

FIG

FIG WORKING WEEK 2017

Helsinki Finland

29 May - 2 June 2017



Surveying the world of tomorrow -
From digitalisation to augmented reality

Organised by



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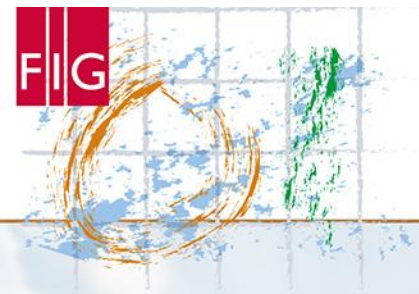


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Technical Programme

- 412 Papers in the final programme
- 57 Technical sessions
- 7 Inspirational Sessions ISS
- 11 FIG sessions (e.g Director General Forum, Academic Forum, Member Association Forum)
- 8 Partner Sessions (World Bank, UN-Habitat/GLTN, FAO)
- Pre-events: BIM, History, Young Surveyors
- STDM Workshop



Proceedings/technical programme now ready on web site



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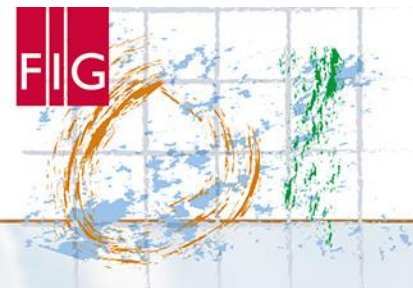


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Technical Programme

- 4 Platinum Member Sessions



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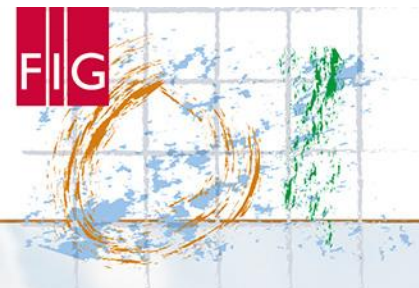


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Participants

- Total number of participants 1347
- Accompanying persons 100
- Countries represented 90
- Largest representations:
 - China 4 % (56)
 - Sweden 5 % (68)
 - Nigeria 13 % (185)
 - Finland 27 % (393)



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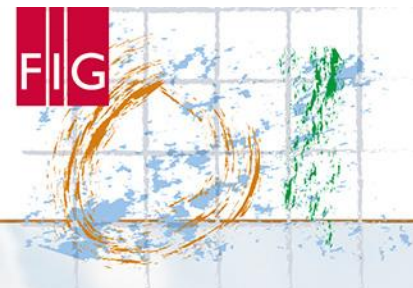


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Exhibition

- 24 stands
- 2 Platinum Sponsors
- 1 Silver Sponsor



Wintergarden – stage

Wednesday

WINTER GARDEN

10:45-11:30 TRIMBLE 	12:45-13:30 ESRI 	13:45-14:30 BENTLEY SYSTEMS
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Thursday

WINTER GARDEN

10:45-11:30 TRIMBLE 	11:45-12:30 SENSEFLY 	12:45-13:30 ESRI 	13:45-14:30 COMNAV SYSTEMS SinoGNSS <small>By ComNav Technology Ltd.</small>
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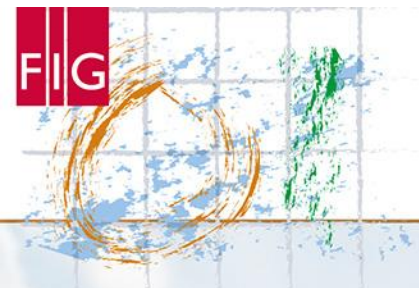


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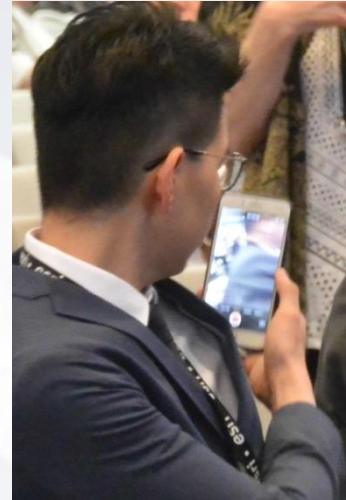
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Conference App

- 1,171 requested username and password
- 20 users registered during the conference with an anonymous account
- 168 created a personal programme (139 in 2016 and 66 in 2015)
- 300 unique users ~ 25%
- Page loaded about 20 times per day (5000 per day)
- 14,000 Page loads Sunday – Wednesday
- Primarily use: daily program, details of sessions, checking participants less – “fun stuff” (sending photos, making notes, sending calendar data, checking tweets or Facebook updates)



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Trimble

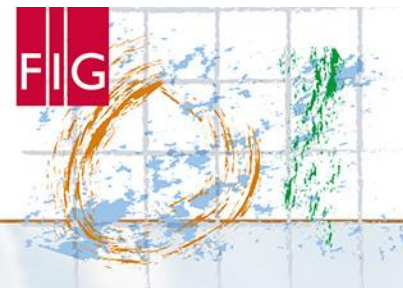


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From digitalisation to augmented reality

Reality Modeling Advances Surveying & Engineering...

From 3d textured models to asset performance models
use of modern tools for advancing

- constructing
- engineering
- surveying



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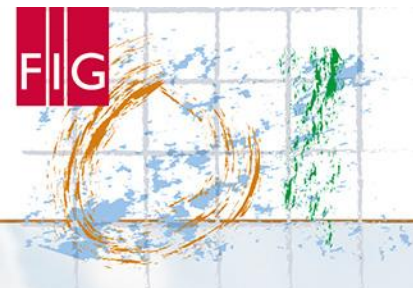


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From digitalisation to augmented reality

Geo: What can my data tell me about **here**?
Geo-ethics: What do my data tell **you** about **me**?

Global corporations collect location-based data from mobile phones and make inferences about predicted behavior, using additional data and predictive models.

Who defends privacy in Africa?

GEO-Ethics is very important in the days where everybody is ONLINE- and permanently connected with ... data companies and authorities



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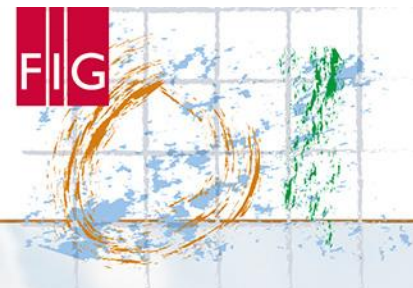


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PERSONALIZED INFORMATION versus PRIVACY

In high-income countries, data privacy legislation offer some protection to citizens, in low-income countries (e.g. Sub-Saharan Africa), no such frameworks exist.

Large amounts of location-based data of the most vulnerable people are collected.

Such inferences may endanger people.

Should FIG take action to safeguard the location-based data privacy of vulnerable people in the developing world?



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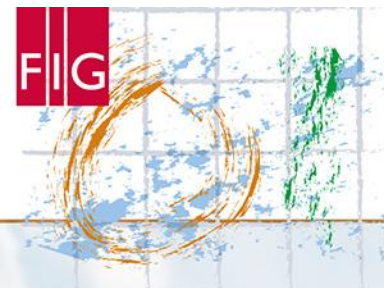


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FIG and GLTN Joint Sessions

- Training
 - STDM Awareness for YSN
- Joint sessions
 - Responsible Land Administration Curriculum
 - Valuation of Unregistered Lands
 - Social Tenure Domain Model: Development Innovations
 - Fit-For-Purpose Land Administration
 - Land Tools for Tenure Security
- Meetings
 - STDM Advisory Committee
 - GLTN Professional Cluster



our role as “change agents” is critical if we are to bring these “concepts and tools” into concrete actions



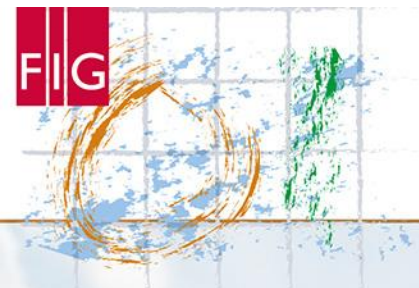


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GLTN Professional Cluster meeting

FIG and Regional Bodies

- The meeting in Helsinki was well attended and led to the clear conclusion that FIG can benefit from the forum and vice versa
- One of the interesting effects of this inter-regional coordination with FIG is that the active involvement of Regions could generate an even bigger turnout during the Working Weeks and Congresses. On the other hand the Forum of Regional Bodies can co-organize special sessions adapted to the need of a given region or inter-regional issue



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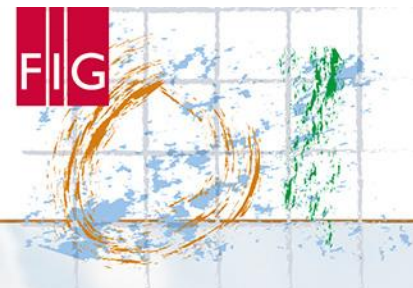


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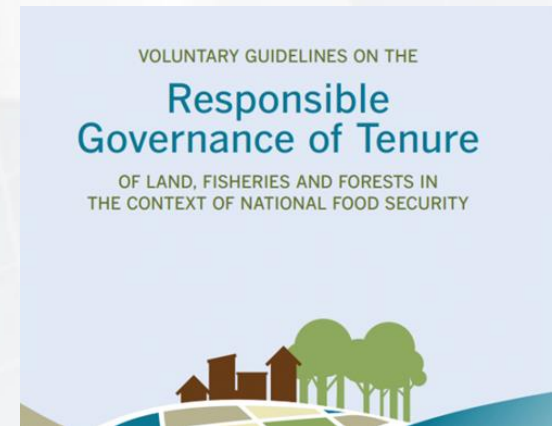
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FIG and FAO

- **Land consolidation** and other **readjustment instruments** can provide important input to the Agenda 2030 and the Sustainable Development Goals (SDGs)
- **VGGT and SDGs** should be taken properly into consideration when such programs are formulated and implemented
- **Land tenure, secure tenure rights** and the good governance of tenure is a precondition for achieving the SDGs and targets. The global focus on SDGs during the next years will provide an excellent and unique opportunity for land tenure professional, including an important role of FIG, to convey this message to **politicians and decision makers**, hopefully resulting in increased awareness and funding opportunities.
- The countries should be encouraged to **analyze their legal and institutional framework for compliance with VGGTs** and to prepare a road Map for the implementation of the Guidelines based on the specific situation and priorities in the country.



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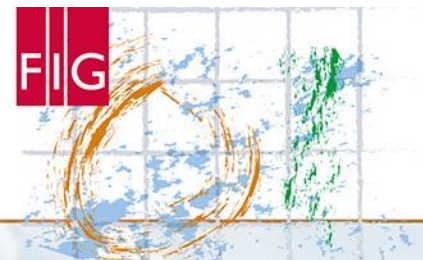


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From digitalisation to augmented reality

NMCAs: How many do really go on the path of transformation? put our digi-glasses on!

- The world has changed
- Digitalization is happening and the NMCAs must deal with it. We have to stay current and modern today and tomorrow: google maps, e-books, e-banking, IoT, etc. We need to provide e-services e-management, e-processing, e-legislation, e-systems, e-customers, e-trusting, e-politicians, e-agency
- Singapore and Estonia, illustrate the importance of a **new mindset** and getting the **public's trust** in new technologies
- **Standards** will become even more important but a problem for developing countries is that it's very expensive to acquire ISO standards
- There is a demand for **by-products**

A crossroad

Prevent, ignore

Understand, implement

WHEN
WHERE
WHAT
HOW
WHICH



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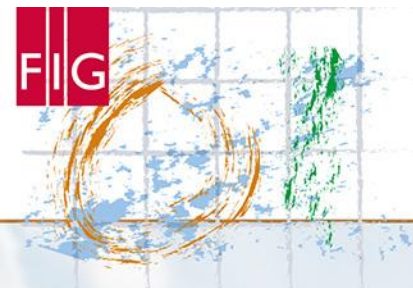


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From digitalisation to augmented reality

Planning for the future?

New disruptive technologies will appear but what they will look like ten years from now is impossible to predict

- Every agency should use the **same standards**, coordination by a **central body** is needed
- Innovation is an important component of digitalization, but **innovation may include failure**; this has to be recognized by the politicians in the same way that business investors do
- **share common solutions to common problems**, and thereby sharing investment costs, is a way **to reduce risks**
- develop things in **smaller packages**, and be agile, in order to reduce effects of failure



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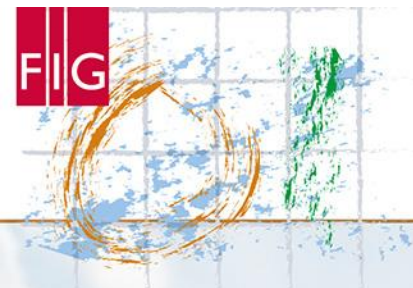


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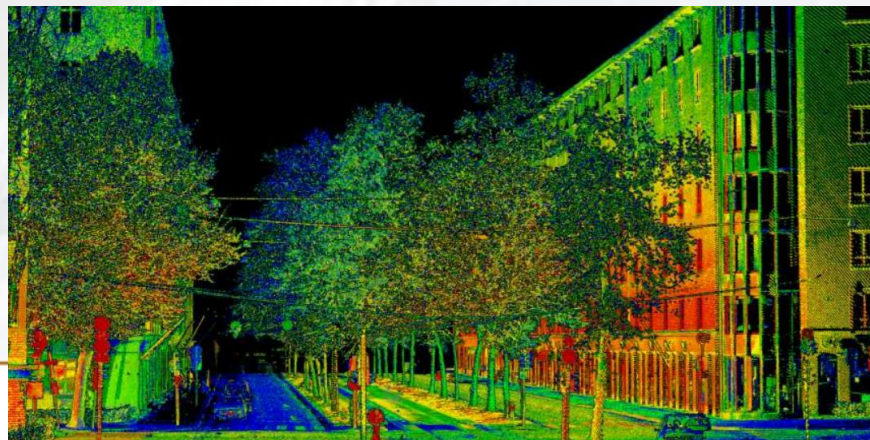
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change or die ?

- The reason is that technology is moving so fast so that the traditional way of doing things get obsolete. Especially laser scanning will changing our way of doing things and NMCAs must actively test new methods and inspire developments
- Positioning can already be done with high accuracy using smartphones, but is our spatial information prepared for this? are our geodetic reference frames adapted to the future? and are we preparing ourselves to work in ***dynamic or semi-dynamic reference frames?***



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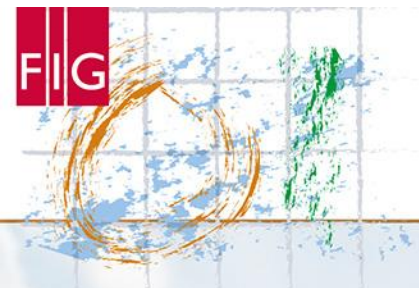


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NMCAs are living in the middle of industrial revolution: mapping is part of major changes in societies. Autonomous driving is expected to reform the societies more than any other technology during next 20 years

Since mapping agencies have mandate to do national mapping thanks to tax payers money or monopoly situation, they have responsibilities to society and tax payers. I strongly recommending that each national mapping agency should allocate a reasonable amount of current money to R&D to create a new value adding service sector. One possibility is to ask offers for ***new ways in mapping***.

For example a ***national laser scanning program*** can serve problems related to several ministries with reasonable costs. I believe ***NMCAs should concentrate of specification, and quality validation, and industry should do the work***

If data is collected with good quality, almost ***automated techniques can be used for basic map products***.



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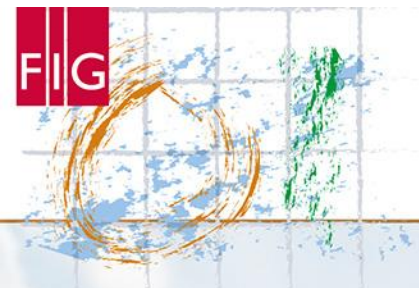


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UNECE WPLA

The **wait-and-see approach risks cadastre and land registration authorities to be marginalized** by not properly meeting the new challenges and demands

International solutions is more and more becoming a national interest. And the work at **national level** is at the same time part of the international solution

The demands will change substantially over the next 1-2 decades as new technologies, environmental challenges and social and political influences gradually transform our inherent accountabilities, traditions, practices and mindset

The challenge will be much about ***to manage the convergence of client expectations for integrated social, economic and land related systems***



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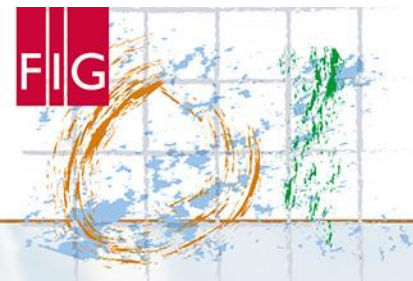


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Emerging Opportunities on Land; SDGs, NUA, VGGTs



IMPLEMENTING THE
**NEW
URBAN
AGENDA**



**PEOPLE LED
NEW URBAN AGENDA**



Access to land, fisheries and forests



TENURE SECURITY

FOOD SECURITY



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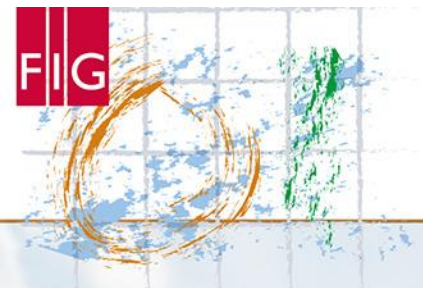


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Sound land information system: building capacity



Capacity building is key to shape the mind-set of land administration agents and to develop a solid foundation for the development and maintenance of the land information system



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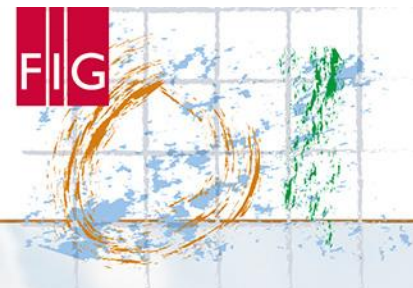


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FIG and UNGGIM

UNGGIM has now established itself as a platform for dealing with political and policy issues related to geospatial information

The sessions of the Committee gather a very substantial number of UN Member States, as well as a good representation of private companies and organizations and stakeholders like FIG. These bodies are also represented on the Expanded Bureau of UNGGIM

The upcoming 7th session, to be held in NY in early August, will include the establishment of additional Working Groups, including one on legal matters related to geospatial information

The EG on Fundamental Data Themes, led by UNGGIM: Europe, will deliver the final report, and this is a good example of an area where a UN document can make a difference for member states which are struggling with the establishment of a SDI.



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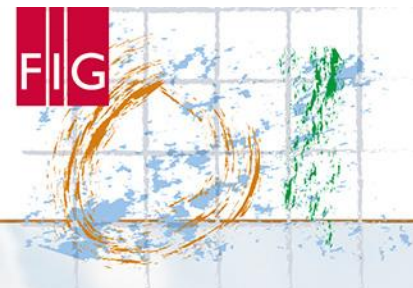


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The work of FIG will continue

- High importance of UN-resolution GGRF

FIG will further support the GGRF UN-resolution GGRF and the development and implementation of the roadmap

- Geodynamics / tectonics influencing Reference Frames -> Kinematic / Dynamic Datum

FIG has and will co-organize the Technical Seminars on Reference Frame in Practice e.g. this year in Kobe, Japan and next year in Istanbul, Turkey. FIG will extensively promote the idea of kinematic and dynamic datums on these events

- Multi-GNSS as the standard of the future

- Emerging Technologies:

Unmanned Aerial Vehicles (UAV, UAS); joining Photogrammetry and Engineering Geodesy

FIG will facilitate technical sessions at FIG Working Weeks and FIG Congress and Workshops and Seminars on Emerging Technologies such as Multi-GNSS as well as Unmanned Aerial Vehicles as current and future hot topics.



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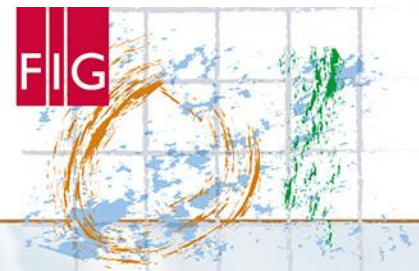


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- Academic forum on VGGT together with FAO was successfully held. We strongly believe that VGGT is relevant and useful for FIG community. Hence, we will continue this activity and online surveys (as we did this year) in upcoming years
- The finalization of the International Construction Measurement Standard (ICMS) is an important development
- FIG will continue to build awareness about professional ethics, BIM technology, the blockchain, crowdsourcing and VGI, the use of low-cost technology to eliminate inequalities in various regions
- FIG council & commissions and GLTN will seek for **new and innovative ways** to build awareness among societies and decision-makers **about the valuable land tools** in order to **speed up country implementation** and to scale up the expected benefits for the vulnerable people
- **Develop Fit for Purpose approaches for all and everywhere**



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