



MUNICH SATELLITE NAVIGATION SUMMIT 2008

Session 3:

Chairman: Prof. Andrzej Felski

Prof. Andrzej Felski, Director of the Institute of the Navigation and Marine Hydrography of the Naval Academy in Gdynia, and Head of the Polish Institute of Navigation welcomed the panelists and immediately preceded asking for the presentations.

Guillaume de Dinechin, Executive Vice President of International Space Brokers France started his speech talking about the liability in case of an accident that is due to a malfunction of GNSS and listed a number of possibilities. He asked the question "Who is liable for what?" and discussed the possible role of all the parties of the Galileo service chain. He expressed the fear that the liability could exceed the financial abilities of the liable entity or even the insurance market capacities. From the viewpoint of an insurer he pointed out that insurance companies may impose certification requirements as well as exclusions. If a certain limit of indemnity is exceeded the help from the public sector will be essential.



Felski, Kvinnesland, Grzebellus, salabert, Dinechin (left to right)

Martin Grzebellus, Managing Director of NavCert GmbH stressed that even though GPS has ever run without certification this is no option for Galileo since the latter one is expected to fulfil safety critical applications from the very beginning. Furthermore, Galileo comprise integrity information. A certification will increase

the probability that the system will work. He presented an overview of the certification concept, the process and the type approval. He mentioned the advantages of a multimodal approval compared to application specific ones in order to optimize the processes subject to the certification entity as well as with respect to the user or operator.

Mario Musmeci, Head of Galileo Management Office at Telespazio, wished to enhance the position, velocity and timing (PVT) capabilities of GNSS to a guaranteed PVT that ensure a particular service. He argued that this would even save money. As a prominent example he mentioned the German Toll Collect system that needs additional infrastructure and causes enforcement costs in order to keep the system working in case of a malfunction of the GPS unit. This example shows that guaranteed services do not only play an exclusive role in safety-of-life issues, but may also be a vital element for commercial applications.

Kenneth Kvinnesland, Head of Space Activity of DNV in Oslo / Norway, a global provider of services for managing risk, claimed that certification is needed to create confidence in the Galileo signals and services. The GSA has to perform certification structures in order to ensure that the expectations in the system can actually be met. In the legal framework of the Single European Sky (SES) the certification process should be supported by so-called Notified Bodies. These Notified Bodies are responsible for verifying that the system complies with relevant rules and regulations and issuing a certificate of compliance. Thus, the Notified Bodies are an essential part of the "responsibility chain" which also includes hardware manufacturers, system owner, system provider and National supervisory authorities.

Francisco Salabert, Head of the GNSS Policy Office of Eurocontrol emphasized the importance of creating confidence too. He is the opinion that the certification process and the establishment of an adequate legal framework would allow further reliance on GNSS. He would like to mitigate institutional concerns due to the international dimension of GNSS and the lack of direct control



over the GNSS infrastructure. Thus, Eurocontrol proposed to the ICAO (International Civil Aviation Organization) to elaborate a legal framework to manage liabilities. European GNSS system and service providers should be subject of a certification process based on the existing Single European Sky (SES) regulations which have originally not been tailored for GNSS. Beyond it, Francisco Salabert pointed out that the mutli-constellation and multi-frequency environment which will develop in a decade or more will be more complicated and will even require more dedicated certification efforts.