Eurospace facts & figures

Key 2021 facts – Press release

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Foreword

- The 26th edition (release 2022) of the annual facts and figures documents the resilience of the European space industry after a difficult 2020 economic context marked by the Covid-19 crisis.
- ***In total, the European space industry has registered a growth of sales worth 1 billion Euro in 2021 to reach the value of 8,6B€***
  - The European space manufacturing sector has recovered partly from the Covid-19 business reduction, but some market segments are still affected by structural slowdown (in the commercial market particularly)
- ***Employment figures have maintained their constant growth topping at 53000 FTE in 2021.***
- The latest full report (2022 edition) is only available to selected institutional contacts and to all the companies that have supported the survey.
  - All others will now find on www.eurospace.org the 2021 edition for free download.

Data sources copyright and methodology

- Data sources
  - Eurospace facts & figures annual survey
  - Eurospace LEAT database
  - Eurospace 'new space' observatory
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  - Contact Pierre Lionnet (pierre.lionnet@eurospace.org) for more information

- Key methodological points
  - Launched mass in tons is established from public sources
  - Market values estimates in $ are produced using a proprietary parametric price model. The model produces the full value of the spacecraft, and of its launch service, at the date of launch
  - European industry sales and employment are measured by survey
    - Sales are consolidated/final sales
    - Employment are full time equivalent
    - The perimter is strictly space systems (i.e. launchers, spacecraft, professional ground segments, engineering, test, and integratio/test support activties & equipment

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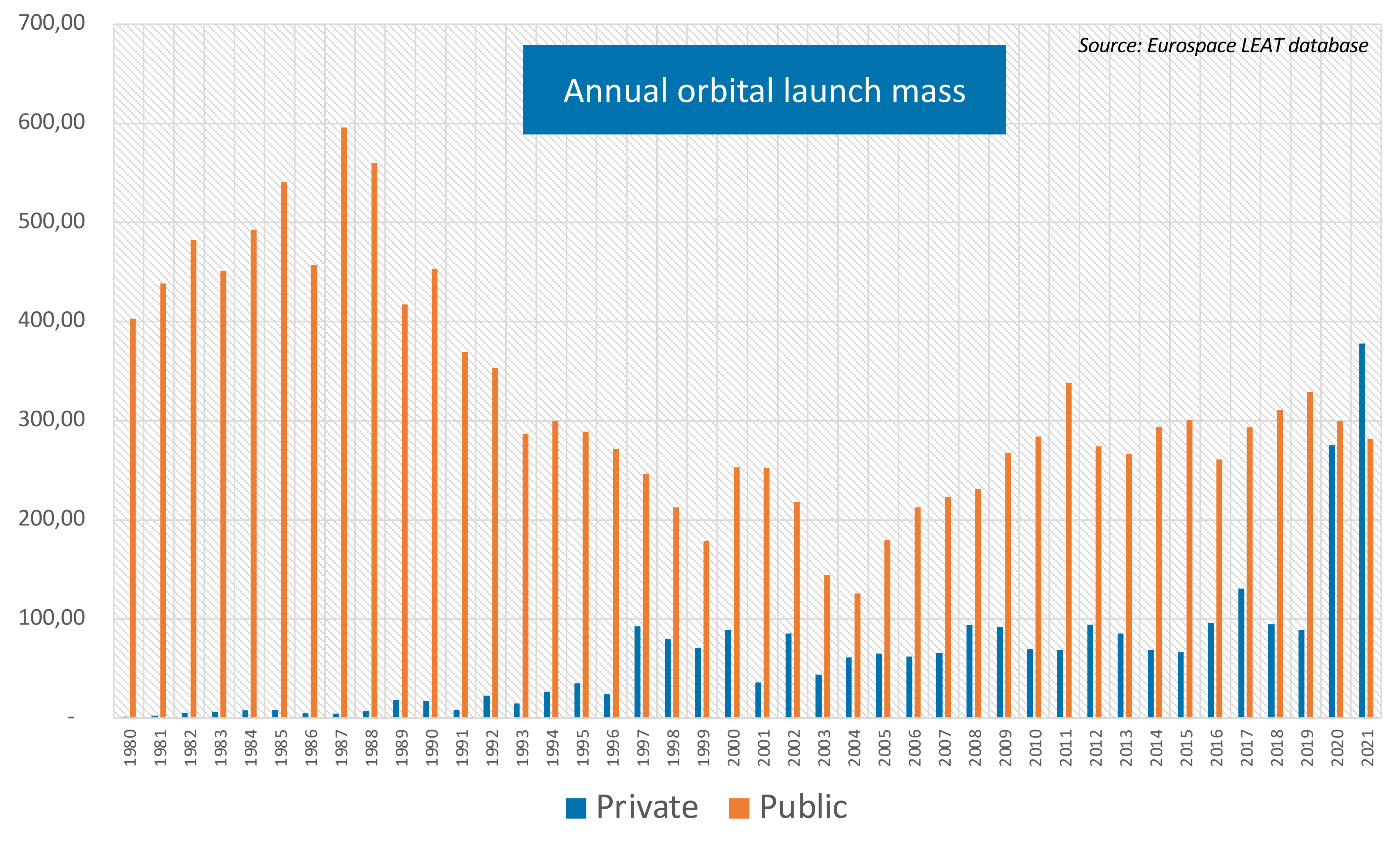
The global context

Global space activity since 1980 by customer type (tons/year)



- In the past decade an average 370 tons of spacecraft are launched in space every year. The average launched mass has been extremely stable since the mid nineties with a few cyclical/erratic variations. There has been no recent 'boom' nor a major 'crisis' in global space activity **until the initial rollout of the Starlink constellation in 2020**: this deployment alone represented an average 250-300 tons more than the usual launch activity, and it is disrupting annual launch statistics.
- Starlink excluded, the spacecraft procured by commercial operators (i.e. not procured by institutions or government-owned entities) represent in average 20% of the annual launched mass. Privately-driven activity exhibits a slightly cyclical trend which has entered a receding phase since 2017.
- Spacecraft procured in the context government programmes historically represent 80% of global space activity. They have been in slight growth since 2016. *Source: Eurospace LEAT database*

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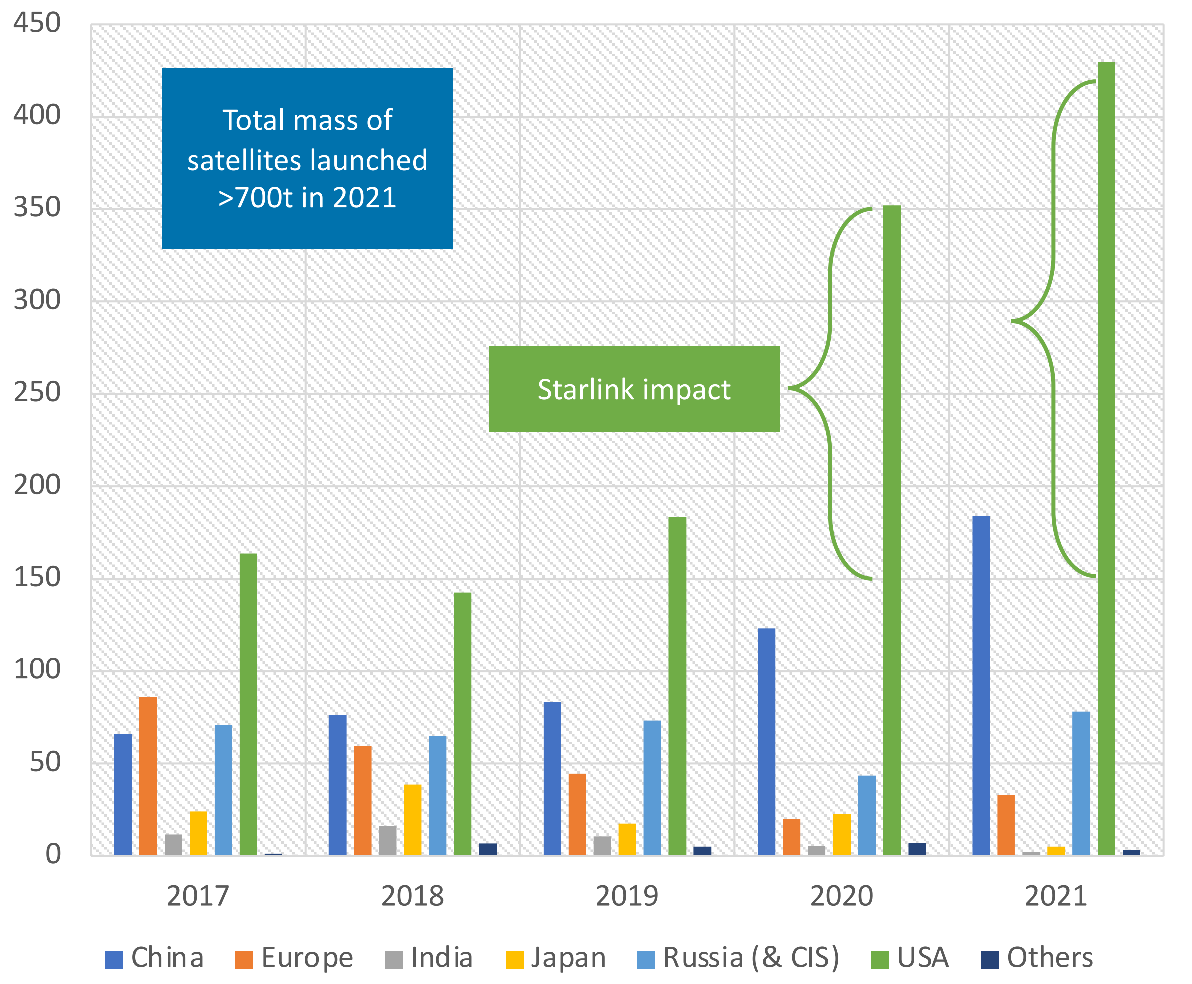
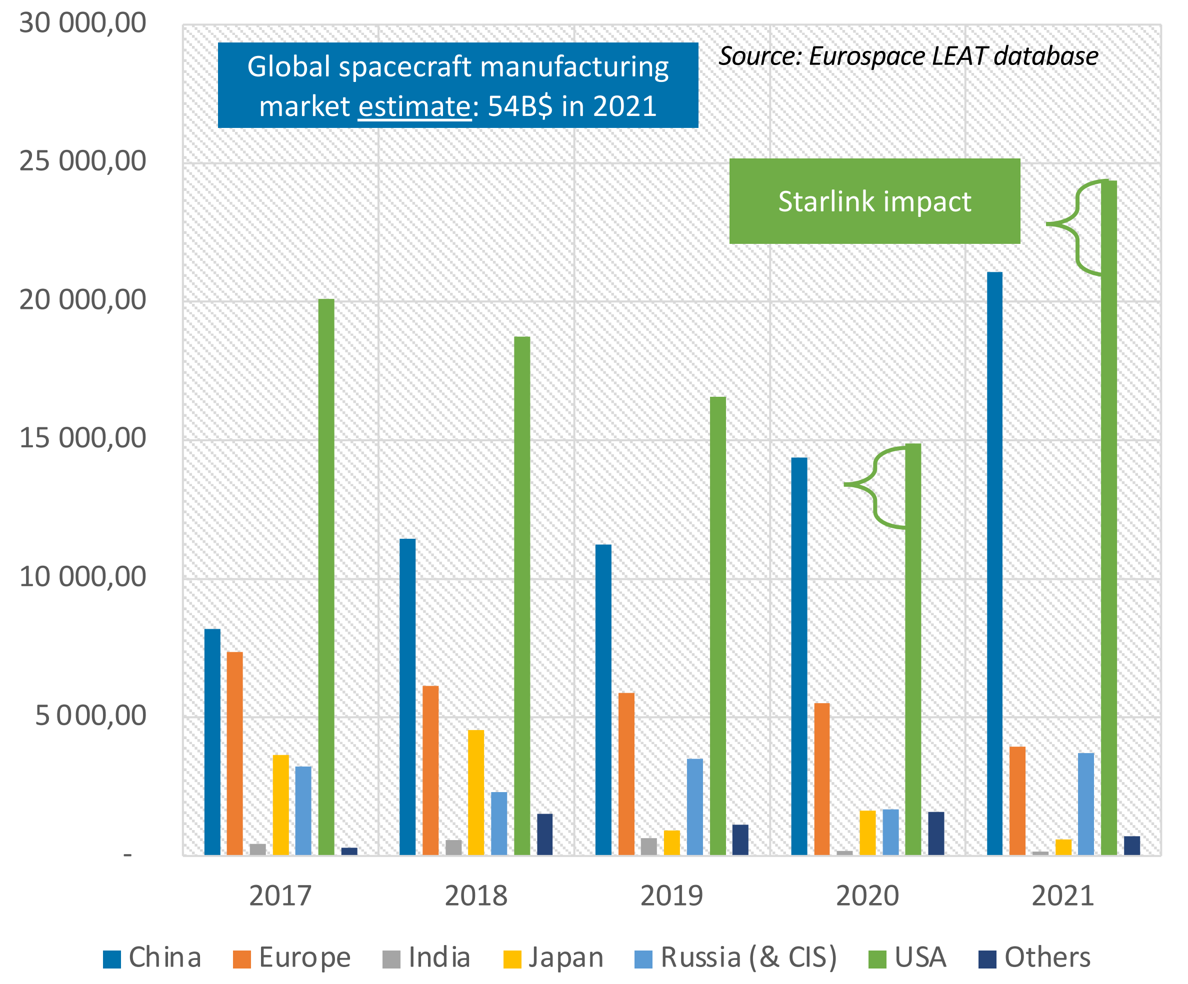
Global Space industry output in 2017-2021

Global Spacecraft Production by region (tons)



Global Spacecraft Production by region (M$)



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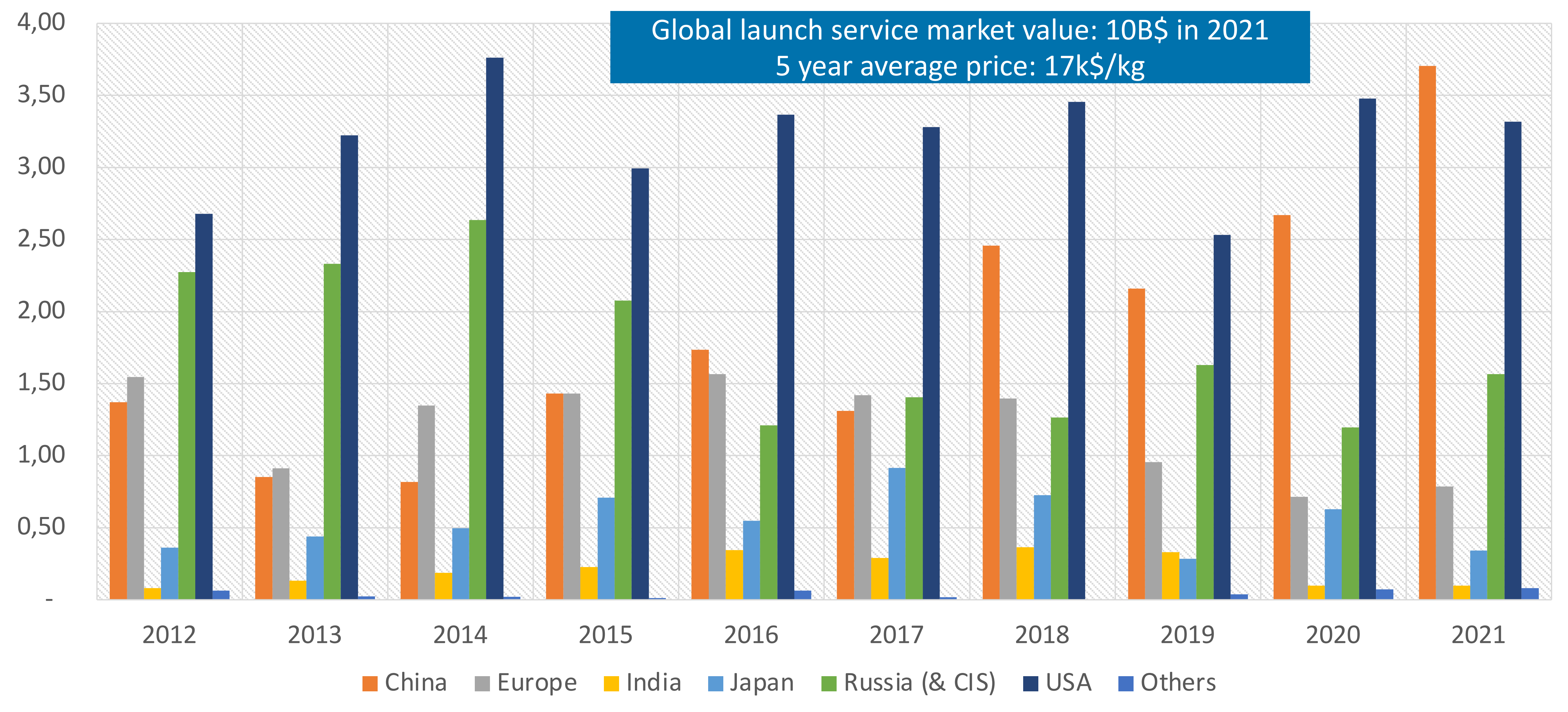
The launch service markets

Launch service market estimate by Launcher manufacturing region – constant B$ at PPP



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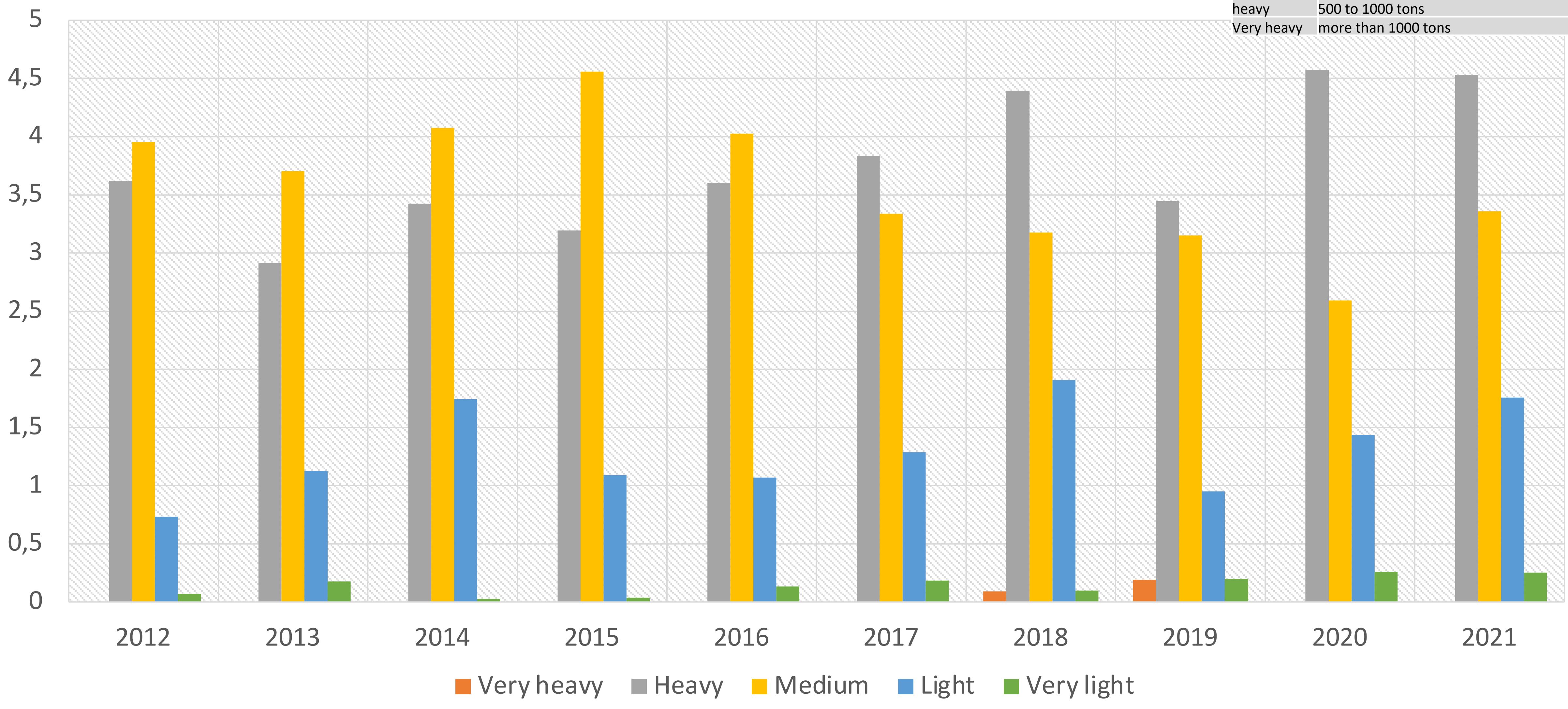
Launch service market estimate by Launcher class – constant B$ at PPP

Launcher classes are defined by launcher version total mass (not mass launched) as follows:

very light	less than 100 tons
light	100 to 300 tons
medium	300 to 500 tons
heavy	500 to 1000 tons
Very heavy	more than 1000 tons



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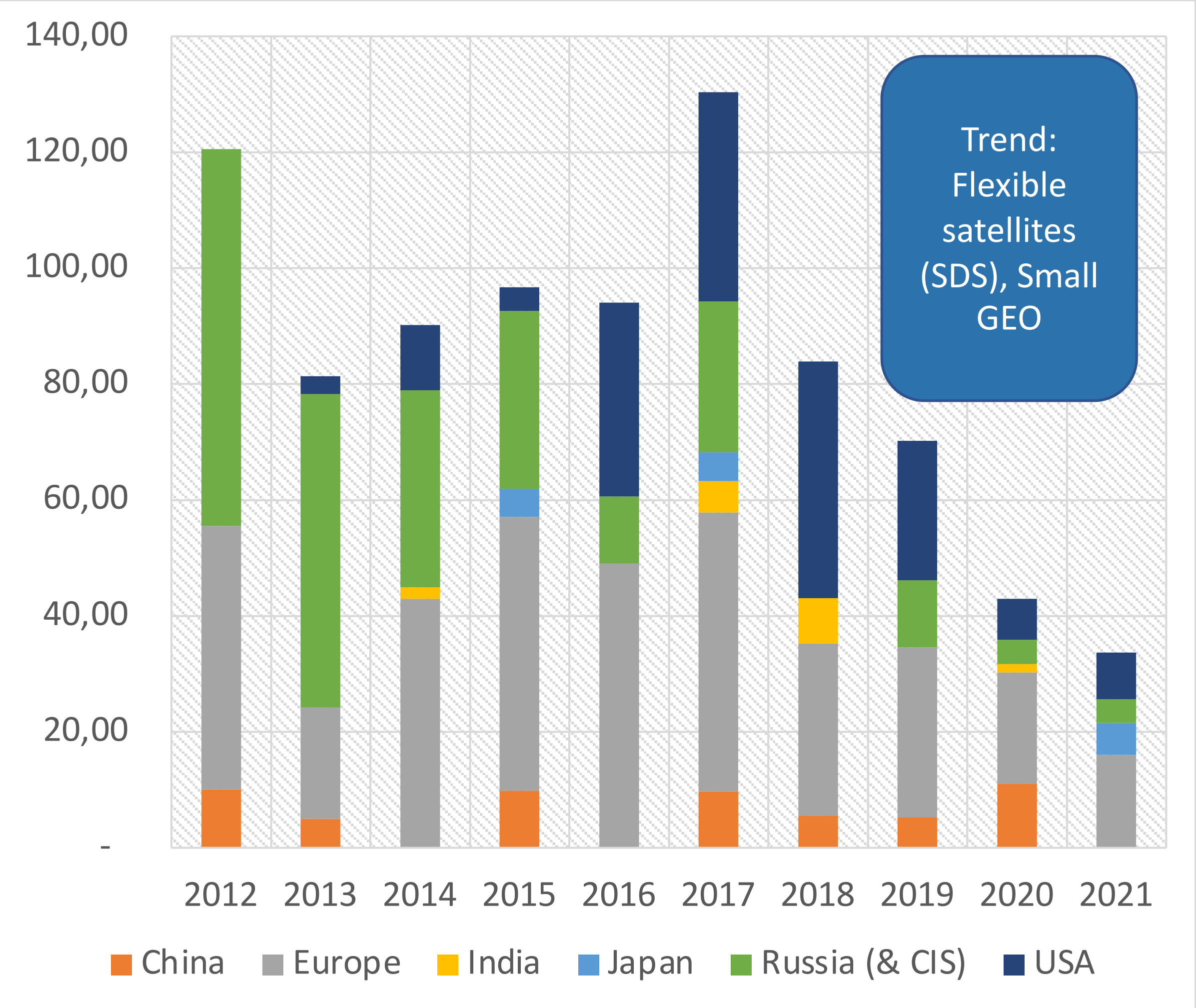
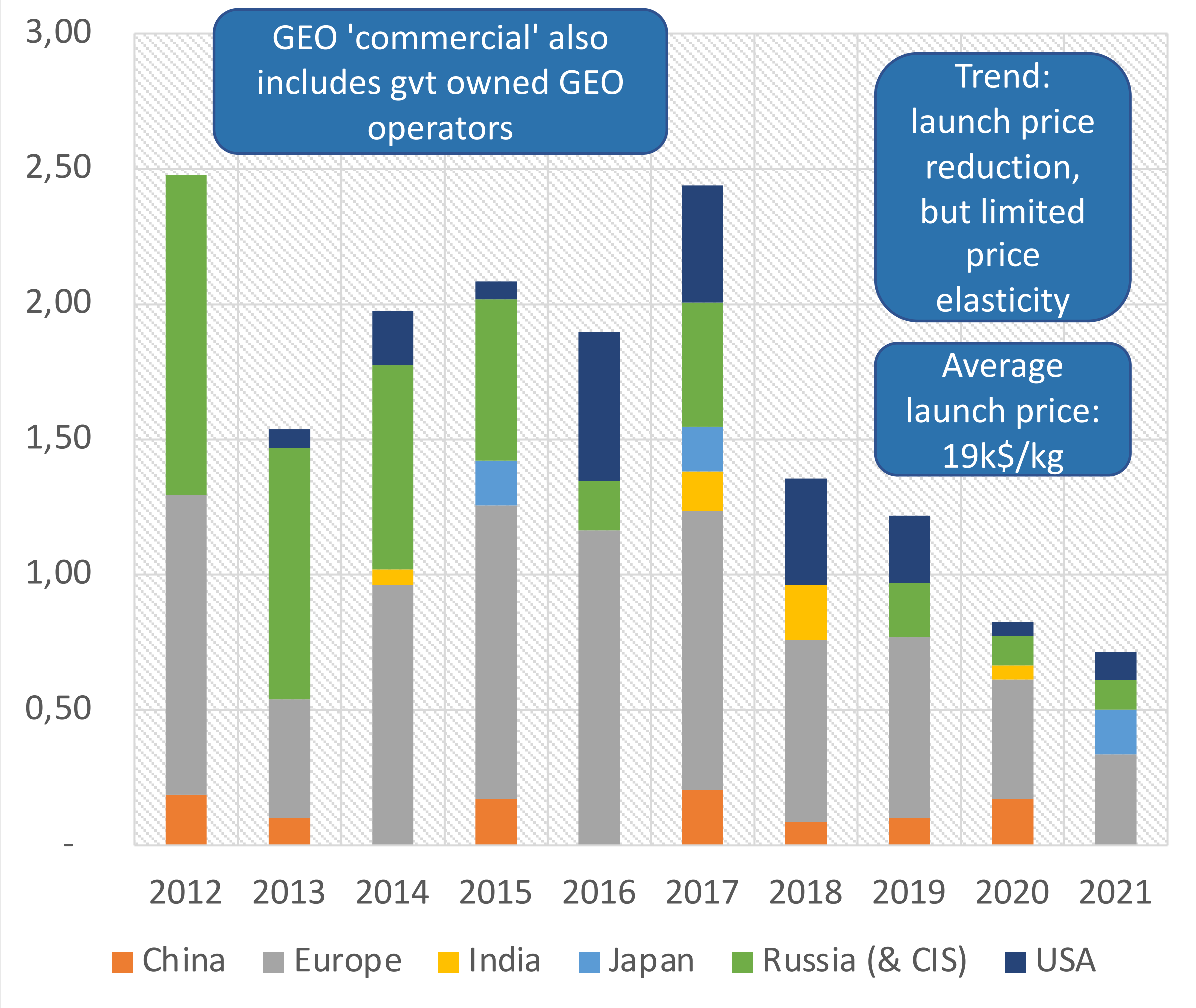
GEO 'Commercial' Launch Market by Launcher region

In Mass (tons)



In $ Billion



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Captive and open markets

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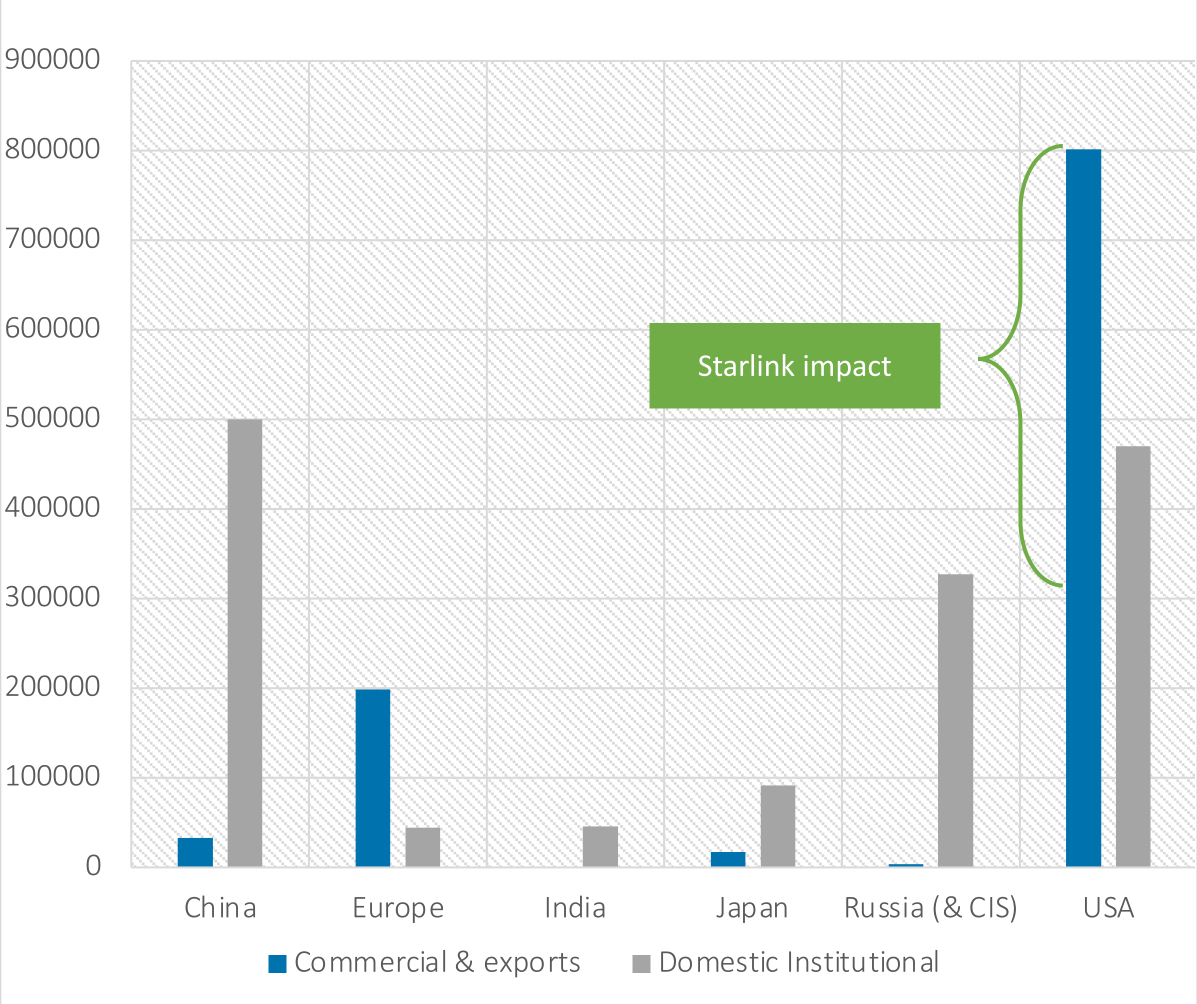
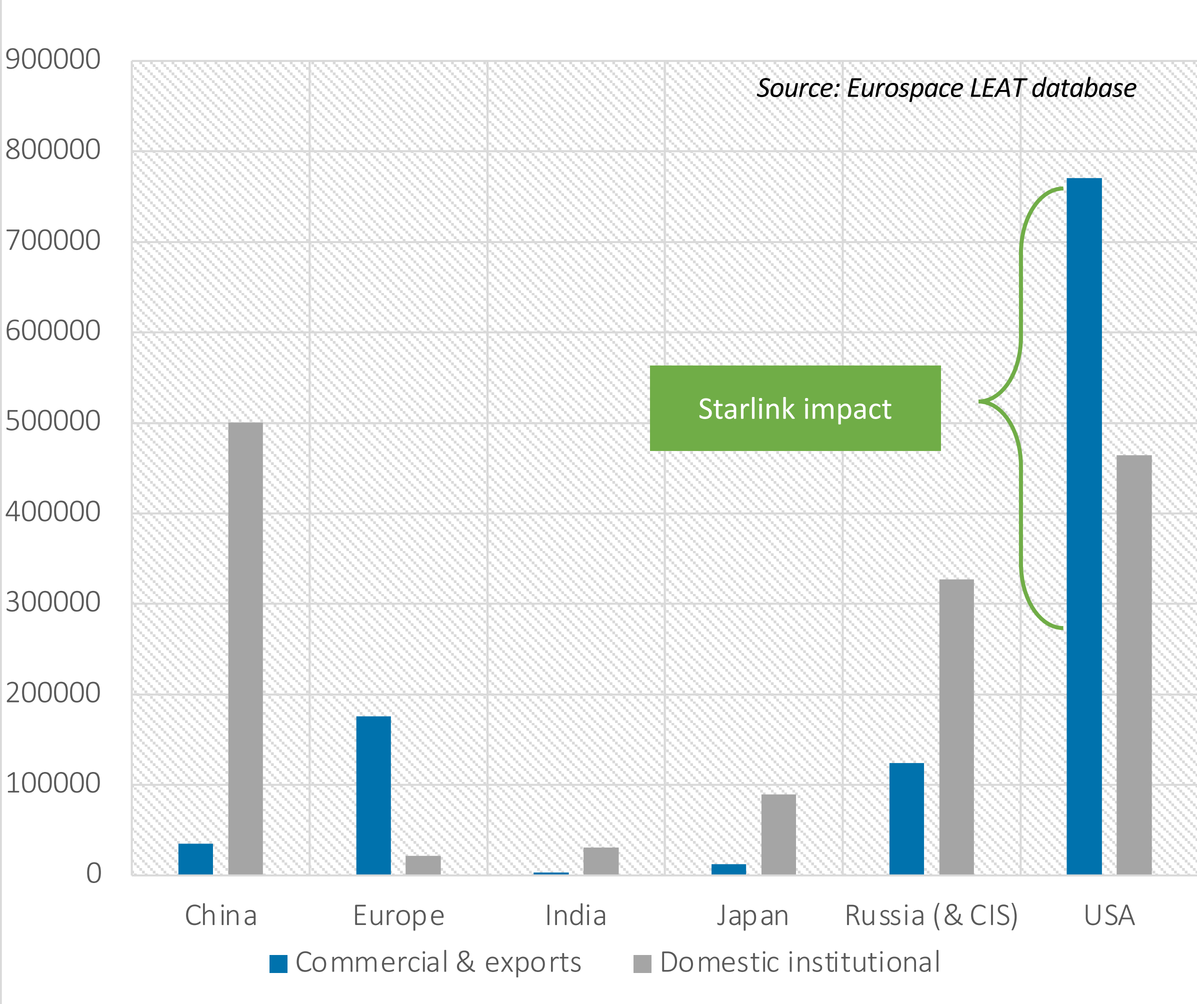
Space industry exposure to open & captive market segments in 2017-2021

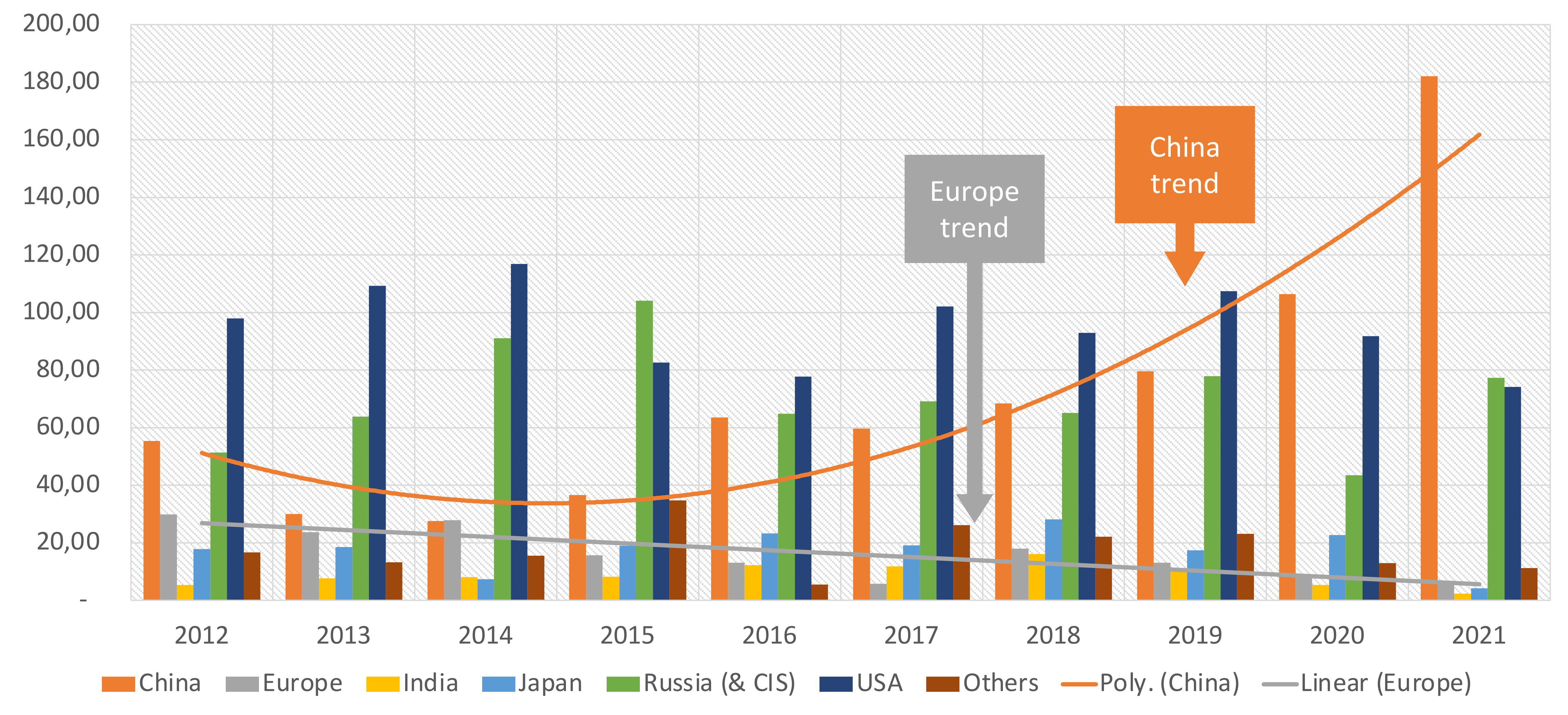
Global Spacecraft Production by region (tons)



Global Launch Activity by Launcher Region (tons)



Institutional SC demand – all missions
total mass launched in 2012-2021 by customer region (tons) – public customers



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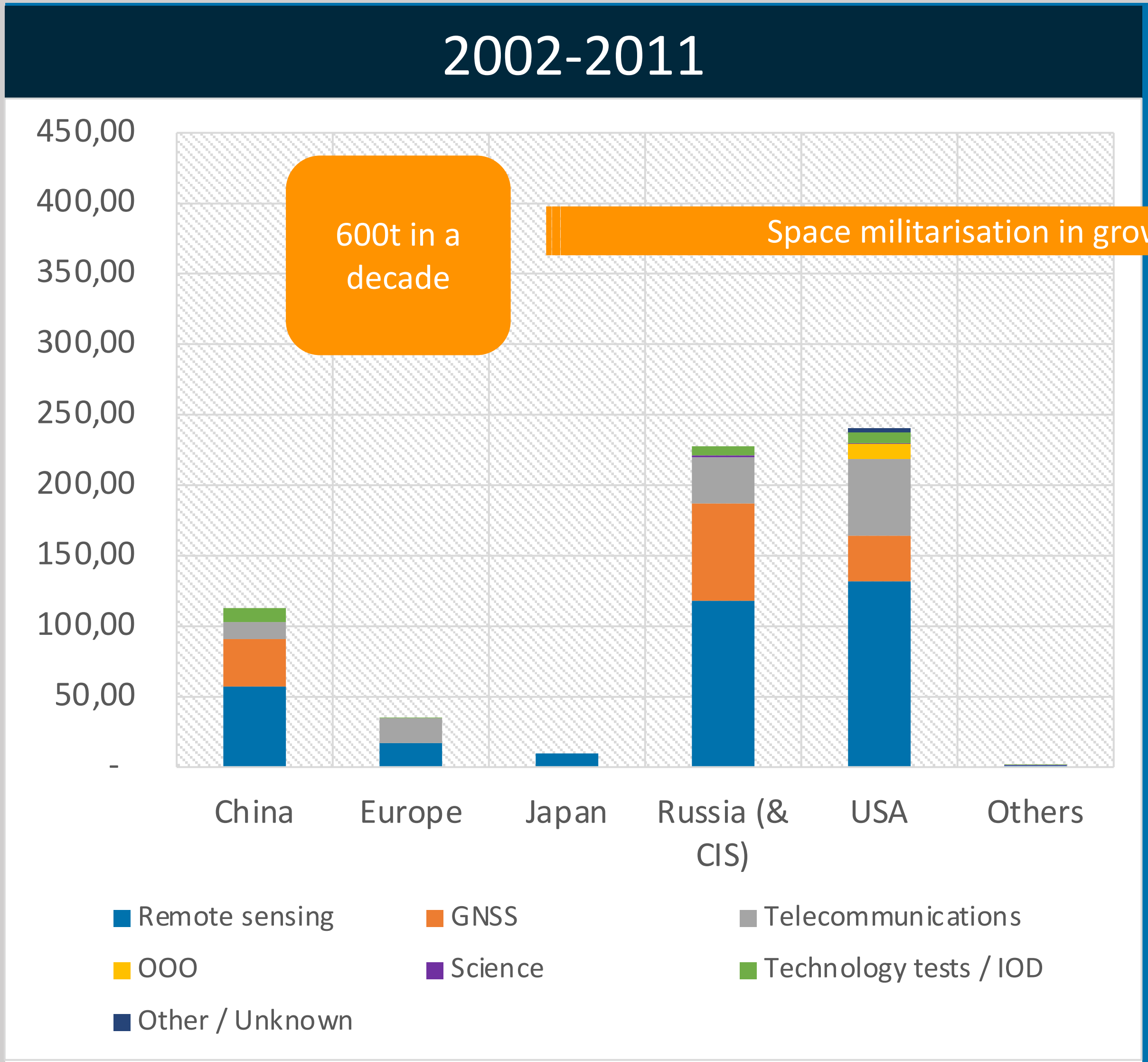
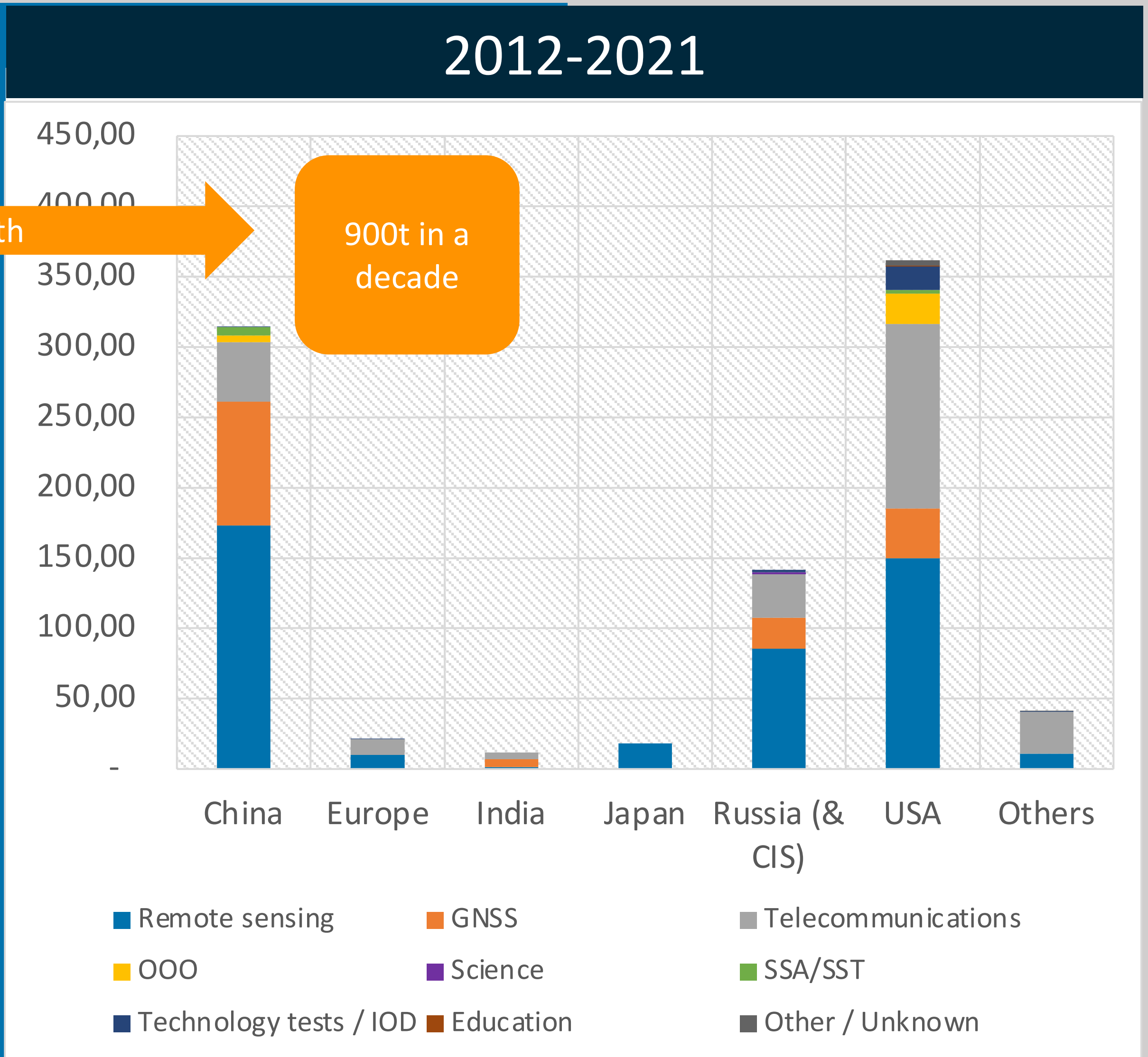
Military satellites launched by Customer region (mass/t)





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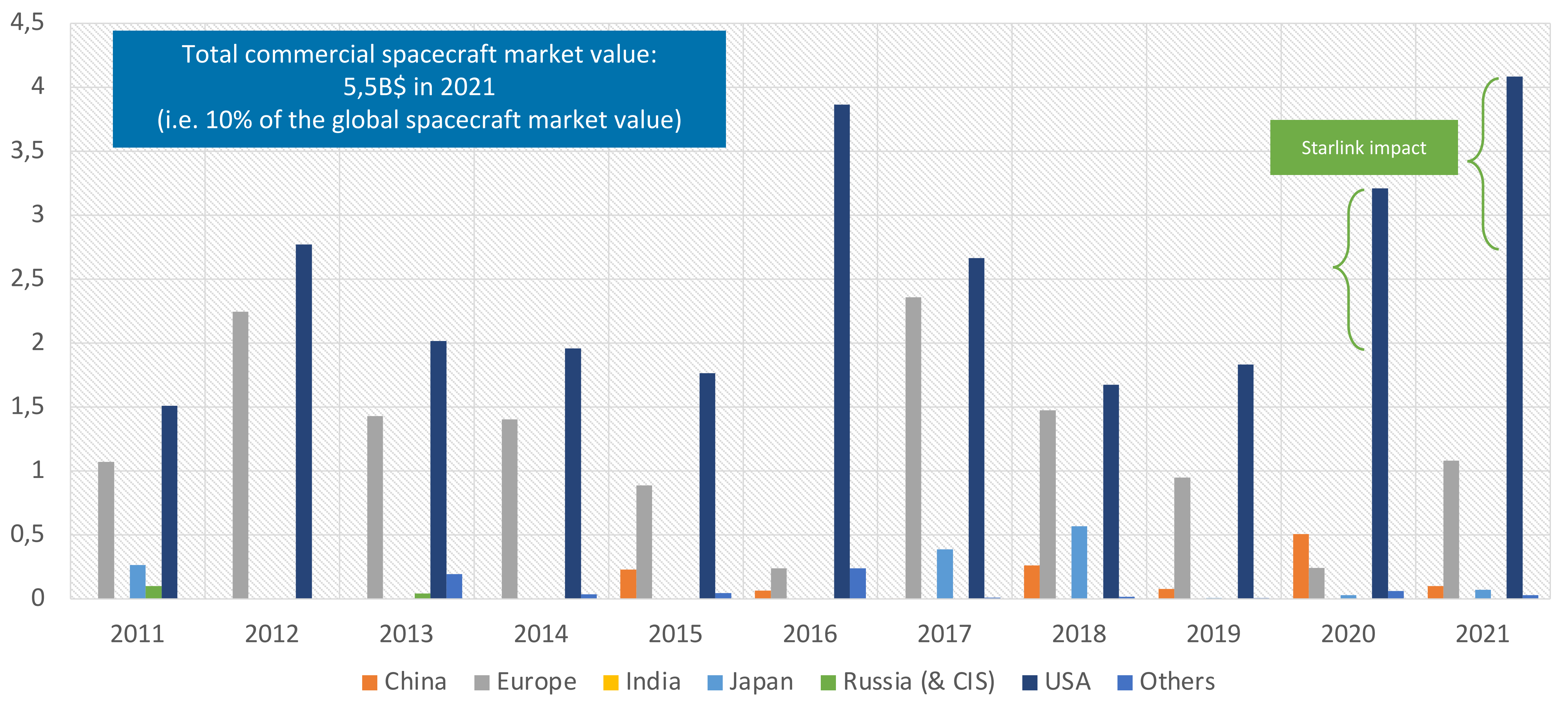
Commercial satellite market estimate by satellite manufacturing region – constant B$ at PPP (human missions excl.) – private customers only



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The European space budget

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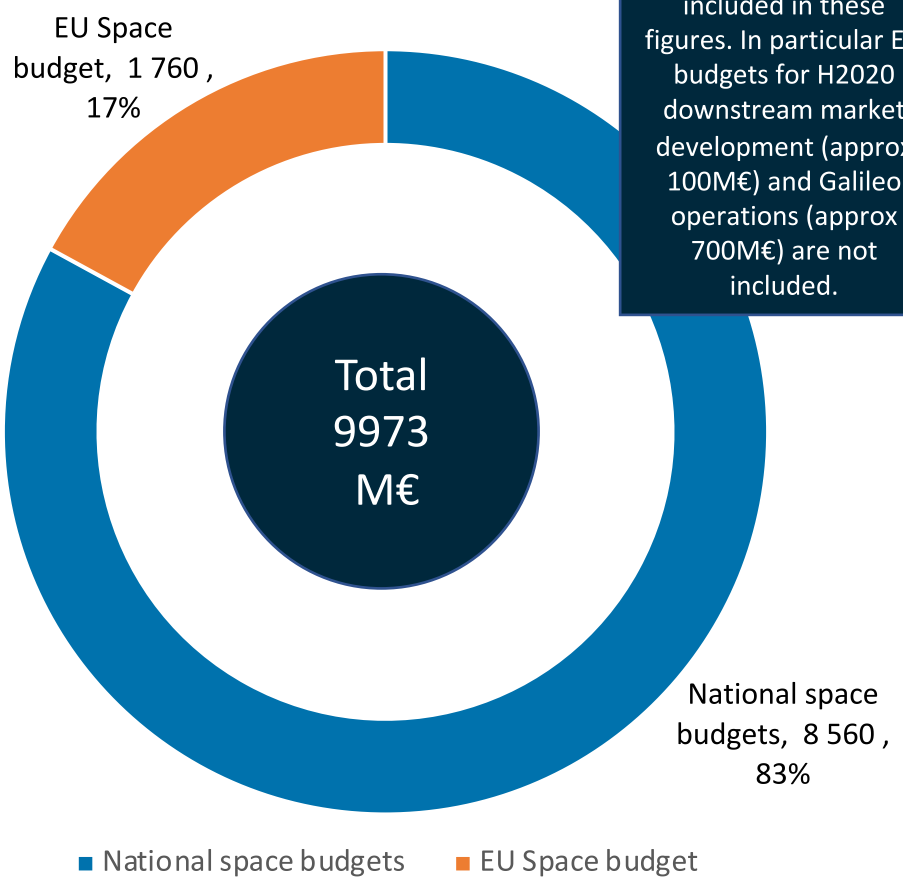
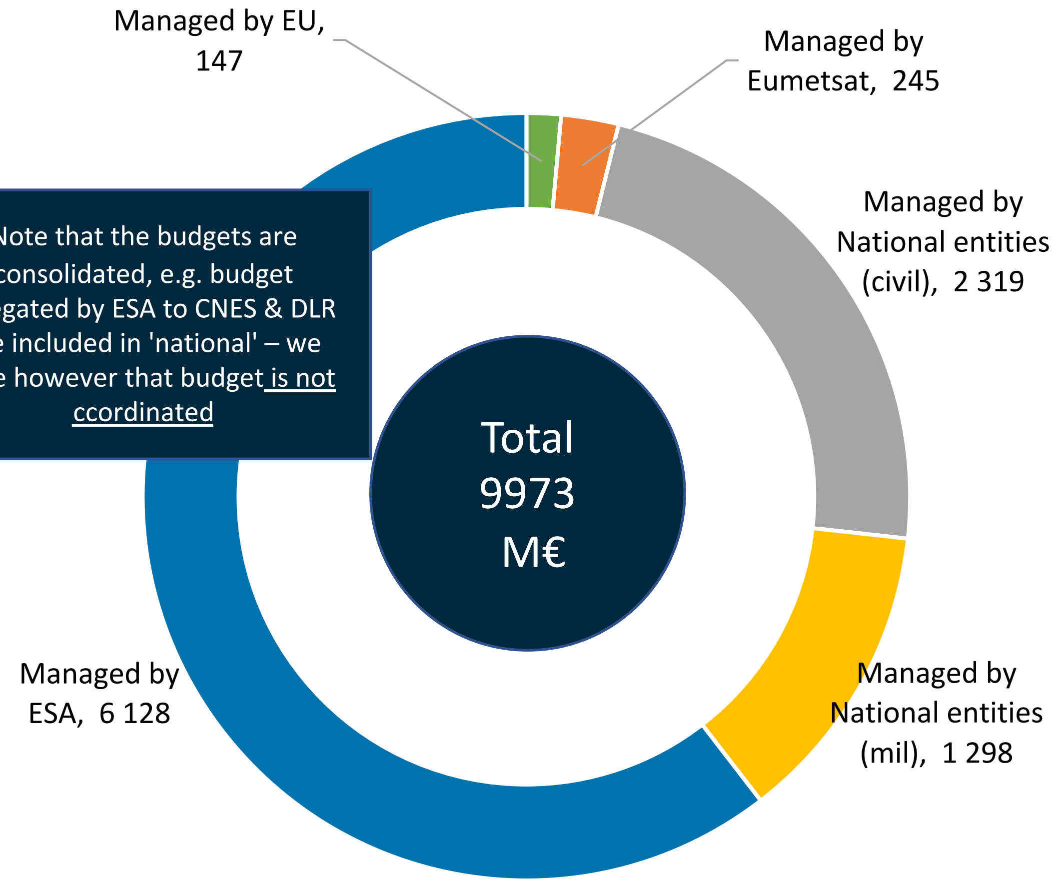
European Consolidated Space (upstream) Budget 2021

By source M€



Note that only EU 'upstream' budget is included in these figures. In particular EU budgets for H2020 downstream market development (approx 100M€) and Galileo operations (approx 700M€) are not included.

By implementing entity M€



Note that the budgets are consolidated, e.g. budget delegated by ESA to CNES & DLR are included in 'national' – we note however that budget <u>is not ccordinated</u>

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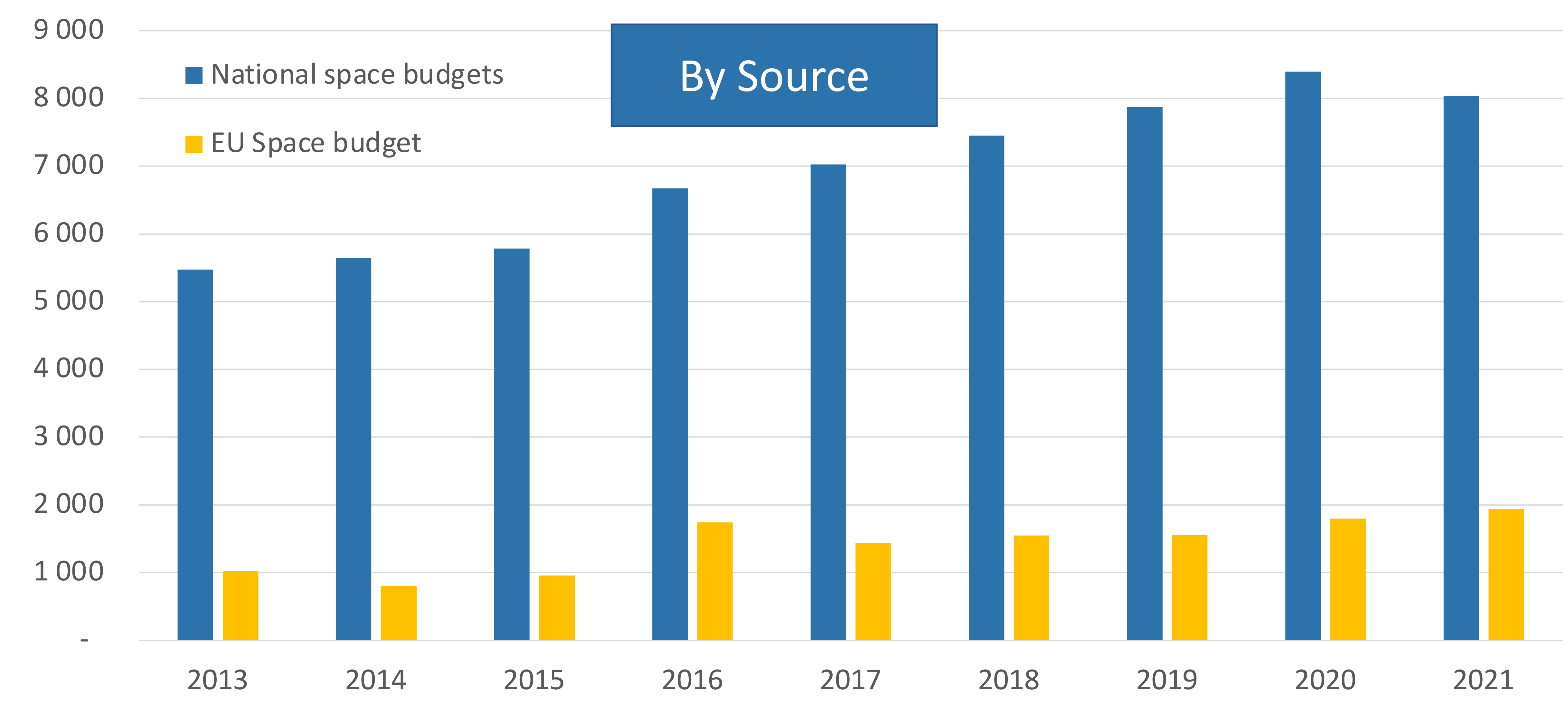
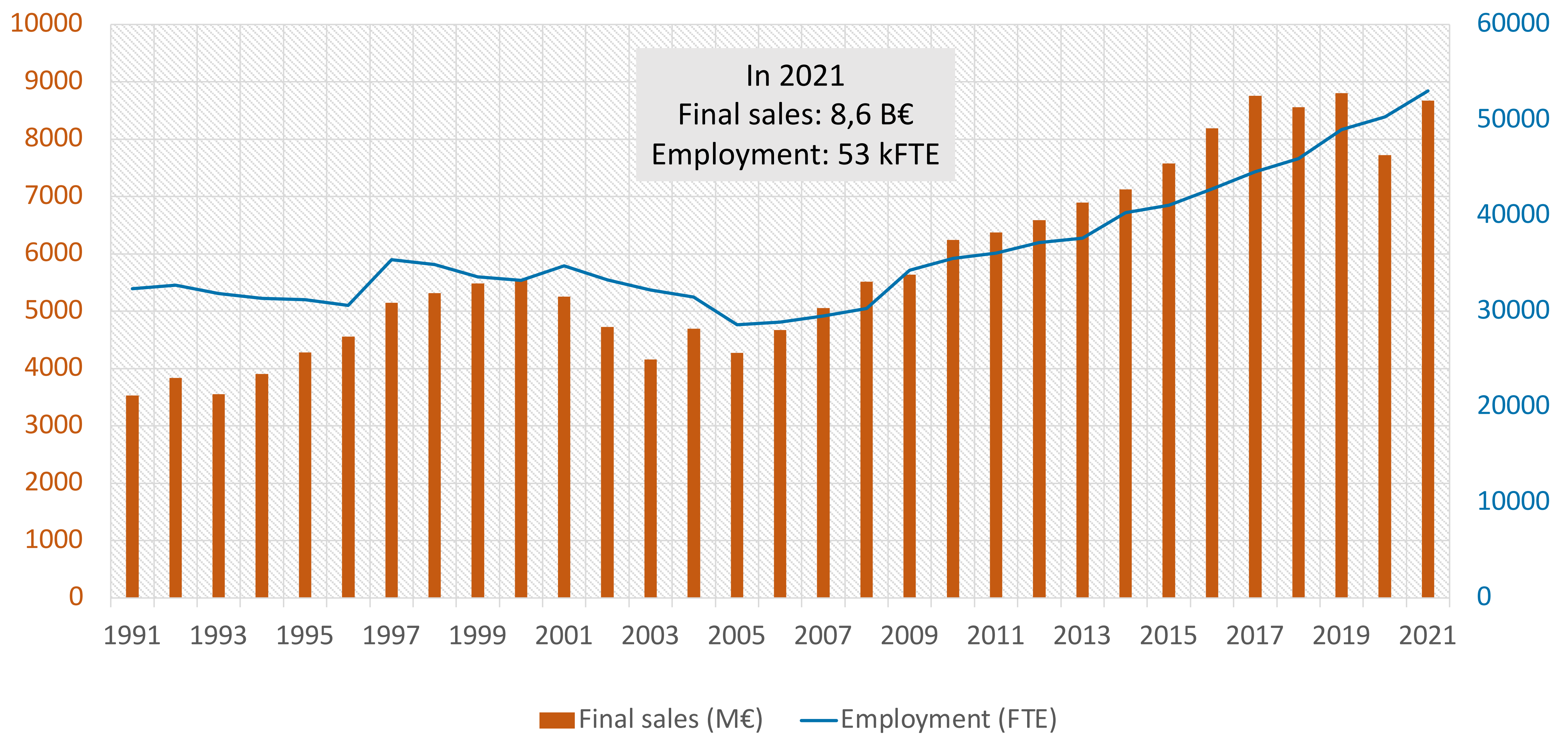
European Consolidated Space Budget 2013-2021 M€



The European space industry

2022 Release of Eurospace facts & figures

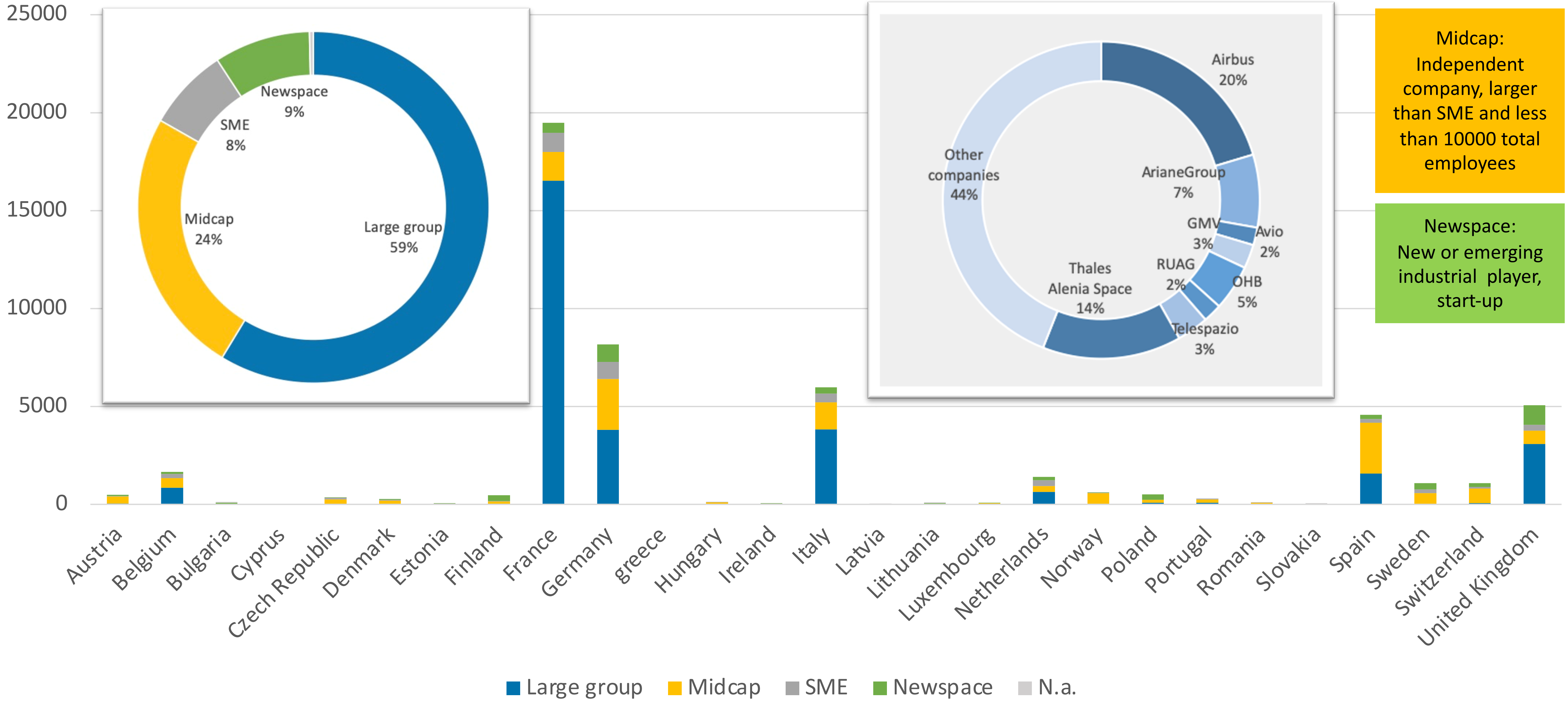
European space industry sales & employment



European space industry sales & employment

- **Industry posted final sales worth 8.6 B€ (+11%)** in 2021
  - In 2020 industry sufferred from a major activity slowdown (minus 1B€, i.e. 12%), this exceptional slowdown was partly regained in 2021.
    - Business associated to the European institutional programmes has regained its 2019 level
    - Commercial business still affected by a structurally declining market trend (GEO business cycle)
    - Launcher segment is the most affected by a durable business slowdown (and price competition from SpaceX)
- **Direct industry employment 52822 FTE (+5,4%)**.
  - Employment was in growth, supported by three different trends:
    - Employment decrease in **larger players**
    - Stability to moderate growth of **midsize players**' employment
    - Significant employment growth in smaller players (and in particular the continued development of the 'newspace' segment) – this segment does not (yet?) contribute to sales in a significant way.

Industry Employment by country and by corporate affiliation (FTE)



Midcap: Independent company, larger than SME and less than 10000 total employees

Newspace: New or emerging industrial player, start-up

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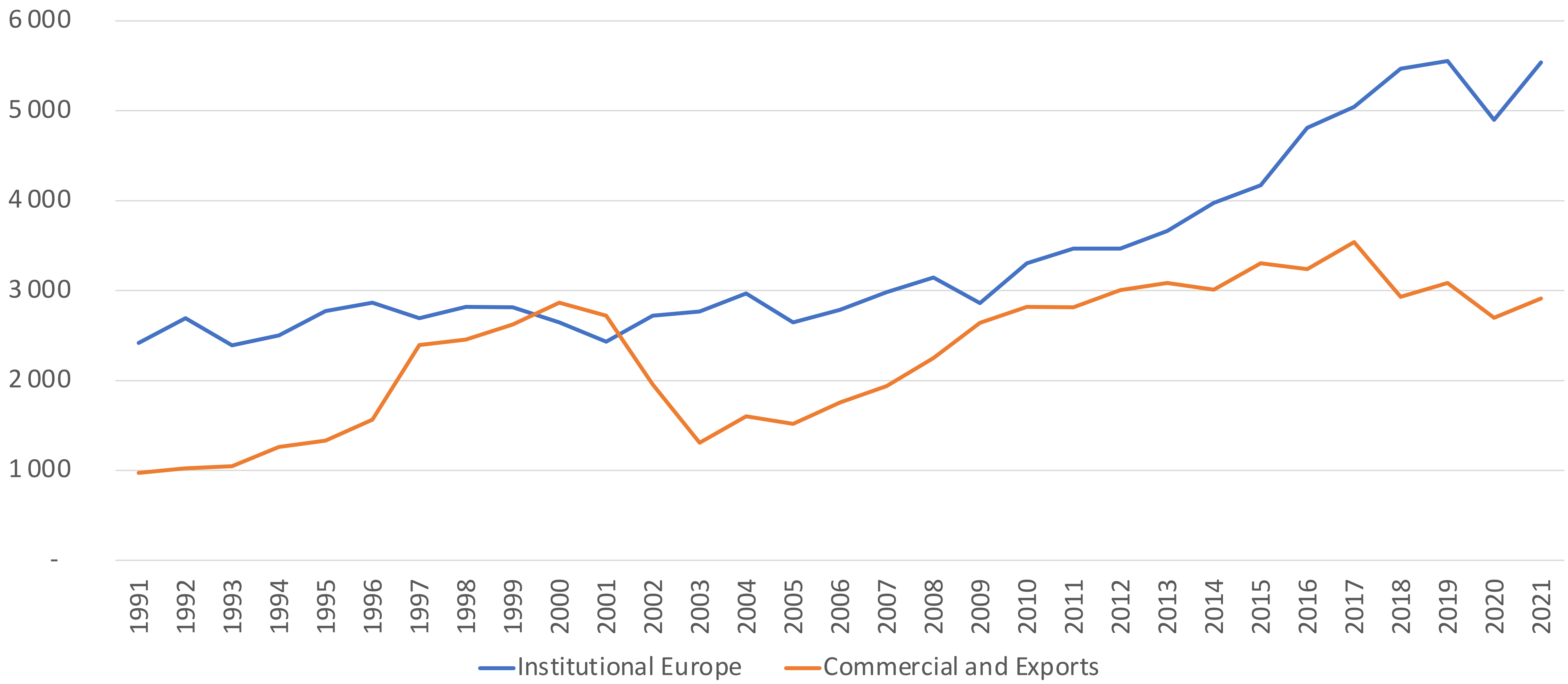
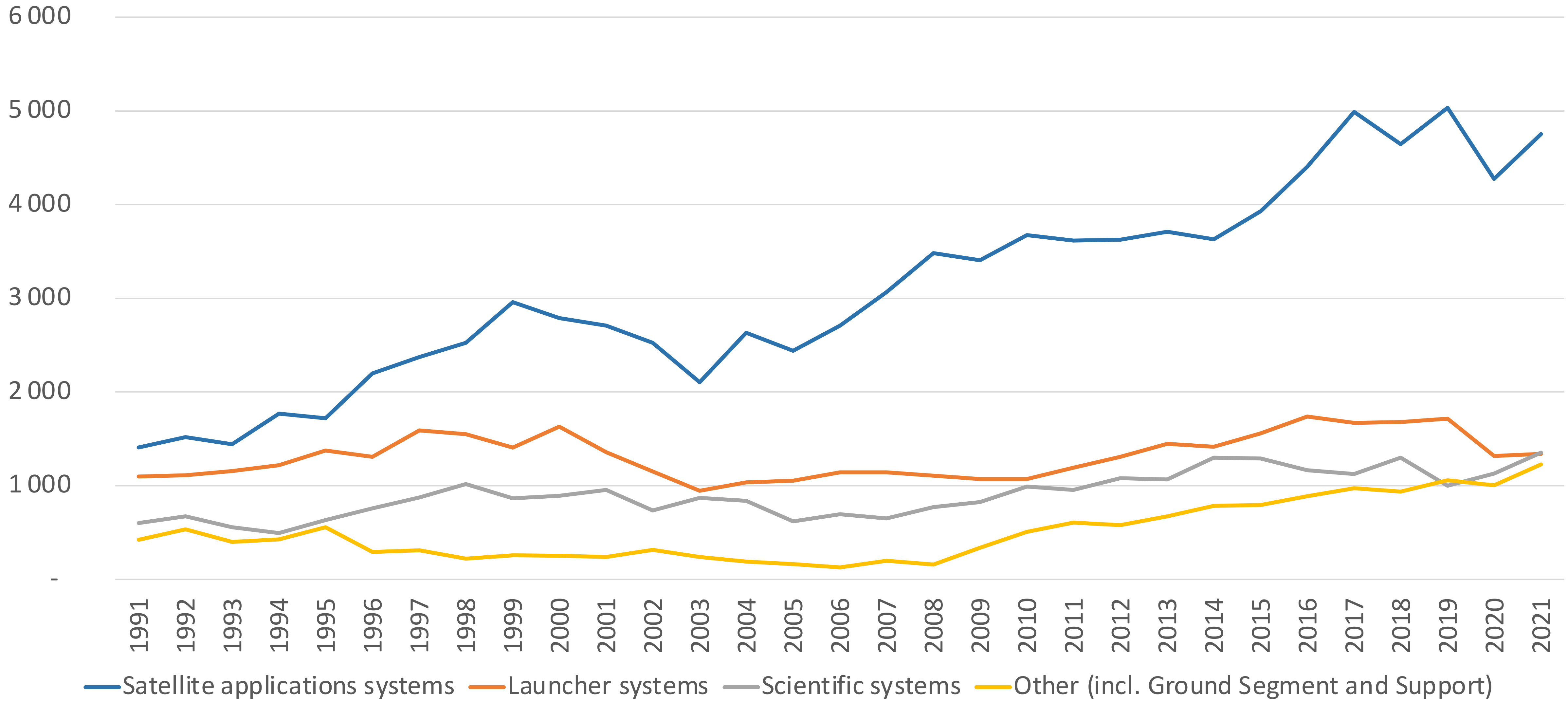
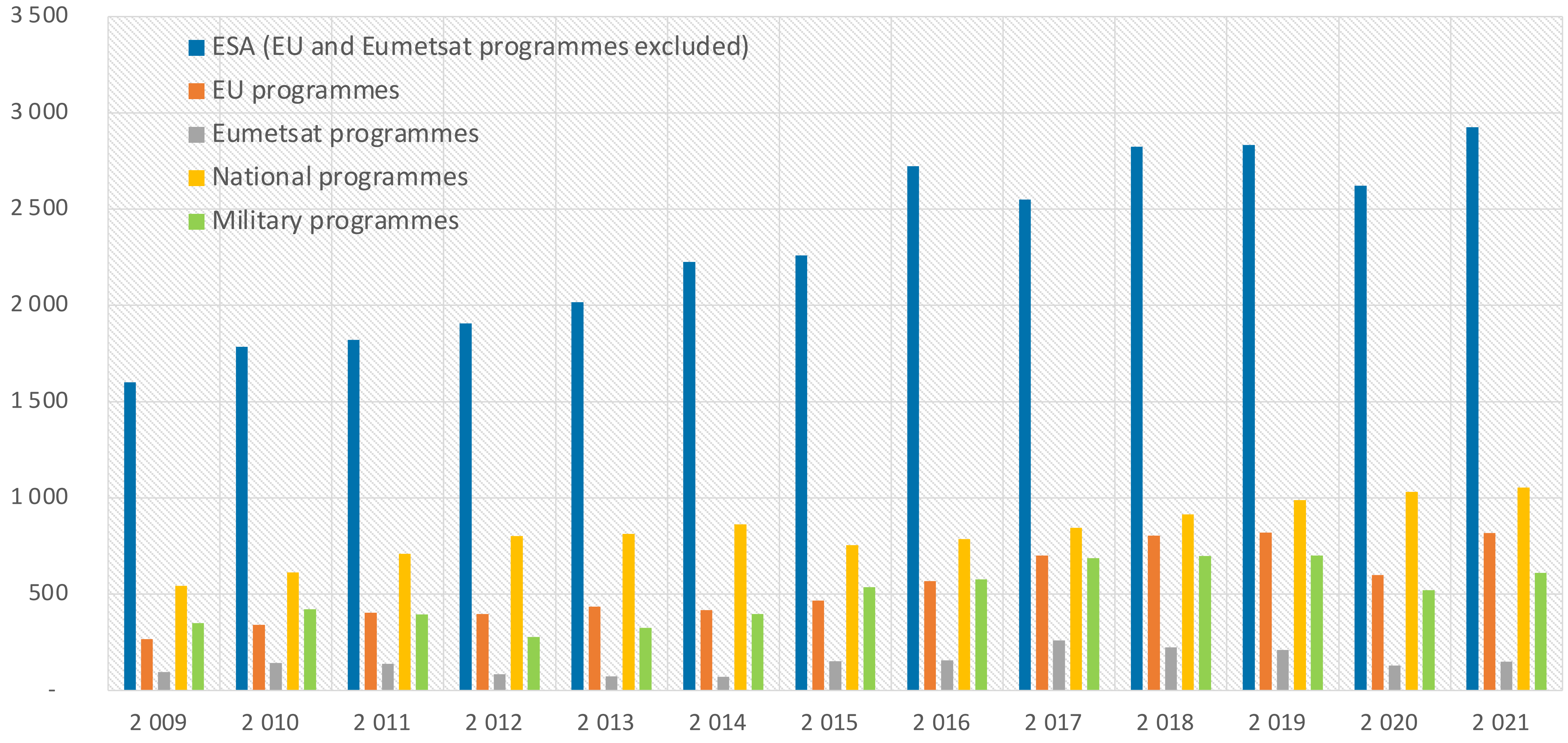
European space industry sales by main customer segment



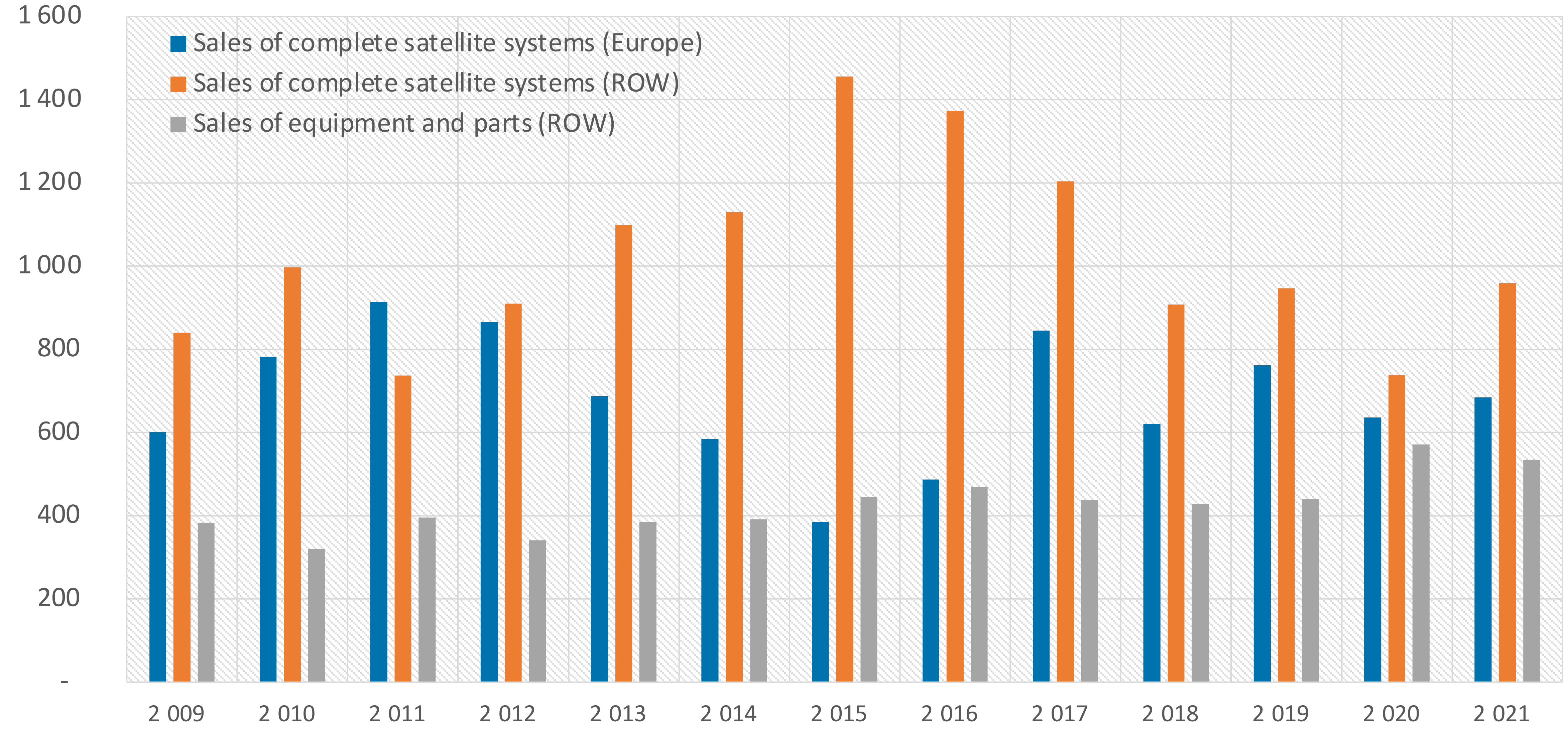
Sales by macro product segment (M€)



European institutional markets and programmes M€



Commercial satellite and ground systems market segments



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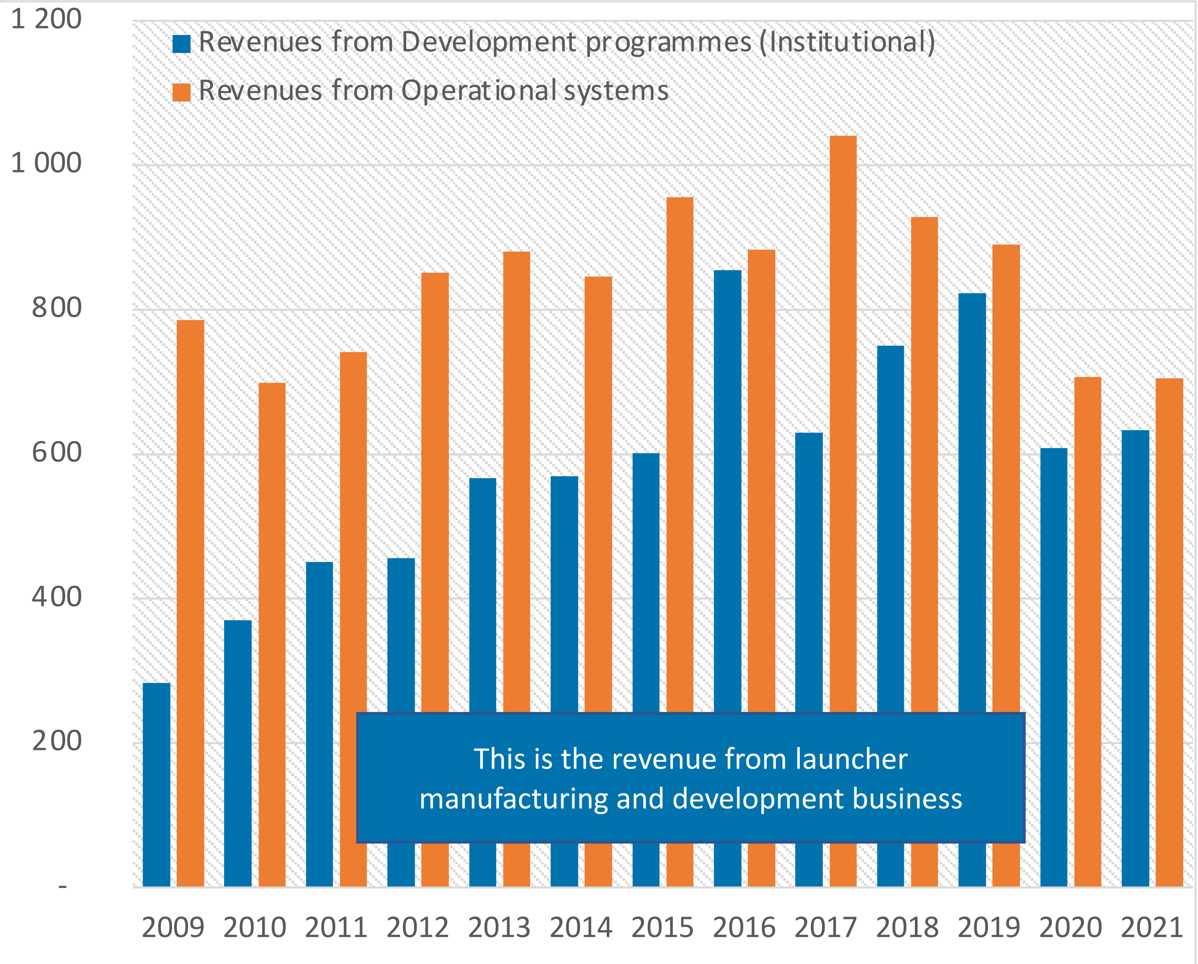
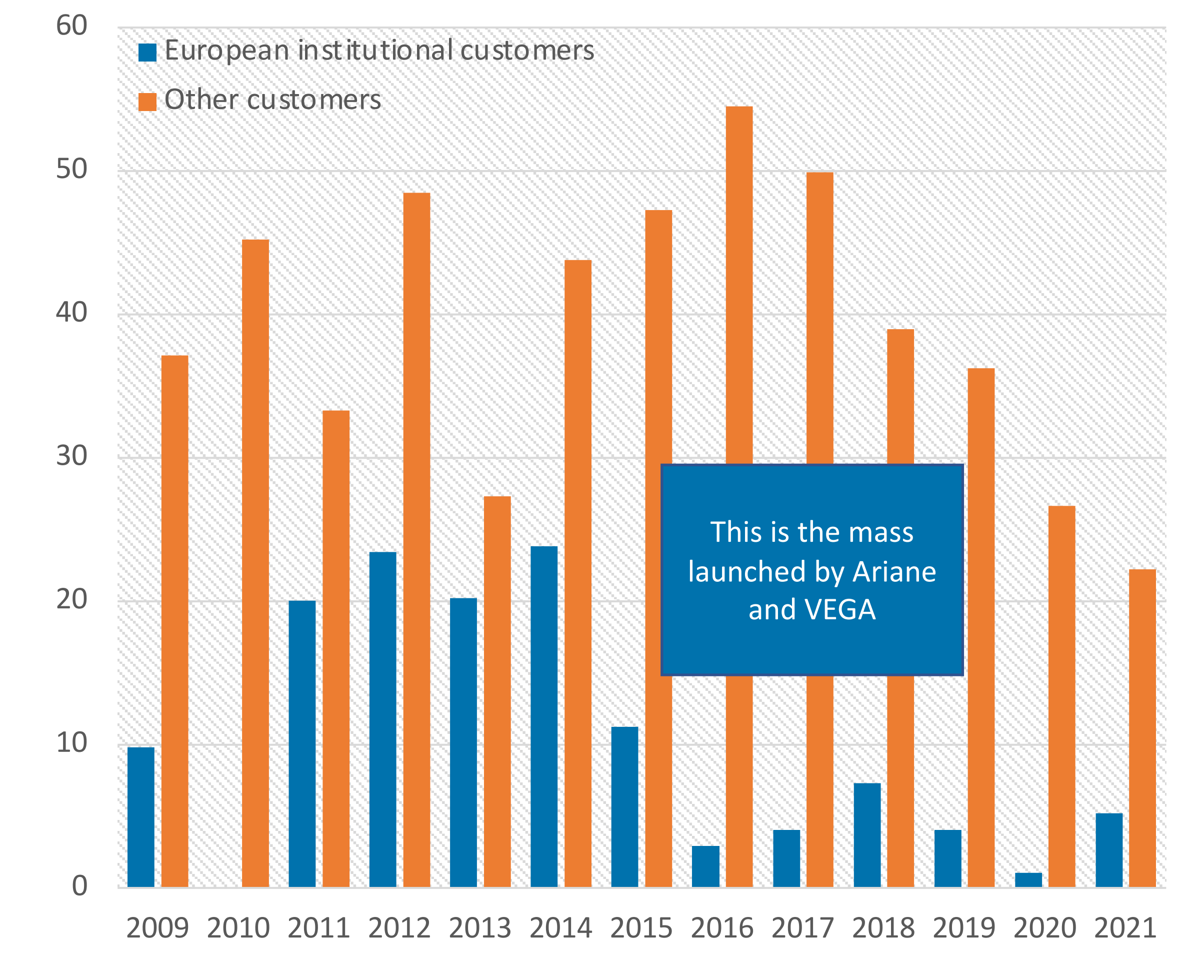
Launcher segment market

Launcher segment revenues by customer segment M€

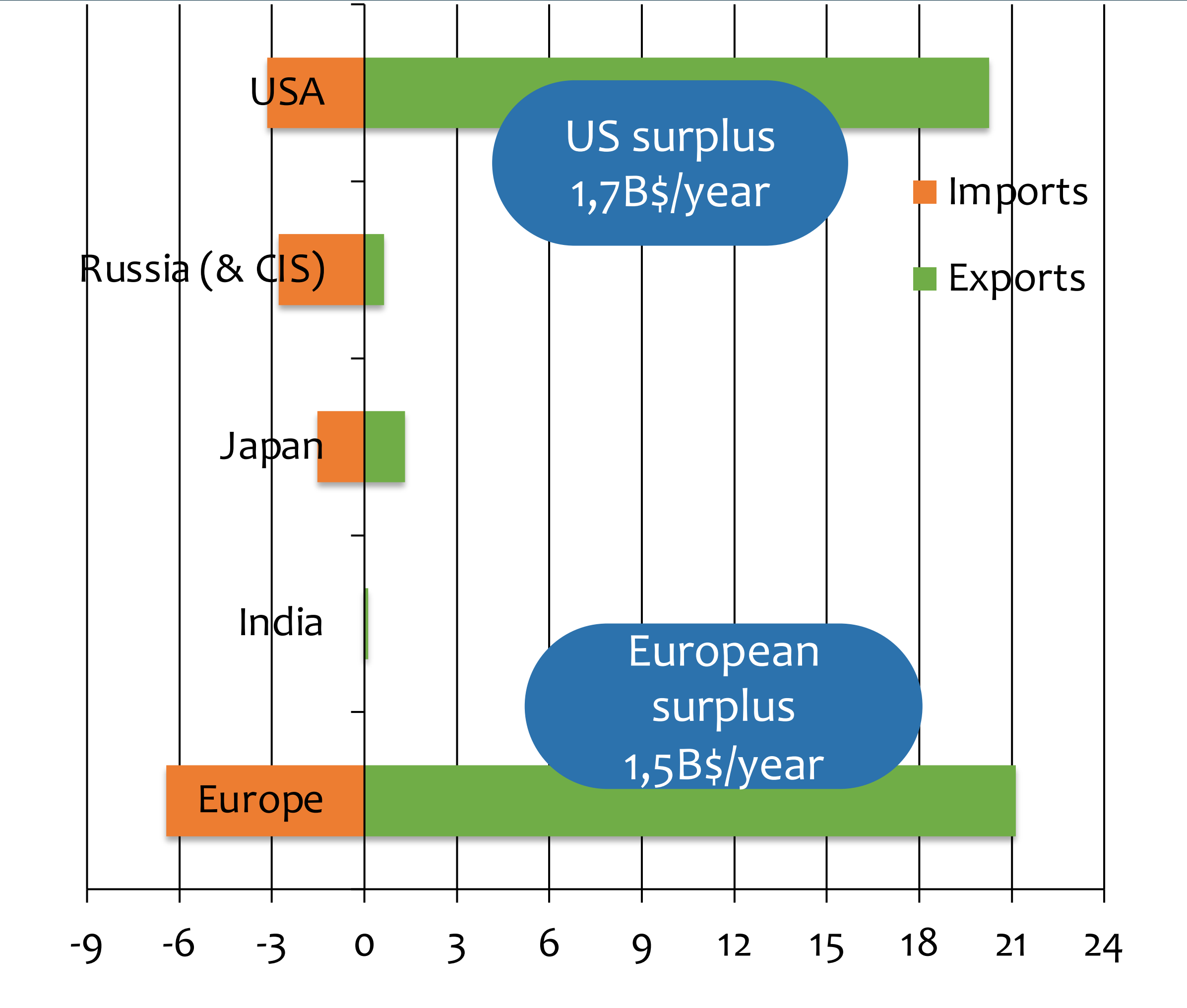


Mass launched by Ariane & Vega by customer segment (tons)

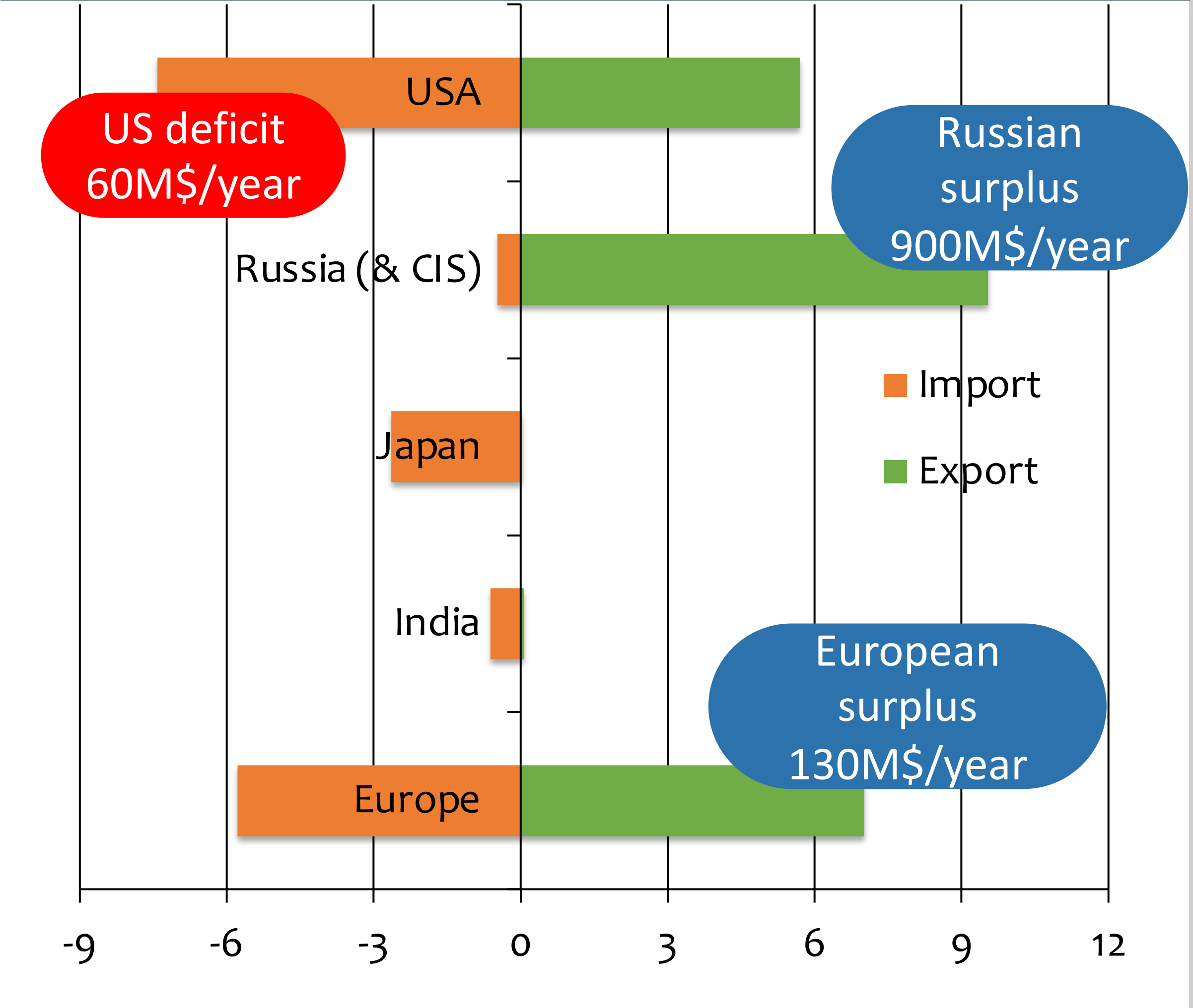


Satellite and Launcher Trade Balance – 2012-2021 – B$

Satellite Trade Balance



Launcher Trade Balance



Annexes: data sets

Main data sets

Key figures employment (FTE) and sales (M€)	**2019**	**2020**	**2021**	**Var.**
Direct industry employment (FTE)	**49018**	**50317**	**52822**	**5,0%**
Other personnel working on site (FTE)	**2356**	**2402**	**2422**	0,8%
Total space industry employment (FTE)	51374	52720	55244	4,8%
Final sales (M€ current e.c.)	**8803**	**7720**	**8620**	**11,7%**

Final sales by main customer segment (M€)	**2019**	**2020**	**2021**	**Var.**
Final sales (M€)	**8803**	**7720**	**8620**	**11,6%**
European public customers	5554	4900	5539	13,0%
European private customers	1619	1297	1367	5,4%
Other/unkown European customers	115	99	117	17,4%
Public customers RoW	696	457	458	0,2%
Private customers RoW	768	941	1084	15,2%
Other/Unknown customers RoW	50	25	54	114,3%

Main data sets

Final sales by main customer segment (M€)	2019	2020	2021	Var.
Final sales (M€)	**8803**	**7720**	**8620**	**11,6%**
Launcher systems	1714	1316	1338	1,7%
Satellite applications systems	4225	3525	3959	12,3%
Scientific systems	998	1129	1341	18,7%
Ground systems and services	1705	1567	1806	15,3%
Other & Unknown	161	183	175	-4,5%

Main data sets and definitions

- **The space manufacturing industry**, a strategic sector embedded in the larger aerospace and defence industry, designs, develops and builds space systems launchers, spacecraft and the related professional ground segment) 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 ground segment users (e.g. Copernicus, Galileo, Broadcast and broadband services, geo-information...) generate socio economic benefits and support the development of Europe.
- According to standard definitions the space manufacturing activities do 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.
- **The Eurospace annual survey measures European space manufacturing industry revenues and employment. It is supported by all major companies, and is representative of the sector situation.**

Main data sets and definitions – Product segments

- Satellite applications include all sales related to the development and production of systems for future and actual missions in telecommunications, Earth observation and navigation/positioning. Most of the revenues are drawn from the production of operational systems, while a smaller share is associated to technology and system development activities. In the specific frame of long series, satellite applications also include the value of ground systems (control centres, ground antennas etc.). These figures do not include the revenues drawn from satellite operations.
- Launcher systems include all sales relevant to the design, development and production of launcher systems. European launcher systems include the large Ariane system, in operations since 1996, and the smaller VEGA system, in operations since 2012. A small fraction of these revenues is associated to the exports of launcher equipment (e.g. thrusters, fairings) used on non-European launchers. These figures do not include the revenues drawn from launch operations.
- Scientific systems sales include all sales relevant to the design, development and production of scientific spacecraft systems. These spacecraft address missions such as: human spaceflight, planetary exploration, Earth science, astronomy, etc. Almost all of these revenues are associated to government programmes.
- Support activities include all activities required to support the design, development and production of space systems. This category includes a share of hardware and a share of services sales. Hardware sales are associated to the production of electric and mechanical ground segment equipment (EGSE & MGSE) i.e. dedicated equipment required for the test and integration activities of equipment, subsystems and complete systems. Services sales are associated to the delivery of engineering, test and other specialised services to the space manufacturing industry and space systems customers. These services sometimes include also ground control centre operations, in particular for space agencies.

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