Facts and Figures press release – June 2017

THE STATE OF THE EUROPEAN SPACE INDUSTRY IN 2016

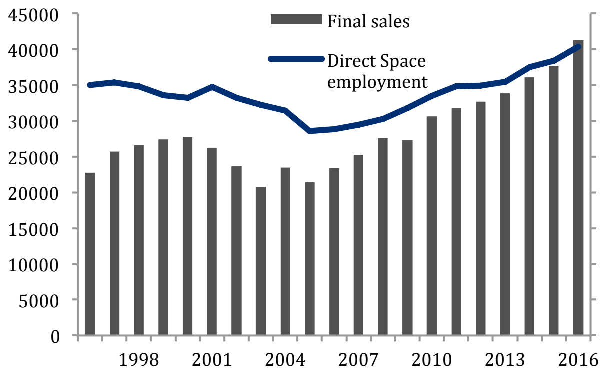
OVERVIEW – THE EUROPEAN SPACE MANUFACTURING INDUSTRY IN 2016

- A strategic sector, embedded in the larger aerospace and defence industry, the space manufacturing industry designs, develops and builds space systems (launchers, spacecraft and the related professional ground segment[1]) for public and private customers in Europe and across the Globe.
- **The space industry is at the higher end of an important value-added stream of commercial and public/strategic services**. Space value added services and their user ground segment (e.g. Copernicus, Galileo, Broadcast and broadband services, geo-information...) generate socio economic benefits and support the development of Europe.

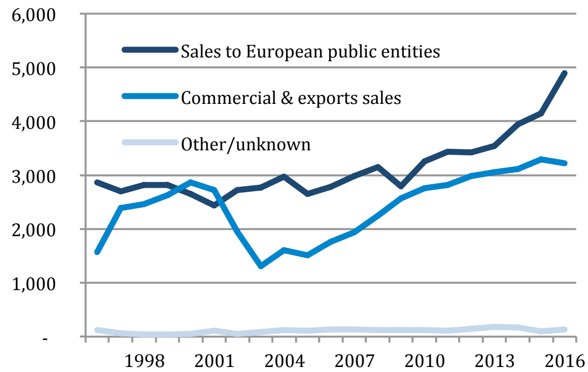
KEY FACTS 2016

- **Final sales[2] worth 8.24 B€ (+9.4%)** - **Direct industry employment 40 419 FTE (+5.2%)** - Women represent about 21% of space industry employees.
- Sales are growing in the main market and product segments. European space sector is facing an unprecedented long series of growing sales.
    - Sales to European institutions (ESA, EU, national agencies) worth 4,9 B€ have supported most of the growth in 2016.
    - Main export market segments are in growth, but offset by decrease of sales to public operators. Overall, Exports are worth 2 B€ in 2016.
    - As with previous years, the improvement of sales has supported growing employment in the sector, although not proportionally. In the past decade, the average value of final sales per worker has improved by 36%.

EUROPEAN SPACE INDUSTRY SALES (CURRENT M€ -RIGHT) **& EMPLOYMENT** (FTE - LEFT)



EUROPEAN SPACE INDUSTRY SALES BY MAIN CUSTOMER SEGMENT (CURRENT M€)



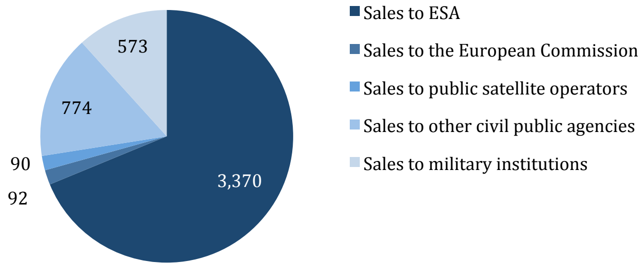
EUROPEAN INSTITUTIONAL PROGRAMMES - THE CORE BUSINESS OF THE EUROPEAN SPACE INDUSTRY

- **Institutional programmes promoted by European governments represent more than half of European industry's business** (59,5% in 2016, 4,9 B€). They were again the main growth segment in 2016 for the European space industry.
- European institutional programmes address missions in the public service domain, such as meteorology, science, defence and security, communications, exploration, human space flights… European institutional programmes are of paramount importance for the European space industry; by addressing all programmatic and technology areas they ensure sector readiness; they pave the way to future operational and/or commercial applications. With regard to defence programmes, they are still under-represented in space programmes in Europe. Currently managed through national initiatives they hardly create the critical budget mass for Europe to stay abreast with its partners/competitors in space (such as Russia, China and the USA).
- ESA is the main promoter of European space programmes, with the funding provided by its 22 Member states, Eumetsat and the EU. **ESA as the main procurement and development agency in Europe is the major customer of the space industry** (41% of total industry sales, 69% of European institutional customers).
    - *Note that ESA is in charge of procurement and technical management of two EC-funded programmes: Copernicus (former GMES) and Galileo.* ***These represent approximately 432 M€, i.e. 13% of total ESA related sales of industry****. Similarly, ESA handles the Meteosat development programmes and procurements on behalf of Eumetsat. This represented approximately 110M€.*
    - *In 2016 the ESA budget growth (and related industry sales) was supported by increased contributions from Member States on top of the budget delegated by the European Union.*

[1] According to standard definitions the space manufacturing industry does not include service activities such as that of satellite operators (Eutelsat, Inmarsat...) or launch service providers (Arianespace). These entities are customers to the manufacturing industry.
[2] Eurospace measures industry sales to final customers invoiced in the year. This measure ensures that intermediate sales are eliminated to avoid double counting.

- Sales to national entities (Space agencies) have recovered in 2016 (+70 M€), a slight growth evenly split between military and civil systems.
- Direct procurement by the European Commission (including grants) is stable at 90 M€.

EUROPEAN SPACE INDUSTRY SALES (CURRENT M€) – EUROPEAN INSTITUTIONAL CUSTOMERS ONLY – 2016



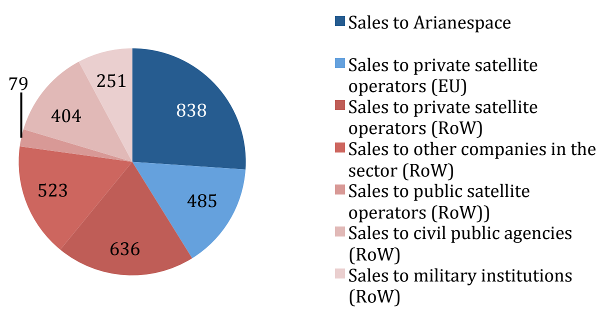
Details by procuring entity - European institutional programmes M€	
ESA (of which. EU and Eumetsat delegated programmes)	3 370 (432 + 110)
European Commission FP7/H2020 only	92
Public Satellite Operators (Eumetsat)	90
Civil Space Agencies	774
Defence/military entities	573

COMMERCIAL MARKETS – DRIVING COMPETITIVENESS

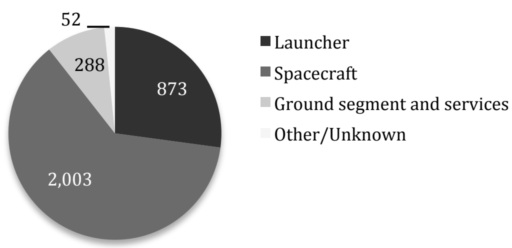
Commercial markets represent 38% of industry sales in 2016 (worth 3.2 B€). They are composed of three main sub-segments (ordered by volume of sales):

- The commercial satellite systems segment (2 B€), mostly composed of telecommunications systems (1.5B€, stable in 2016) and to a lesser extent of Earth observation (0.3 B€) and scientific systems (0.2 B€).
    - In the commercial telecommunication segment, customers are mostly commercial satellite operators (84%).
    - In the commercial EO (59%) and science segments (46%), customers are mostly government entities outside Europe.
    - European equipment suppliers are still contributing to the trade balance of the EU with more than 500 M€ exports.
- The operational launch system segment (and related industrial services at launch site – 873 M€)
    - Arianespace and the launcher supply chain are tightly linked by the technical and commercial performance of the European launch systems (Ariane 5 and Vega).
    - All industry sales to Arianespace (838 M€) are accounted for as domestic, but the high proportion of non-European customers of Arianespace (two thirds) gives this market segment a significant international component, requiring permanent efforts of competitiveness, from a commercial and technical point of view.
- The ground systems and services segment (288 M€). It includes professional ground stations and associated services as well as specialised equipment for space systems integration and testing.
- Recent trends:
    - Telecommunications system sales seem to have transitioned from a rapid growth between 2005 and 2010, to a slower pace after 2011. New trends in telecommunications are the high throughput and digital flexible satellites and the transition to fully electric propulsion systems. High expectations also lie in the new constellation, and mega-constellation systems, where European players have strong market positions at system and equipment levels.
    - Earth observation systems are providing increased opportunities for exports, including for security and military applications. These exports are strong vectors of economic diplomacy, and shall be further supported by European and national institutions. Europe is World leader in this export segment since a decade.
    - While industry, in the frame of ISS servicing has been able to capture export market opportunities taking advantage of the new NASA procurement strategy, the perspective for the future remains uncertain.

EUROPEAN SPACE INDUSTRY SALES – COMMERCIAL MARKET BY CUSTOMER SEGMENT - 2016 - M€



EUROPEAN SPACE INDUSTRY SALES - COMMERCIAL MARKET BY PRODUCT SEGMENT - 2016 - M€



This analysis has been performed by Eurospace Space Industry Markets Working Group that monitors European space market situations and provides support to the annual Eurospace facts & figures survey.

Complete data on the European space manufacturing industry is available from Eurospace.

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