THE VALUE OF GEOSPATIAL DATA AND ROLE OF SURVEYORS IN SUSTAINABLE DEVELOPMENT

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Location information changed people's perceptions

The geospatial transformation of the society supports

- *transportation, business*
- *property markets, access to credit mechanisms,*
- *construction, housing,*
- *zoning, city planning, modeling, monitoring*
- *policy making, fair taxation, disaster recovery, humanitarian support*
- *agriculture & water management,…*

- *We cannot measure or monitor sustainability and growth without the intelligent use of evidence-based geospatial data*
- *Technology helps us to "uncover" the missing information and reduce inequalities*
- *Development of indicators to monitor the progress*

The Sustainable Development Agenda 2030 was signed by 193 UN state members in 2015

Surveyors' contribution to the Sustainable Development Agenda 2030: 17 goals(SDGs), 169 targets and 230 indicators.

The Sustainable Development Agenda 2030 Goal 1 and target 1.4.

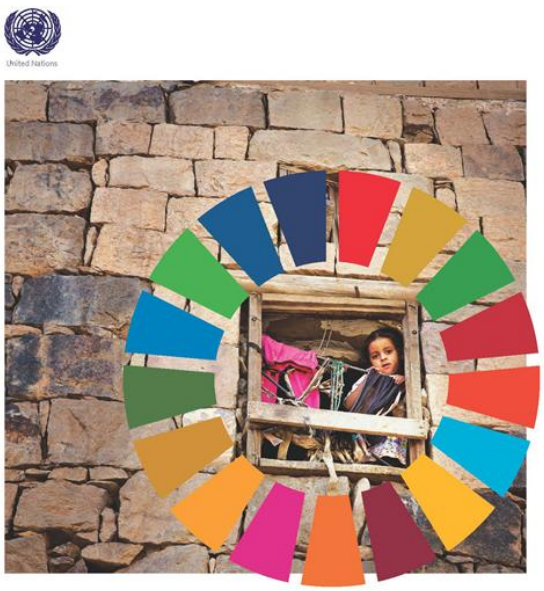
- *Goal 1. End poverty in all its forms everywhere.*
- *1.4. by 2030, countries should ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance.*

FIG mission

*Increase the value of geospatial **data** and **land tools** for all people*

Our mission:

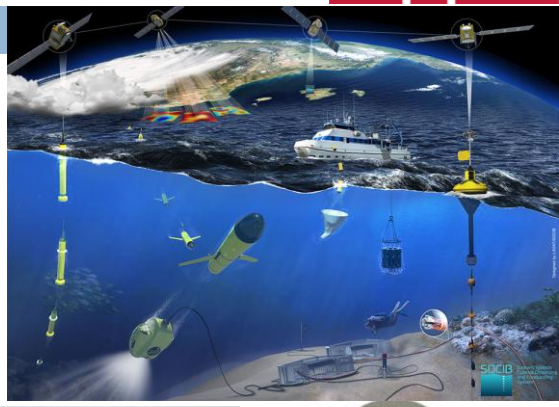
- *to deliver more benefit, more transparency, more safety, more environmental quality, more growth, more fairness, more education, more gender equality, and more efficiency in governance of urban and rural areas.*
- *This is our contribution to the dream of a future intelligent city and a sustainable management of natural resources.*
- *It is all about people, mainly their living in urban settlements and of course the good management of the rural and marine areas.*
- *It is all about developing the "cities we want", digitally networked and intelligent and the sustainability of our environment.*

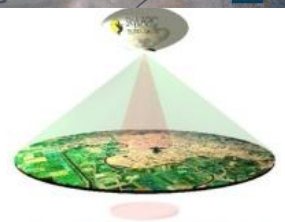


Location data comes in many forms

- *Decision-making based on real-time information*
- *Implementation & monitoring through fast visualization*
- ***We need spatial data infrastructures: Inform once, use several times***
- *Strategic approach: repeatable, consistent update that allows comparisons to* ***measure and monitor the SDGs***
- *There are* ***many data collection devices***

  we collect: Authoritative and non-authoritative data, good enough for various purposes





Ede Jorge Ijjasz-Vasquez, a Senior Director of World Bank Group said at a conference in Lisbon

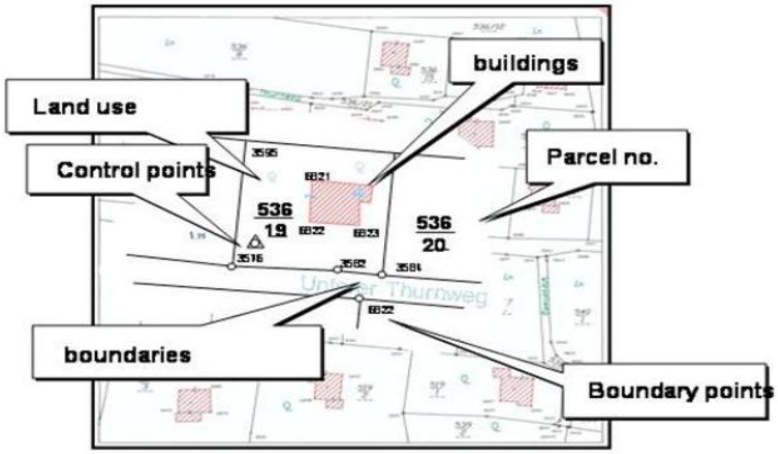
"that the use of geospatial information provides great opportunities to accelerate development of nations and address global, national and local challenges but no longer are even more sophisticated maps needed but the development of spatial data infrastructures are required, to underpin all decision-making of countries".

It requires a:

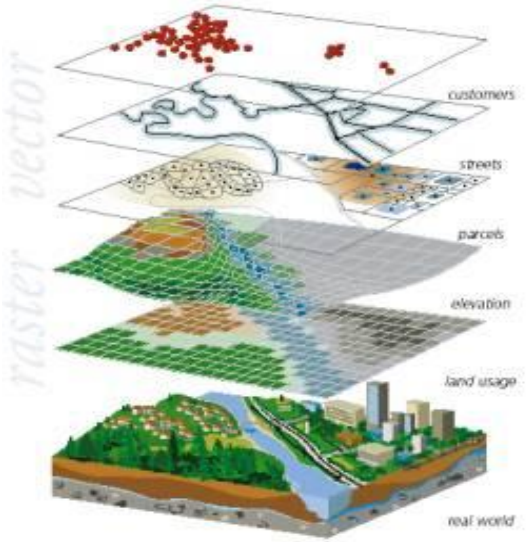
Source:
Vanessa Lawrence

Paradigm Shift

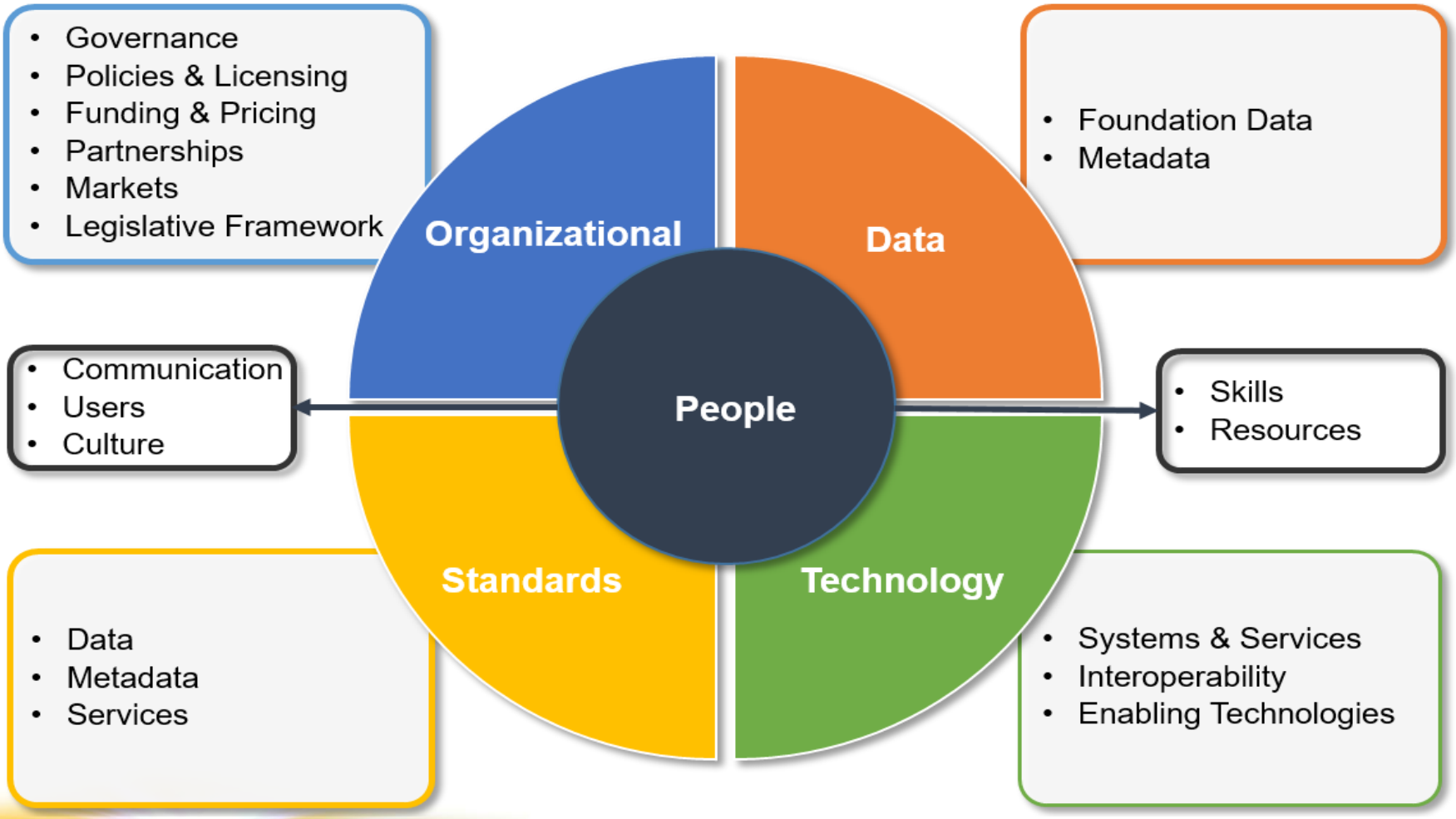
Flat maps



Multi-dimensions



A geospatial infrastructure: a strategic element of a region or a nation



Source: Vanessa Lawrence

The value of geodata – follow up study in Denmark

- The value of geodata was measured in 2012 (the last year before geodata was made open for the users) and again in 2016. The value increased from €210 million to €460 million. The value consists of:
  - Efficiency gain of approx. €130 million. This is the actual economic efficiency in business that geodata has made possible
  - Productivity gain of approx. €330 million. This reflects that geodata is used for both private and government production

Development from 2012 to 2016	
Use of geodata	X **4**
Number of users of geodata	X **75**
Value of geodata	X **2**

Source: Vanessa Lawrence

This period is full of events dealing with geo-information

- *in August of this year, in NY, the **Seventh session of the UN Committee of Experts on Global Geospatial Information Management** was held, where 400 delegates from about 90 countries and international organizations active in the field of geospatial information management have participated.*

UNGGIM

This event considered several items, including:

- *the contribution of **regional committees**;*
- *the global geodetic reference frame;*
- *land administration and management;*
- ***national institutional arrangements**;*
- *fundamental geospatial data themes;*
- *geospatial information and services for disasters;*
- *marine geospatial information;*
- *legal and policy frameworks,*
- *integration of geospatial information with statistics.*

side event: Forum on the 2030 Agenda with the theme Where is the Data?

how we will measure, monitor and report progress on the 17 SDGs with geospatial information. 200 participants.

- *SDGs: do your homework!*
- *__measure__ the change, __"bring the people to the data"__ - increase the __usability__ of the data*
- *from __big data to big indicators__?*
- *secure __property rights for all__! "informal settlements and the missing data",*
- *do we need __solutions to the "solutions"__ we create?*
- *policy issues! technical issues! "__make it simple...if you can__",*
- *adopt __fit-for-purpose land administration__,*
- *adopt tools and methods for __disaster management__,*
- *the integration between land and marine environment,*
- *the ocean, the sea and the marine geospatial information for sustainable development - mapping the oceans of the world and the blue economy.*
- *standards and the blockchain technology,*
- *regional committees' activity,*
- *the need to "focus and __set priorities__" for "__implementation__".*

FIG events

- *in September the joint FIG Commission 7, 8 and 9 Workshop on "Smart Solutions for Secure and Valuable Property" was held in Romania, and*

- *in October, in Vienna, on the occasion of the "200 years of Cadastre in Austria and in the countries of the Former Austro-Hungarian Monarchy", the Austrian Society of Surveying and Geoinformation, together with BEV and UNECE WPLA organized the Common Vision Conference 2017 on Tradition meets Innovation.*

Some of the topics that were discussed there were:

- *the current challenges including the need to complete cadasters for the remaining 70% of the world as well as the need to secure information above and below the surface reliably in 3d, affordably and timely;*
- *the emerging business models and the need for developing a new role of the cadastre;*
- *blockchain in cadaster- some applications have already appeared, Ukraine comes first, Georgia and Ghana are investigating-;*
- *cadaster 4.0 and the Internet of Things; as well as*
- *VGI and the need to engage the community for a global security of land tenure.*

Other UN events

- 78th session of the UNECE Committee on Housing and Land Management was held in Geneva, again focusing on the implementation of the Sustainable Development Agenda 2030 and the New Urban Agenda as adopted at Habitat III, in Quito, in October last year
- UN/FIG Guidelines for Formalizing Informal Real Estate
- Fifth High Level Forum on United Nations Global Geospatial Information Management will take place in Mexico City, with the overarching theme "Implementing the Sustainable Development Goals: The Role of Geospatial Technology and Innovation“
- FIG Com3 Workshop on VGI, in Lisbon.

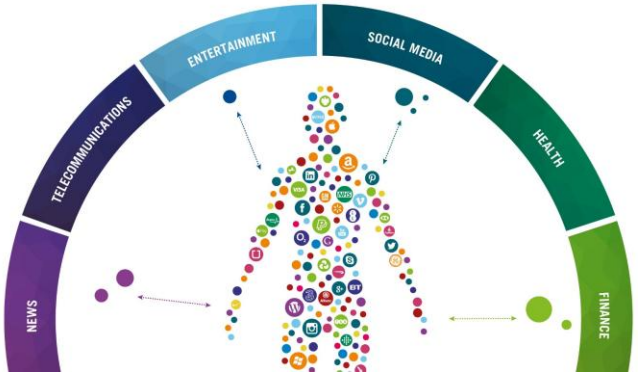
From a “spatially enabled” society to a “spatially mature” society

From the need for providing

- *reliable,*
- *evidence-based,*
- *open or low cost data*

for decision-making, toward

- *massive creation & consumption of data (structured/not)*
- *extended use of affordable smart devices*
- *increasingly high downloading speeds*
- *the Internet of Things*
- *cognitive computing for all to improve human decision-making*
- *the provision of personalized information*
- *the Internet of Me*



Key issues for the geospatial transformation

We need SDIs: data, technology, standards, organization, people

1. Strong governments, open source & open data; this will be a transformation
2. Improvement of our capabilities in capacity building programs with an engagement with professionals, communities and especially the young to ensure that these data and tools will be used broadly and wisely!

Professional aim: to increase our skills

- Combine authoritative and non-authoritative data
- Develop a FFP infrastructure
- Interpret & process data;
- Increase “usability” of data, systems and tools, (among professionals & communities)