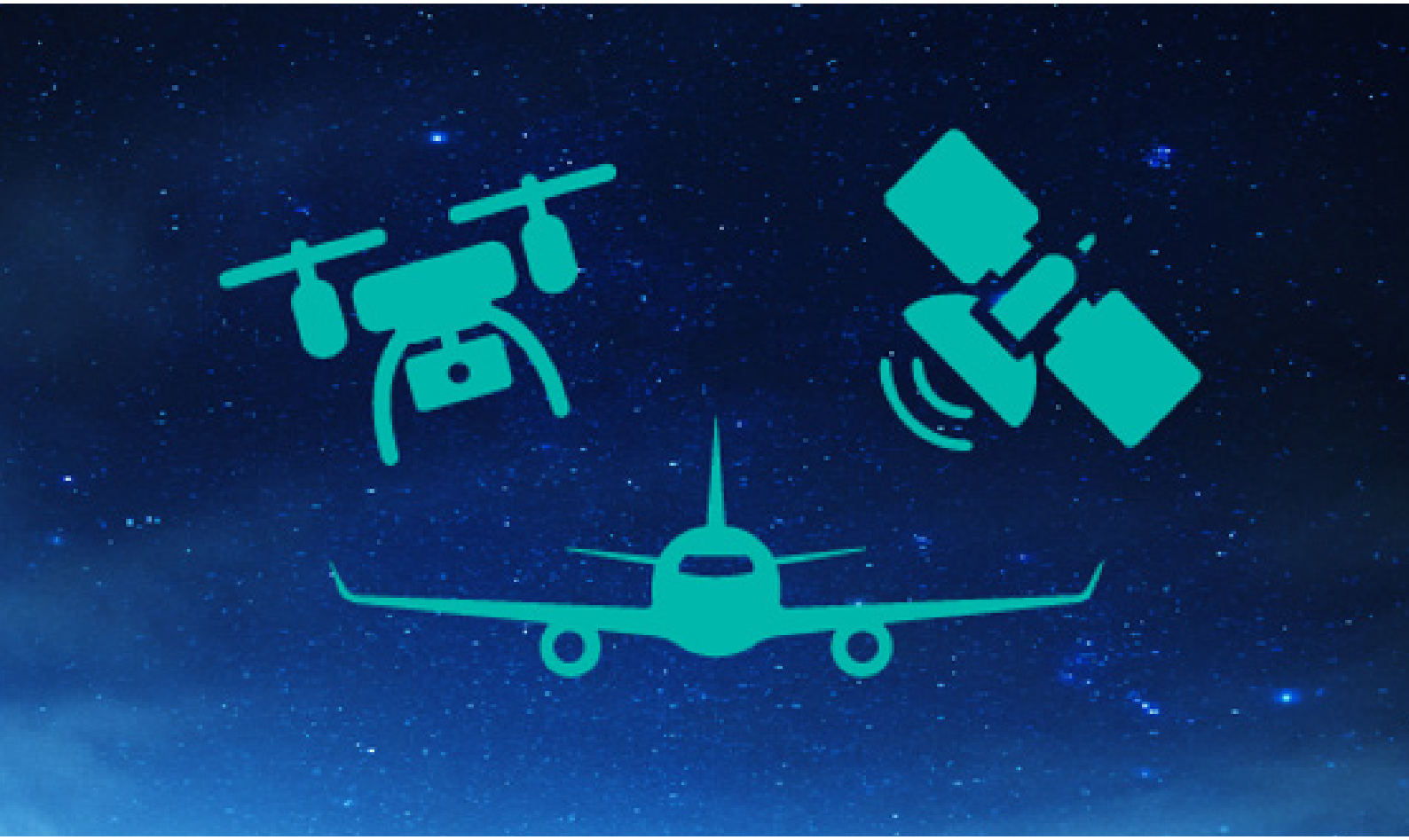
Cooperation in the Aerospace Sector between Bremen and Zuid-Holland



ACTION AGENDA 2027-2030

AVIASPACE BREMEN

SPACENED

Free Hanseatic City of Bremen

provincie Zuid-Holland

Background

The space sectors and regional governments of Bremen and Zuid-Holland join forces to strengthen (aero)space in the Province of Zuid-Holland and the German Federal State of Bremen.

On 6 March 2019, the two regions, together with Aviaspace Bremen and SpaceNed, signed a Joint Declaration of Intent on further collaboration in the area of space. Bremen and Zuid-Holland are both European regions with a large concentration of industrial, research and scientific space activities. Germany and the Netherlands are founding partners of both the European Space Agency (ESA) as well as of the European Union. Several industrial and Research & Development partnerships between space cluster actors in both regions already exist.



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Building on this strong foundation, both regions intend to further strengthen space industry and research collaboration.



Left to right: Jeroen Rotteveel (Chairman of the board of SpaceNed), Kristina Vogt (Regional Minister of Economic Affairs, Bremen), Meindert Stolk (Regional Minister Economic Affairs and Innovation, Zuid-Holland) and Holger Oelze (CEO of Aviaspace) on 19.05.2022 / Zuid-Holland.

During the Bremen Space Economic Mission to Zuid-Holland (18-20 May 2022), the four parties expressed their commitment to continue their cooperation in the years ahead. This resulted in the updated Action Agenda 2023-2026.

Expanding cooperation topics

During the delegation visit from Bremen to Zuid-Holland in February 2026, the four partners the Free Hanseatic City of Bremen, Aviaspace Bremen, the Province of Zuid-Holland and SpaceNed) agreed to include Advanced Air Mobility and Aviation as additional areas of cooperation in the Action Agenda 2027-2030, recognizing the potential for collaboration in these fields. This expansion will also involve additional partners. This action agenda includes a separate section on Advanced Air Mobility and Aviation.

Why Zuid-Holland: Aerospace Delta Zuid-Holland

Aerospace Delta Zuid-Holland[1] stands as the Netherlands' premier aerospace ecosystem, recognized as a top-tier European hub in the fields of aeronautics & aviation, upstream & downstream space and drones & urban air mobility.

At the heart of the region Zuid-Holland, over 350 companies, institutes and organizations collaborate, employing nearly 10,000 highly skilled professionals in this sector. Thanks to the strength of its educational and research institutions, the region is also a home to one of the largest sources of aerospace talent in Europe.

The area hosts numerous innovative centers where talent, startups, corporations, and educational institutions collaborate closely. There are innovation hubs for every sector, encompassing aeronautics, aviation & airport technology, space & space applications, UAVs & drones, and composites & high-tech materials.

Within the following six hotspots, there are facilities available for networking & cooperation, testing & development and training & demonstration:

- *NL Space Campus* in Noordwijk is located next to ESA ESTEC and focuses on both upstream and downstream space activities.
- *Unmanned Valley* in Katwijk is the hotspot for drone development & testing with indoor and outdoor flight facilities.
- *Aerospace Innovation Hub* in Delft is a pre-incubator for aerospace start-ups located within the TU Delft faculty of Aerospace Engineering.
- *Technology Park Ypenburg* in The Hague is a Business Park for high tech, composites and new materials companies.
- *SAM|XL* in Delft is a fieldlab for smart advanced manufacturing of large lightweight and composites (aerospace) structures.
- *Rotterdam The Hague Innovation Airport* is a fieldlab for the next generation airport and sustainable aviation.



CometLab a makerspace for space at NL Space Campus



Robotic ultrasonic welding at SAM|XL

1 Aerospace Delta is a brand name that represents all aerospace related activities in the Province of Zuid-Holland in the Netherlands. Created by the regional economic development agency InnovationQuarter and the Province of Zuid-Holland.

Why Bremen: Space and Aeronautics Industries in Bremen

More than 140 enterprises and 20 science institutes power the aeronautics and space industries in Bremen. More than 12,000 employees generate revenues of more than 4 billion euros per year. Leading companies such as Airbus, ArianeGroup, Rheinmetall Electronics, OHB and their suppliers contribute significantly to this success. Bremen invests heavily in interdisciplinary research and development, creating synergies with other strong industries. Cutting-edge research supports fields including materials sciences, production technologies, space systems, remote sensing, bionics, robotics and digitalisation. Major products from Bremen include Airbus aircraft wings, Ariane upper stages and the satellite navigation system GALILEO.

The ESA Business Incubation Centre (BIC) Northern Germany supports startups from Bremen and Northern Germany. The newly founded DigiHub Industry brings business, science, start-ups and consulting together and serves as a focal point for digital business ideas. ECOMAT provides integrated eco-efficient aerospace solutions, focusing on sustainable materials, virtual product development and green propulsion, while enabling technology transfer to other sectors.



Figure 1 The ECOMAT research and technology centre: Bremen's contribution to the key technology of lightweight construction

Bremen is also developing a growing ecosystem for Unmanned Aircraft Systems (UAS) and Advanced Air Mobility (AAM). Companies and research institutions work on aircraft design, avionics, navigation, sensors, software, autonomous systems and drone applications. The AAM Initiative Northwest Germany and German Bight connects stakeholders across the region and supports test areas, BVLOS operations and infrastructure for the integration of unmanned and manned aviation. Companies and research institutions in Bremen are also working on the safe and efficient integration of drones into the airspace, creating opportunities for industrial applications, technology transfer and new UAS and AAM business models.

Goals and Cooperation Scope

Bremen and Zuid-Holland are both European regions with a large concentration of industrial, research and scientific Aerospace activities. The regions aim to strengthen Aerospace activities and face challenges collaboratively.

Main target groups

The main target groups for the joint activities within this Action Agenda are:
(1) Business representatives (with a focus on matchmaking for small and medium size businesses towards primes),
(2) Researchers and students
(3) Startup entrepreneurs
(4) Policy and decision makers.

1. Strategic Objectives Space cooperation

Strengthen the resilience of Dutch and German space infrastructure and services for sovereign European space capabilities and technology development.

Actions

- Connect space ecosystems – Establish regular exchange between companies, startups, students, research institutions and public stakeholders in Bremen and Zuid-Holland.
- Facilitate business and knowledge exchange – Organise matchmaking, workshops, delegation visits and networking activities, mostly around relevant international space events.
- The space communities of Bremen and Zuid-Holland attend several international space events like Space Tech Expo Europe, International Astronautical Congress (IAC), Industry Space Days at ESA/ESTEC Noordwijk, during the year. The parties in this Action Agenda like to facilitate B2B network meetings between the space communities of Bremen and Zuid-Holland during these big events. We organize this in order to strengthen R&D and business cooperation. We expect to facilitate yearly a minimum of two of these networking events.
- Develop joint funding opportunities – Identify relevant national and European calls and support the formation of consortia around promising topics.
- Build towards concrete cooperation projects – Use the Action Agenda period to turn initial contacts and common interests into specific R&D, business and demonstration activities.

Key Focus Areas

Digitization and Data Sovereignty	Lightweight Materials, Structures, and Industry 4.0

• **Data Sovereignty:**
  o Security Applications: Disaster response, climate resilience, and border security
  o Encrypted navigation and communication services
  o European capabilities in data infrastructure and utilization of earth observation and downstream applications
  o European platform collaboration (for example Gaia-X)
• **Augmented & Virtual Reality (AR/VR) for Training and Operations:**
  o Immersive environments for secure mission planning and training
  o Virtual prototyping for rapid, resilient development
  o Supporting digital engineering and shared facilities
• **Artificial Intelligence and Quantum for Resilient Operations:**
  o Autonomous anomaly detection and response
  o AI-driven cybersecurity for space systems
  o Robust satellite navigation
  o Quantum key distribution
	• **Research and Development**
	  o Research and Development of composites/ lightweight materials
	• **Advanced Materials:**
	  o Development of resilient, sustainable, and secure materials
	  o Sovereign supply chains for critical components
	• **Small Satellites:**
	  o Instrumentation and application
	• **Smart Manufacturing:**
	  o Industry 4.0 for secure and flexible production (for example for satellite integration)
	  o Digital twins and predictive maintenance for resilience
	• **Structural Health Monitoring:**
	  o Monitoring for security and longevity of space assets

Overarching themes:

Talent Development

- International student challenges e.g. Golden Reel Challenge
- Connecting initiatives to boost careers and attract talent

Startups and Scale-ups

- Connecting the Curious annual networking format

Dual Use Technologies

- Exploratory and potential follow-up activities aimed at space for security (German or Dutch Defense) by leveraging on existing cooperation in civil space between Bremen and Zuid-Holland companies and knowledge institutes

Explanatory box on Delegation visit to Zuid-Holland during Bremen Bundesrats Presidency

In February 2026, Bremen and Zuid-Holland further strengthened their long-standing cooperation in the space sector during a joint delegation visit to the Netherlands. The programme brought together Dr. Andreas Bovenschulte, President of the Federal Council of the Federal Republic of Germany and Mayor of Bremen, Kristina Vogt, Senator for Economic Affairs, Ports and Transformation, and a Bremen business delegation with representatives from the regional space ecosystem.

The programme in Delft, Noordwijk and The Hague focused on space, innovation, technology transfer and regional cooperation, including visits to TU Delft, NL Space Campus and ESA ESTEC. The visit also highlighted joint initiatives such as Connecting the Curious, the Golden Reel Challenge and the Digital Twin of the Moon and provided an opportunity to discuss the next steps of the Bremen–Zuid-Holland Space Cooperation.

Explanatory box on Digital Twin of the Moon

Much like Europe's Destination Earth (DestinE) initiative is building a digital twin of the Earth, our core consortium—TU Delft, DLR, Airbus Defence and Space Bremen, Neusta Aerospace, SCN Avatar and ATG Europe, supported by Zuid-Holland and Bremen—proposes to seek and secure European funding to develop a comparable digital twin of the Moon. This authoritative digital ecosystem will support lunar exploration, science, and commercialization, foster collaboration among European stakeholders, enable seamless information exchange, and enhance Europe's competitiveness.

Explanatory box on Golden Reel Challenge

The Golden Reel Challenge is a talent development and innovation initiative connecting the next generation of space talent from Zuid-Holland and Bremen with experienced professionals from the Netherlands and Bremen's space sector. Inspired by the Voyager Golden Record, participants explore the question: "If humanity could send a message to the universe today, what would it say – and how could it be sent?" Interdisciplinary student teams turn their ideas into concrete mission and technology concepts through a simulated Invitation to Tender. Space Tech Expo Europe in Bremen provides a learning and networking environment to explore the European space ecosystem and identify partners. The challenge culminates in a VIP workshop and final presentation, combining talent development, knowledge transfer, innovation and industry engagement.

Explanatory Box on Startup and Scale-up activities

Bremen and Zuid-Holland have strong ecosystems supporting space startups, scale-ups and emerging talent, with NL Space Campus, Aerospace Innovation Hub, ESA BIC Northern Germany and ESA BIC Noordwijk providing platforms for entrepreneurship, technology transfer and market development. Their cooperation creates opportunities to connect startups and young professionals across borders and strengthen links between companies, research and the wider space community. A key example is Connecting the Curious, an annual networking format alongside ESA Industry Space Days and Space Tech Expo Europe, bringing together students, young professionals and startups to pitch ideas, find partners and explore career opportunities. Building on this, both regions aim to expand matchmaking, mentoring, technology transfer, market access and joint networking activities.

2. Strategic objectives for Advanced Air Mobility cooperation

Strengthen cooperation between the UAS ecosystems of Bremen and Zuid-Holland by connecting companies, research institutions and public stakeholders, facilitating knowledge and technology exchange, and identifying opportunities for joint testing, innovation and project development.

Actions:

- **Connect UAS ecosystems** – Establish regular exchange between companies, startups, research institutions and public stakeholders in Bremen and Zuid-Holland.
- **Facilitate business and knowledge exchange** – Organise matchmaking, workshops, delegation visits and networking activities around relevant UAS and AAM events. Potential events are:
  - Drone Days (Bremen)
  - Logistic Connect (Bremen)
  - Supply Chain Event (Zuid-Holland)
  - Detect and protect Event (Zuid-Holland)
- **Identify common use cases** – Explore joint applications in areas such as critical infrastructure, ports, energy, logistics and security and identify potential pilot projects.
- **Develop joint funding opportunities** – Identify relevant national and European calls and support the formation of consortia around promising topics.
- **Build towards concrete cooperation projects** – Use the Action Agenda period to turn initial contacts and common interests into specific R&D, business and demonstration activities.

Key Focus Areas

Airspace Integration

- Integration of UAS into existing airspace
- U-Space and BVLOS operations
- Operational concepts and regulatory frameworks
- Safe integration of autonomous systems

Digitisation and Data Sovereignty

- Digital infrastructure for UAS operations
- Secure data exchange and data sovereignty
- Digital twins and simulation
- AI-supported operations and decision-making

Connectivity

- Reliable communication and connectivity for autonomous systems
- Satellite-based connectivity
- Laser communication and other advanced communication technologies
- Potential future applications of quantum technologies

Supply Chain and Resilience

- Resilient supply chains for UAS technologies
- Key components and critical technologies
- Autonomy and onboard intelligence
- European technological sovereignty

Testing and Demonstration

- Exchange and potential joint use of existing test facilities
- Testing of UAS and autonomous systems under realistic conditions
- Joint technology demonstrations
- Exchange between the Bremen AAM ecosystem and **Unmanned Valley** in Zuid-Holland

Use Cases

- Large and critical infrastructure, such as ports and energy facilities
- Inspection and monitoring
- Logistics and transport
- Security and resilience applications
- Autonomous operations in complex environments

Explanatory box on UAS & Drone Days 2026

The Drone Days are an annual event taking place in Bremen and the surrounding region at the end of August, bringing together companies, research institutions, public authorities, start-ups and professionals to advance Unmanned Aircraft Systems (UAS) and Advanced Air Mobility. The programme combines expert sessions, networking, technology showcases, workshops and live flight demonstrations.

The event provides a platform for international partners to connect with the Northern German UAS ecosystem and explore opportunities for cooperation, technology transfer, testing and market development. In 2026, the Netherlands was the partner country, with around 40 Dutch participants representing 26 organisations (businesses, knowledge institutes and governement). Unmanned Valley, the drone innovation cluster situated in Katwijk (Zuid-Holland) also participated, strengthening links between the Dutch and Northern German ecosystems.

The Drone Days offer a recurring platform for further developing cooperation between Bremen and Zuid-Holland in the fields of UAS and Advanced Air Mobility.

3. Aviation Cooperation and Exchange

Bremen and Zuid-Holland have strong and complementary aviation ecosystems, with established companies, research institutions, universities and technology networks. Within the framework of this Action Agenda, both regions aim to explore opportunities for closer cooperation in aviation and to strengthen the exchange between relevant stakeholders like e.g. Aero NL, SAM|XL, TU Delft, Aerospace Innovation Hub, Aviaspace Bremen, Ecomat, DLR, University of Bremen and HS Bremen City University of Applied Science.

The cooperation will initially focus on identifying common interests and potential areas for exchange. Activities will be developed in consultation with companies, research institutions and other relevant stakeholders from both regions and will depend on their interest and availability.

Potential Areas of Cooperation

The following areas have been identified as potential fields for exchange and future cooperation:

- **Materials, processes and testing (e.g. Non Destructive Testing):** advanced materials, manufacturing processes, testing, qualification and validation methods, including technologies supporting the development and production of future aircraft.
- **Sustainable and circular aviation:** technologies and approaches supporting more sustainable aircraft and aircraft components, including resource efficiency, recycling and Circular Economy approaches.
- **Hydrogen applications and fire safety:** technologies and applications related to hydrogen in aviation, including aspects of safe integration, fire safety and relevant testing and validation approaches.
- **Lightweight design and materials:** lightweight materials, composites, advanced structures and manufacturing technologies contributing to weight reduction and improved aircraft performance.
- **High-rate manufacturing for the next generation of aircraft:** advanced production technologies, automation and manufacturing processes enabling efficient high-rate production for future aircraft generations.
- **Overarching theme:**
  - **Talent Development:** *Connecting initiatives to boost careers and attract talent.*

The Action Agenda does not seek to define specific projects or commitments at this stage. Rather, it provides a framework for exploring cooperation and for developing activities where concrete interest and suitable partners emerge during the Action Agenda period.

Explanatory Box on Aviation and ILA 2026

Major aviation events such as ILA Berlin may provide suitable opportunities to bring stakeholders from Bremen and Zuid-Holland together and to explore potential areas of cooperation. Subject to stakeholder interest, the partners may use such events for bilateral meetings, matchmaking or informal exchanges. Any further activities or cooperation projects will be developed on the basis of identified common interests and in consultation with the relevant companies, research institutions and other stakeholders.

Governance

The working group established under the Action Agenda 2023-2026 will continue its work. It consists of representatives from the Free Hanseatic City of Bremen, Aviaspace Bremen, Province of Zuid-Holland and SpaceNed. The working group will meet regularly on a bi-weekly basis (primarily online and, where

possible also in person). Its tasks include initiating joint activities and organizing follow-up activities in close cooperation with companies and knowledge institutes from both regions. Furthermore, the working group will monitor and assess the Action Agenda and propose updates where necessary.
The working group's overall objective is to facilitate bilateral innovation cooperation between Bremen and Zuid-Holland across the wider aerospace sector within the frame of the Action Agenda, thereby contributing to its goals and generating mutually beneficial outcomes for both sides.

In addition, a dedicated Drone Cooperation Working Group (Aviaspace Bremen e.V., Free Hanseatic City of Bremen, b.r.m. IT & Aerospace, Province of Zuid-Holland, Unmanned Valley) has been established to further develop collaboration in the field of unmanned systems and drone technologies. This group will focus on identifying joint opportunities, fostering industry and research partnerships, and supporting the development of cross-border innovation initiatives within the drone ecosystem.

When necessary, the Dutch or German Embassy, the Netherlands Space Agency, DLR or other relevant organisations will be actively involved in the joint activities.

Costs and Finance

The organizational costs associated with the networking activities in the framework of this Action Agenda are borne by the Hanseatic City of Bremen region, Aviaspace, the Province of Zuid-Holland and SpaceNed. Travel, subsistence and participation costs for events, fairs and trade missions are borne by the respective participants.

Costs associated with the implementation of projects and other cooperation activities are financed separately and according to the arrangements applicable to each activity. Depending on the type of activity, an appropriate method of (co-)financing will be considered (e.g. Horizon Europe or ESA, Interreg, or other specific national or regional instruments).

Communication

Common actions will be published on respective websites and social media channels of involved partners. More information about the collaboration activities is available online, particularly on the websites of Aviaspace Bremen and SpaceNed, and on their corresponding social media channels.

Contact Information

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