UK – Germany Space Sector Comparative Study Findings

(Wales and Baden-Württemberg in focus)

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Executive Summary

This series compares the space ecosystems of the United Kingdom (UK) and Germany, with a particular focus on Wales and Baden-Württemberg, to identify areas of complementary strength, strategic gap, and practical opportunity.

It is intended to support more informed bilateral engagement between both nations, and both regions, with emphasis on collaboration, foreign direct investment, and export potential. The work also supports implementation of the Wales – Baden-Württemberg Shared Statement of Cooperation and the UK – Germany Kensington Treaty by providing a clearer evidence base for future engagement (Welsh Government, 2023; UK Government, 2025)[1],[2] .

The findings of this series shows that both the UK and Germany are major European space actors, but with somewhat different profiles. The UK has built a strong position in commercially oriented space activity, small satellite manufacturing, downstream applications and services, satellite communications, navigation-related services, and professional support services. Its strategic challenge is less about the existence of capability than about scaling, adoption, sovereign depth in selected areas, and translating technical strength into broader market capture. Germany, by contrast, is defined by the depth of its engineering base, research infrastructure, manufacturing capability, and strong role within European cooperation. Its central challenge is to convert this strong institutional and industrial position into faster NewSpace growth, stronger commercial scaling, more competitive access-to-space capability, wider downstream uptake, and greater resilience in security-relevant and digital infrastructure domains.

At regional level, Wales and Baden-Württemberg show a similarly complementary relationship. Wales has developed a space ecosystem that is notable for agility, strong test and evaluation potential, and a growing identity in applications and niche advanced manufacturing. Its main challenges relate to scale, depth, and ecosystem completeness, particularly in finance, anchor customers, larger-scale manufacturing, broad downstream adoption,

[1] Welsh Government, 2023. Wales strengthens cooperation with German state of Baden-Württemberg through signing of a joint declaration. [Online] Available at: https://www.gov.wales/wales-strengthens-cooperation-german-state-baden-wurttemberg-through-signing-joint-declaration [Accessed 26th March 2026].

[2] UK Government, 2025. Treaty between the United Kingdom of Great Britain and Northern Ireland and the Federal Republic of Germany on friendship and bilateral cooperation. [Online] Available at: https://www.gov.uk/government/news/treaty-between-the-united-kingdom-of-great-britain-and-northern-ireland-and-the-federal-republic-of-germany-on-friendship-and-bilateral-cooperation [Accessed 26th March 2026].

and some of the enabling layers needed to commercialise and retain growth. Baden-Württemberg, meanwhile, is a key space-enabled industrial region in Germany, with deep strengths in engineering, specialist manufacturing, propulsion-related activity, testing, and research-led innovation. Its main challenges lie in scaling start-ups, strengthening downstream digital and data-enabled commercialisation, developing more integrated affordable mission architectures, and broadening the commercially oriented workforce required to translate research and engineering excellence into larger market outcomes.

Taken together, these findings suggest strong scope for cross-border engagement built on complementarity rather than duplication. For the UK and Germany, there are clear opportunities around advanced manufacturing, scientific payloads, secure connectivity, resilient data infrastructure, Earth Observation (EO) services, sustainability, and space safety and security. For

Wales and Baden-Württemberg, there is particular promise in manufacturing, testing and evaluation, engineering, mission planning, sustainable space, launch-enabling services, return-from-orbit related activity, and the development of practical cluster-to-cluster relationships. These are areas in which targeted trade, inward investment, and collaborative programmes could generate mutual benefit.

The report, therefore, concludes that the strongest opportunities do not lie in either side trying to replicate the other. Rather, they lie in using ecosystem differences strategically: matching Welsh and UK agility, service strength, and commercial orientation with German and Baden-Württemberg industrial depth, engineering excellence, and research capability. If pursued through structured partnership mechanisms, this could support stronger bilateral trade, more targeted investment attraction, and more durable collaboration between institutions, firms, and clusters.

Introduction

This series has been prepared to support a more structured understanding of the space ecosystems of the United Kingdom and Germany, with particular focus on Wales and Baden-Württemberg. Its purpose is to identify areas where comparative strengths, strategic priorities, and ecosystem gaps create opportunities for collaboration, foreign direct investment, and export between both nations, and between the two focal regions. In doing so, it is intended not simply as a descriptive mapping exercise, but as a practical tool to inform engagement, relationship-building, and future economic activity.

This report sits in a wider series developed through Welsh Government Agile Cymru funding. The project the report series is funded by was designed to strengthen links between Wales and Germany in the space sector, building on the Shared Statement of Cooperation between the Welsh Government and the German state of Baden-Württemberg. Led by Space Wales in collaboration with the Satellite Applications Catapult (the Catapult), the project used Space Tech Expo Europe in Bremen as a focal point for engagement, while also supporting the launch of a Wales-branded Space Capabilities Catalogue (SCC) to promote Welsh capability internationally. Following that activity, the project commissioned German ecosystem mapping, prioritising Baden-Württemberg, and this final insights report to identify complementarities, partnership potential, cluster-twinning opportunities, and recommendations for sustained collaboration, trade, and inward investment.

In that sense, the project has had two closely connected purposes. First, it has sought to increase the visibility of Welsh capability and strengthen relationships with relevant German stakeholders, especially in Baden-Württemberg. Second, it has sought to create an evidence base that can guide future action: helping both sides understand where capability strengths align, where gaps on one side could be addressed by strengths on the other, and where there is a strong case for joint activity rather than simple buyer-supplier engagement. The intended result is a clearer foundation for long-term international networking, cluster development, and greater competitiveness for the Welsh space sector within a wider UK – Germany context.

The structure of this report provides the comparative findings of the series. The series of reports first examines the UK and German ecosystems at national level, considering their strategic histories, present priorities, and capability gaps. It then turns to Wales and Baden-Württemberg as regional ecosystems within those wider national settings. This allows the series to assess opportunity on two levels simultaneously: nation-to-nation and region-to-region. That distinction matters, because some opportunities are best understood through national strategy, scale, and policy; others are more likely to emerge through cluster relationships, regional supply chains, and sub-national specialisation.

Accordingly, the series should be read as an opportunity-identification document. It is intended to help policymakers, cluster organisations, economic development bodies, and industry stakeholders consider where bilateral engagement is most likely to generate practical value. That includes opportunities for UK firms to address German needs; opportunities for German firms to address UK needs; areas where collaboration could strengthen both ecosystems; and, more specifically, opportunities for Wales and Baden-Württemberg to build a more sustained and strategically useful partnership.

Caveats and Limitations

As with all studies, it is important to recognise and acknowledge limitations and highlight appropriate caveats.

The scale and complexity of the space ecosystem presents significant challenges to developing a complete and comprehensive mapping of all supply chain stakeholders, their capabilities, and their activities. It is important to recognise that this analysis, while insightful, may not capture every aspect of the space capability landscape. Mapping has been limited by the availability of data, particularly with respect to private sector infrastructure where providers may not always publicise the full extent of their capabilities for commercial or proprietary reasons. This report may therefore, in certain areas, be limited in its ability to evaluate and analyse all activities and capabilities available to support the realisation of capability goals.

These limitations underscore the importance of interpreting the findings with caution, particularly where generalisations or extrapolations are made. Future research would benefit from additional primary data collection and expanded stakeholder engagement to address these gaps.

Using ecosystem data presented in the Satellite Applications Catapult's Space Capabilities Catalogue as of March 2026, a gap analysis was derived in each report of the series, identifying where each nation and region has existing strengths in the priority areas set out in their respective strategies. A gap analysis was then undertaken outlining, in brief, where each nation and region already excels and where it needs to develop to meet the objectives set out in in its Strategies. Each segment outlined a strategic priority, existing strengths, and areas for development.

For further insights into the organisations and stakeholders working across the UK, Wales, Germany, and Baden-Württemberg space ecosystems, please visit the Catapult's *Space Capabilities Catalogue (SCC)*.

Series Findings

This series finds that the UK, Germany, Wales, and Baden-Württemberg each have credible and strategically significant space ecosystems, but that they differ in structure, maturity profile, and routes to growth. Those differences create a strong basis for practical complementarity.

At national level, the UK appears strongest where commercial service models, agile satellite manufacture, downstream applications, connectivity, navigation-enabled services, and specialist supporting services are concerned. Its main challenge is to deepen sovereign capability in selected areas, accelerate adoption, and scale new growth areas more effectively. Germany, by contrast, stands out for industrial depth, research capability, major engineering assets, and strong alignment with European institutional frameworks. Its key challenge is to turn that strength into faster commercial scaling, stronger NewSpace growth, broader downstream capture, and more integrated competitiveness in launch, data infrastructure, and security-related domains.

At regional level, Wales and Baden-Württemberg are also complementary rather than directly overlapping ecosystems. Wales offers agility, visible ambition, emerging launch-enabling and return-related thinking, developing downstream and applications capability, and the potential to act quickly in niche growth areas if supported by the right partnerships and market signals. Baden-Württemberg brings deeper industrial density, stronger subsystem and engineering capability, major research assets, and a more mature manufacturing and testing base. Wales' challenge is ecosystem depth and scale; Baden-Württemberg's challenge is commercial broadening, start-up scaling, downstream market capture, and fuller end-to-end system integration.

The central conclusion is, therefore, that the greatest value lies not in treating these ecosystems as competitors, but in treating them as complementary partners. A strategic approach to collaboration could help each side address gaps more quickly than attempting to build all capabilities domestically, while also creating new export routes, investment relationships, and joint propositions.

Opportunities for the UK to address Germany's gaps

The UK is well placed to support Germany in several areas where Germany's ecosystem appears comparatively thinner or where market translation remains a challenge. In particular, UK strengths in downstream service development, Earth Observation (EO) applications, navigation-enabled services, professional support services, and commercially oriented market models could help Germany accelerate the uptake and commercialisation of space-enabled services. This is especially relevant to German priorities around digitalisation, data infrastructure, secure connectivity, and broader downstream value capture.

The UK could also help Germany's NewSpace and commercial scaling agenda through partnerships with firms experienced in agile mission models, private customer development, international market access, and service-led commercialisation. Similarly, the UK's experience in areas such as space law, insurance, regulatory support, cybersecurity support, and commercial advisory services could complement German efforts to create more attractive operating conditions for SMEs, start-ups, and growth-stage firms.

Opportunities for Germany to address UK gaps

Germany is well placed to help the UK where the UK's needs are more industrial, infrastructural, or research-intensive. This includes advanced manufacturing, materials science, engineering depth, scientific payload development, and aspects of sovereign industrial capacity where Germany's ecosystem is particularly strong. German institutions and firms could, therefore, be valuable partners for UK ambitions in high-performance payloads, manufacturing scale-up, launcher-related industrial development, and elements of resilience and long-term research translation.

Germany's strong industrial base and federal research infrastructure may also help the UK address gaps in capability depth around sustainable space, resilient digital infrastructure, and selected security and sovereignty issues. For the UK, partnership with German actors may therefore offer not only export or procurement opportunities, but a route to strengthening capability in areas that are capital-intensive or difficult to build at pace through the domestic market alone.

Opportunities for the UK and Germany to collaborate

The strongest national-level opportunities are likely to be collaborative rather than one-directional. Shared opportunities are particularly evident in advanced manufacturing, scientific payloads, EO services, secure and resilient connectivity, space safety and security, sustainability, and the creation of more integrated data and service architectures. Both countries also have reasons to collaborate in areas where European resilience, sovereign capability, and trusted partnership matter, including secure infrastructure, dual-use applications, and standards-setting.

A productive UK – Germany approach would, therefore, combine industrial cooperation, joint innovation, and market-facing activity. That may include joint R&D, reciprocal business development, co-developed missions or payloads, coordinated activity through European programmes, and structured cluster or institutional partnerships that can move beyond one-off engagements into repeatable pipelines.

Opportunities for Wales to address Baden-Württemberg's gaps

Wales can contribute to Baden-Württemberg in areas where the German region needs broader commercial capture, ecosystem agility, and stronger market-facing application. Welsh strengths and ambitions in emerging launch-enabling activity, mission planning, return-from-orbit thinking, agile ecosystem development, and application-led collaboration may be particularly relevant where Baden-Württemberg seeks to convert technical assets into more complete and commercially visible propositions.

Wales may also be able to support Baden-Württemberg's downstream and service-oriented development through partnerships in applications, operational flexibility, and targeted niche capability building. Although Wales does not match Baden-Württemberg in industrial depth, it can offer a more agile testbed environment for cluster cooperation, pilot activity, and the development of smaller-scale collaborative initiatives that help move promising ideas towards market-facing outcomes.

Opportunities for Baden-Württemberg to address Wales' gaps

Baden-Württemberg is particularly well placed to address Welsh gaps in industrial depth, specialist engineering, subsystem capability, testing, propulsion-related research, and commercially translatable research excellence. For Wales, a relationship with Baden-Württemberg could provide access to stronger supply-chain depth, more mature research-industry interfaces, and partners able to support the growth of advanced manufacturing, system integration, and technical workforce capability.

This is especially relevant in fields such as manufacturing, test and evaluation, engineering, sustainable space technologies, and elements of end-to-end mission capability. Baden-Württemberg's deeper ecosystem may also help Wales strengthen the surrounding services and enabling conditions needed to move from niche capability toward a more complete and internationally competitive regional proposition.

Opportunities for Wales and Baden-Württemberg to collaborate

The Wales – Baden-Württemberg opportunity is arguably the most distinctive finding in the report. The project proposal itself anticipated collaboration opportunities in areas such as manufacturing, testing, data, and engineering, and the comparative analysis supports that direction. More specifically, the two regions appear well matched for cooperation around manufacturing and subsystem development, test and evaluation, engineering partnerships, mission planning, sustainable space, launch-enabling services, return-from-orbit related activity, and cluster-to-cluster knowledge exchange.

This relationship is likely to work best where it is made practical. That means moving beyond broad declarations towards identifiable firms, institutions, and cluster mechanisms; using ecosystem mapping as a basis for targeted introductions; and focusing on activities that can generate visible results, such as trade missions, reciprocal delegations, pilot projects, demonstrators, collaborative bids, and targeted inward investment discussions. In that sense, the most valuable outcome of this report is not only the identification of complementarity, but the creation of a clearer platform for acting on it.

Closing Conclusion

Overall, the report finds that there is a credible and practical basis for deeper UK – Germany and Wales – Baden-Württemberg engagement in space. The evidence suggests that the opportunity lies less in generic partnership language and more in deliberately matching one side's strengths to the other side's needs. For the UK and Germany, this means linking commercial agility and downstream service strength with industrial scale, engineering depth, and research capability. For Wales and Baden-Württemberg, it means linking a growing, agile regional cluster with a technically deep and industrially mature one. If pursued through structured collaboration, targeted export activity, and focused investment engagement, these complementarities could support stronger economic outcomes on both sides.

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