
Leader of the Positioning Australia program, Australia
Reliance on geodesy

• The loss of GPS service would average a $USD 1 billion per-day impact to the United States alone.

• The economic impact to the UK from a loss of GNSS is $USD 6.7b every 5 days

Source: NIST, 2019
Source: London Economics, 2017
Economic benefits from investment in geodesy

Cumulative Revenue 2019-2029 by segment

- Consumer Solutions: 38.3%
- Road: 55.0%
- Other: 6.7%
- Geomatics: 2.4%
- Agriculture: 1.4%
- Rail: 0.3%
- Spacecraft: 0.3%
- Manned Aviation: 0.5%
- Maritime: 0.6%
- Critical Infrastructures: 0.5%
- Emergency Response: 0.1%
- Total: €170 bln

Total: €2,525 bln

Source: GSA Market Report 2019
Economic benefits from investment in geodesy

“Accurate and reliable positioning for everyone”

Positioning Australia program will deliver:
1. 10 cm accurate positioning service across Australia and its maritime zones
2. 3-5 cm accurate positioning service in areas with mobile phone coverage
3. Open source tools and software to deliver positioning and navigation services
4. Enabling business and industry to use positioning and navigation services
Economic benefits from investment in geodesy

$225 MILLION INVESTMENT

$6.2 BILLION BENEFIT
Effective land management is based on geodesy.

Source: GSA
Economic benefits from investment in geodesy
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Our lifestyle is improved by geodesy

Professor Paul Becker
President of Federal Agency for Cartography and Geodesy, Germany
Our lifestyle is improved by geodesy
Our lifestyle is improved by geodesy.
Our lifestyle is improved by geodesy
Our lifestyle is improved by geodesy

I do not need a drill.
I need a hole in the wall

Source: Medium (2018)
Source: Kreezalid
Our lifestyle is improved by geodesy

Source: RFDS
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Sustainable development has geodesy at its core

Mrs Paloma Merodio Gómez  
*Vice President of the National Institute of Statistics and Geography, Mexico*  
*President of UN-GGIM Americas*
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Sustaining the geodesy value chain

Mr Nicholas Brown
Director of National Geodesy, Geoscience Australia

Co-Chair UN-GGIM Subcommittee on Geodesy
We need to work together to sustain the geodesy value chain.
Sustain the entire value chain

Source Production Transmission Access Application

COAL / SUN POWER PLANT POWER LINES HOME SUPPLY CHARGED PHONE

GEODETIC INFRASTRUCTURE IAG SERVICES INTERNET SATELLITES LOCATION ENABLED

United Nations Committee of Experts on Global Geospatial Information Management
Subcommittee on Geodesy

Positioning geospatial information to address global challenges ggim.un.org
SUBCOMMITTEE ON GEODESY VISION
An accurate, sustainable and accessible Global Geodetic Reference Frame to support science and society

Geodetic Infrastructure (France)

Sustainable and Enhanced GGRF

Policies, Standards and Conventions (Australia)

Education, Training and Capacity building (Sweden)

Outreach and Communication (Norway)

Appropriate Governance (Norway)
Addressing the issues

Strategy and Action Plan to sustain all the elements of the geodesy value chain

Dedicated people focussed on improving collaboration and coordination amongst the global geodetic community
Next steps

Please review and provide feedback on:
• Position Paper on Sustaining the Global Geodetic Reference Frame
• Concept Paper on Establishment of the Global Geodetic Centre for Excellence
• http://ggim.un.org/meetings/GGIM-committee/10th-Session/documents/

We will be hosting UN-GGIM Regional Geodesy Forums (dates are to be confirmed) in the coming months. We encourage discussion on:
• Position Paper and Concept Paper
• Options to sustain the Global Geodetic Reference Frame
• Options for contributing to the Global Geodetic Centre of Excellence
“If you want to go far, go together.”

-- African proverb
GLOBAL GEODESY FORUM

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