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**Panel III: The use of space for Europe's security**  
**Satellites for communications, navigation, observation and surveillance**

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CNES is both the French government space agency and a technical centre which develops and operates complex space systems. We receive our budget from the Ministry of Research and Higher Education and from the Ministry of Defence. This very special, double relationship allowed CNES to set up a dual approach for developing space programmes. We implement this duality as often as we can, for technology, platforms, satellites, or operations. We have set up a Defence team, comprising 2 or 3 persons respectively from CNES, from the Joint Staff and from DGA.

For communications and navigation, CNES works closely with the French Defence, for developing the Athena Ka-band dual use communication satellite, and for allowing Defence to make an efficient use of the future capacities of Galileo – in particular through the Public Regulated Service.

In the domain of Earth observation, which is a domain of expertise for CNES, there are several ways to support Europe's security.

The security of environment, first, is becoming more and more critical with the climate change. We, at CNES, are working on a new project of a small satellite, called MICROCARB, which will measure the local concentrations (i.e., emissions and sinks) of carbon dioxide. Together with the German-French project CHARM which will monitor the methane in the atmosphere, these two satellites could be a first step to the assessment of future Treaties application in the international fight against global warming.

Defence also needs satellites for observing and listening. We have developed the Helios optical satellites for French Defence; the last model of Helios, H2b, will be launched on tomorrow from French Guiana; this is why Yannick d'Escatha, the CNES CEO, could not attend this congress. I think we all hope a successful launch for Helios! We are now preparing the next generation, MUSIS optical component.

More important, these French optical satellites are conceived and operated in a European cooperation frame, with partners such as Spain and Italy. And Helios optical images are exchanged almost daily against radar images from the German Sar Lüpe or from the Italian Cosmo-Skymed systems. This is also a way of consolidating Europe; MUSIS should even go further with a more operational way to share observation requests and resulting images.

Last, I would say a few words about the European Space Agency new activities in the domain of Security and Defence. The space situational awareness programme is also a way to improve the security of European assets in space, by preventing in-orbit collisions. After GMES and Galileo, this is for ESA a new domain of space activities which addresses security aspects. This programme will require a very narrow cooperation between ESA, the EU (Commission and Council), and Member States with their space agencies. The governance will be complex to establish, but there is a real common willingness to succeed.