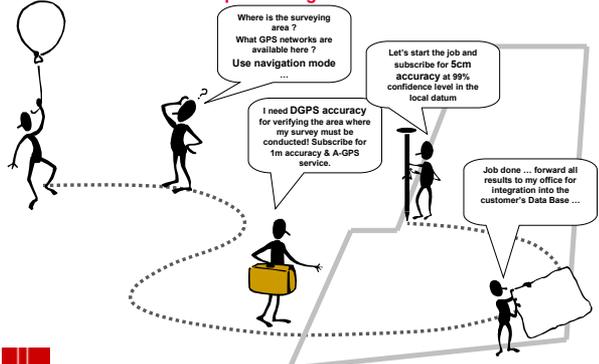**Positioning Infrastructure**
Perspectives and the Role of the FIG Commission 5

Joel van Cranenbroeck,
Vice-Chair WG 6.4 FIG Commission 6 Surveying and Engineering Surveys

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Geopositioning Scenario 1

Geopositioning Scenario 2

About the interest of creating a new working group named "positioning infrastructure"

The proposal is to establish a working group in the FIG Commission 5 to investigate the emergent technologies that are, and likely to be, key components of the future "positioning infrastructures".

By that term we include not only the GNSS continuously operating station networks, but also networks formed by other terrestrial positioning/navigation technologies such as LocataLites, Pseudolites, RFID readers/tags, WiFi access points, UWB, etc.

The surveying industry has since the advent of GPS referred only to the "navigation" world for their standards (there are numerous examples such as RTCM and NMEA standards, ION and GNSS conferences for new developments, etc.), while today the telecom industry have ambitious plans to address a larger mass market for LBS type services.

About the interest of creating a new working group named "positioning infrastructure"

During the FIG 2007 World Congress in Munich I proposed the task of evaluating those aforementioned technologies, but from the "infrastructure point of view" (... how to build, to design, to maintain ...).

This appears to be a logical next step, to complement a control network, or a GNSS reference station network, in large cities where the challenges of using signals from space are the greatest. Hence it is in urban environments that the other PNT (Positioning, Navigation and Timing) technologies will have the greatest advantage vis-à-vis GNSS.

Now what will be the duty of such a new Working Group?

About the interest of creating a new working group named "positioning infrastructure"

Now what will be the duty of such a new Working Group?

1. To evaluate the state of the technology and its implications for our surveying world (and have all research, initiatives and communications gathered, shared and analyzed by such a dedicated WG

2. To establish contact with the new ICT partners of our profession: the telecommunications and IT companies.

3. To organize a dedicated open space (Annual Conference, Forum, Symposium …) to gather all the actors of the "Positioning Infrastructures" under the surveying perspective, witch will fairly contrast with existing organizations such as ION, GNSS, …

4. To compile and edit a kind of "FIG Bible for creating and maintaining Positioning Infrastructure"that could be considered as guidelines covering all elements and sub-elements.

About the interest of creating a new working group named "positioning infrastructure"

Now what will be the duty of such a new Working Group?

5. To highlight the role of the surveyors in that kind of new service = create positioning infrastructure (in the past we were in charge of Geodetic and Control Network)

6. To better define what we understand with a "multiple applications positioning infrastructure" … what would be the user profile ? What would be the different business models ? Where do we want to migrate ?

7. To take share in the near future "Ubiquitous World" as Surveyor.