Space industry workforce

P. Lionnet – Research & Managing Director

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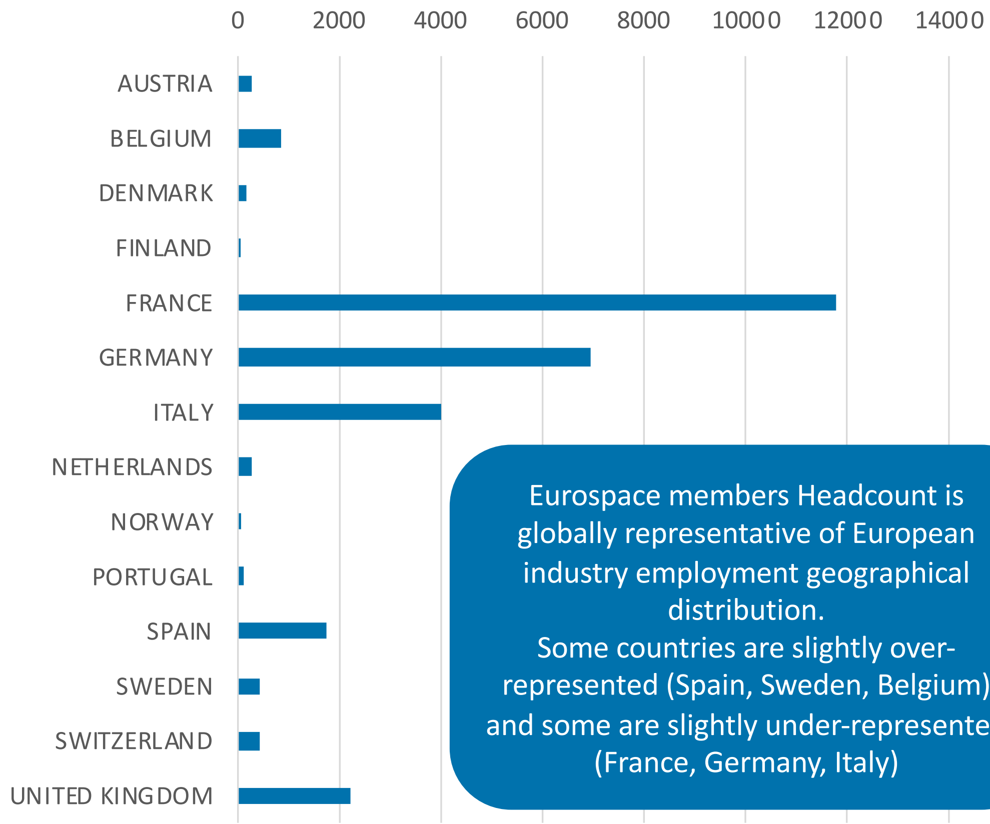
About Eurospace

The Association

- Eurospace is the leading space industry (upstream) association in Europe.
- Its members provide the core competences and the main capabilities of European space systems design development and manfucturing.
- Eurospace maintains a European space industry knowledge database:
  - The annual facts & figures survey (since 1996)
  - The Newspace observatory (since 2016)
  - The Supply chain SME survey (in 2018)
  - The Industry Capability Database updates (since 2010)
  - The Cordis participants and projects analytical database (2014-2020)
  - The Technology Harmonisation Panel (since 2011)

The members (employment by Country)



Eurospace members Headcount is globally representative of European industry employment geographical distribution.
Some countries are slightly over-represented (Spain, Sweden, Belgium) and some are slightly under-represented (France, Germany, Italy)

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The European space manfacturing industry – key features

Three main product lines

- Launcher systems
- Spacecraft systems
- Ground systems

More than 1000 companies are active in space manufacturing in Europe, mostly with very small units

- Sector follows the Pareto distribution (20/80)

European space industry

Consolidated turnover: >8B€/year

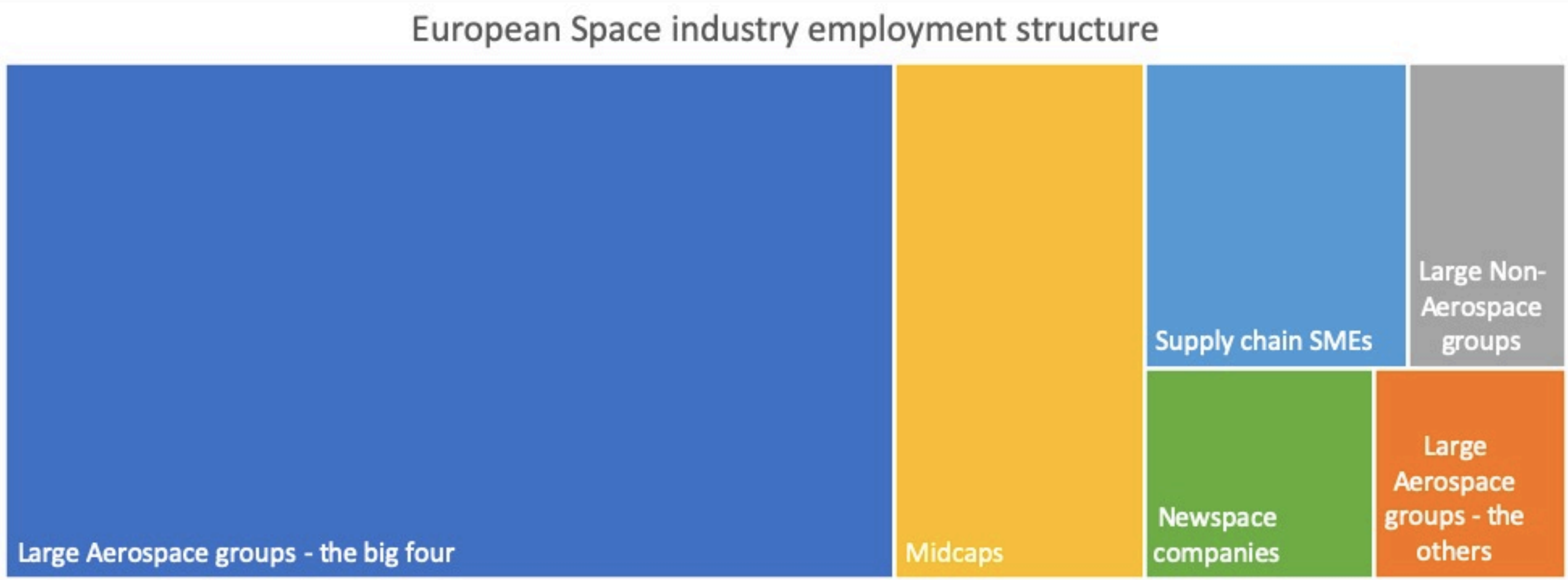
- 60% of sales are relevant to European institutional programmes.
- Verticalised industry

Employment: >50000 FTE

- 6 countries: 90% of employment
- 4 industrial holdings: 60% of employment
  - *Airbus, Thales, Leonardo, Safran*

Corporate structures

Overview of corporate structures (Employment)



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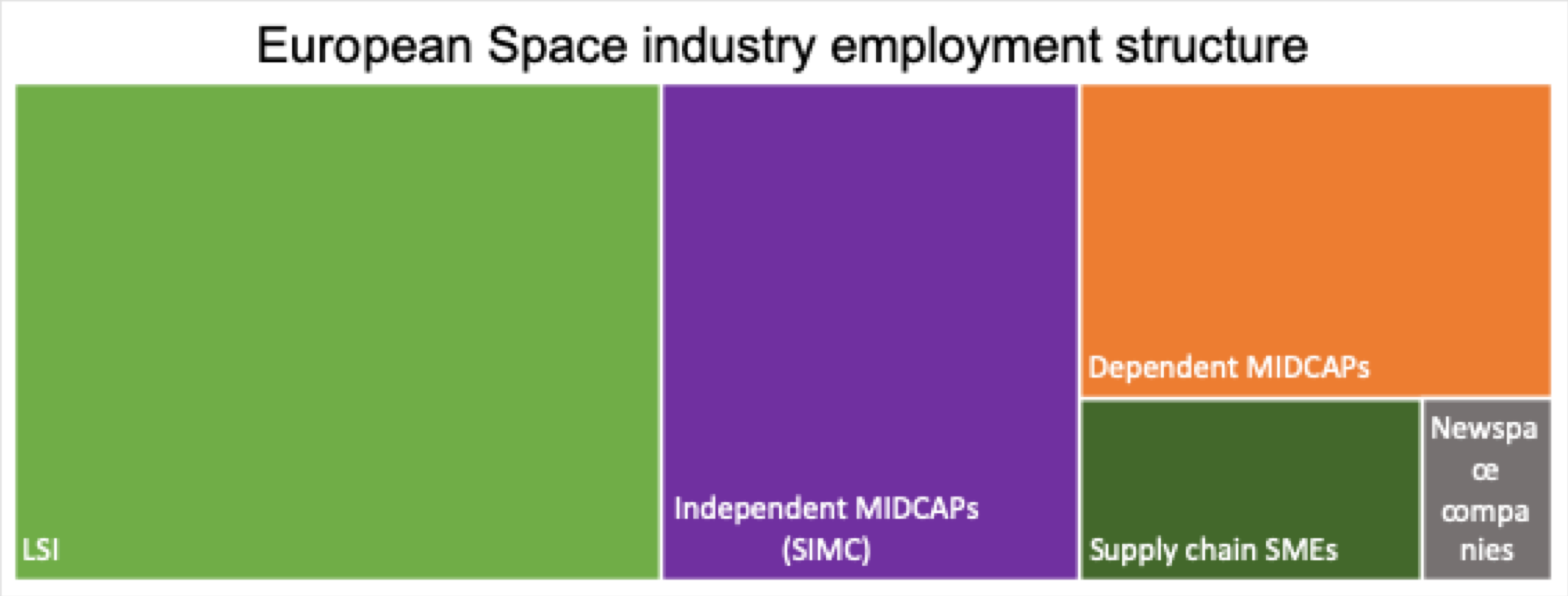
The 4 largest European Space groups

- The Airbus group, with its Defence and Space division, its subsidiaries and participations, and with its 50% share of the ArianeGroup JV, is clearly the largest player in the European space supply chain with more than 14000 direct employees in the space sector.
- The Thales group, with its own space activities, and its majority and minority shares in the Thales Alenia Space and Telespazio JVs is the second largest player, worth close to 7000 space employees.
- The Leonardo group, on top of its own space activities, also co-owns Thales Alenia Space and Telespazio with Thales; it is also a strategic investor in Avio (29%), and is ranking third in Europe, with more than 4000 space employees (including Avio pro rata).
- The Safran group, like Leonardo, has its own space related units and products, it is also the co-owner of the ArianeGroup JV with Airbus. This puts it in the fourth seat with close to 3000 employees.

The other players

- Smaller space business units incorporated in other large groups operating in the aerospace and defence sector (RUAG, INTA, Deimos, ABSL, Dassault, Kongsberg)
  - These are often small space units (with the exception of RUAG) for a total workforce well below 3000.
- Smaller space business units incorporated in large groups operating outside the aerospace and defence sector (such as Altran, Serco, Cap Gemini, Air Liquide, CGI...).
  - These are usually rather small units (only a handful have more than a 100 space employees), for a total workforce in the order of 3000, i.e. about 6% of the total sector employment.
- Medium size independent companies, usually active in aerospace and/or defence markets (OHB, SABCA, NAMMO, APCO, TERMA, Avio etc.).
  - These companies, that could be labelled as *Midcaps*, gather almost 8000 space employees, with the largest one being the OHB group, followed by GMV and Avio. Many have very small space units, despite being quite large companies (e.g. QinetiQ).
- The supply chain SMEs: about 400-500 SMEs are known to contribute to the European space supply chain.
  - Only a few are 'pure' space players, the most is composed of aerospace businesses, often micro-enterprises, where the space workforce may represent less than 10 employees. They are located in majority in Germany, France, and Italy. Usually in clusters around the big system integration facilities.
- The emerging 'newspace' players. this segment of the industry may now represent up to 2000 employees in Europe.
  - The majority of these recent companies are independent SMEs.

Overview of industry structures (Employment) – ESA definition



Overview – using ESA segmentation (LSI/Midcap/SME)

- LSI are enterprises having at the same time:
  - at least one ongoing prime contract for over €200m and concerning space-related infrastructures, launchers or satellites; and
  - an annual turnover of over €200m or an annual balance sheet total of more than €200m
  - ESA recognises 8 (9) LSIs
    - Airbus DS SAS
    - Airbus DS GmbH
    - Airbus DS Ltd
    - ArianeGroup FR
    - ArianeGroup GmbH
    - Thales Alenia Space France SAS
    - Thales Alenia Space Italia Spa
    - OHB System AG
    - (Avio)

- The SME category is based on EU definition:
  - Enterprises which employ fewer than 250 persons and which have an annual turnover not exceeding EUR 50 million, and/or
  - an annual balance sheet total not exceeding EUR 43 million
- Midcaps = not-LSI and not-SME
  - **This Midcap non-definition thus includes companies that are linked to large groups**, including (and not limited to) subsidiaries of the large 4 aerospace groups: Airbus, Thales, Safran, Leonardo.
  - It also includes very small units located in large non Aerospace groups (e.g. Siemens Austria)
  - And of course it includes 'independent'or 'real' midcaps such as Sabca, GMV etc.

Demographics

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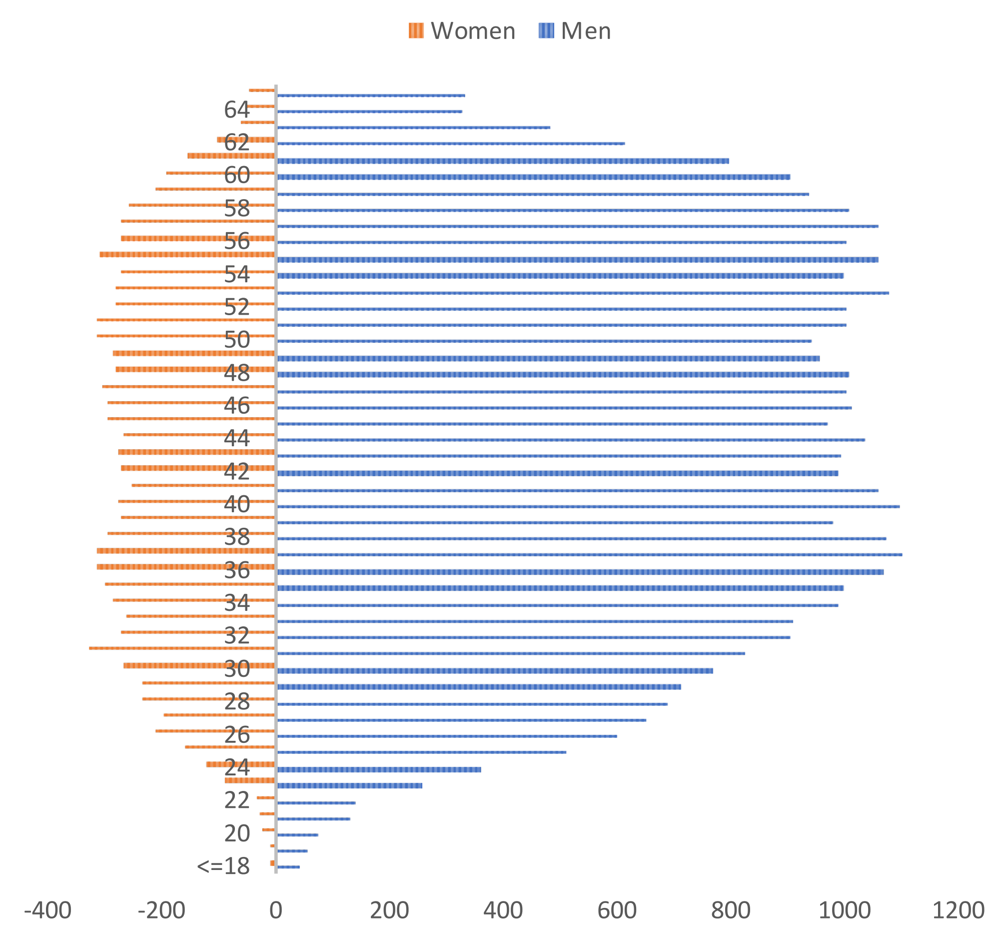
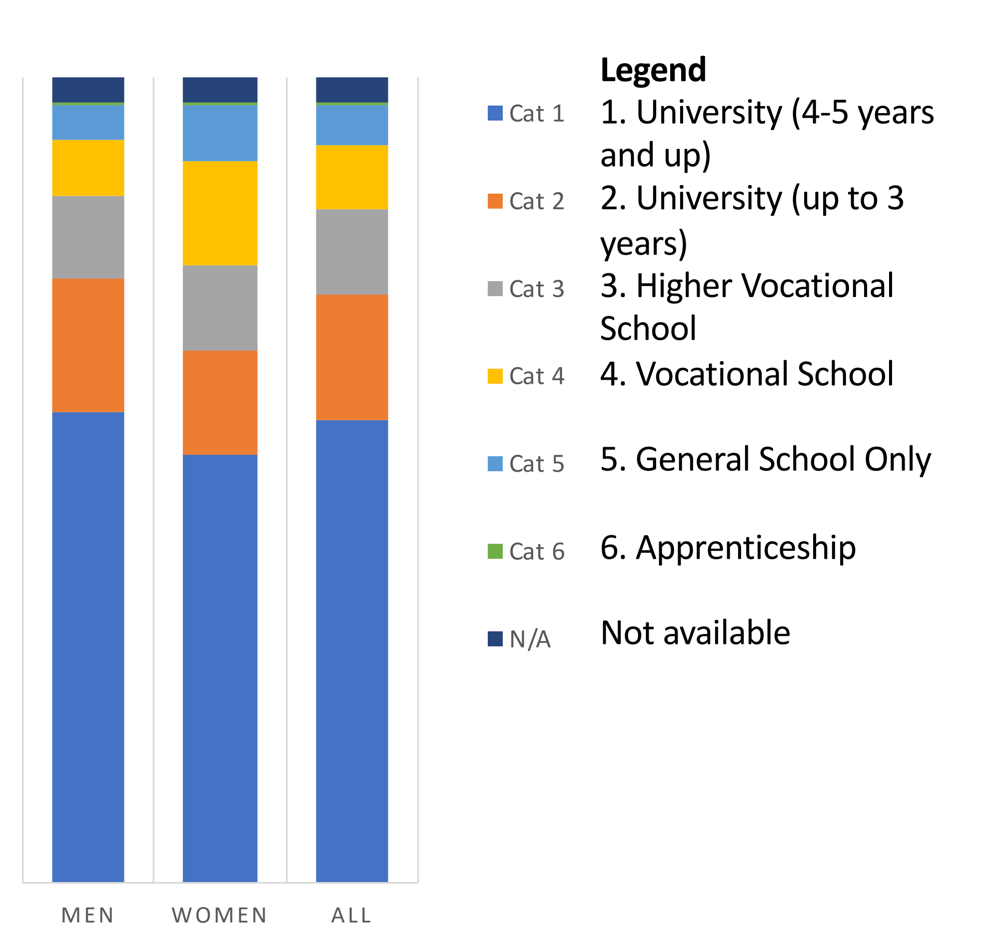
Demographics, age pyramid and qualification structure





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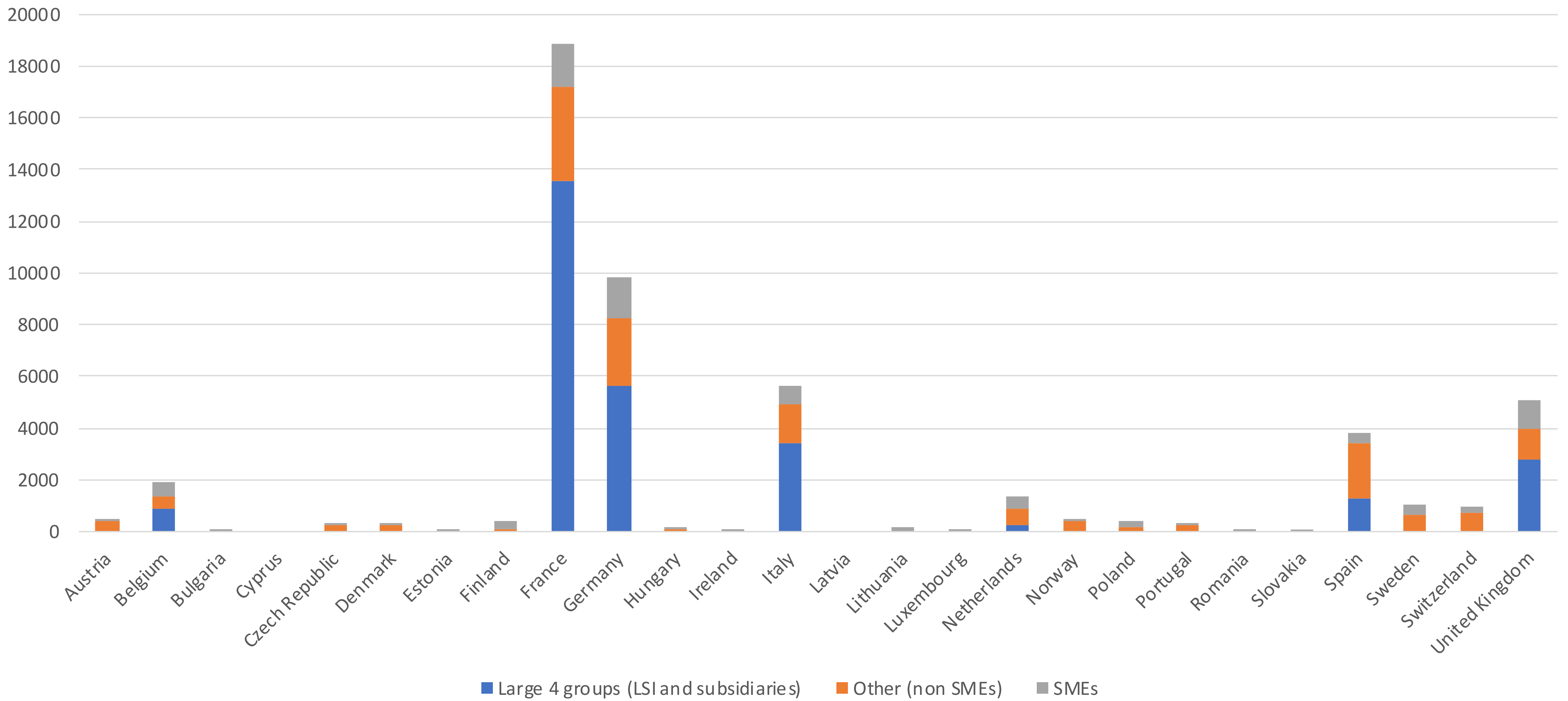
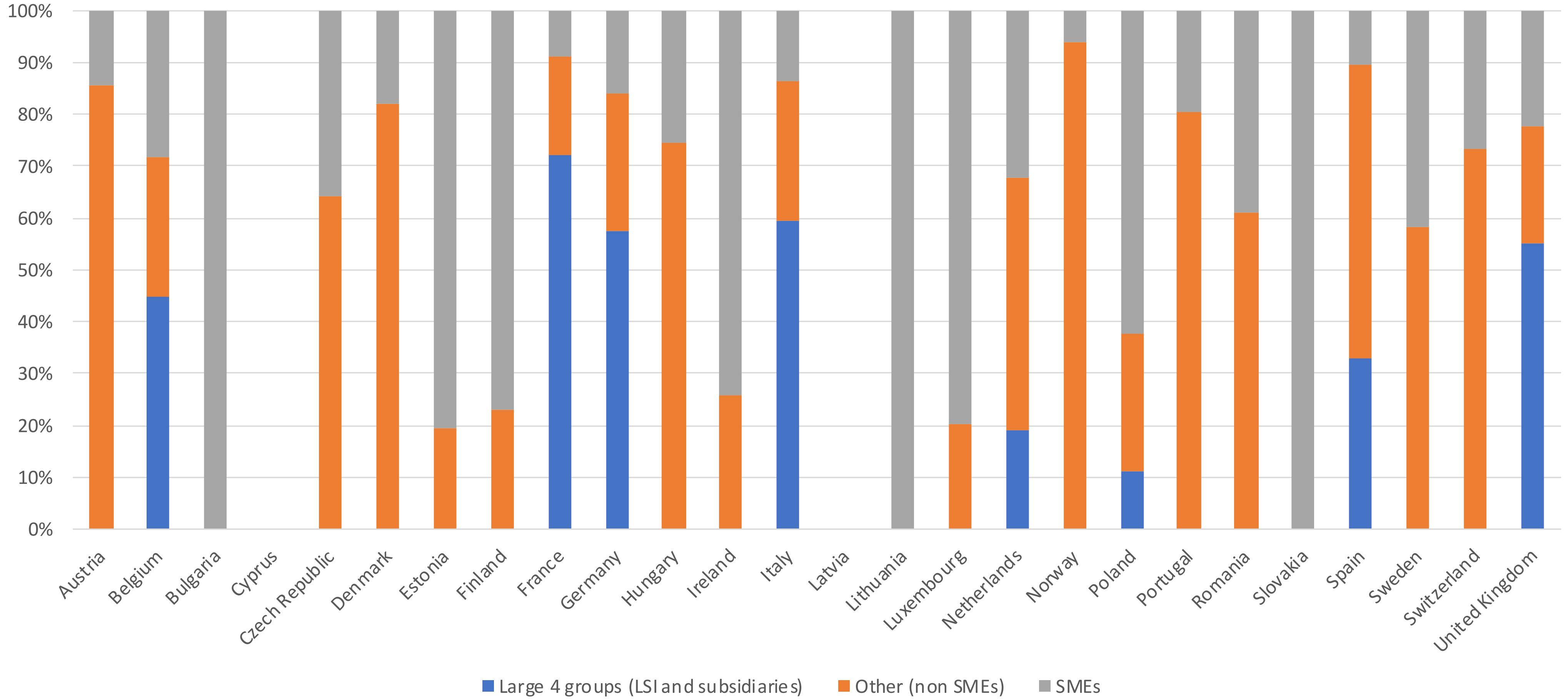
Country distribution

Country overview – upstream industry employment



Country overview – upstream industry employment (%)



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Key takeaways

- Today the Eurospace space sector is organised with **only a handful of prime contractors**.
  - **The largest of them are located in the major European aerospace groups**,
  - They are at the helm of a large incorporated supply chain **that makes them also the largest equipment and subsystem suppliers in Europe.**
- **The 4 large Aerospace groups play a pivotal role in the European space industrial panorama**, they pursue expansion and diversification strategies by spreading in Europe
- Not all primes are located in large groups:
  - **three important 'real' midcaps are also prominent prime contractors**, respectively for satellite, launcher and ground systems.
- The rest of the supply chain is rich of **a few hundred subcontractors of varied sizes**, including midcaps and SMEs, many of which are either micro enterprises either very small space business units.
  - **The supply chain structure is closely matching the size of national investments in space**, particularly at ESA level.

- A budding market for very small satellites and launchers (the 'newspace') is supporting the emergence of a new industrial segment, composed mainly by **independent small and very small companies.**
  - **The fate of this emerging segment is highly uncertain**, and largely dependent on market evolution
  - In economic terms it is still very small (little or no sales, small/scattered employment base)

➢ ***In total, the very large corporations (with global employment above 10000) provide almost 70% of total employment of the European space industry.***
  - ➢ *Note that this is not specific to space.*
  - ➢ *SMEs provide more than half of EU employment, but they only provide 5 to 10% of employment in industrial sectors (automotive, energy, engineering, digital etc).*
  - ➢ *Midcaps have no official definition, there are thus no statistics available at EU level*

Annex

Global environment

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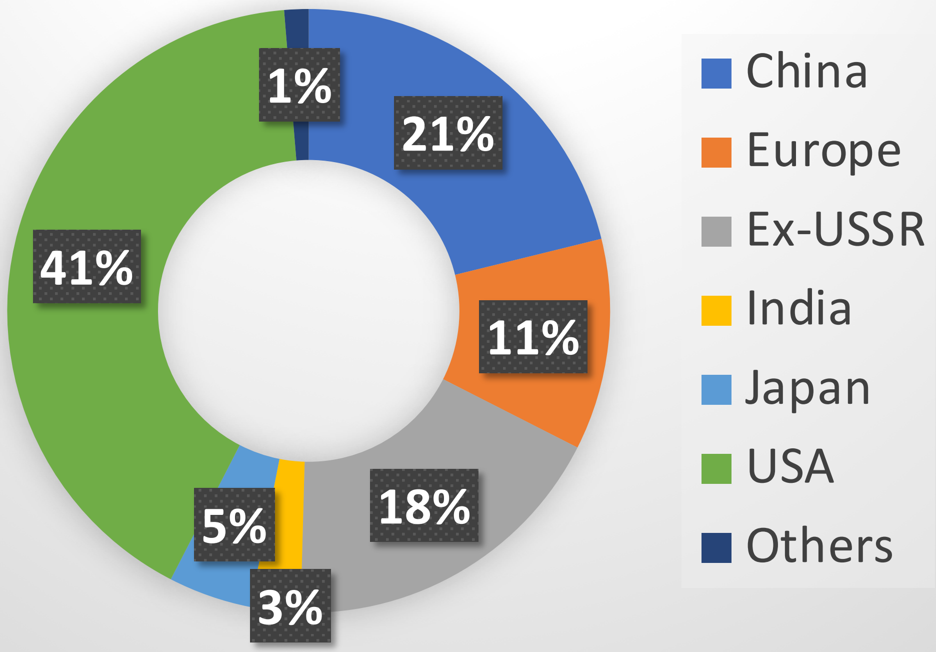
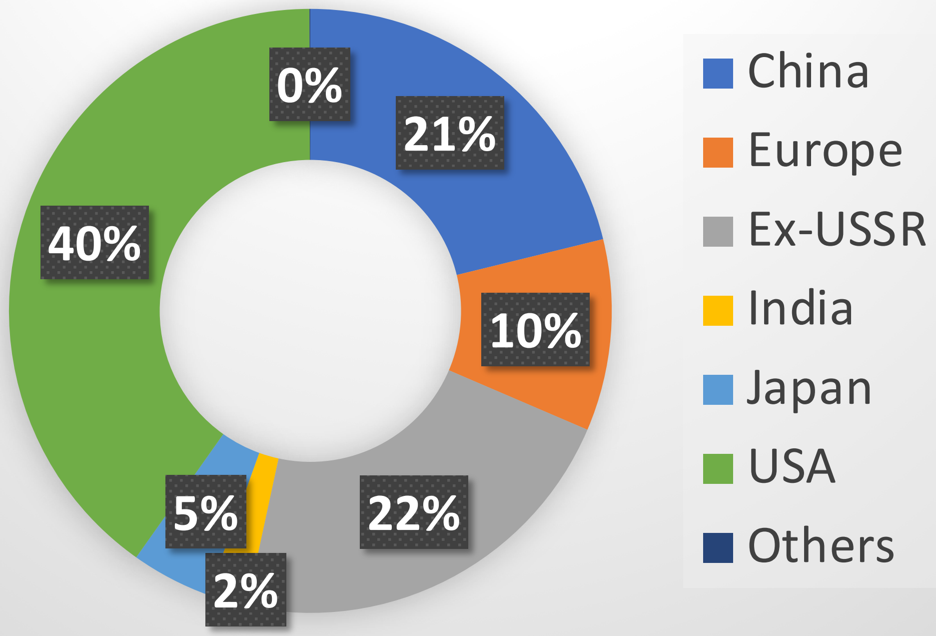
Global Space Activity in 2019

Global Spacecraft Production by region (tons)



Global Launch Activity by Launcher Region (tons)

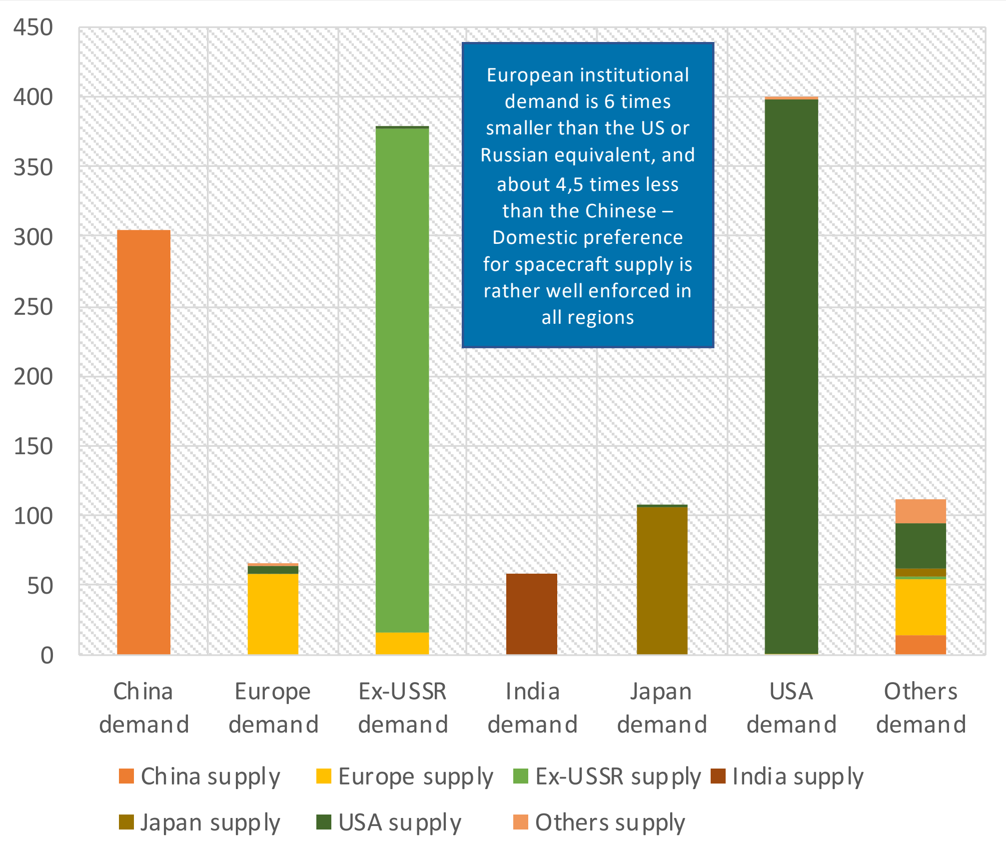
Europe is the 4th space power



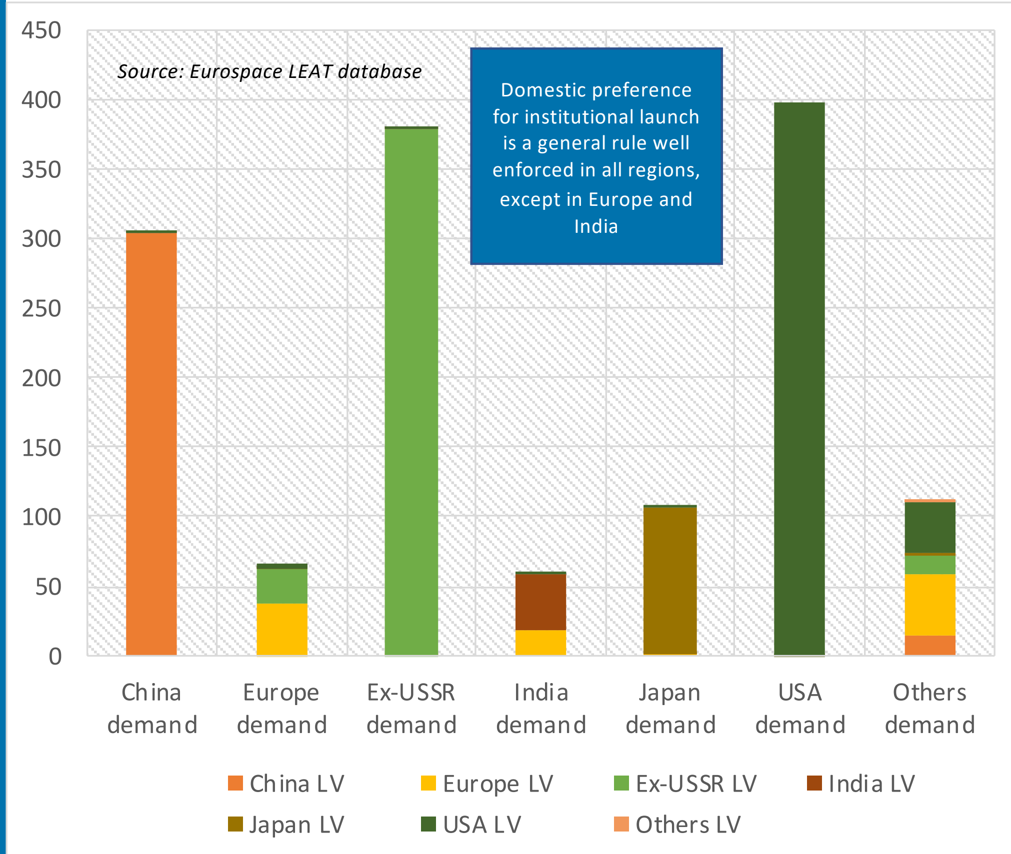
Source: Eurospace LEAT database

Institutional demand, enforcing domestic preference worldwide

Institutional spacecraft demand and supply (2015-2019, tons)



Institutional launch demand and supply (2015-2019, tons)



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Annex

Midcaps in Eurospace membership

Independent Midcaps in Eurospace membership

i.e. not linked to LSI, according to ESA definition

- Air Liquide
- ALTER
- APCO technologies
- Avio
- CGI
- CS-SI*
- Dassault
- Deimos
- GMV
- Indra
- Kongsberg
- NLR
- RUAG
- SABCA
- Safran Aircraft Engines
- Sener
- Serco*
- SITAEL Aerospace
- Tecnalia
- Telespazio Italy
- Telespazio VEGA
- TERMA
- TNO
- TTTech Computertechnik AG
- Vitrociset

* CS & Serco are in negotiation for joining

'Dependent' Midcaps in Eurospace membership

I.e. linked to a LSI according to ESA definition.

- Airbus DS CASA
- Airbus DS NL
- MT Aerospace AG
- OHB - Italy
- Tesat Spacecom GmbH & Co.KG
- Thales Alenia Space Belgique
- Thales Alenia Space España

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