



## New Positioning Techniques

### FIG Commission 5 Special Study Group

*FIG Working Week*


*TS 8 F*


### New Positioning Techniques Forum

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University Stuttgart  
Germany

Stockholm, Sweden, June 18<sup>th</sup>, 2008






## New Positioning Techniques – FIGs Role


### New Positioning Techniques and Infrastructures

**WiFi**




[www.isu.edu/highlights/033/images](http://www.isu.edu/highlights/033/images)  
<http://www.ieasydrive.com/gpsspic>

**GSM**




<http://content.answers.com/main/content/wp/en/commens/thumb/6/68/190px-Gsm-bts-walprzych.jpg>  
<http://www.indonesiamatters.com/images/bts.jpg>  
[http://www.nortel.com/solutions/wireless/images/products/bts\\_s8003\\_sm.jpg](http://www.nortel.com/solutions/wireless/images/products/bts_s8003_sm.jpg)




3  
Leica System 500 Receivers

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## New Positioning Techniques (NPT)

- **GNSS – CORS – Networks**
  - Online Processing
  - RTK Networks
- **Assisted GPS**
- **Mobile Phone Positioning**
- **WiFi Techniques and Positioning**
- **RFID**
- ...

**Need for Infrastructure and Reference Data !**

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## Characteristics of NPT

- **Mass Market Penetration**  
e.g. WiFi positioning gets possible and even efficient (may be accurate too) since „homebound“ WiFi cells are available almost everywhere in urban areas
- **Positioning is a by-product** of mass market application  
e.g. mobile phone positioning
- **Availability is main target**, no need for high accuracy
- **No interest (and no need)** of key industries and service providers to deal with high accuracy and geo-referencing in detail
- **In contrast:**  
**Location Based Services (LBS)**, where positioning plays a keyrole, celebrate the second hype after a strong rebound

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**Role of the Surveyor**

- **New Positioning Techniques are NEW for Surveyors,** may be not for other disciplines
- **Surveyors only „like“ accurate and reliable positions,** often they even look a little bit snootily on the ones providing a meter-accurate position !
- **Positioning Infrastructure, Technologies and Techniques are developed without surveyors for the mass market !**

Surveyors  
should know about the developments,  
bring in their knowledge,  
and find new job opportunities !

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**FIG SSG New Positioning Techniques**

**Tasks**

- **Disseminate Information e.g. via Web-Portals about e.g. technology development, available services, etc.**
- **Organize and Participate at Symposiums and Workshops**
- **Facilitate Forums at FIG / IAG events**
- **Generation of a FIG-Handbook on „New Positioning Techniques“ including definition of terms**
- **Create connections to sister organisations, manufacturers, service providers, etc.**
- .....

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## FIG SSG New Positioning Techniques

### Activities so far

- **SSG Membership is built – but still open !**
- **An (so far internal) internet-exchange-portal has been established in Calgary, Canada**
- **Forums in Hong Kong, China and Stockholm, Sweden were / are facilitated**
- **Manufacturer(s) and Sister Organisation are in Stockholm**
- **Participation at 4<sup>th</sup> International Symposium on „LBS and TeleCartography“, Hong Kong, November 2007**

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## FIG SSG New Positioning Techniques

### Recent questions to be discussed

- **Is integration of positioning infrastructure into International reference frames (geo-referencing) a topic for the SSG ?**
- **Or is it more important to relate the position to a location on the digital map ?!**
- **Should we work on standards e.g. for calibration of sensors and infrastructure ?**
- **Who may provide input for a handbook / dictionary ?**
- **Is ubiquitous positioning a theme for the „standard surveyor“ or / and the SSG ?**
- **.....**

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**Members of FIG SSG**

- **Chair:**  
Andrew Hunter (Canada)
- **Members:**  
Joel van Cranenbroeck (Belgium)  
Chris Rizos (Australia)  
Rudolf Staiger (Germany)  
Ruth Neilan (USA)  
Esmond Mok (Hong Kong, China)  
Matt Higgins (Australia)  
Mikael Lilje (Sweden)  
Rob Sarib (Australia)  
Volker Schwieger (Germany)

..who else

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**FIG SSG New Positioning Techniques**

**Next Steps**

- **Forum and Technical Session(s) at next significant FIG event ie Working Week 2009 at Eliat, Israel**
- **Plenary Session at FIG Congress 2010 at Sydney, Australia**
- **Introduce open exchange internet-plattform on NPT**
- **Start of handbook generation !**

**Your are Wellcome to Participate at SSG !**

**Please discuss at this Forum to help us and maybe yourself !**

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