

MUNICH SATELLITE NAVIGATION SUMMIT 2007:

Session 8 – Views and Perspectives of Worldwide GNSS Industry

Glen Gibbons, Editor and Managing Partner, InsideGNSS, was the chairman of Session 8 “Views And Perspectives Of Worldwide GNSS Industry”. In this session the big worldwide players in satellite navigation industry will present their views and perspectives on satellite navigation.

Sylvie Lassery, Alcatel Alenia Space, started giving a short introduction of Alcatel, briefly describing the strengths of the company. In her opinion, the navigation market is an institutional market at the moment and Alcatel’s vision is to convert it into a commercial market.

Lassery continued describing the participation of Alcatel in the infrastructure of EGNOS and Galileo. The general strategic objectives of Alcatel Alenia Space were presented, giving an overview on the main purposes, Galileo FOC, Galileo applications, concession and GNSS evolution program. Moreover, she gave additional information on business activities carried out by the company in the past months in coordination with other important players of the GNSS community. Besides, she focuses on the fact that Alcatel Alenia Space is prime contractor of EGNOS. Additionally, national initiatives and activities in defence, as well as aerocomms/navcom were shortly addressed.

To finalize, she mentioned the Galileo evolution to the Galileo second generation. Also she noted GPS III with respect to interoperability and future plans. Alcatel Alenia Space wants to play an important role here, too.

Michael A. Rizzo, Director Advanced Navigation Systems, The Boeing Co., talked about worldwide satellite navigation from the point of view of Boeing. As he emphasised, future GNSS objectives must be to enhance the position, navigation and timing, to address interoperability between the radionavigation systems and to lower risk and to increase confidence. Furthermore a global augmentation system development have to be enabled. Another objective is to incorporate secondary missions like search and rescue having in mind to serve what the users really need. Rizzo mentioned that the deployment of GNSS capabilities is outpaced by evolving user needs. GPS II can’t afford many changes and GPS III will not be operative until at least ten years.



Rizzo, Bornemann, DeGryse, Lassery, Gibbons, Chen, Musmeci (left to right)

He described the customer needs, from a commercial point of view, especially underlining activities like aviation or homeland security. Finally, he concluded that the users do not care where the capabilities come from and thus we have to make sure that all the systems work together to best



serve the users. He finished with: "Let's look beyond our technical domain comfort zones to develop a system that meets all emerging global needs."

Dr. Wilfried Bornemann, EADS Astrium GmbH, started his presentation giving a social context. The society is facing new challenges like climate change, natural disasters, terrorist attacks and pullout of conflict areas. "Threats are less predictable, less visible and often take place in remote areas". He presented the blocks of a security architecture comprising remote sensing, telecommunication, satellite navigation, crisis reaction units and a crisis management centre. Satellite navigation is a core element for such a security system. He mentioned a number of tasks which can be fulfilled by means of satellite navigation: "Space must be at the service of the citizen".

Dr. Donald G. DeGryse, Vice President for Navigation Systems, Lockheed Martin Corporation, gave a short talk on how important GPS is for our world. "Imagine for a while we would turn off GPS today. What would happen?" Donald continued showing some economical figures and the tremendous growth which is experienced for the market. He gave some extraordinary applications of GPS: In banking the GPS time signal is used for timestamping transactions. Focusing on Lockheed Martin Donald stated that it takes great pride being responsible for the construction of block II satellites. Besides, he presented the new signals which the satellites constructed by Lockheed Martin will be emitting. He explained the important role that the signals are meant to play for the GNSS community. Donald finalised concentrating on the GPS block III satellites and described the many improvements which the satellites are expected to bring in comparison with the current payloads.

Kehong Chen, Vice Director of Science and Technology Commission of Shanghai

Municipality presented Shanghai as a suitable stage for Galileo. At the beginning, Chen gave some geographical figures about the city and its economical facts of the past years. Shanghai's population is 19 million and it is the economic and trade centre of mainland China, Gross Domestic Product in 2006 was 100 Billion €.

He carried on with talking about the EU-China cooperation programme which is a very important strategy of the Chinese government. Chen described the participation of China in the programme.

He continued showing Shanghai's advantages and opportunities on SatNav. There are markets and products, and the government strongly supports the sector. Technology is under development and important steps are being made. A GPS enhancement network called SGCAN is being carried out at the moment to be mainly used for meteorology, geodesy, and engineering purposes. GATE inspired China to plan and build a similar system called GNSS Integrated Test and Certification Environment. Chen mentioned the Shanghai World Expo in 2010. Furthermore, a navigation forum takes places in Shanghai every year since 2004. He concluded stating the importance of Shanghai in the development of the Satellite Navigation Industry and stressing the cooperation with Galileo.

Mario Musmeci, Telespazio S.p.A., started giving a glimpse into the future of GNSS. The Global GNSS "System of Systems" concept takes for granted that all the systems are fully interoperable but he remarked that still work is needed in this regard. Up to now, interoperability is limited to the user segment. This should be extended. The future will bring a mix of competition and cooperation: Competition with respect to specific signals, services and performance levels, cooperation with respect to international services, multilateral agreements and cooperative modes.

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Regarding the future GNSS market, the markets of the different systems do not overlap 100% but every system will have its own areas of interest. Interoperability and standardisation are an absolute must in today's world. More than ever cooperation among GNSS systems is required. To conclude, Musmeci summarised his contribution stating that at the end the market will rule the process. The market changes continuously and thus standardisation is extremely crucial.

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