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amazon

THE ECONOMIC IMPACT OF PROJECT KUIPER'S LAUNCH PARTNERSHIPS IN THE EU

AN INDEPENDENT REPORT BY OXFORD ECONOMICS FOR AMAZON

JUNE 2025

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EXECUTIVE SUMMARY

3,232

The number of satellites that will form the Project Kuiper satellite internet constellation.

CONTEXT AND SCOPE OF THE REPORT

Project Kuiper, financed and operated by Amazon, aims to help bridge the global digital divide by providing broadband access to unserved and underserved communities. To achieve this, Amazon will deploy a constellation of over 3,000 satellites into low Earth orbit.

Deploying such a large volume of satellites requires considerable rocket launch capacity, and Project Kuiper has secured more than 80 launches globally to do so—the largest commercial procurement of launch vehicles in history.[1] In this way, Project Kuiper is helping to re-energise the European Union (EU) space sector through its spending with its launch partners.

As of 2023, the EU space sector had yet to fully recover from a drop in sales coinciding with the Covid-19 pandemic. Total sales in the EU space sector were €8.4 billion in 2023 compared to their peak of €8.8 billion in 2018.[2] Sales of launcher systems similarly peaked before the pandemic in 2019 at around €1.7 billion, compared to €1.2 billion in 2023.[3] Employment has continued to grow in recent years with the sector supporting around 57,900 jobs as of 2023.[4]

This report quantifies the economic impact of Project Kuiper's global launch partnerships in the EU, and in five countries where these partnerships are expected to have the largest impact.[5] Two of the four partners included in the report, Arianespace and Beyond Gravity, have direct operations within the EU. Project Kuiper contracted 18 launches of the Ariane 6 rocket with Arianespace that will deploy several hundred Project Kuiper satellites into low Earth orbit. Beyond Gravity manufactures the satellite dispenser systems used by Project Kuiper's launch service providers at its specially-built facility in southern Sweden. Blue Origin and United Launch Alliance are US-based launch service providers for Project Kuiper that both have supply chains in the EU.[6]

TOTAL ECONOMIC IMPACT IN THE EU OF PROJECT KUIPER'S LAUNCH PARTNERSHIPS

To assess the economic impact of Project Kuiper, we used a standard impact assessment methodology, which considers three channels of impact: direct, indirect, and induced (defined in section 1.1 of the report below).

[1] Amazon, "Amazon Secures Up to 83 Launches from Arianespace, Blue Origin, and United Launch Alliance for Project Kuiper", April 2022.

[2] Sales figure taken from p.35 of ASD-Eurospace report and includes sales in Norway, Switzerland, and the UK. ASD-Eurospace, "Facts & Figures 2024 – Press release", July 2024, accessed January 2025.

[3] Launcher systems sales figure taken from p.28 of ASD-Eurospace report and includes sales in Norway, Switzerland and the UK. Ibid.

[4] Employment figure taken from p.36 of ASD-Eurospace report, and excludes employment in Norway, Switzerland, and the UK. This report provides an FTE figure of 55,000, which we have converted to headcount terms for comparability reasons based on a data-driven assumption of the share of workers that are part-time. Ibid.

[5] The five countries in the EU where Project Kuiper is expected to have the largest impact are France, Germany, Italy, Sweden, and Spain.

[6] Any economic impact arising from SpaceX as one of Project Kuiper's launch service providers is not reflected in this report.

Out of Amazon's publicly announced investment in Project Kuiper of more than $10 billion (€10.3 billion in 2024 prices), we estimate that €2.6 billion (26%) will be directed to the EU space sector.[7] We estimate that, in 2024, spending by Project Kuiper represented 6% of total sales by the EU27 space industry, 18% of total commercial and export sales, and 39% of launcher system sales.[8]

This investment will support a total contribution to EU GDP of €2.8 billion between 2022 and 2029 across the three impact channels.[9] Project Kuiper will also support an average of 3,269 jobs in the region over the same period, and 6,610 jobs at the peak of the expected economic contribution in 2025. Economic activity supported by the partnerships will also contribute €792 million to government treasuries between 2022 and 2029.

€2.8 bn

Total cumulative contribution to EU GDP between 2022 and 2029 (all impact channels).

HOW PROJECT KUIPER'S LAUNCH PARTNERSHIPS IMPACT THE EU ECONOMY

Direct impact. Two of Project Kuiper's launch partners with ground operations in the EU will directly employ 1,064 workers on average between 2022 and 2029 to support their work on Project Kuiper—and up to 1,566 in 2024. Their activities will also directly support an €806 million contribution to EU GDP cumulatively over the period.

Indirect impact. The four launch partners' EU-based supply chains will indirectly support, on average, a further 1,370 jobs in the region between 2022 and 2029, and up to 3,154 in 2025. These jobs include, for example, jobs at EU companies that manufacture components of the Ariane 6 rocket, as well as jobs supported along the entire upstream supply chain such as businesses providing raw materials. The launch partners' spending with supply chains will indirectly support a cumulative €1.2 billion contribution to EU GDP between 2022 and 2029, and a €518 million tax contribution to the region's treasuries.

6,610

The total number of jobs Project Kuiper is expected to support at its peak in 2025.

Induced impact. Still more economic activity is stimulated when the workers employed by the two launch partners with ground operations in the EU, and the workers indirectly supported by the four launch partners' EU supply chains, spend their wages in consumer-facing sectors such as hospitality and entertainment. In this way Project Kuiper's launch partnerships will sustain a further 835 jobs in the EU on average between 2022 and 2029, peaking at 1,911 in 2025. Wage spending will also stimulate an induced contribution to EU GDP of €779 million cumulatively between 2022 and 2029, and a cumulative €244 million in payments to tax authorities.

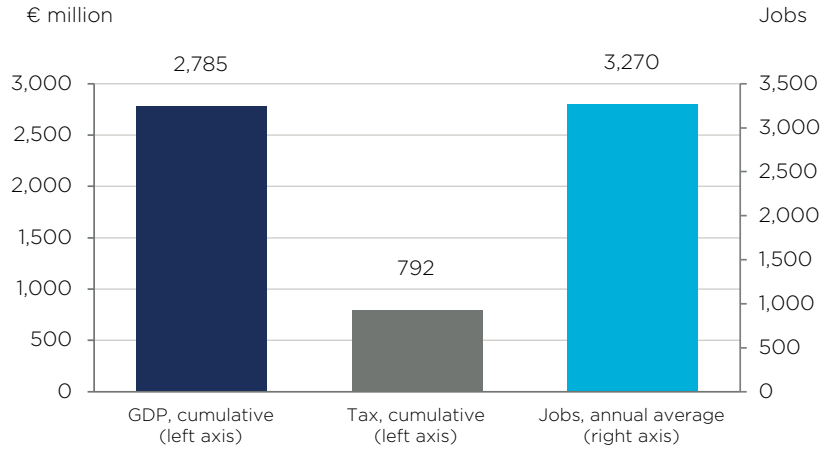
[7] Amazon announcement cites an investment of more than $10 billion in Project Kuiper. This figure was converted to euros and inflated to be comparable with our 2024 estimates. Note that a portion of this spending is directed in turn to businesses outside of the EU27, meaning that not all of the resulting GDP impacts are captured by EU27 countries. Amazon, "Amazon receives FCC approval for Project Kuiper satellite constellation", July 2020, accessed January 2025.

[8] Total sales, commercial and export sales, and sales of launcher systems in the EU space sector in 2023 are from ASD-Eurospace (p. 22, 27, 28, 35). These were grown for inflation to be in 2024 terms (assuming sales are constant in real terms). We exclude estimated sales to non EU27 countries.

ASD-Eurospace, "Facts & Figures 2024 – Press release", July 2024, accessed January 2025.

[9] Monetary amounts are in 2024 prices unless specified otherwise.

Fig. 1: Total economic impact contribution of Project Kuiper's launch partnerships to GDP, tax, and jobs in the EU during 2022–2029



Source: Oxford Economics

PROJECT KUIPER'S IMPACT ON EU-27 COUNTRIES AND BUSINESSES

In addition to providing an EU-wide view of Project Kuiper's economic impact, the report also looks at its impact at a country level for five countries where Project Kuiper's partnerships are expected to have the largest impacts, namely France, Germany, Italy, Sweden, and Spain.

Fig. 2. Country-level total economic impact results (all impact channels) between 2022 and 2029

Country	Total GDP, cumulative (€m, 2024 prices)	Total tax, cumulative (€m, 2024 prices)	Headcount jobs, annual average
France	1,376.0	363.4	1,593
Germany	808.0	239.4	1,015
Sweden	185.7	57.5	141
Italy	117.0	37.4	147
Spain	84.6	21.9	100

Source: Oxford Economics

Within these countries, we also explore the impact of Project Kuiper on individual businesses through four case studies based on interviews with senior representatives, two from Kuiper's launch partners, and two from key supply chain partners, as outlined below:

- **Arianespace** is one of Project Kuiper's launch service providers responsible for safely delivering Kuiper satellites into space. Project Kuiper constitutes a significant portion of Arianespace's confirmed order book, accounting for 18 out of 28 Ariane 6 systems sold at the time the order was announced. Kuiper's investment has helped Arianespace to maintain its planned workforce, which may otherwise have been at risk.
- **Sweden's Beyond Gravity** has designed and manufactures the ultra-lightweight satellite dispenser systems that will serve to safely and accurately deploy the more than 3,000 satellites that will form the Project Kuiper constellation. The impact of Project Kuiper's investment on Beyond Gravity has been significant, facilitating the construction of new high-tech manufacturing facilities in Sweden equipped with smart and automated manufacturing tools.
- **MT Aerospace** of Germany, a supplier of Arianespace, develops, manufactures, and tests a number of important components for the Ariane 6 rocket. The development of Ariane 6, for which Kuiper is a key customer, has led to innovation in components, and stimulated a greater degree of industrialisation, with MT Aerospace's suppliers putting in place economies of scale with advanced production facilities.
- **Avio,** a supplier of Arianespace headquartered in central Italy, manufactures several important components of the Ariane 6 rocket. The commitment by Kuiper proved crucial as it signalled belief in the Ariane 6 concept, of which Avio provides several essential components.

Project Kuiper constitutes a significant portion of Arianespace's confirmed order book, accounting for 18 out of 28 Ariane 6 systems sold at the time the order was announced. Kuiper's investment has helped Arianespace to maintain its planned workforce, which may otherwise have been at risk.

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AMAZON PROJECT KUIPER'S ECONOMIC IMPACT IN THE EU27

The economic impact of Amazon Project Kuiper's launch partners' activities including ArianeGroup, Beyond Gravity, other partners, and their supply chain in the EU27

● Total ● Direct ● Indirect ● Induced

TOTAL CONTRIBUTION TO GDP, 2022 TO 2029

€2.8 billion

ANNUAL EMPLOYMENT SUPPORTED

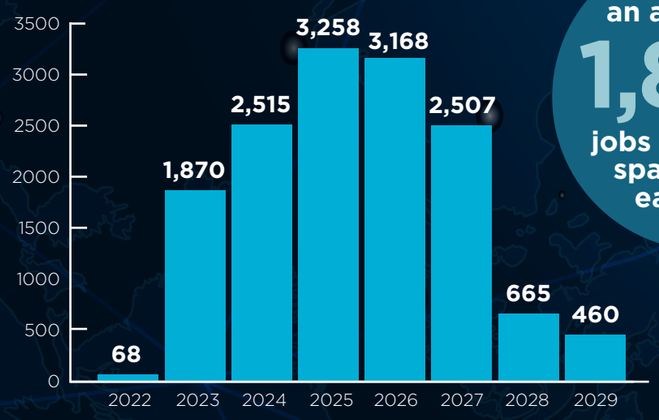
3,269 jobs

TOTAL TAXES SUPPORTED

€790 million

Amazon Project Kuiper's investment will provide support for the European space industry throughout the decade:

Fig: Annual jobs contribution of Amazon Project Kuiper in the European space sector

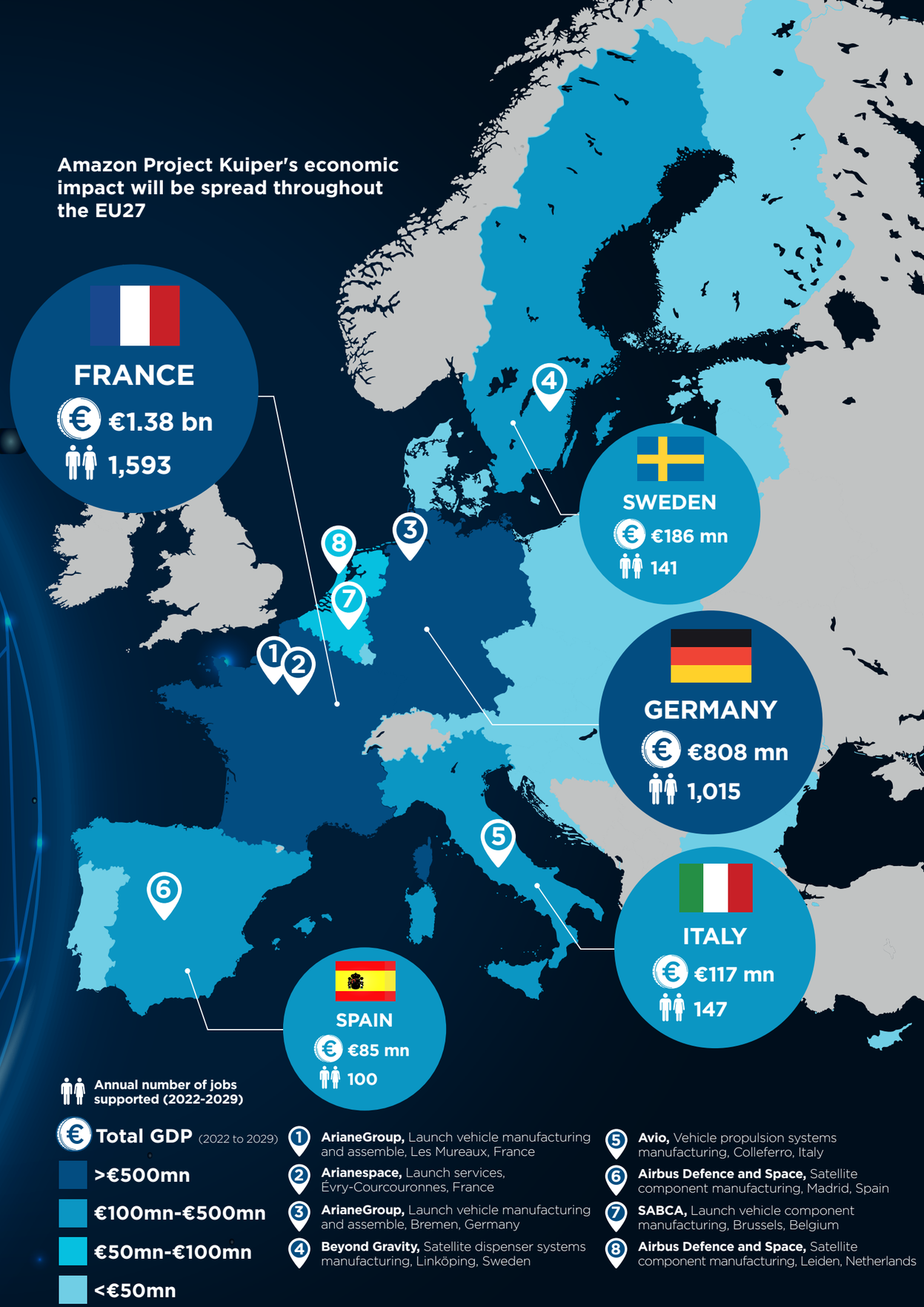


Amazon Project Kuiper's spending will support:

an average of 1,800 jobs in the EU27 space sector each year

a peak of 3,258 jobs in 2025

Amazon Project Kuiper's economic impact will be spread throughout the EU27



Annual number of jobs supported (2022-2029)

Total GDP (2022 to 2029)

- >€500mn
- €100mn-€500mn
- €50mn-€100mn
- <€50mn

1. **ArianeGroup,** Launch vehicle manufacturing and assemble, Les Mureaux, France
2. **Arianespace,** Launch services, Évry-Courcouronnes, France
3. **ArianeGroup,** Launch vehicle manufacturing and assemble, Bremen, Germany
4. **Beyond Gravity,** Satellite dispenser systems manufacturing, Linköping, Sweden
5. **Avio,** Vehicle propulsion systems manufacturing, Colleferro, Italy
6. **Airbus Defence and Space,** Satellite component manufacturing, Madrid, Spain
7. **SABCA,** Launch vehicle component manufacturing, Brussels, Belgium
8. **Airbus Defence and Space,** Satellite component manufacturing, Leiden, Netherlands

1. INTRODUCTION

Project Kuiper, financed and operated by Amazon, aims to help bridge the global digital divide by providing fast, affordable broadband access to unserved and underserved communities that currently lack reliable internet service. To achieve this, Amazon will launch over 3,000 satellites into low Earth orbit, which will be linked to a global network of ground-based connection points.

Deploying such a large volume of satellites requires considerable launch capacity, and Project Kuiper has secured more than 80 rocket launches globally and associated satellite dispenser systems from its five launch partners over a five-year period to do so.[10,11] Through its spending with its launch partners, Project Kuiper is helping to re-energise the European Union (EU) space sector.

Sales in the EU space sector have yet to fully recover from a drop coinciding with the Covid-19 pandemic. Total sales in 2023, at €8.4 billion, were still short of the pre-pandemic peak of €8.8 billion in 2018,[12] while sales of launcher systems specifically—at €1.2 billion in 2023—were even further from their 2019 peak of €1.7 billion.[13] On the other hand, employment in the EU space sector has continued to grow in recent years with the sector supporting around 57,900 jobs as of 2023.[14]

As of 2024 and as part of existing agreements, we estimate that Project Kuiper has invested €631 million in the EU space sector through its partnerships, with an additional €1,996 million planned over the period from 2025 to 2029.[15] To put this in context, we estimate that spending in 2024 by Project Kuiper represented 6% of total sales by the EU27 space industry, 18% of total commercial and export sales, and 39% of launcher system sales[16]—shares that may grow in 2025 and 2026, when we assume the majority of Project Kuiper's launches will take place.

Amazon commissioned Oxford Economics to quantify the economic impact of Project Kuiper through its launch partners and their supply chains within the EU. Specifically, this report quantifies the economic impact of the operations and related procurement of four of the launch partners—Arianespace, Beyond Gravity, Blue Origin, and United Launch Alliance (ULA)—as they work to launch Project Kuiper's constellation of satellites into orbit.

This report focuses on a segment of the broader economic impact expected to be created by Project Kuiper and is limited to the economic activity related to scheduled launches. It does not account for future launch options that could be exercised or contracted, for example to sustain the operation of the satellite network. As the emphasis is on the space sector, we only analyse the economic impact arising from the construction of rocket launch infrastructure and exclude the effects of other ground infrastructure.

[10] Amazon, "Press release - Amazon Secures Up to 83 Launches from Arianespace, Blue Origin, and United Launch Alliance for Project Kuiper", April 2022, accessed August 2024.

[11] The five launch partners are the four launch service providers (Arianespace, Blue Origin, United Launch Alliance, and SpaceX), and Beyond Gravity which provides the satellite dispenser systems on all launch vehicles. This report does not include data from SpaceX.

[12] Sales figure taken from ASD-Eurospace report (p.35). Includes sales in Norway, Switzerland, and the UK. ASD-Eurospace, "Facts & Figures 2024 – Press release", July 2024, accessed January 2025.

[13] Launcher systems sales figure taken from ASD-Eurospace report (p.28). Includes sales in Norway, Switzerland and the UK. Ibid.

[14] Employment figure taken from ASD-Eurospace report (p.36). The report provides an FTE figure, which we have converted to headcount terms for comparability reasons based on a data-driven assumption of the share of workers that are part-time. Ibid.

[15] The timing of these investments reflects Oxford Economics' modelling of the profile of output produced in relation to Project Kuiper, and not when payments are made to Project Kuiper's launch partners.

[16] Total sales, commercial and export sales, and sales of launcher systems in the EU space sector in 2023 are from ASD-Eurospace (p. 22, 27, 28, 35). These were grown for inflation to be in 2024 terms (assuming sales are constant in real terms). We exclude estimated sales to non EU27 countries. ASD-Eurospace, "Facts & Figures 2024 – Press release", July 2024, accessed January 2025.

1.1 ESTIMATING IMPACT

We assess the economic impact of Project Kuiper through its launch partners and their supply chains in the EU using a standard analytical framework known as an economic impact assessment. This approach quantifies three channels of economic impact, namely the direct, indirect (supply chain), and induced (consumer spending) channels (Fig. 3):

- **Direct impact:** This refers to the direct operations of Project Kuiper's launch partners with operations in the EU—Arianespace and Beyond Gravity, rather than activity by Amazon itself. It encompasses the economic activity and employment generated by these companies at their sites across the EU as they launch Project Kuiper's satellite network.
- **Indirect impact:** This consists of the economic activity and employment sustained by the procurement activities of four of Project Kuiper's launch partners with supply chains in the EU, namely Arianespace, Beyond Gravity, Blue Origin, and ULA.
- **Induced impact:** This refers to the economic activity and employment supported when the workers employed by both the launch partners (direct impact) and the workers indirectly supported in their upstream supply chains (indirect impact) spend their wages in consumer-facing sectors.

All three channels of impact combined make up Project Kuiper's total economic impact. We measured these impacts using three metrics:

- **GDP—**specifically, the gross value-added (GVA) contribution to GDP (or, for simplicity, "GDP contribution"). This metric is defined as the value of the output produced minus the expenditure on inputs of goods and services used in production.
- **Employment—**measured as the number of jobs supported on a headcount basis.
- **Tax revenue for government—**including corporate income tax, labour taxes, taxes on products, and taxes on production.[17]

In the context of this multinational study, we use Oxford Economics' Global Economic Impact Model to allow us to trace supply chain and consumer spending both within countries and across their borders within the EU as a whole.[18] This ensures that we are able to capture EU-wide linkages across the space sector and its supply chain.

This report draws on a combination of publicly available data and data received from Project Kuiper's launch partners to derive the necessary inputs for our Global Economic Impact model. The data, and how they are used to derive these inputs, are described in further detail in the Appendix.

[17] Taxes include:

- Taxes on production, encompassing certain types of business tax. The precise group of taxes will vary between countries, but the distinction is that these taxes do not vary with production volume. Typically they are charges linked to commercial property (like business rates).
- Taxes on products, covering duties and taxes that businesses pay on their inputs e.g., excise duty, import duties, non-recoverable VAT, etc.
- Corporate Income Tax, reflecting taxes charged on corporate net income/profits.
- Labour taxes, encompassing income tax and employer and employee social security contributions.

[18] This study does not include the impacts of spending by Project Kuiper's launch partners with suppliers outside of the EU, even if these suppliers source from EU companies. For example, spending by a US-based launch partner with a US-based supplier, which in turn procures goods from the EU is not included.

1.2 STRUCTURE OF THE REPORT

The remainder of this report is structured as follows:

- **Chapter 2** presents the results of our economic impact assessment for the EU as a whole, highlighting contributions to GDP, employment, and tax revenue in aggregate across all EU countries from 2022 to 2029.
- **Chapter 3** focuses on five countries—France, Germany, Sweden, Italy, and Spain—highlighting the economic contribution that Project Kuiper makes to each country.
- **Additionally,** we conducted four interviews with senior representatives of Project Kuiper's launch partners and businesses within their supply chain. Insights from these interviews are summarised in case studies, showcasing the real-world impact behind the numbers and highlighting Project Kuiper's significance to the European space sector.
- **The Appendix** provides a detailed explanation of our approach, including the sources and methods used for our impact estimates.

2. ECONOMIC IMPACT OF PROJECT KUIPER'S LAUNCH PARTNERSHIPS IN THE EU

In this chapter, we present the economic impact of Project Kuiper's launch partners in the EU quantified in terms of GDP contribution, jobs, and tax receipts. We present the impact of Project Kuiper's launch partners through each impact channel in turn—direct, indirect, and induced. We then present the total economic footprint of Project Kuiper's launch partners in the EU, which is the sum of all three channels, as per standard practice in economic impact assessments.[19] All figures presented in this report are in 2024 prices, unless stated otherwise.

2.1 PROJECT KUIPER'S DIRECT IMPACT AT ITS LAUNCH PARTNERS' OPERATIONAL SITES

Project Kuiper generates substantial economic activity in the EU through its two EU-based launch partners:

- **Arianespace:** from its base in France, Arianespace operates a family of rockets to deliver satellites into space for both institutional and commercial missions. As of 2024, Arianespace is contracted to carry out 18 Ariane 6 launches—representing two-thirds of its commissioned launches at the time of announcement—to deploy part of the Project Kuiper satellite constellation. Our analysis assumes a launch profile by Arianespace that sees the number of launches peaking in 2026 and 2027.[20]
- **Beyond Gravity:** with its Kuiper-related operations headquartered in Sweden, Beyond Gravity develops and manufactures products for satellites and launch vehicles. For its collaboration with Amazon—the biggest single contract in Beyond Gravity's history at the time of announcement—Beyond Gravity is designing and manufacturing the scalable dispenser systems for Project Kuiper that will efficiently deploy thousands of satellites into their designated orbits.

The direct contribution of Project Kuiper's launch partners to the EU economy relates to their own activities on-site. Specifically, through these partnerships, we estimate that Project Kuiper will directly support a GDP contribution of €805.7 million cumulatively between 2022 and 2029. This total corresponds to an annual average of €100.7 million during the period.[21] Project Kuiper's GDP contribution across these two EU-based launch partners is expected to grow over time, peaking at €218.7 million in 2025 (Fig. 3). As noted above, these figures are limited to economic activity related to scheduled launches and do not reflect potential future launches.

The projected trajectory of GDP contributions over this period aligns with our assumed launch profile for the Ariane 6 rocket. Arianespace launches are assumed to peak in 2026–2027, and we assume that most launch-related manufacturing will take place two years in advance of each launch.[22]

Through their partnership with Amazon on Project Kuiper, we estimate that Arianespace and Beyond Gravity will directly support an annual average of 1,060 jobs during the period 2022 to 2029, peaking at over 1,500 from 2023 to 2027.[23] These include jobs at Beyond Gravity producing satellite dispenser systems specifically for Kuiper launches, and at Arianespace and the wider ArianeGroup to manufacture and launch the 18 Ariane 6 rockets. The jobs figure of 1,550 for 2023 represents around 3% of the estimated workforce of the European space sector in the same year.

[19] The results are presented on a gross basis, meaning they do not account for any displacement of activity from the launch partners' competitors or other firms. Additionally, they do not consider how the resources currently used to support the launch partners' economic footprint could otherwise be productively redirected.

[20] Specifically, we assume two launches in 2025, six launches in both 2026 and 2027, and a further two launches in both 2028 and 2029. This cadence is assumed by Oxford Economics for the purposes of this research and is not based on any privately held information.

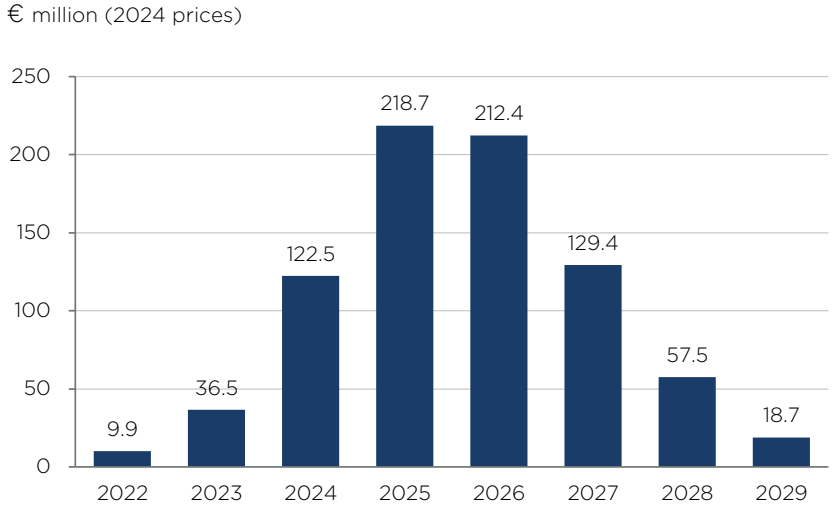
[21] The annual average does not sum to the cumulative total due to rounding.

[22] The direct contributions in this chapter relate to the two launch partners' activities supporting Project Kuiper. Their own economic activity supporting their full set of space programmes would display a more stable profile than that represented in these sections.

[23] The time profile reflects the assumed launch profile for Ariane 6: with a peak in the number of launches in 2026 and 2027, most jobs are concentrated in the period leading up to and including these years to support the associated launch activities and required manufacturing.

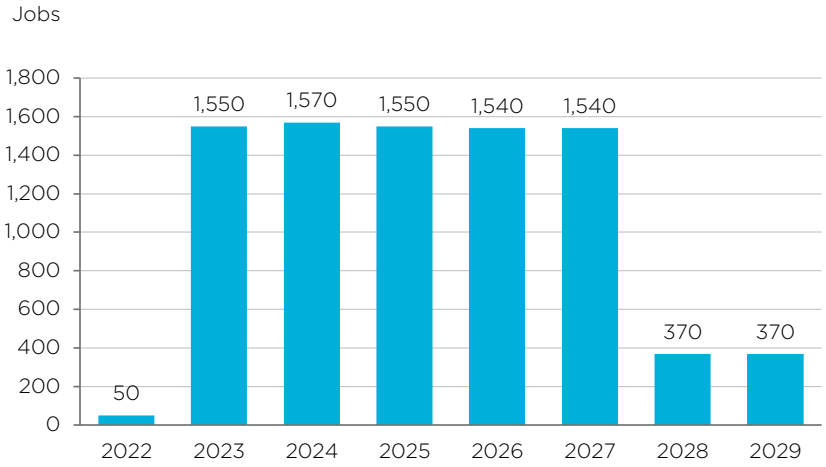
Through their partnership with Amazon on Project Kuiper, we estimate that the two EU-based launch partners will contribute a cumulative €30.8 million in tax to governments between 2022 and 2029, corresponding to €3.8 million on average each year during the period.[24, 25]

Fig. 3: GDP supported directly by the operations of Project Kuiper's launch partners in the EU



Source: Oxford Economics

Fig. 4: Jobs directly supported by the operations of Project Kuiper's launch partners in the EU



Source: Oxford Economics

[24] The projected trajectory of tax contributions over this period aligns with the assumed launch profile of Project Kuiper's principal launch partner, Arianespace.

[25] Annual average does not sum to cumulative total due to rounding.

2.2 PROJECT KUIPER'S INDIRECT (SUPPLY CHAIN) IMPACT

Project Kuiper's launch partners, including those based outside of the EU, support further economic activity across the EU by procuring goods and services from their suppliers within the EU. The report assesses the EU-based supply chains of four Kuiper launch partners: Arianespace, Beyond Gravity, ULA, and Blue Origin.[26]

Each of these launch partners procures a wide range of goods and services to fulfil its commitments to Project Kuiper, ranging from the manufacturing of components to the purchase of software and logistics. Examples of EU-based businesses that the four launch partners procure from include: Avio, an Italian manufacturer that produces boosters for the Ariane 6 launcher; MT Aerospace, a Germany-based supplier of key components such as metallic structures of the upper and central stages of the Ariane 6 rocket; and SABCA, a Belgian developer of the actuation system that controls the flightpath of the Ariane 6 launch vehicle.

We estimate that total procurement spending related to Project Kuiper will be €1.6 billion over the period 2022–2029.[27] Almost three-quarters (72%) of this amount, an estimated €1.2 billion, is projected to be spent procuring specialist products from businesses in the space sector. The remaining is spent on sourcing non-specialist products used in manufacturing—mainly basic and fabricated metals.[28]

Project Kuiper's launch partners in the EU will, on average, spend €205.2 million a year with their EU-based suppliers between 2022 and 2029 to deliver on their commitments for Project Kuiper. Supply-chain spending grows substantially over the first half of the 2022–2029 period, from under €5 million euros in 2022 to its peak of €464.8 million in 2025, before gradually declining after 2026.[29] For comparison, the estimated €249.0 million in procurement by Project Kuiper's launch partners in 2024 is around 11% of estimated European space sector commercial and export sales.[30]

[26] While Arianespace and Beyond Gravity are based in the EU and have suppliers within the EU, ULA, and Blue Origin—both based in the US—also procure from businesses in the EU.

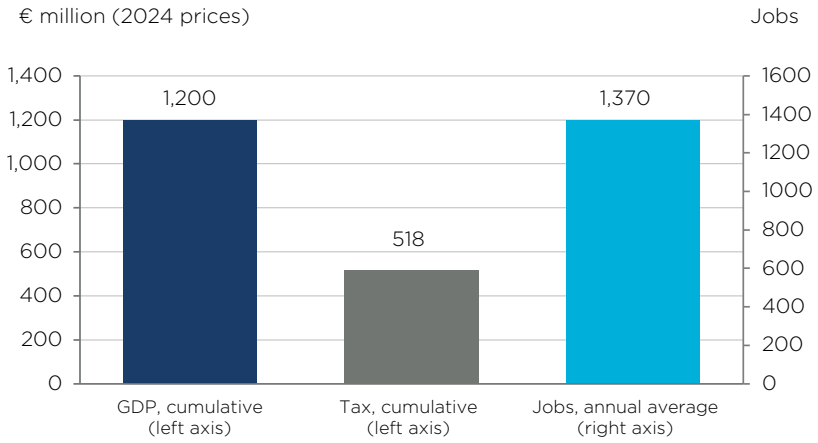
[27] Procurement spending is made up of estimated supply chain spending in the EU by Arianespace, Beyond Gravity, ULA, and Blue Origin.

[28] Space sector procurement spending is modelled to occur in ISIC sector 30 (Manufacture of other transport equipment), which includes the manufacture of spacecraft, and the components of spacecraft.

[29] The projected spending trajectory with EU-based suppliers over this period aligns with the assumed launch schedule of Project Kuiper's main launch partner, Arianespace.

[30] Total sales to commercial and export customers in the EU space sector in 2024 are from ASD-Eurospace (p. 27, 35). These were adjusted for inflation (assuming sales are constant in real terms) and are inclusive of sales to several non-EU countries. ASD Eurospace, Facts & figures 2024 press release, July 2024

Fig. 5: Indirect economic impact contribution of Project Kuiper's launch partnerships to GDP, tax, and jobs in the EU during 2022–2029



Source: Oxford Economics

Through their procurement spending with suppliers in the EU, Project Kuiper's launch partners will indirectly support an estimated cumulative GDP contribution of €1,200 million between 2022 and 2029, representing an annual average of €150 million during the period. This represents economic activity carried out by the launch partners' suppliers in the space sector, and by these businesses' suppliers further upstream, to satisfy the orders placed by the launch partners to deliver on Project Kuiper.

The launch partners' supply chains will support an estimated average of 1,370 jobs between 2022 and 2029, and a cumulative tax contribution of €518.1 over the same period, averaging €64.8 million each year.[31]

Based on scheduled launches, these impacts are expected to peak in 2025 and 2026. Specifically, in 2025, the indirect impacts of Project Kuiper's launch partners in the EU will reach an estimated €339.8 million contribution to EU GDP, 3,150 jobs, and €145.8 million in tax contributions.

[31] The annual average does not sum up to the cumulative total due to rounding.

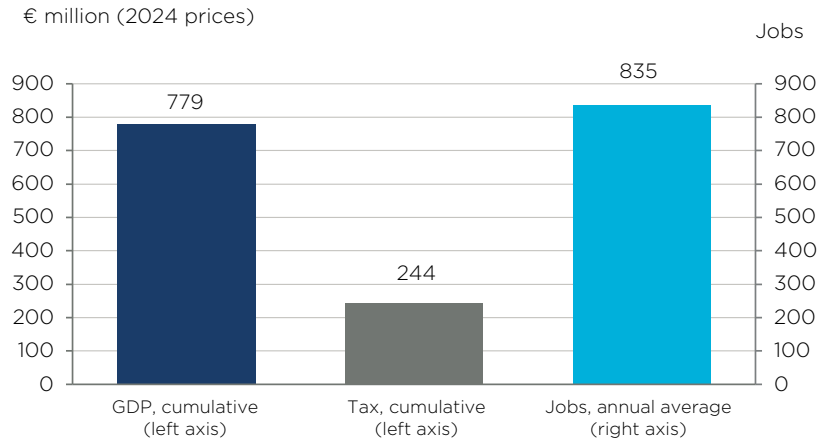
2.3 PROJECT KUIPER'S INDUCED (WAGE SPENDING) IMPACT

The activities of Project Kuiper's launch partners in the EU stimulate further economic activity as the employees directly supported by the launch partners and the workers indirectly supported by their supply chains spend their wages in consumer-facing sectors of the economies of EU countries.

We estimate that wage spending will support a cumulative contribution of €779.4 million to EU GDP during the period 2022 to 2029, averaging €97.4 million each year.[32] The average number of jobs and the cumulative amount of tax contributions supported over the period in the EU are estimated at 835 jobs and €243.6 million (annual average of €30.5 million) respectively.[33]

As with the direct and indirect impacts, the induced impacts are expected to peak in 2025 and 2026. We estimate that in 2025 wage spending will support a €218.0 million contribution to EU GDP; 1,910 jobs in the region; and €67.6 million in tax contributions to EU treasuries.

Fig. 6: Induced economic impact contribution of Project Kuiper's launch partnerships to GDP, tax, and jobs in the EU during 2022–2029



Source: Oxford Economics

[32] Annual average does not sum up to cumulative total due to rounding.

[33] Annual average does not sum up to cumulative total due to rounding.

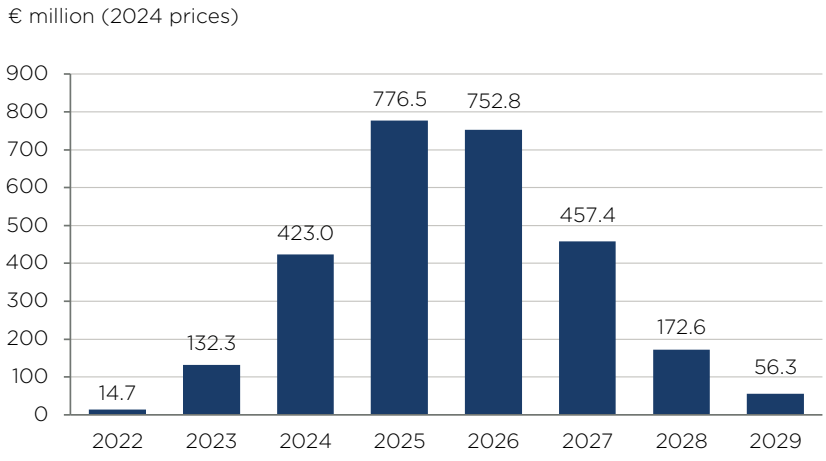
2.4 TOTAL ECONOMIC IMPACT

Across all impact channels—the direct, the indirect, and the induced—Project Kuiper's launch partners will contribute €2.8 billion to EU GDP cumulatively between 2022 and 2029, averaging €348.2 million per year over the period. Total GDP supported is expected to grow steadily from 2022 levels, peaking in 2025 and 2026 at over €750 million (Fig. 7).

Through their partnerships with Project Kuiper, we estimate that across all impact channels Project Kuiper's launch partners will support an average of 3,269 jobs in the EU during the period from 2022 to 2029. The total number of jobs supported is expected to peak at over 6,600 in 2025.

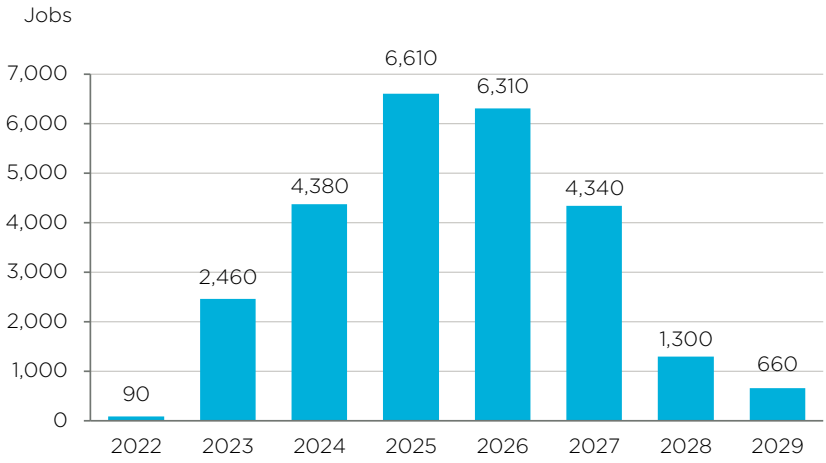
Finally, we estimate that across all impact channels the launch partners delivering Project Kuiper will support €792.5 million in tax revenue cumulatively between 2022 and 2029, averaging €99.1 million annually and peaking at over €220 million in 2025, as shown in Fig. 8.

Fig. 7: Total GDP supported by Project Kuiper's launch partners in the EU



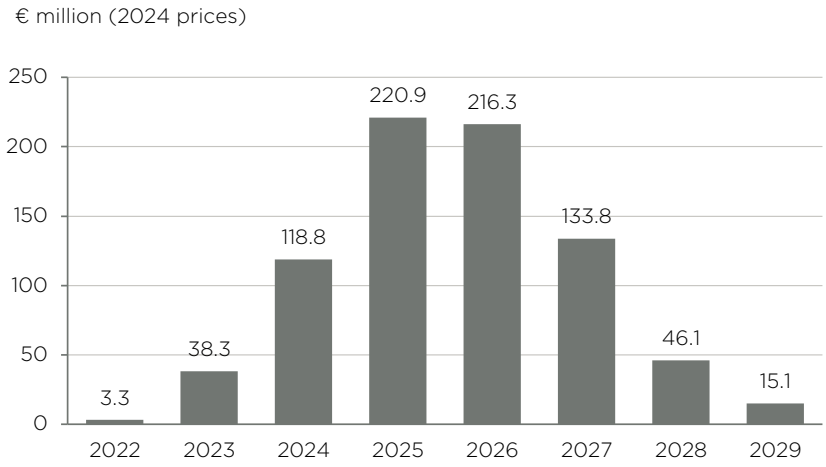
Source: Oxford Economics

Fig. 8: Total jobs supported by Project Kuiper's launch partners in the EU



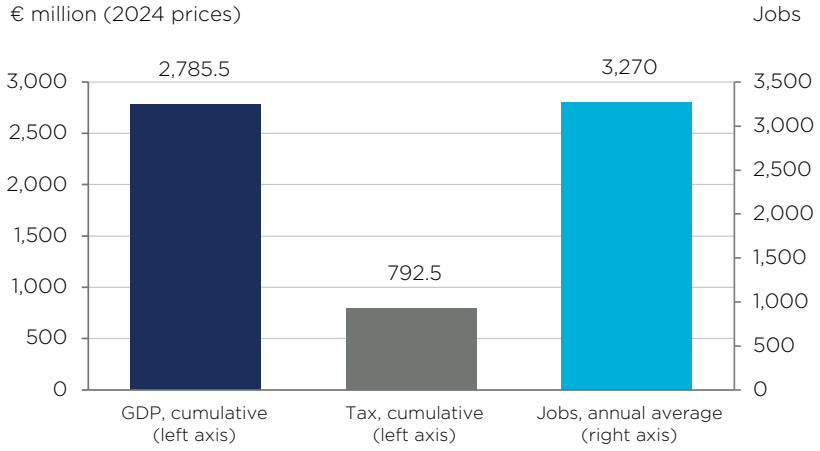
Source: Oxford Economics

Fig. 9: Total tax contributions supported by Project Kuiper's launch partners in the EU



Source: Oxford Economics

Fig. 10: Total economic impact contribution of Project Kuiper's launch partnerships to GDP, tax, and jobs in the EU during 2022–2029



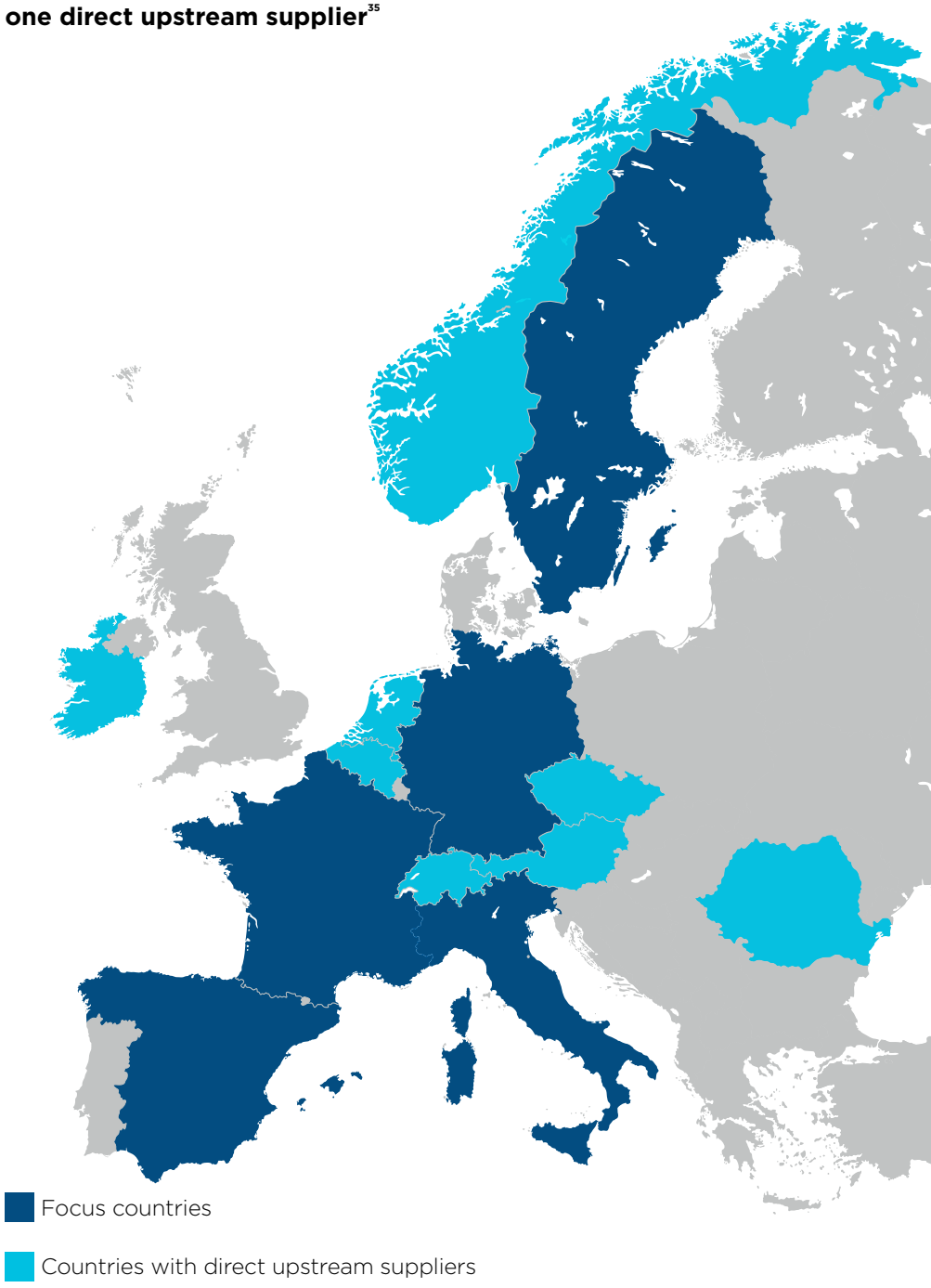
Source: Oxford Economics

3. PROJECT KUIPER'S ECONOMIC IMPACT IN FIVE EU COUNTRIES

The economic impact of Project Kuiper is pan-European, with the supply chain of Ariane 6 alone—of which Project Kuiper is a key customer—covering 13 countries.[34] However, in line with their respective industrial specialisations, five countries support the majority of the economic impact in the EU.

In this chapter, we explore the role of France, Germany, Italy, Sweden, and Spain in delivering Project Kuiper, and the economic impact it has in each of these countries. Though we highlight the economic impact in these five focus countries, eight other European countries supply key components of the Ariane 6 rocket used to deliver Kuiper satellites (Fig. 11). More broadly, an even wider set of European countries will indirectly participate in Project Kuiper as they host suppliers further upstream.

Fig. 11: Five focus countries, and eight countries with at least one direct upstream supplier[35]



Source: Oxford Economics

[34] ArianeGroup, "Ariane 6", accessed December 2024.

[35] Direct upstream suppliers are suppliers which have direct contractual relationships with one or more of Project Kuiper's launch partners.

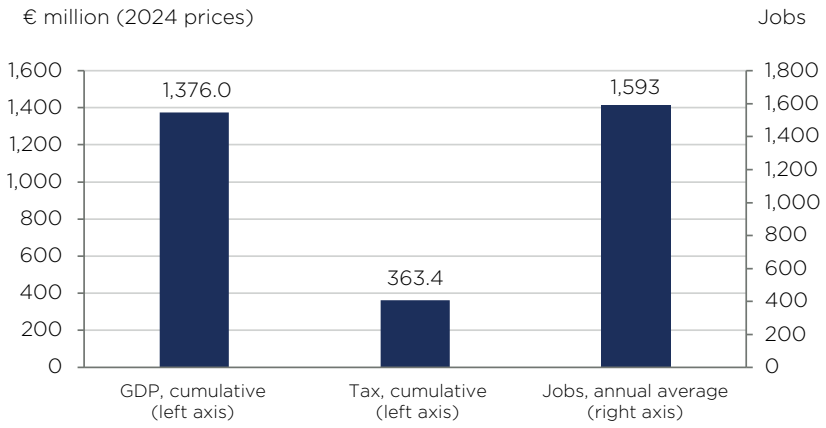
3.1 FRANCE

Project Kuiper is expected to have its largest economic impact in France, home to ArianeGroup, lead manufacturer for the Ariane 6 rocket, of which Arianespace is a subsidiary. Arianespace, headquartered in the suburbs of Paris and launching its rockets from French Guiana, provides essential launch services for Project Kuiper, leveraging its expertise and infrastructure to support the deployment of the Kuiper constellation. Project Kuiper accounted for close to two-thirds of Arianespace's 28 booked launches for the Ariane 6 rocket at the time of the contract announcement.

Arianespace's parent company, ArianeGroup, has its headquarters in Les Mureaux, near Paris, and is ultimately responsible for the manufacture and assembly of the Ariane 6 rocket used by Arianespace to deliver Project Kuiper satellites.[36] ArianeGroup has several sites throughout France dedicated in part or in full to the manufacture of components for the Ariane 6 rocket including in Le Haillan near Bordeaux, in Toulouse, and Vernon in Normandy. ArianeGroup also has several sites in Germany involved in the production of the Ariane 6 rocket, discussed in a subsequent subsection.

We estimate that Project Kuiper's launch partners will support a cumulative €1.38 billion contribution to French GDP between 2022 and 2029. The total annual contribution to GDP is expected to peak in 2025 at €390.4 million. Project Kuiper's launch partners' activity in France will support 1,590 jobs on average between 2022 and 2029. The number of jobs stimulated by Project Kuiper's launch partners in France is expected to peak in 2025—at 3,070. Finally, we estimate that the activity of Project Kuiper's launch partners will support a cumulative €363.4 million in tax revenues for French authorities between 2022 and 2029.

Fig. 12: Total GDP, employment, and tax supported by Project Kuiper's launch partners in France, 2022–2029



Source: Oxford Economics

[36] ArianeGroup, "Our sites", accessed December 2024.

ARIANESPACE—PROJECT KUIPER'S LAUNCH SERVICE PARTNER IN EUROPE[37]

Arianespace is one of Project Kuiper's four launch service providers, and the only one undertaking launches within the European Union out of its launch centre in French Guiana. As of early 2025, Arianespace is contracted by Project Kuiper to operate and manage the launch of 18 Ariane 6 systems, each carrying dozens of the satellites that will ultimately form the constellation providing broadband connectivity.

Project Kuiper constitutes a significant portion of Arianespace's confirmed order book, accounting for almost two-thirds of the Ariane 6 systems sold at the time Project Kuiper's order was announced. According to Stéphane Israël, the then-CEO of Arianespace, "Kuiper has contributed to the long term feasibility of the business case for Ariane 6" which was unclear "in the context of increased competition". Ariane 6, partly funded by the public sector to serve public needs, depends on commercial demand for its viability, and so Kuiper's investment has been crucial in helping to realise the business case.

The Ariane 6 launch system was developed by ArianeGroup—the parent company of Arianespace. ArianeGroup has manufacturing facilities in France and Germany, and an extensive supply chain of space sector specialists in 13 EU countries.[38] Project Kuiper, and the necessity to deliver at pace, has, according to Stéphane Israël, "provided a boost to the wider sector", and an impetus "to work in the same direction".

Kuiper's investment has allowed Arianespace to maintain its planned workforce, which may otherwise have been at risk. Additionally, it has enhanced the competencies of the workforce in fields such as engineering, and "provided a rationale for an incremental development of the Ariane 6 rocket" in the form of Ariane 6 Block 2.

The magnitude of Project Kuiper's commercial contract with Arianespace provided certainty and confidence in the business case of the Ariane 6 programme, including for the European Space Agency and other public sector investors in the programme.

[37] The content of this case study is informed by an interview conducted in October 2024 with the then-CEO of Arianespace, Stéphane Israël—to whom we attribute the quotes in this case study—and additional desk research.

[38] European Space Agency, "Ariane 6 – who makes what", June 2024, accessed February 2025.

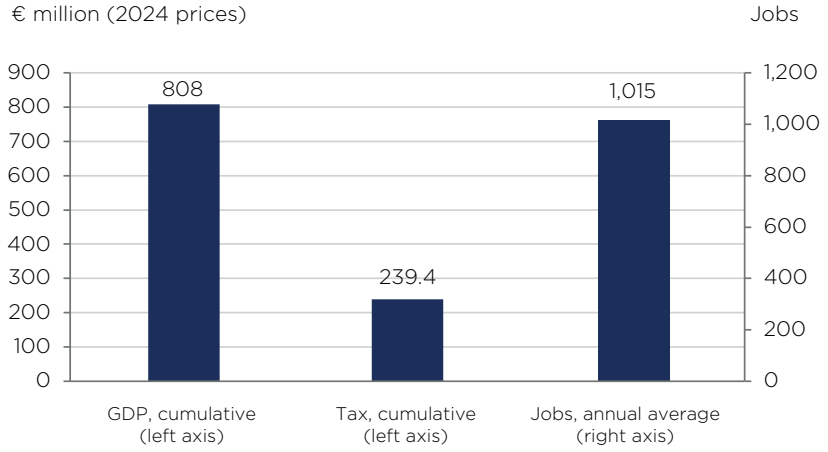
3.2 GERMANY

Project Kuiper is expected to have its second largest economic impact in Germany, which contains several sites of ArianeGroup, developer of Ariane 6, as well as MT Aerospace, one of ArianeGroup's key suppliers. Since the start of the Ariane 6 programme, ArianeGroup's site in Bremen, northwest Germany, has been responsible for the design, development, and final integration of the launcher's upper stage.[39] The site in Ottobrunn, in Bavaria, builds the combustion chambers for the rocket's liquid propulsion engines, Vinci 2.1 and Vinci.[40]

MT Aerospace, also based in Germany, is the largest German supplier for the Ariane 6 programme, and is responsible for the development, design, and manufacturing of the metallic aerostructures of the launcher.[41]

We estimate that Project Kuiper's launch partners will support a cumulative €808.0 million contribution to German GDP between 2022 and 2029. The total annual contribution to GDP is expected to peak in 2025 at €226.8 million. Project Kuiper's launch partners' activities in Germany are expected to support 1,010 jobs on average between 2022 and 2029, with this number peaking in 2025 at 2,080. Finally, the activity of Project Kuiper's launch partners will support a cumulative €239.4 million in tax revenues for the German government between 2022 and 2029, peaking at €66.9 million in 2026.

Fig. 13: Total GDP, employment, and tax supported by Project Kuiper's launch partners in Germany, 2022–2029



Source: Oxford Economics

[39] ArianeGroup, "Our sites", accessed December 2024.

[40] Ibid.

[41] MT Aerospace, "MT Aerospace celebrates milestone in European Space Transformation: Successful first launch of Ariane 6", July 2024, accessed December 2024.

MT AEROSPACE—TRANSFERRING KNOW-HOW FROM ARIANE 6 TO KEY INDUSTRIES WITH THE BACKING OF PROJECT KUIPER[42]

Project Kuiper's backing of the development of the Ariane 6 launcher has boosted the productive capacity of the upstream manufacturers of the rocket's components. Suppliers to the programme have industrialised their operations so that they are able to go beyond meeting demand from Ariane 6 launches. They are also able to satisfy demand from space sector companies outside of the EU—contributing to exports by the EU space sector—and to transfer their know-how to other industries such as defence.

One example is MT Aerospace, a German aerospace company based in Bavaria. The company develops, manufactures, and tests components for launch vehicle programmes and is the largest German supplier of Ariane 6, accounting for about 10% of the production share of all Ariane 6 rockets.[45] It is responsible for the metallic aerostructures of the launcher, including state-of-the-art lightweight components based on carbon fibre that replace metallic components and reduce mass, increasing capacity to load weight and reducing resource use.[44]

The operations of MT Aerospace are shaped by their delivery to Ariane 6. According to Ulrich Scheib, the company's CEO, without it "the scope of the company would be very different, most probably with a dedicated defence focus". Entire manufacturing facilities in Germany are completely dedicated to the European launcher, supporting a wide range of local manufacturing jobs with diverse skill levels. Ariane 6 is the "backbone for all European space activities—the guaranteed access to space for Europe". Without Kuiper, the business case for Ariane 6 would have been "far more difficult than it is with Kuiper's support".

Whilst MT Aerospace was already a supplier to the Ariane 5 launcher, Ariane 6 has not only led to innovation in components, but more importantly it has stimulated a greater degree of industrialisation with its suppliers putting in place economies of scale with a digital backbone. This stimulus to the company's productive capacity has enabled it to gain new customers in the space sector in the US, a market that, according to Mr Scheib, turns to the EU's space sector as a second source of supply, especially when the US industrial base is saturated.

[42] The content of this case study is informed by an interview conducted with the CEO of MT Aerospace, Ulrich Scheib—to whom we attribute the quotes in this case study—and additional desk research.

[43] OHB, "Major Ariane 6-order from Amazon to launch-service-provider Arianespace", April 2022.

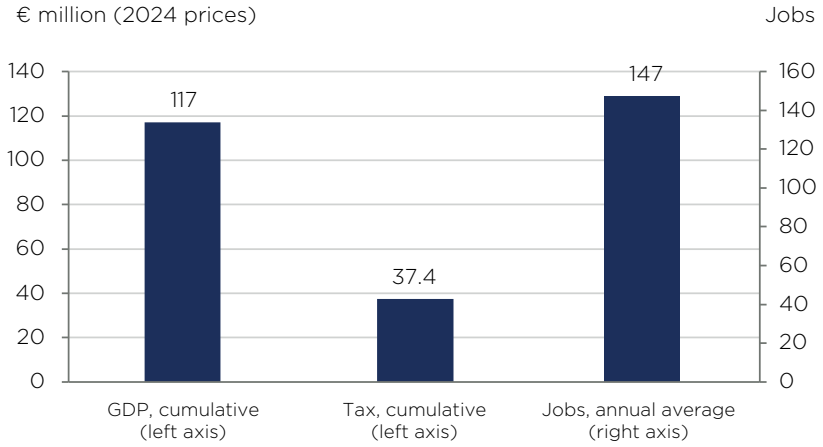
[44] OHB, "MT Aerospace signs 35 million euro contract with ArianeGroup for the development of the PHOEBUS technology demonstrator", November 2022.

3.3 ITALY

Though the launch partners of Project Kuiper do not have direct operations "on the ground" in Italy, the country hosts manufacturing activities of components of the Ariane 6 rocket. Avio, a company specialising in space propulsion headquartered near Rome, produces the carbon-fibre structural body of the engines of the rocket's boosters. Via Europropulsion, Avio's joint venture with ArianeGroup, it also produces the P120C solid rocket motor, which serve as the boosters for the Ariane 6 rocket that provide the additional thrust needed during the initial phase of the launch.

We estimate that Project Kuiper's launch partners will support a cumulative €117.0 million contribution to Italian GDP between 2022 and 2029. The total annual contribution to GDP is expected to peak in 2025 at €33.1 million. Project Kuiper's launch partners' activities in Italy are expected to support 147 jobs on average between 2022 and 2029, with this number peaking in 2025 at 333. Finally, the activity of Project Kuiper's launch partners will support a cumulative €37.4 million in tax revenues for the Italian government between 2022 and 2029.

Fig. 14: Total GDP, employment, and tax supported by Project Kuiper's launch partners in Italy, 2022–2029



Source: Oxford Economics

AVIO—CONSOLIDATING PRODUCTION AND EMPLOYMENT CAPABILITIES WITH DEMAND FROM ARIANE 6

The 18 confirmed European launches booked by Project Kuiper have provided an improved outlook for the European suppliers of Arianespace and the wider ArianeGroup, bolstering jobs, production, and the suppliers' competitiveness in global markets. A company that has benefitted from such stimulus is Avio, a supplier of Arianespace headquartered in central Italy that manufactures several important components of the Ariane 6 rocket.[45]

Launchers rely on boosters—the rockets' motors—for liftoff. In 2022 ArianeGroup, which develops and produces the rocket, commissioned Avio, a company based in Colleferro, near Rome, to produce several components of the Ariane 6 P120C motor—solid rocket boosters that provide the main thrust enabling the Ariane 6 rockets to lift off the ground.[46, 47]

The company's headquarters manufactures the casing of the 13.5 metre high motor using carbon composite material, while Regulus and Europropulsion—owned by Avio and ArianeGroup respectively—cast the propellant and assemble the motor and the stage.[48] In addition to producing the booster's casing, Avio also provides the liquid oxygen turbopumps—pumps that move liquid oxygen from storage to the rocket engine's combustion chamber—for the core stage engine and the upper stage engine, two separate portions of the rocket.[49]

Avio has been a supplier for ArianeGroup in relation to the Ariane rocket for several years. Specifically, in 2022 Project Kuiper's partnership with Arianespace immediately unblocked a series of investments for the Italian company. The commitment by Kuiper proved crucial as it, according to Avio's Head of Programmes, Marco Biagioni, "signalled belief in the Ariane 6 concept", of which Avio provides essential components. The order is enabling Avio to utilise its production capacity at full, and the company plans to be operating at a capacity of about 35 boosters per year with a ramp-up which will start from 2025.[50]

Avio's order backlog exceeding €1 billion, supported in part by demand to fulfil Project Kuiper's launch orders, has enabled the company to recruit and provide stable high-skilled jobs that are attractive because of the company's capability to offer a robust employment plan backed by orders and funding.[51] Jobs supported in Colleferro include engineering roles to set up the production system and to manufacture the casings of the boosters. Project Kuiper's order—which is a "crucial" component of the company's revenue—has also helped expand the company's capabilities to serve future demand. Avio is contributing to the development of a more powerful version of the booster called P160 which will increase the thrust of the launcher and its weight capacity.[52] Continued success of the company's product development, evidenced by the completed launch of Ariane 6 in its maiden flight in July 2024, will open up new opportunities to the company facilitated in part by demand from Project Kuiper.

[45] The content of this case study is informed by an interview conducted with Avio's Head of Programmes, Marco Biagioni—to whom we attribute the quotes in this case study—and additional desk research.

[46] Spacenews, "Avio Q&A: Powering the growth trajectory", June 2022.

[47] Avio, "Arianespace Signs a Contract with Amazon for 18 Ariane 6 Launches", April 2022.

[48] ArianeGroup, "Ariane 6", accessed December 2024.

[49] Avio, Press Release, "Success for Ariane 6 Maiden Flight", July 2024.

[50] Spacenews.com, "Avio Q&A: Powering the growth trajectory", June 2022.

[51] Spacenews.com, "Avio Q&A: Powering the growth trajectory", June 2022.

[52] Avio, Press Release, "Success for Ariane 6 Maiden Flight", July 2024.

3.4 SWEDEN

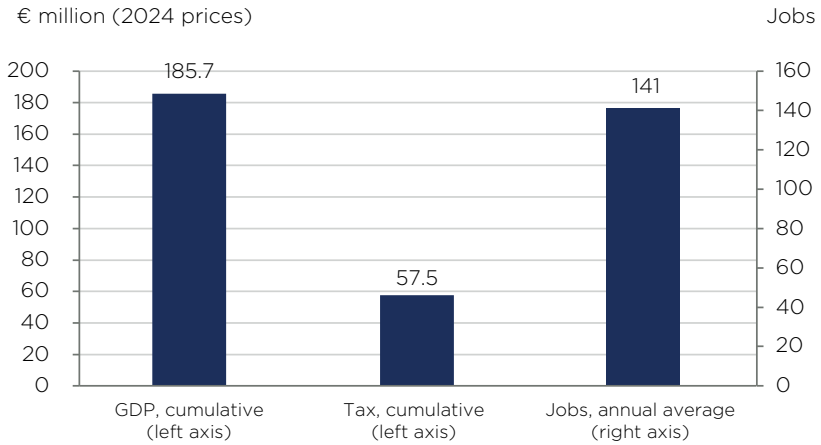
Relative to the size of its space sector, Sweden plays an outsized role in the success of Project Kuiper's mission.

Beyond Gravity, an international space sector business, manufactures the satellite dispenser systems used by all of Project Kuiper's launch service providers from its specially built facility in Southern Sweden. Beyond Gravity's dispenser system, purpose built and designed for Project Kuiper, serves to safely and accurately deploy the more than 3,000 satellites that will form the Project Kuiper constellation.

Swedish manufacturers also play an important role in the production of the Ariane 6 rocket. From its manufacturing facility in Trollhättan, GKN Aerospace is contracted to supply the first 14 Ariane 6 launches with the main and upper stage turbines and nozzles, both crucial components in the propulsion system which propels the rocket into space.[53]

We estimate that Project Kuiper's launch partners will support a cumulative €185.7 million contribution to Swedish GDP between 2022 and 2029. The total annual contribution to GDP is expected to peak in 2025 at €42 million. Project Kuiper's launch partners' activities in Sweden are expected to support with 141 jobs on average between 2022 and 2029, with this number peaking in 2025 at 270. Finally, we estimate that the activity of Project Kuiper's launch partners will support a cumulative €57.5 million in tax revenues for the Swedish government between 2022 and 2029.

Fig. 15: Total GDP, employment, and tax supported by Project Kuiper's launch partners in Sweden, 2022–2029



Source: Oxford Economics

[53] GKN Aerospace, "GKN Aerospace and Arianegroup extend partnership on Ariane 6 rocket engine subsystems", accessed December.

BEYOND GRAVITY—THE DISPENSER SYSTEM FOR PROJECT KUIPER'S SATELLITES PRODUCED IN SWEDEN[54]

From its state-of-the-art facilities in southern Sweden, built specifically to meet the needs of Project Kuiper, Beyond Gravity designs and manufactures the ultra-lightweight satellite (or payload) dispenser systems used by all four of Project Kuiper's launch service providers. Beyond Gravity is recognised as an industry leader in payload dispenser systems, reflected in its 100% success rate.[55]

Its specially developed dispenser system will serve to safely and accurately deploy the more than 3,000 satellites that will form the Project Kuiper constellation.[56] The satellite dispenser system, developed by Beyond Gravity for Project Kuiper, uses ultra-lightweight materials. This innovation allows Amazon to maximise the number of satellites per launch, reducing overall system costs. The dispenser system is also flexible and compatible with different launch vehicles—a crucial feature given the use of five different launch vehicles.

The impact of Project Kuiper's investment on Beyond Gravity has been significant. At the time that Project Kuiper and Beyond Gravity's collaboration was announced in 2022, the investment marked the single largest order in Beyond Gravity's history.[57] The investment facilitated the construction of a new high-tech manufacturing facility equipped with smart and automated manufacturing tools, doubling Beyond Gravity's production capacity for payload dispensers. To support this increased production, Beyond Gravity will support an average of 70 additional jobs annually at its Linköping site between 2022 and 2027.

Through its European supply chain, Beyond Gravity also procures several essential subcomponents, helping bolster the growth of the space sector and other adjacent sectors in several European countries.

As of Spring 2024, Beyond Gravity had already delivered a part of its dispenser system—the dispenser tier module—to Project Kuiper, an important milestone in Project Kuiper's goal of providing affordable satellite broadband to customers worldwide.[58]

[54] This case study has been collated based on an interview with a senior representative of Beyond Gravity, publicly available information, and data shared by Beyond Gravity.

[55] Beyond Gravity, "Separation Systems", accessed November 2024.

[56] Beyond Gravity, "Beyond Gravity and Amazon announce partnership", April 2022, accessed November 2024.

[57] Ibid.

[58] Beyond Gravity, "Beyond Gravity hands over first dispenser tier module to Amazon", May 2024, accessed November 2024.

3.5 SPAIN

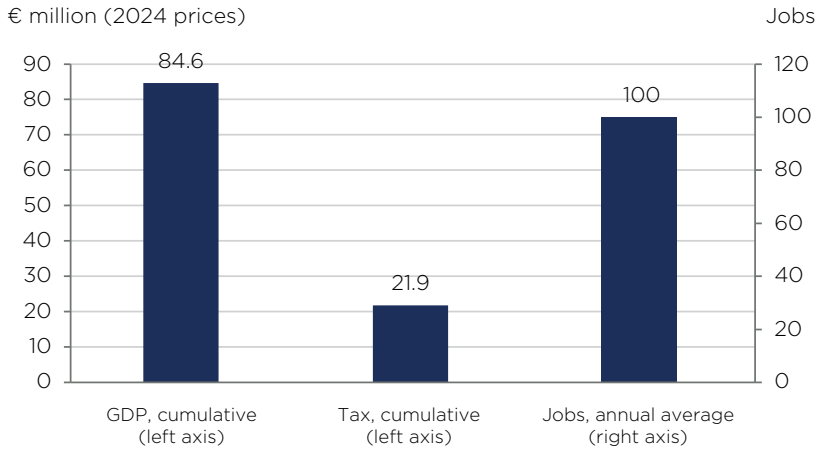
As with Italy, Project Kuiper's launch partners do not have an operational presence in Spain, but the impact of Project Kuiper is nevertheless realised via several companies involved in the construction of the Ariane 6 rockets that will act as launch vehicles for Project Kuiper's constellation of satellites.

At its recently-built facility near Madrid, Airbus supplies large carbon fibre structures for various parts of the Ariane 6 rocket.[59] Airbus have drawn on technical innovations to simultaneously manufacture stronger structures which have a lower mass, reducing the associated cost.

Spain is also home to Airbus Crisa, a subsidiary of Airbus, and electronics manufacturer based near Madrid that manufactures the core electrical system of the Ariane 6 rocket, which handles functions such as power distribution and on-board computing.[60, 61]

We estimate that Project Kuiper's launch partners will support a cumulative €84.6 million contribution to Spanish GDP between 2022 and 2029. The total annual contribution to GDP is expected to peak in 2025 at €23.9 million. Project Kuiper's launch partners' activities in Spain are expected to support 100 jobs on average between 2022 and 2029, with this number peaking in 2025 at 230. Finally, the activity of Project Kuiper's launch partners will support a cumulative €21.9 million in tax revenues for the Spanish government between 2022 and 2029.

Fig. 16: Total GDP, employment, and tax supported by Project Kuiper's launch partners in Spain, 2022–2029



Source: Oxford Economics

[59] Airbus, "Airbus and ArianeGroup sign Ariane 6 transition batch contract in Spain", November 2022, accessed December 2024.

[60] Airbus Crisa, "Launcher Electronics", accessed December 2024.

[61] Airbus Crisa, "From Earth to space", accessed December 2024.


DANGER
VELOCIRAPTOR
CONTAINMENT
UN3480
LITHIUM ION BATTERIES
DOT-SP 11818
UN1005
ANHYDROUS AMMONIA
INHALATION HAZARD

4. APPENDIX: ECONOMIC IMPACT METHODOLOGY

This section sets out the methodology used for our economic impact assessment of Project Kuiper's launch partnerships in the EU, including data used and the key assumptions we made in our analysis.

OVERVIEW OF DATA USED IN THIS REPORT

This report draws on a combination of publicly available data and data received from Project Kuiper's launch partners to derive the necessary inputs for our Global Economic Impact model. The data, and how they are used to derive these inputs are described in further detail in the Appendix.

For Project Kuiper's launch partners with operations in the EU, the data we use for each of the partners in turn are:

- For Arianespace, we estimated the total economic output associated with Project Kuiper using publicly available information on the number of launches and cost per launch. We used Arianespace's parent company ArianeGroup's published accounts to disaggregate this estimate of output into direct GVA contribution, direct taxation, and procurement. To estimate direct jobs supported by Project Kuiper, we use data received from Arianespace on the total number of jobs supported by ArianeGroup, adjusted for the share of activity supported by Project Kuiper.
- For Beyond Gravity, we received data on the number of jobs supported by Project Kuiper.

We combined this with publicly available data on salaries and industry average ratios to estimate the direct GVA contribution of Beyond Gravity and taxes paid in connection with Kuiper.
For Project Kuiper's launch partners considered in this report with supply chain spending in the EU, the data we use for each of the partners in turn are:

- For Arianespace, we use our estimate of procurement costs per launch, as described above, and split this out by country using publicly available information on shares of Ariane 6 funding paid by member states to the European Space Agency as a proxy measure for where procurement takes place.
- For Beyond Gravity, ULA, and BlueOrigin we received time series data on supply chain spending by country and industry.

ESTIMATION OF DIRECT IMPACTS

To estimate the direct contribution of Project Kuiper's two launch partners with operations in EU-27 countries, we used a combination of publicly available data and data provided by the launch partners. These data were used to estimate direct jobs, GVA, and tax contributions in France, Germany, and Sweden.

Direct jobs estimates

Direct jobs in France and Germany

The number of workers employed by ArianeGroup in France and Germany each year was provided by Arianespace. As it represented jobs to fulfil orders for all of ArianeGroup's customers for Ariane 6, it was necessary to attribute a share of these to Project Kuiper. To do this, we made an assumption as to the share of current and future launches that Kuiper will account for.

Direct jobs in Sweden

For Sweden, Beyond Gravity provided the number of jobs supported by Project Kuiper for each year.

Direct GVA and taxes

Direct GVA and taxes in France and Germany

Based on publicly available information, we assume the estimated cost of each launch of Ariane 6 to be €115 million, and the 18 launches are assumed for the purposes of this research to begin in 2025 and end in 2029, with 12 launches occurring in 2026 and 2027 and two launches taking place in every other year.[62] The cost of each launch is assumed to be borne in the two years before the launch. This provides us with a timeline of Project Kuiper costs for ArianeGroup from 2022-2029.

We use two years of ArianeGroup SAS' accounts (2022 and 2023) to derive ratios with which to allocate costs to procurement, cost of employment, taxes paid, and EBITDA.[63] Direct GVA supported is computed by scaling the cost for each year by the sum of EBITDA and cost of employment shares, while direct taxes supported are estimated by scaling the tax ratio. These were then attributed to France and Germany based on their employment split.

Direct GVA and taxes in Sweden

Direct GVA and taxes supported by Beyond Gravity in Sweden were estimated from employment figures provided by Beyond Gravity using industry ratios of employment to GVA, employment to revenue, and revenue to taxation.

[62] Euronews, "Ariane 6 launch: Why it matters for Europe's space ambitions", July 2024, accessed December 2024.

[63] Figures do not sum to 100 due to rounding.

ESTIMATION OF PROCUREMENT SPENDING AND COST OF EMPLOYMENT

Procurement spending

Procurement spending data was provided by three of four launch partners with supply chain spending in Europe.[64]

For ArianeGroup, we used the procurement share and total cost figure, both derived as set out above. From these, we estimated total procurement by year. We then allocated procurement to EU countries based on European Space Agency data on countries' relative contributions to the Ariane 6 programme.

Cost of employment

Cost of employment associated with Beyond Gravity employees in Sweden was estimated from the employment figures provided by Beyond Gravity using industry average costs of employment. Cost of employment associated with Arianespace employees in France and Germany was estimated by multiplying total costs by the cost of employment ratios derived from company accounts, and was spread to the two countries based on employment splits.

ESTIMATION OF INDIRECT AND INDUCED IMPACTS

To quantify the indirect (supply chain) and induced (wage expenditure) impacts of Project Kuiper's launch partnerships on the economies of the EU, we use a technique called input-output modelling. Unlike the direct impacts which are only present in countries where one of Project Kuiper's partners has operations, the indirect and induced impacts occur in a larger number of EU countries, including Spain and Italy.

The global input-output model takes advantage of techniques originally developed by a Nobel Prize winning economist and uses national accounts data that specify how much each industry buys from every other industry and from other countries in a given year. Through a series of calculations, it is possible to estimate the additional economic activity that is stimulated from a given amount of "final demand". In this case, final demand is the purchases that the launch partners and the employees supported directly and indirectly make from consumer goods and services outlets.

Oxford Economics' Global Economic Impact Model captures supply chain spending across over 100 countries, enabling us to estimate the impact that Project Kuiper has on economic activity in the EU-27. A crucial weakness of using an input-output model for a single country or region—overcome by the Global Economic Impact Model—is that any imports are treated as leakage and lost from the model. This can understate the economic impact of an industry. A single country input-output model omits the interactions of supply chains across many countries, which may enter a country multiple times. To avoid understating Project Kuiper's impact in the EU-27, this study employs a global input-output model that enables supply chains to be traced across countries. This is done using economic and trade data developed by the OECD as its foundation.

[64] ULA, Beyond Gravity, and Blue Origin.

ABOUT OXFORD ECONOMICS

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The modelling and results presented here are based on information provided by third parties, upon which Oxford Economics has relied in producing its report and forecasts in good faith. Any subsequent revision or update of those data will affect the assessments and projections shown.

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