

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

Implementation of Social Tenure Domain Model in Okpoko, Anambra State, Nigeria.

Onwuzuligbo C. U.¹, Nnam V. C.², Alozie P. O.¹, Ejezie
E. V.¹

Department of Surveying and Geoinformatics,
Nnamdi Azikiwe University, Awka Nigeria
Geo-Synergy Services LTD

Surveying the world of tomorrow -
From digitalisation to augmented reality

Organised by



Platinum Sponsors:



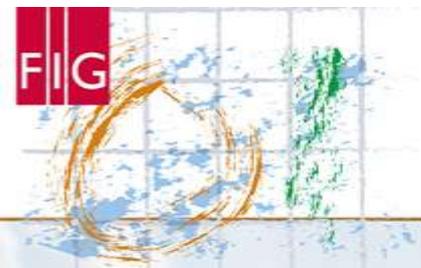


FIG WORKING WEEK 2017

Surveying the world of tomorrow -

Helsinki Finland 29 May - 2 June 2017

From digitalisation to augmented reality

Introduction

- Land, being the delineable area of the earth's terrestrial surface, encompassing all attributes of the biosphere immediately above or below this surface, is the ultimate resource
- It Supports Life
- It is both a physical commodity and an abstract concept in that the rights to own or use it are as much a part of the land as the objects rooted in its soil.
- Because Land is limited, its management and administration must be efficient.
- Rights over land must be protected and the individuals that possess such rights ought to possess some sense of assurance that their rights will not be taken away.
- This Sense of Assurance is known as Tenure Security.
- The chief goal of land administration therefore is to ensure tenure security.



Platinum Sponsors:



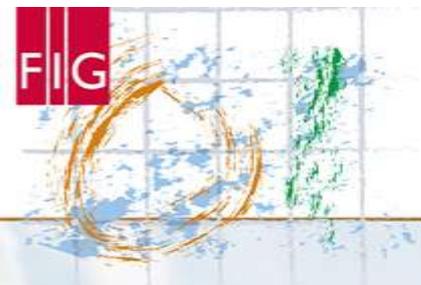


FIG WORKING WEEK 2017

Surveying the world of tomorrow -

Helsinki Finland 29 May - 2 June 2017

From digitalisation to augmented reality

OKPOKO

- Located in Ogbaru LGA of Anambra State, Nigeria and lies between latitudes $6^{\circ}06'34''N$ and $6^{\circ}07'49''N$ and longitudes $6^{\circ}46'38''N$ and $6^{\circ}47'41''E$.
- Most of the lands in Okpoko are owned by individuals.
- Most of the undeveloped properties within Okpoko are occupied by squatters in temporary structures.
- As of 2007, the population density was 38.40 per sq
- Okpoko is one of the major Slums in Nigeria
- There is no organized administration system for the area.



Platinum Sponsors:



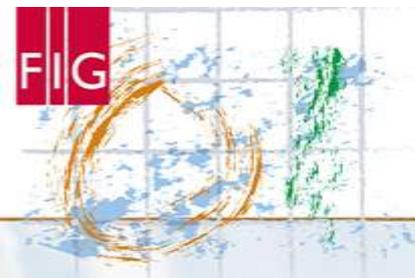


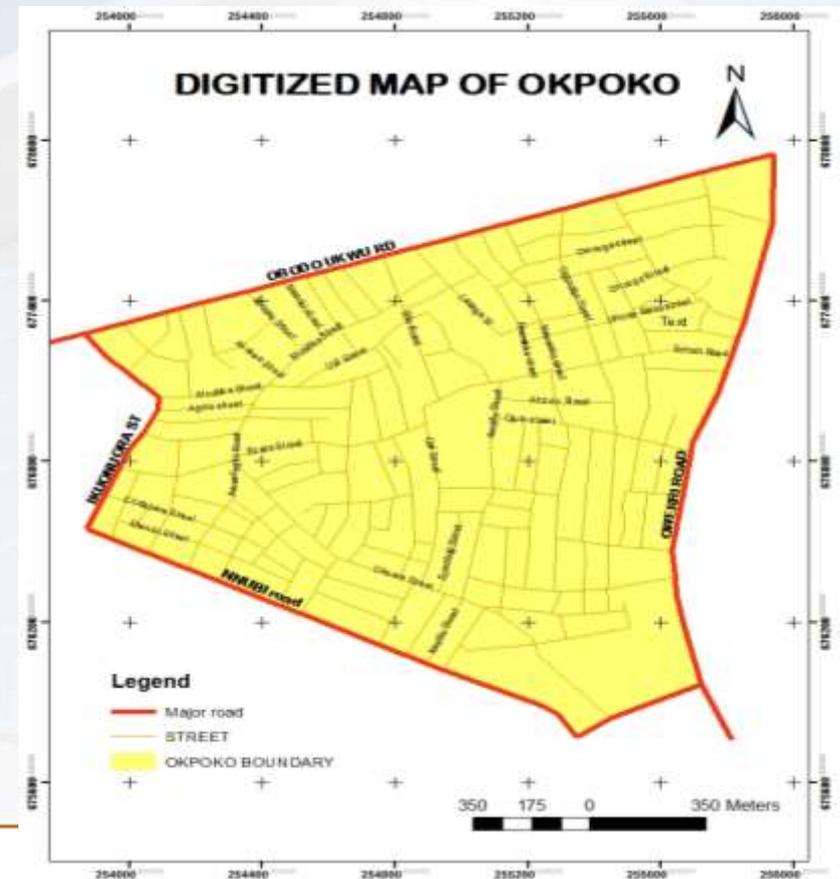
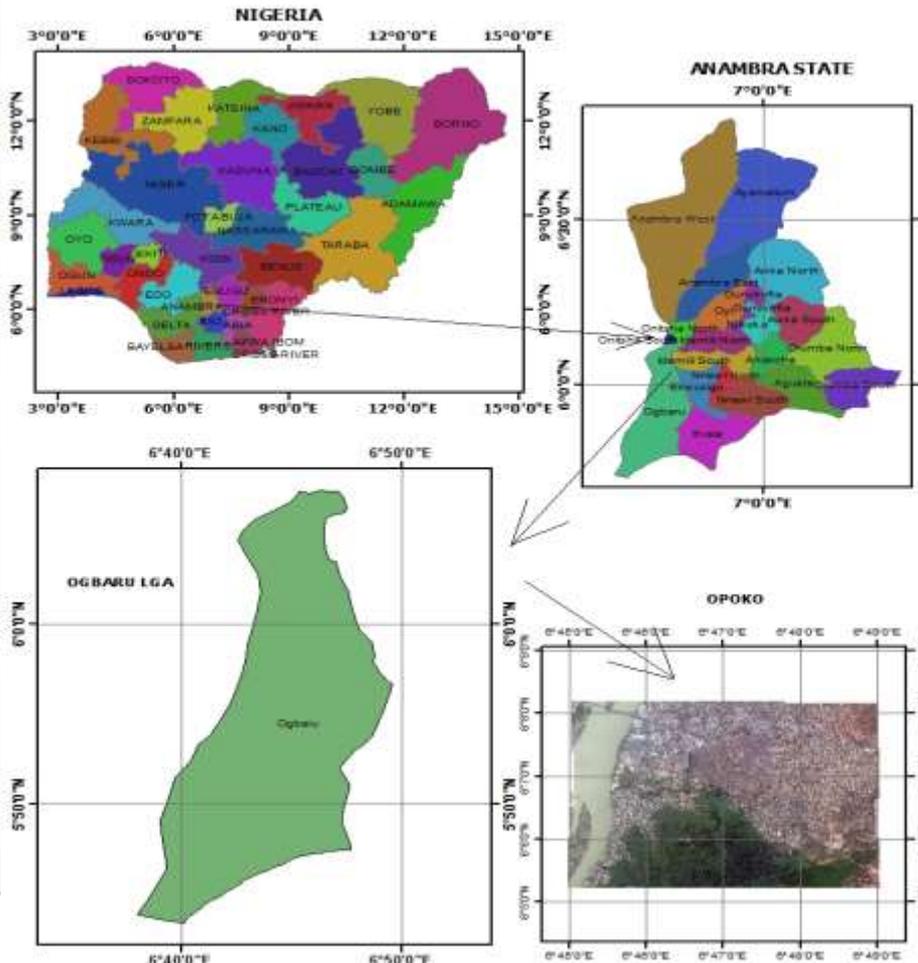
FIG WORKING WEEK 2017

Surveying the world of tomorrow -

Helsinki Finland 29 May - 2 June 2017

From digitalisation to augmented reality

MAP OF NIGERIA SHOWING ANAMBRA STATE'S LOCAL GOVERNMENTS AND THE PROJECT SITE



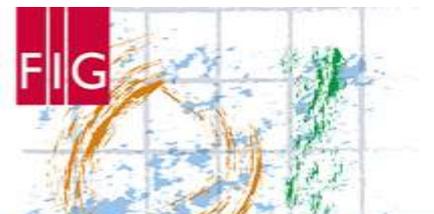


FIG WORKING WEEK 2017

Surveying the world of tomorrow -

Helsinki Finland 29 May - 2 June 2017

Social Tenure Domain Model

- The Social Tenure Domain Model commonly known as STDm is a pro-poor land information system developed by UN-Habitat through GLTN, with the International Federation of Surveyors (FIG), and the Faculty of Geo-Information Science and Earth Observation at the University of Twente
- It is basically about people-land relationships
- It is intended to broaden the traditional scope of land administration by providing a land information management framework that would integrate formal, informal, and customary land systems, as well as integrate administrative and spatial components.



Platinum Sponsors:





FIG WORKING WEEK 2017

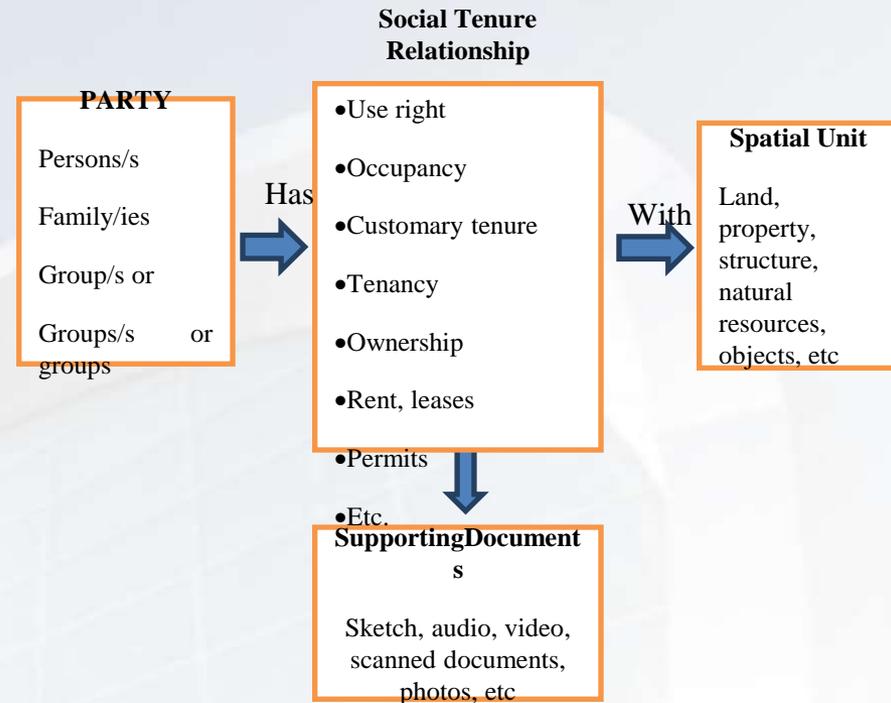
Surveying the world of tomorrow -

Helsinki Finland 29 May - 2 June 2017

From digitalisation to augmented reality

- Land rights may be
 - formal ownership,
 - apartment right,
 - usufruct,
 - free hold,
 - lease hold, or
 - state land.

- It can also be social tenure relationships like occupation, tenancy, non-formal and informal rights, customary rights (which can be of many different types with specific names), indigenous rights, and possession. (Lemmen 2013)



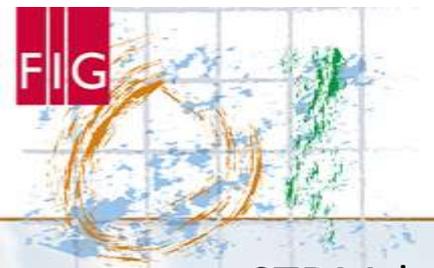


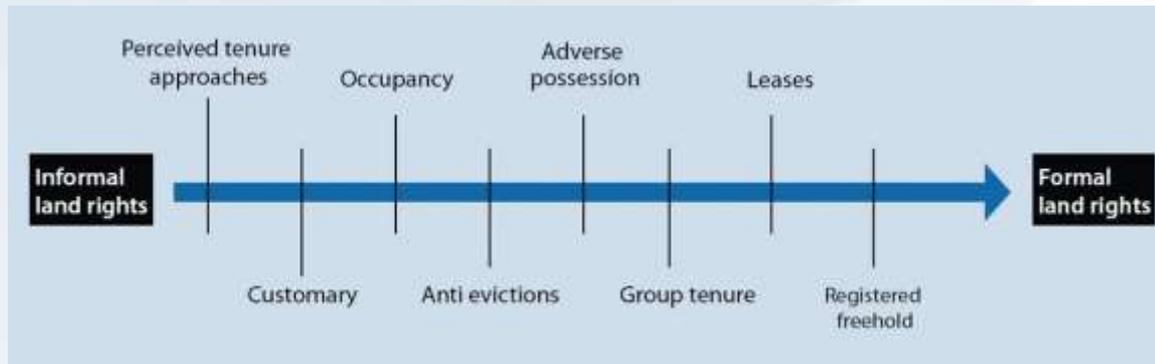
FIG WORKING WEEK 2017

Surveying the world of tomorrow -

Helsinki Finland 29 May - 2 June 2017

From digitalisation to augmented reality

- STDM looks beyond the rights to the people and focuses is about all people and all types of 'people – land' relationships as a continuum of rights.



- People–land relationships can be expressed in terms of persons (or parties) having social tenure relationships to spatial units.
- Instead of *owners*, it thinks in terms of *parties* that can take many forms: a group without clear set of members, a group with listed members, a company, a family or household, or even an individual person.

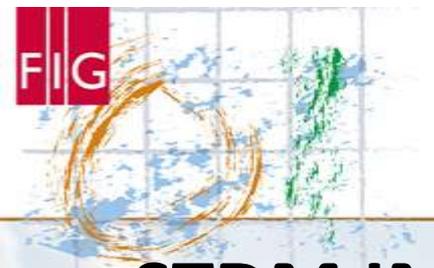


FIG WORKING WEEK 2017

Surveying the world of tomorrow -

Helsinki Finland 29 May - 2 June 2017

From digitalisation to augmented reality

STDM IMPLEMENTATION IN OKPOKO

- The Google Earth Image of Okpoko was acquired and added as a vector in Q-GIS and then converted to shape file (making it a Raster Layer).
- On-screen digitizing was carried out to convert features to vector format and organize the information into discrete units of data that can be separately addressed.
- In the process of digitalizing the map, buildings were represented with polygons and roads with lines.
- The buildings were coded in order not to mix them up during the database creation.



Platinum Sponsors:



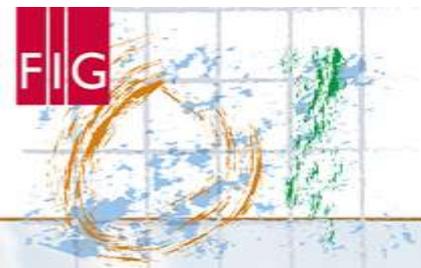


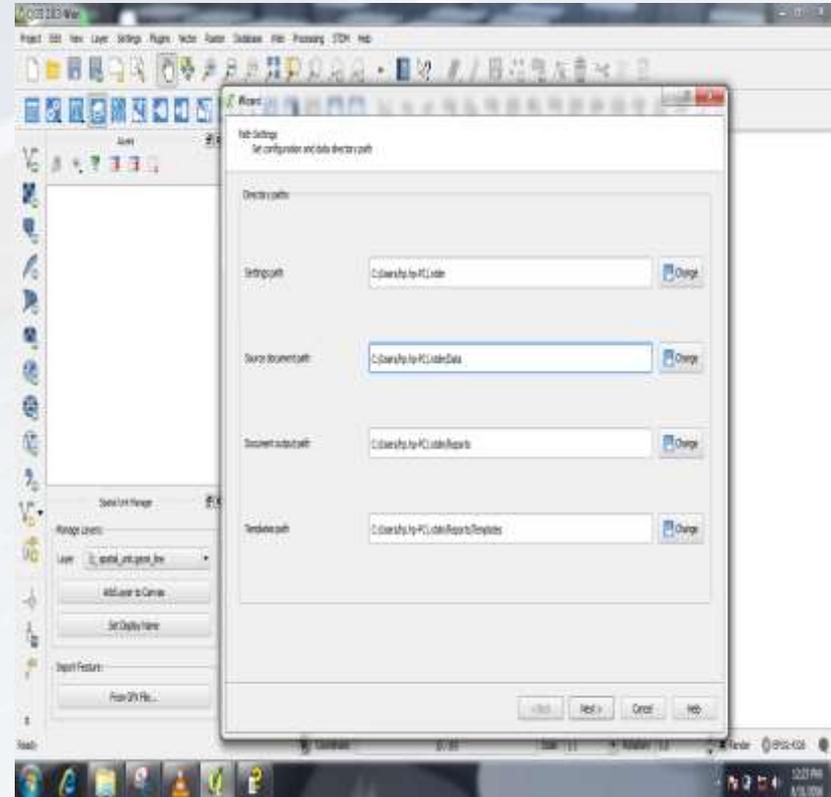
FIG WORKING WEEK 2017

Surveying the world of tomorrow -

Helsinki Finland 29 May - 2 June 2017

From digitalisation to augmented reality

- The answered questionnaires were used to create the database in the STDM plug-in which comes with a default setup profile that has Party, Spatial unit, Supporting document, Social Tenure Relation and social tenure supporting documents (str_relations) tables.



Platinum Sponsors:



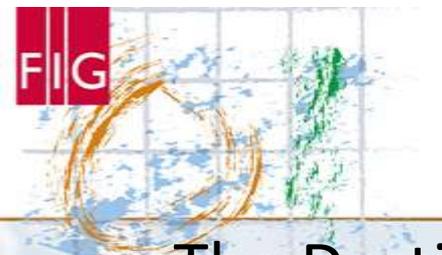


FIG WORKING WEEK 2017

Surveying the world of tomorrow -

Helsinki Finland 29 May - 2 June 2017

From digitalisation to augmented reality

- The Destination Table columns were then matched with the data source.
- The spatial data was imported and matched.
- The party module was then managed by adding data in party record manager, defining New Social Tenure Relationship (STR) and viewing the Social Tenure Relationship.
- Several Queries were run to test the Model
- Dummy Resident Documents (fig. 8) were generated and issued to some of the residents.
- Dummy certificates were used because the research is not government based but in the real sense, it is expected that real title documents be given to the residents/occupants.



Platinum Sponsors:



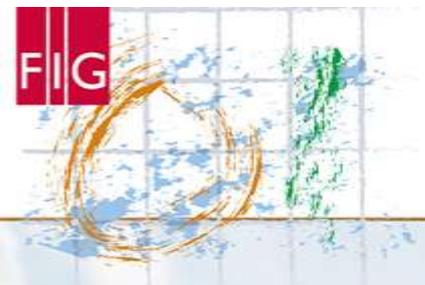


FIG WORKING WEEK 2017

Surveying the world of tomorrow -

Helsinki Finland 29 May - 2 June 2017

From digitalisation to augmented reality

SOME QUERRIES CONDUCTED IN THE MODEL

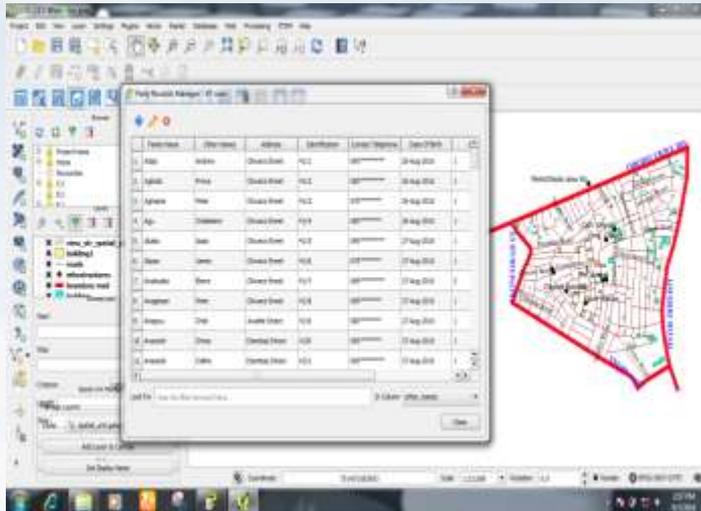


Fig 6: Querying Party Records

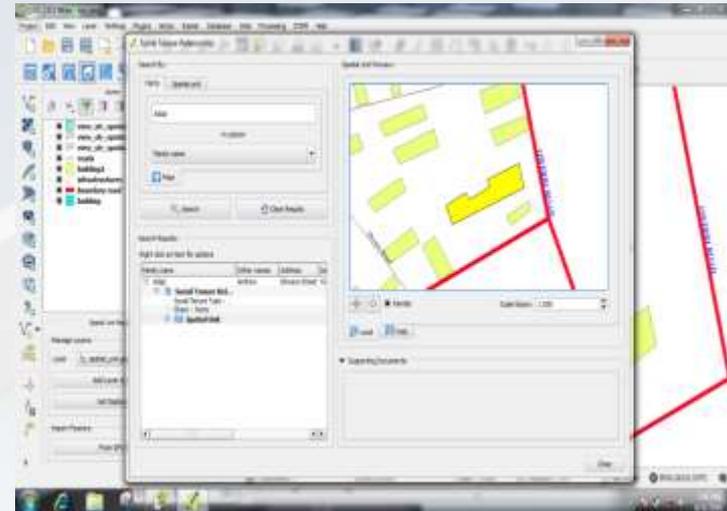


Fig 7: Querying Social Tenure Relationship

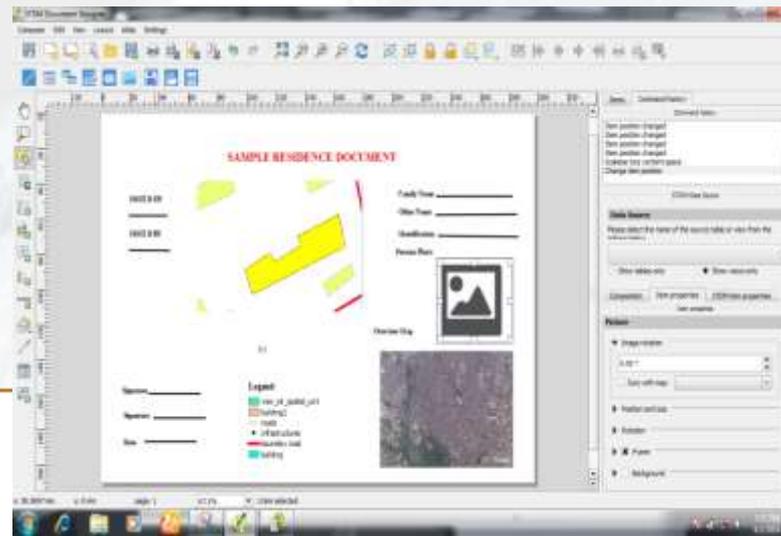


Fig 8: Dummy Residence Document



Conclusion/Recommendations

- The Social Tenure Domain Model of Okpoko has been developed.
- The security challenges in the country further made matters worse as a lot of people were not very receptive to the researchers.
- That notwithstanding, the Model proved to be successful as those that responded asked the government and appropriate authorities implement STDM to solve their problems.

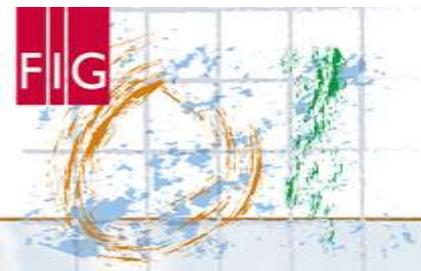


FIG WORKING WEEK 2017

Surveying the world of tomorrow -

Helsinki Finland 29 May - 2 June 2017

From digitalisation to augmented reality

- It is recommended that
 - That this model be adopted by the Land Ministry
 - Developers in the State and country at large, are encouraged to adopt STDM in the management of their estates
 - STDM be given a serious attention since it accommodates parties as opposed to owners, it affords land managers the ability to deal directly with every household.
 - UN-Habitat should consider partnering with the Nigerians and Nigerian government in this regards.



Platinum Sponsors:



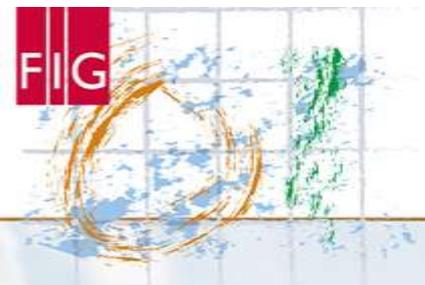


FIG WORKING WEEK 2017

Surveying the world of tomorrow -

Helsinki Finland 29 May - 2 June 2017

From digitalisation to augmented reality

*Thanks for
Listening*



Platinum Sponsors:

