



International Fédération of Surveyors
Fédération Internationale des Géomètres
Internationale Vereinigung der Vermessungsingenieure

Asia Pacific Capacity Development Network



FIG AP CDN Report

Dr. Ryan Keenan & Rob Sarib

Ninth Plenary Meeting of UN-GGIM-AP Working Group 1 Geodetic Reference Frame - 3 November 2020



The International Federation of Surveyors (FIG)

Established in Paris 1878;

Federation of national associations;

Represents all surveying disciplines;

UN-recognised non-government organisation (NGO);

Its aim is to ensure that the disciplines of surveying and all who practise them meet the needs of the markets and communities that they serve;

It provides an international forum for discussion and development aiming to promote professional practice and standards

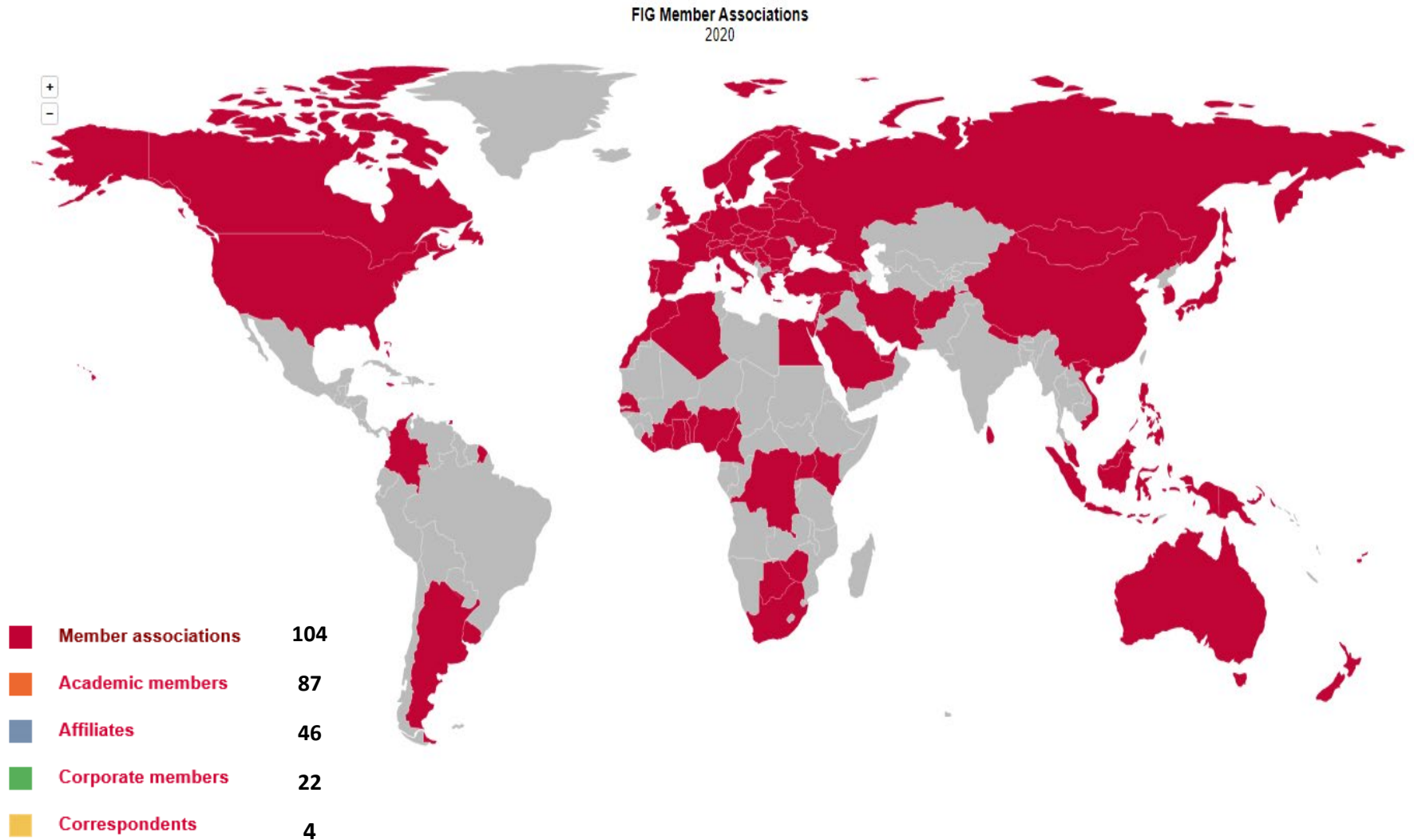
Liaise with like minded organisations



<https://www.fig.net/>



The International Federation of Surveyors (FIG)



Through different membership categories over 115 countries are represented in FIG and more than 250 000's professional surveyors

The International Federation of Surveyors (FIG)

FIG ORGANISATION

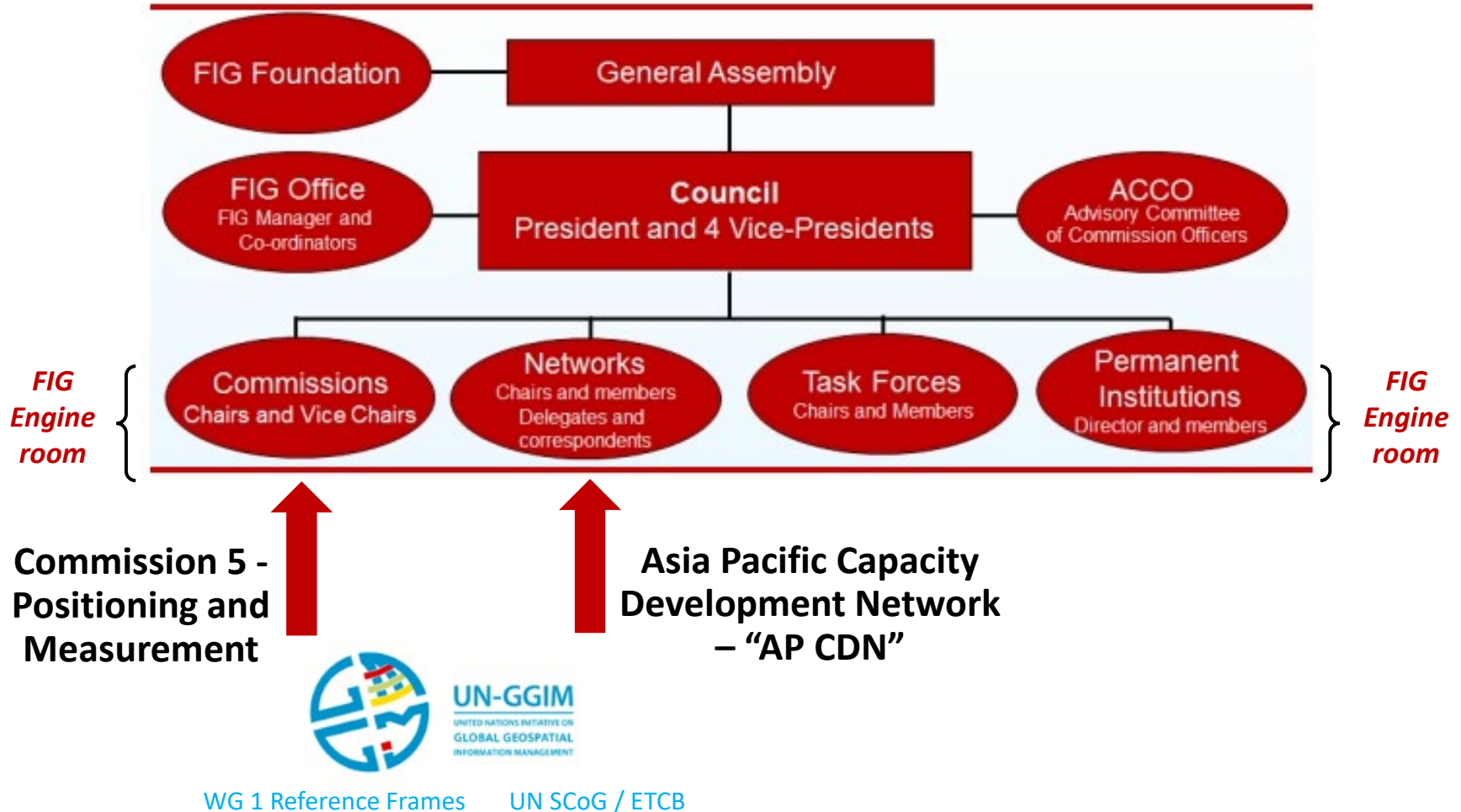


FIG Asia Pacific Capacity Development Network



FOUNDATIONS of SUCCESS

Good Will and Volunteerism is NOT Sustainable

***Formalise collaboration / co-operation - Shared objectives and expectations ;
Defined roles and responsibilities ; Measurable benefits and value ;
Shared commitment***

FIG Asia Pacific Capacity Development Network



Co-operate with organisations who represent a diverse group of members

Work **collaboratively** to build the **capabilities** of geospatial and surveying professional to meet the **challenges of the future**

FIG AP CDN – Capabilities to be Developed

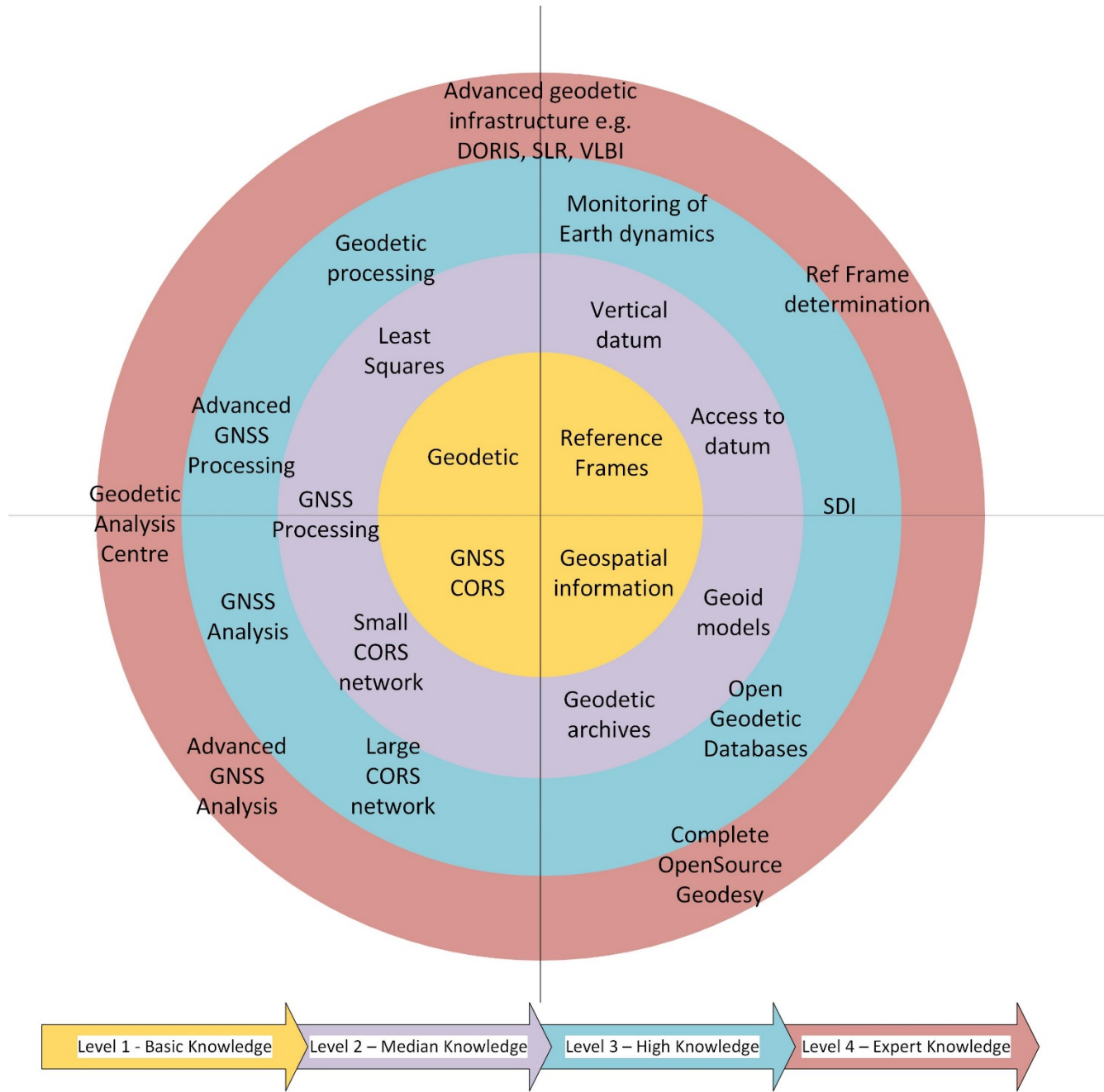


FIG AP CDN – Delivery of Capacity Development

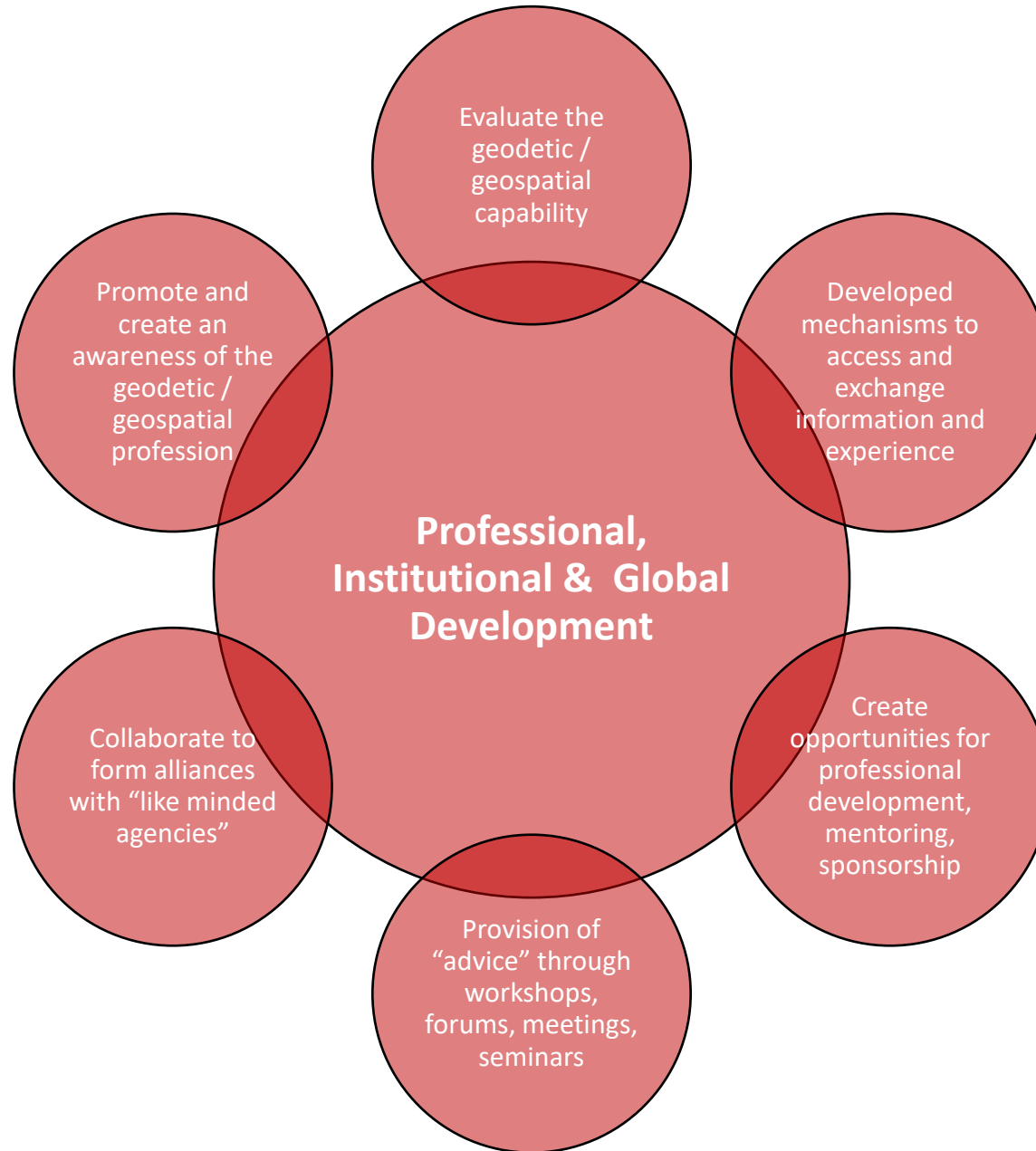


FIG AP CDN – 2020 Activities



- **UN Global Geodetic Centre of Excellence – Progress from the UN-GGIM Sub Committee on Geodesy** - Martin Lidberg (Sweden), Laila Loevhoeiden (Norway), Nicholas Brown (Australia), Johannes Bouman (Germany) and Jorgensen Anne (Norway)
- **A Global Survey of Reference Frame Competency in terms of Education, Training and Capacity Building (ETCB): Results, Analysis and Update** - Ryan Keenan (Australia), Allison Craddock (USA), Mikael Lilje (Sweden), Robert Sarib (Australia) and Graeme Blick (New Zealand)
- **Capacity Development Program for a Modernised Geodetic Framework** -Robert Sarib (Australia)

https://www.fig.net/fig2020/technical_program.htm

- GIS
- GPS
- CAD
- REMOTE SENSING
- PHOTOGRAMMETRY
- SURVEYING
- CARTOGRAPHY
- IMAGE PROCESSING
- BUSINESS GEOGRAPHICS

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Geo:

GeoConnexion International Magazine

AR GETS REAL DRIVE TO MAP



The latest geol

VOLUME 19 - ISSUE 2

<https://flickread.com/edition/html/index.php?pdf=5e54f8b386d1d#24>

CAPACITY DEVELOPMENT

FOR GEODETIC SURVEY ORGANISATIONS

In Asia and the Pacific region, geospatial organizations (GEOs) have increasingly shared their identity, role and function in response with today's changing and constantly changing "business landscapes" in situations producing "disruptive" change. The demand for greater integration of national institutions along and across borders, of spatial analysis, of the geospatial reference system (GRS) or geotags, whether formal or informal, underpins such activity. GEOs are modernizing their GRS to better manage degradation, the impacts of disruptive technologies, the sustainability of our natural and built environment, earth resources, climate, disaster and development.

As a consequence, the role of the state has been reduced and the role of the private sector has been increased. The state has been reduced to a minimum, and the private sector has been increased to a maximum. The state has been reduced to a minimum, and the private sector has been increased to a maximum.

and digital divide between the developed and emerging capitalist economies.

During the last two successful CDAs using the United Nations Development Program (UNDP) approach, an multi-level and integrated information needs and objectives drive individual, institutional and country regional CDAs. CDAs are also increasingly using e-commerce frameworks that enable the organisation to measure and monitor their engagement and possible shortcomings.

However, while change management remains an part of most CDAs, essential initiatives for managing people

they have had mixed results. This is due to the change agents' lack of ability and the absence of owners' and/or acceptance by the CDPs' stakeholders. To implement change, the CDP must have the political will and support of leaders, be clearly understood by the organization, and participate and involve stakeholders in the change process.

The case for CDPs

To gain the resources and support of CDPs, leaders of G20, OECD, G8 and G20+ need the case for CDPs, who need to be convinced to be enhanced, and who need to be empowered to face the challenges. The case is concerned with the CDP's objectives, its alignment with the national strategic agendas or regions, its facilities, such as establishing 'fit for purpose' guidelines, and operational resources and its capacity to support business and public activities, either in local governments, or international, policy and management, business sectors with respect to disaster management. The impact of disaster, changing environmental risk, and the need for disaster management, the application of science or research in local applications, to risk reduction, such as, at G20, while G8 members are at the Global Security Conference Panel.

Level studies suggest a change agent is an organizational change agent who is responsible for the change. The change agent should be able to lead and manage organizational change, not just the specific changes or projects.

Ideally a LDC should be able to bring long-term growth and avoid drastic changes. This is to be able to be able and adaptive to emerging technologies and ensure long-term development, the three key ingredients for sustainable development (SD).

- Own, design, develop, implement and maintain SDPs themselves
- Improve their work life and engender ownership of SDPs
- Use local resources, including

- Have greater diversity and inclusion with world view
- Employee (CEOs) may organisational purpose
- Less CEOs subsidiary variables / guide it

Four elements to success

GSOs must also appear to include key elements that will influence the success of the organization's GSO.

5. Institutional arrangements

This includes needed laws and regulations.

Overall, it is about ensuring clarity of structure, roles and responsibilities in the geospatial information data cycle and management, and interaction in the 'supply and use chain' of geospatial information.

2. Leadership (management): Leaders must be able to provide clear vision and direction, and with integrity influence, inspire and motivate others to achieve both organisational and personal capacity development objectives. They should use different management styles and approaches to a diverse range of audience: this also includes dealing with the scepticism and politeness, as well as traditional or customary stakeholders.

to ensure the sustainability of CSR, leaders need to actively oversee change management and its strategies, identify champions of change, collaborate with community groups, and build consensus with interested agencies.

Knowledge

Track what is emerging and understanding the existing capabilities of individuals and teams, and how their self-evaluation determine capability development. It will involve discovering present and future technical, administrative, management and 'soft' capabilities of the people – their knowledge, experiences, skills, qualifications and competencies. It is also about increasing 'flow' knowledge by a examined and facilitated through local agencies, professional associations, international agencies, scientific community, academic institutions and networks involved with industry and health sciences.

4. Accountability
Organizations are obliged to account for CSR activities and provide legitimacy to decision-making. This can be through systems that obtain feedback from stakeholders.

and the analysis, evaluation, monitoring, measurement and reporting of inputs and outputs through performance indicators. These systems also engender and reflect an organisational responsiveness to change and will provide greater transparency both

'upwards and downwards', support ethical organisational and individual behaviour, and thus integrity to the process.

Our recommendations for the future

- The following 12 SDs consider the government support and incentives to drive the planning and implementation of the SDP
 - SD1: locally led participational and full inclusion of all citizens and employees and who to change
 - SD2: and provided to ensure that the SDP is not a top-down initiative but a policy and a strategy
 - SD3: current understanding of the SDP, policies, actions and objectives and aligning with the existing policies and strategies
 - SD4: ensure that the SDP is a bottom-up, shared SDP with a clear vision and objectives
 - SD5: ensure capacity development and training support that is suitable for the SDP objectives and to ensure that the SDP is not a top-down initiative but a strategy
 - SD6: ensure that the SDP is a bottom-up, shared SDP with a clear vision and objectives
 - SD7: ensure that the SDP is a bottom-up, shared SDP with a clear vision and objectives
 - SD8: ensure that the SDP is a bottom-up, shared SDP with a clear vision and objectives
 - SD9: ensure that the SDP is a bottom-up, shared SDP with a clear vision and objectives
 - SD10: ensure that the SDP is a bottom-up, shared SDP with a clear vision and objectives
 - SD11: ensure that the SDP is a bottom-up, shared SDP with a clear vision and objectives
 - SD12: ensure that the SDP is a bottom-up, shared SDP with a clear vision and objectives

geospatial fertilizers, changes are needed to CSDs, especially in capacity-building and the development of suitable mechanisms and frameworks to support related activities. We will continue to assist countries marked with capacity-development and provide programmes for gender- and community-oriented research.

Robert Savitz is chair of the ENG
Arts/Perf Arts: Capacity Development
Initiative (APCI) (www.fsa.net)

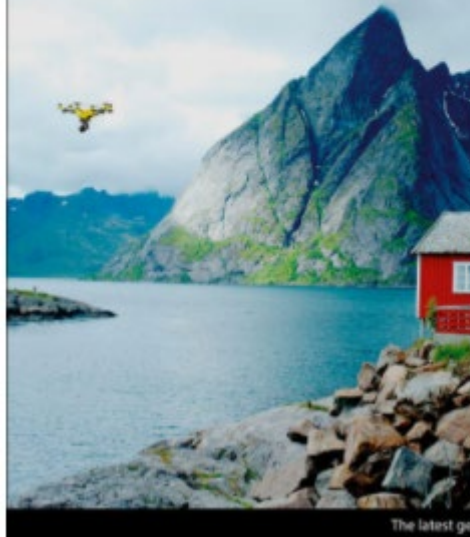
FIG AP CDN – 2020 Activities



EMERGENCY DISPATCH

HOW TO SEND UAVS TO MONITOR SITUATIONS AUTOMATICALLY AND SAFELY

MAKING CONSTRUCTION BOMB-PROOF



The latest ge

MODERN TIMES

HOW READY ARE GEODETIC SURVEY ORGANISATIONS TO MODERNISE THEIR NATIONAL GEODETIC REFERENCE FRAMES? RESPONSES TO A LIN QUESTIONNAIRE REVEAL THE CHALLENGES, AS WELL AS POTENTIAL SOLUTIONS. **RYAN KEENAN** AND **ROB SARIB** CRUNCH THE NUMBERS

The need to modernize geodetic reference frames (GRF) has highlighted the importance of establishing the foundations for education, training, and capacity building (ETCB) to ensure that the related infrastructure and systems are sustainable. Recognizing this, the ICRG working group of the United Nations Office for Global Geospatial Information Management (UNGGIM) Sub-committee on Geodetic C&B created a questionnaire that asked national geodetic survey organizations (NGSOs) to examine their present and future competency needs in terms of their national GRFs.

- Current and target competency levels are highly dependent on the size, location, geography and economic setting of their member state.
- Most want to 'up skill'.
- All have challenges maintaining their current and target competencies in all relevant technologies and techniques as their organisations evolve.
- Most anticipate the necessary duration to improve competency to be eight years, with 40% expecting to need up to four years.

The major challenges to GIV competency identified were institutional, capacity

[illegible]

establishing, operating and maintaining a (COP) network and a professional or gender theory and implementation.

Resourcing
A capacity-development measure plan to increase personnel, fundaments, training, edisciplines and grants from national sources as well as external assistance (preferably facilitated by a centralised group) improve awareness of funding options, eligibility and access mechanisms from national and international sources, and intensify the commitment to successful planning of staff and participation in regional capacity development events and workshops.

Education
More resources for and coordination of information sharing and exchange events led by academia, PKI, WGL, UN GGM and UN SCOD/TCES must focus on advocacy and benefits of a GIE to decision-makers, stakeholders and community; data sharing; regional core competencies; new GIEs and genomic technologies, applications and systems; and learning mechanisms that are widely accessible, easy to discover, actively usable, and interoperable.

Collaboration and knowledge exchange
Augmented capacity development work includes detailing the technical aspects of GPPs, standards and practices, sharing geospatial and geospatial data, along with exploring novel or web-based means of engaging with the private sector, academia and independent experts to provide advice, and support.

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<https://flickread.com/edition/html/index.php?pdf=5f466278e266a#28>

Increased regional alliances

Recent activities in South-East Asia and the Pacific Islands indicate that countries that have led to moderate success are regional cooperation between often member state (G20) and involvement with development partners and perform local organisations to address both conceptual and GPR challenges or specific operational or technical topics.

Recent steps

Mining firms globally have identified an independent market evaluation of their current competitiveness, a common future resource priorities and alignment and a harmonisation of their target competencies with the internationalised, globalised, on-line and customer driven competitive place in the world. They have also begun to develop a competitive plan (COP) in consultation with other resource market states, and the assistance and support of all stakeholders in the industry. The COP is a common framework for the industry to develop a competitive plan (COP) in consultation with other resource market states, and the assistance and support of all stakeholders in the industry. The COP is a common framework for the industry to develop a competitive plan (COP) in consultation with other resource market states, and the assistance and support of all stakeholders in the industry.

Ryan Keenan and Rob Savits are members of LAW SOCIETIES and FIDELITY.



To aid independent assessment of current A&E triage competence, a series of the common necessities of a modern GPE, categorised into five levels, with an increasing level of competence, knowledge and/or how perceived, was developed.



FIG AP CDN – 2020 Activities



- Report - <https://www.councilpacificaffairs.org/news-media/pacific-calls-for-integrated-geospatial-information-management/>
- Technical Papers - <http://pgsc.gem.spc.int/5th-meeting-papers/>
- PGSC Meeting Outcome - <http://pgsc.gem.spc.int/wp-content/uploads/2020/09/PGSC-5-Outcome-statement-and-declaration-Final-1.pdf>

FIG AP CDN – Future Activities and Initiatives

Advocate the importance of modernising a geodetic datum

Discover flexible, agile and accessible means to share technical knowledge / experiences

Demonstrate the benefits of capacity development and collaboration

Resolve capability and administrative challenges

Work with FIG African Regional Network and other 'like' regional bodies (ie SIRGAS)

Development of a new FIG AP CDN website

Leverage partnerships and opportunities to find new pathways for professional development

FIG AP CDN – Liaisons with UN GGIM AP / SCoG ETCB

- Promote to countries that organisational change, capacity building, and integrated action planning, based on the UN GGIM Integrated Geospatial Information Framework (IGIF) will:
 - Reduce the digital divide and technical skills gap between the developed and emerging economies,
 - Achieve the Sustainable Development Goals, and
 - Better management of disasters before, during and after.
- Support the development of the:
 - Geodetic and Positioning thematic layer for the implementation of the IGIF and Global Geodetic Reference Frame (GGRF)
 - Educational, training, capacity building components of the Global Geodetic Centre of Excellence (GGCE) that will empower emerging countries to contribute to a sustainable GGRF.

FIG e-Working Week – Challenges in a New Reality



WORKING WEEK 2021

21-25 JUNE

SMART SURVEYORS FOR LAND
AND WATER MANAGEMENT

CHALLENGES IN A NEW REALITY



The outcomes from a virtual reality WW:

- Inspired, energised, and connected participants
- A global event across several time zones
- Simple, attractive, quality program / sessions
- Delegates have exchange knowledge, experiences, networked and socialized
- FIG community broadened, consisting of diverse and new professional groups and participants
- FIG culture demonstrated (look & feel / vibe should be visible and tangible)
- FIG General Assembly
- <https://www.fig.net/fig2021/index.htm>