

FIG

FIG WORKING WEEK 2017

Helsinki Finland

29 May - 2 June 2017

Presented at the FIG Working Week 2017,
May 29 - June 2, 2017 in Helsinki, Finland

Assessing technological possibility against societal need: smart sketchmaps for fit-for-purpose land administration

MSc GIMA Carline Amsing, June 1, 2017

Dr. Rohan Bennett, Dr. Serene Ho and Prof.mr.dr.ir. Jaap Zevenbergen



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Trimble



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Rationale

- **Continuum of land rights** requires innovation...
- Cadastral divide: **Limited cartographic information**
- Link technological possibilities & societal demands:
no research yet on smart sketchmaps for land administration
 - SketchMapia



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Smart sketchmaps

Technologies and processes that enable hand drawn non-metric spatial representations to be converted into topologically and spatially corrected maps (its4land, 2016).



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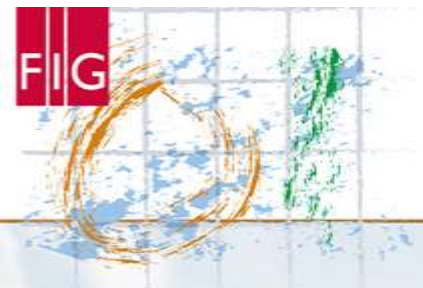


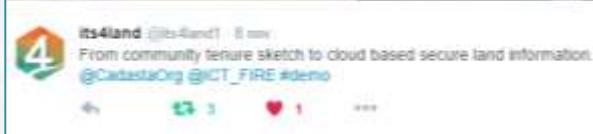
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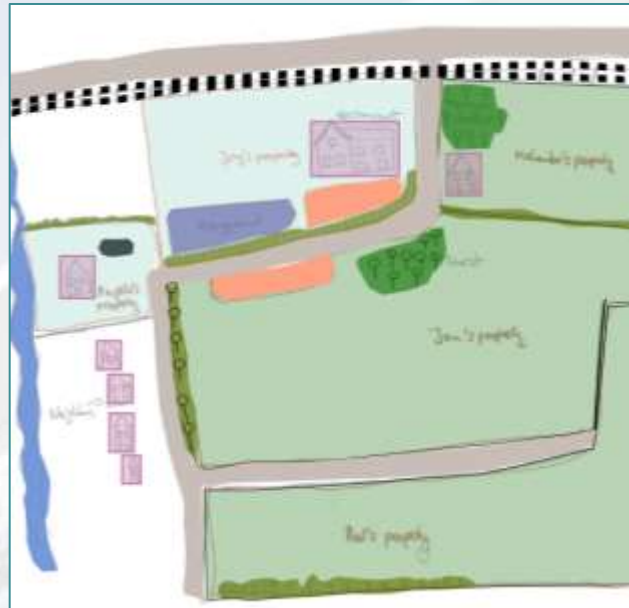
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DEMO



cloud based



sketch



spatially correct



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Research Question

What are the prevailing perceptions amongst different stakeholders with regards to the potential utilization of smart sketchmaps in the context of delivering fit-for-purpose land administration in Eastern Africa?



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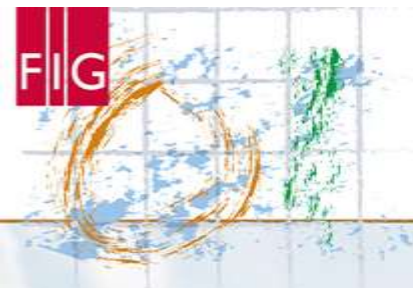


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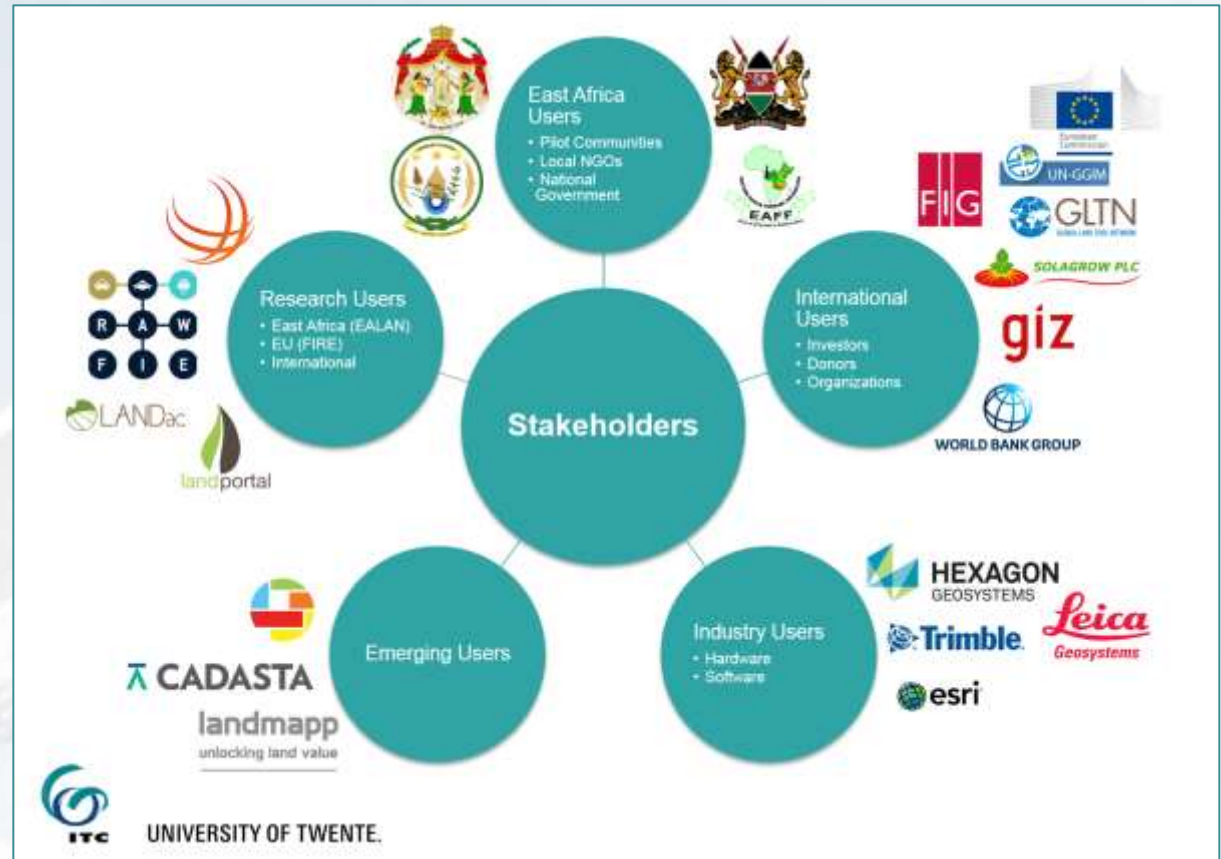
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Q-methodology

- Clusters of perceptions
- Abstract fit-for-purpose elements
- Tool = yet to be proven
- 5 steps...



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Correlation between stakeholders

	1	2	3	4	5	6	7	8	9	10	11	12	13
1	100	48	-4	26	44	40	26	45	35	51	50	13	33
2		100	24	47	33	15	49	27	46	47	38	7	23
3			100	41	30	36	55	34	37	32	45	-7	35
4				100	11	40	35	23	19	41	29	-3	39
5					100	24	28	40	41	45	68	13	25
6						100	43	45	38	34	35	27	46
7							100	53	53	66	27	29	56
8								100	45	55	48	39	65
9									100	45	51	16	21
10										100	53	47	55
11											100	-3	37
12												100	47
13													100



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Factor Interpretation

- 3 factors perceive smart sketchmaps fit-for-purpose from the viewpoint of its:
 - Societal fitness
 - Technical fitness
 - Commercial fitness

FFP element	F1	F2	F3
Flexibility	Green	Green	Green
Inclusiveness	Green	Green	Yellow
Participatory	Green	Green	Yellow
Affordable	Yellow	Green	Green
Reliable	Yellow	Yellow	Green
Attainable	Yellow	Yellow	Green
Upgradeable	Green	Yellow	Green



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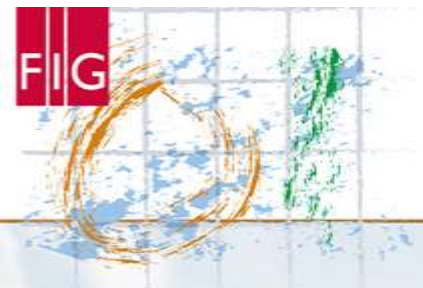


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Discussion

- Human-computer interaction
- Proof of Ownership
- Error-bound
- Not suitable for all instances
- LADM extension
- Base maps
- Professional background stakeholders



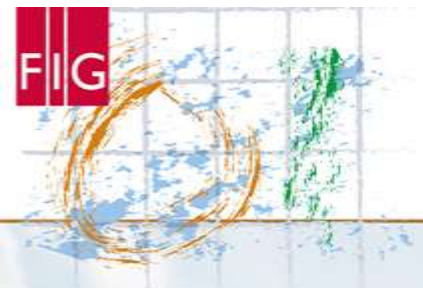


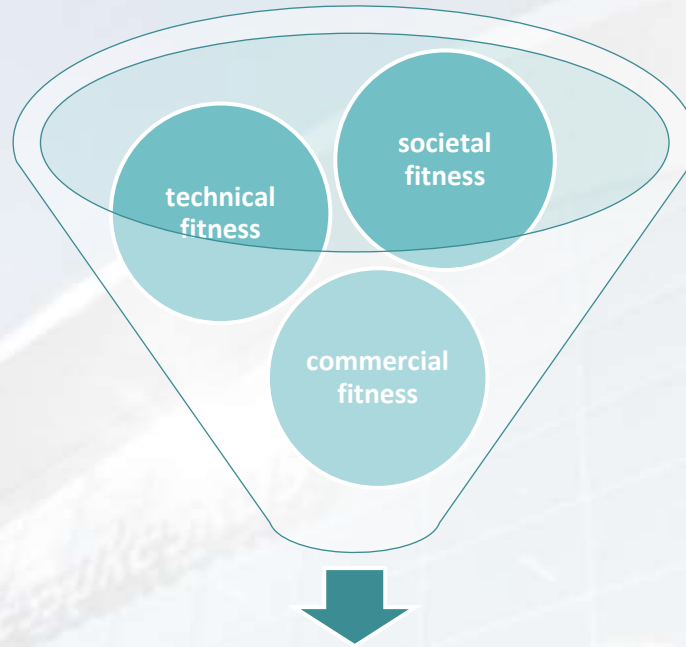
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Discussion



Smart sketchmaps for fit-for-purpose land administration



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Recommendations

- its4land to verify results in East African user group
- More research which bridges technological development with societal need
- Extend LADM to include qualitative spatial information?



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THANK YOU!



Carline Amsing

MSc GIMA - Intern at Kadaster International

carlineamsing@gmail.com



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MAY 9 – MAY 15

**Smart Surveyors for Land
and Water Management**

