

European Technological Non-Dependence in Space

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Technological Independence

would imply that all needed space technologies are developed in Europe

Technological Non-Dependence

refers to the possibility for Europe to have free, unrestricted access to any required space technology

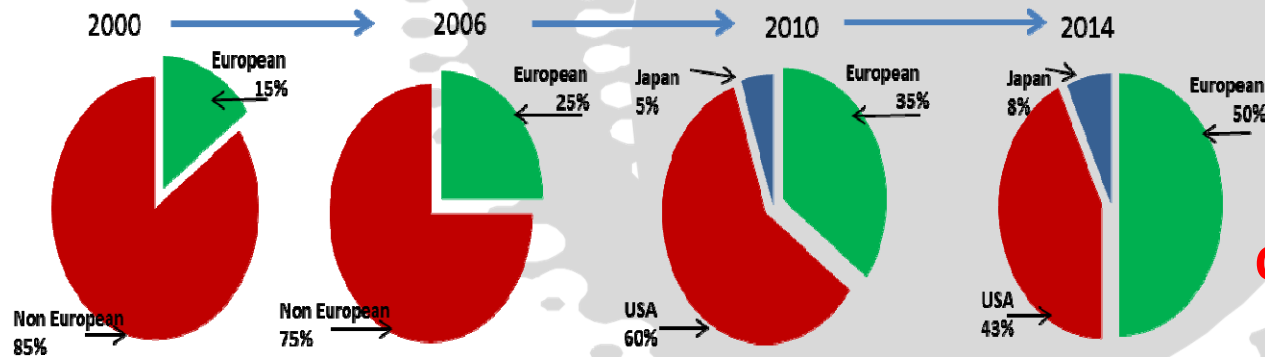


Not merely a technological issue!!!

Global Supply Chain

European Space industry has a good proficiency of most of the supply chain, **except at the lowest levels** with basic supplies, such as advanced and raw (e.g. rare earth) materials, propulsion, components and mostly **Electrical, Electronic and Electromechanical (EEE)** components.

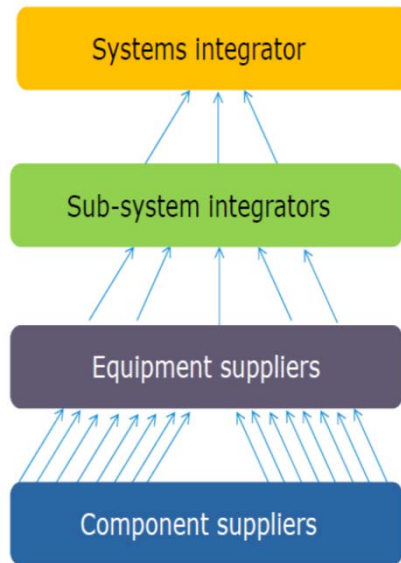
Ratio of European to non-European EEE-parts used in a typical European Telecoms satellite



EUROPEAN SUPPLY CHAIN COULD IMPROVE...

(From ECI update, 2015, M. Nikkulainen)

BUT A NON-DEPENDENCE STRATEGY WILL BE NECESSARY!!!



- European technologies are not available (e.g. materials, components)
- European technologies may be available but not with the appropriate level of maturity, reliability or costs
- European technologies need to be replaced or re-qualified because they are obsolete, no more available or for the incoming of new legislations (e.g. REACH, RoHS)
- Strong limitations for European industry to access sensitive items for strategic export regulations (e.g. ITAR)
- Time to market
- Excess of fragmentations/not harmonised regulations

EC-ESA-EDA Joint Task Force for technological Non-Dependence



- ETnD process launched in September 2009, on the basis of Harmonisation process and with the support of Eurospace, SME4SPACE
- Draft **List of Urgent Actions** to be updated every two years

ETnD: an overarching topic

- **Technological progress and innovation policy**
- **Industrial policy and competitiveness**
- **Security and defense**
- **International relations**
- **Regulatory framework**

Main conclusions and recommendations

- ETnD is an overarching topic that must be considered under many different perspectives, with a **multilateral and multi-stakeholder approach, both at trans-national and at cross-sectorial level**
- The enhancement of an European supply chain through technological advancements should be pursued, **but it should go on a parallel way with international relations for mutual exchanges**
- Synergies between the civil and defense sector should be promoted to attain a full effectiveness
- Many goals have already been achieved, **but there is still the need for further enhancement and coordination of European efforts, since they are still too fragmented and not harmonized**
- **Significant institutional investments are fundamental and have to be made both on the ESA and the EC side**
- **The many ESA initiatives (and in particular the ESA Components Initiative) need continuity:** need to manage medium/long term roadmaps and harmonized timeframes between innovation cycles, market dynamics and funding mechanisms

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- **Chapter 1:** *The Dependency Issue*
- **Chapter 2:** *The long Road toward a European Technological Non-Dependence Strategy*
- **Chapter 3:** *Critical Technologies: State of Play*
- **Chapter 4:** *Conclusions and Recommendations*

