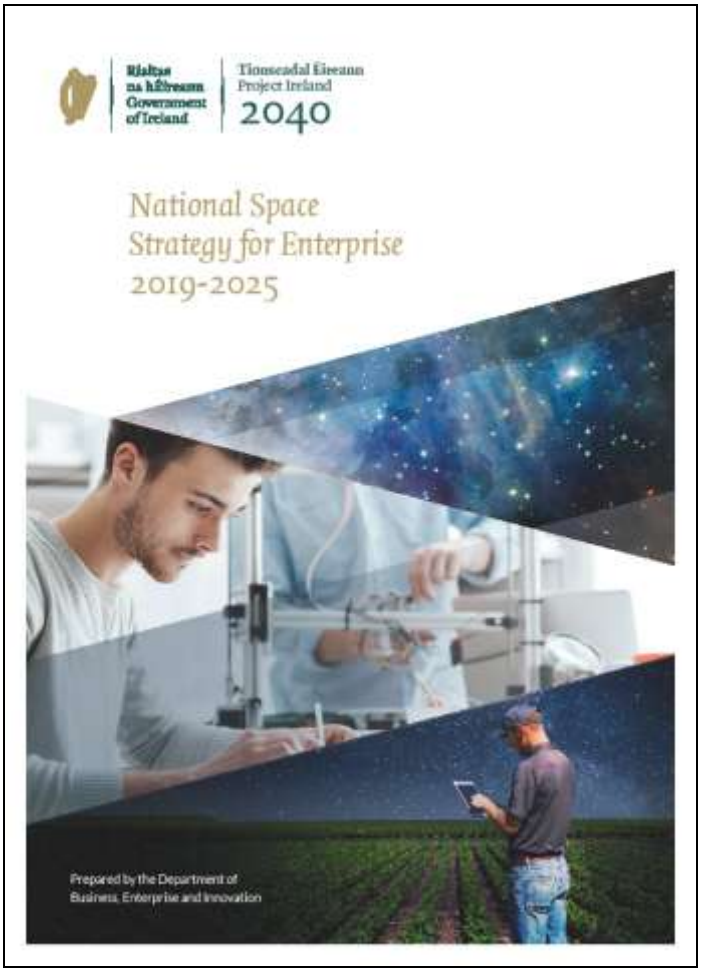
National Space Strategy for Enterprise 2019-2025

Fourth Progress Report: January 2024-December 2024



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Overview of Progress

The Government's vision for the space-active enterprise sector is for Ireland to develop "*an economically sustainable and expanding space-active industry, delivering quality jobs for the economy of tomorrow*". The National Space Strategy for Enterprise 2019 – 2025, developed to deliver this vision, sets out a direction for growth and opportunities within the space sector which is growing in importance.

This is the fourth progress report which outlines key developments in implementing the strategy's 19 priority actions between January and December 2024. Prepared by the Strategy Implementation Group and endorsed by the Space Enterprise Coordination Group and subsequently presented to the Minister of State for Small Businesses and Retail for consideration.

Notably, since the last progress report the Irish space sector experienced several encouraging advancements. Of the 19 actions, 15 have now been achieved with some ongoing, and the remainder actively progressing, and will remain ongoing in nature.

Industry Developments

By the end of 2024, 116 Irish based companies had benefitted from engagement with ESA. This figure marks a 66% increase of activity since 2019, when only 70 entities were involved. This growth not only reflects a strong upward trend but also exceeds the target of 100 companies set out in the NSSE.

Irish enterprises also maintained a strong international presence demonstrating their sustained interest for international trade engagement, with participation at key events such as the Earth Observation Commercialisation Forum in Paris, the ESA Navigation Innovation and Support Programmes Industry Days and both Paris and Bremen Space Weeks.

Complimenting this industrial growth, Space Industry Skillnet delivered 1,088 training days to 389 participants across 102 member companies. These industry-led and demand-driven training initiatives reflect a rapidly maturing ecosystem, positioning Ireland as a key contributor to the global space value chain.

Together, these achievements highlight Ireland's expanding footprint and the success of Ireland's strategic efforts to foster enterprise growth and innovation through ESA collaboration.

In April 2024, Taighde Éireann – Research Ireland was established through the strategic amalgamation of Science Foundation Ireland (SFI) and the Irish Research Council (IRC). As an agency under the Department of Further and Higher Education, Research, Innovation and Science, one of its earliest flagship initiatives was the establishment of the National Advisory Forum for Space Research (NAFSR). This Forum was created to develop a detailed roadmap for space research that aligns with the NSSE. Its diverse membership includes experts from academia, industry, and key Government Departments and Agencies.

Irish Space Activity in 2024

CogniSAT-6 Mission

In March 2024, Ubotica Technologies working in partnership with Open Cosmos (based in the UK and Spain) launched its first satellite CogniSAT-6, the first satellite launched with commercial backing from and Irish company onboard Space X's Transporter 10. As part of its mission, CogniSAT-6 provides Live Earth Intelligence for real-time decision making by combining onboard AI with live communications to stream Live Earth Intelligence to users. The satellite is among the most intelligent and connected missions ever sent to space, unlocking multiple applications such as precision agriculture to provide farmers with real-time crop health intelligence for optimised irrigation, fertilisation and yield maximisation.

Mybrionics wins €17.5m from the European Innovation Council

Also in March, Galway-based Mbryonics won €17.5m from the European Innovation Council (EIC) accelerator, to create a manufacturing, assembly and testing facility over the next five years. In November, the sibling co-founders were named 2024 EY Established Entrepreneurs of the Year. The company develops optical systems for high-speed secure communication infrastructures which are used in extremely high bandwidth satellite communication networks, datacoms and 5G.

Ariane 6 Launch

2024 also witnessed the successful return of autonomous European access to space when Ariane 6 made its inaugural flight in July. Two Irish companies Réaltra and NAMMO played a leading role in this launch providing state of the art technology systems including a Video Telemetry System and a Global Navigation Satellite System (live HD video telemetry images and precision position, velocity and timing measurements) as well as 11 different structural assemblies that support and connect the main operating equipment components to the core of the powerful Vulcain and Vinci engines.

EIRSAT-1

Ireland's first ever satellite, EIRSAT-1 (launched in December 2023), successfully detected both its first and second gamma-ray bursts, achieving significant milestones for its Gamma-Ray Detector (GMOD).

Government Funding of ESA

The Government's commitment to continued investment in the Irish space sector over this period was evidenced by the increase in the level of funding to the ESA programmes with €32.17m in 2024.This figure included DETE's highest ever investment allocation in core funding of €26.17m (representing a 43% increase since 2019) and was accompanied by a once-off additional payment of €6m through Enterprise Ireland's Industrial RD&I fund.

The impact of this increased funding was evidenced by the number and value of contracts awarded to the space sector in Ireland by the ESA. During 2024, Irish researchers and enterprises were awarded 55 contracts valued at €24.56m, and for which industry co-investment was valued at €8.07m or 33% of the annual value of ESA contracts with Irish companies.

This additional investment is putting innovative Irish companies and researchers in a position to further seize the opportunities presented by the growing space-related global economy whilst also developing their capabilities to enable the technology transfer and commercialisation of their products and services, in space and other complementary sectors.

The Strategy Implementation Group will continue to engage with appropriate representative bodies and experts to understand the evolving needs of the Irish space industry and continue to focus on progressing the priority actions outlined in the NSSE to continue to deliver on Ireland's goals for Space Enterprise in 2025.

2024 Progress Report Highlights

19 Actions, 15 achieved with remaining actions ongoing

Government Investment of €32.17m towards ESA programmes

116 Irish companies benefitted from engagement with ESA

Space Industry Skillnet provided 1,088 training days to 389 trainees across 102 companies

Irish enterprises played a leading technological role providing vital infrastruture to Europe's Ariane 6 inaugural flight launch in July

Eirsat-1 Gamma Ray Detector (GMOD) successfully detected its first and second gamma-ray bursts

Irish enterprises and researchers were awarded 55 contracts valued at €24.56m

Strategic Actions

The NSSE continues to deliver on developing a strong and economically sustainable space-active industry in Ireland.

The strategy is built on five pillars, representing key action areas to support the achievement of Ireland's vision and goals for Space Enterprise. Progress of the 19 key implementing actions identified to enable the delivery of the strategy's goals in the period January to December 2024 are reported under the following Pillar headings:

The following sections sets out the progress made to date on the various recommendations contained within the NSSE.

Pillar 1: Investment

Aim: We will strategically invest to support strong and sustainable space enterprise.

Actions: **5.1.1 Investment to drive sustainability**

5.1.2 New forms of investment

Key Action	**5.1.1 Investment to drive sustainability** a. Aim to increase public and private investment in ESA by 50% by 2025. b. Utilise the Space Technologies Programme to develop space focused initiatives, including funding mechanisms, delivered through DETE Agency Programmes.	
Status	a. Achieved	b. Achieved
Implementation Date	2019-2025	
Lead Responsibility	DETE, EI, IDA, Industry, SFI	
Progress Update	a. In 2024, Government committed a total investment of €32.17 million. This included our highest ever core funding allocation of €26.17million – representing a 43% increase since 2019. Additionally, we secured a one-off investment of €6m through Enterprise Ireland's Industrial RD&I fund, further enhancing our capacity for innovation and growth. b. Irish space active industry and researchers continued to benefit from public funded programmes including DETE's Disruptive Technologies Innovation Fund (DTIF) as well as Enterprise Ireland's R&D fund. ESA BIC (Ireland), expanded its footprint from five to ten incubation locations, signing three new incubation contracts and welcomed six new start-ups developing innovative products and services.	

Key Action	**5.1.2 New forms of investment** a. Collaborate with international partners including ESA, European Investment Bank (EIB) and the European Commission, to mobilise new forms of investment. b. Support and encourage the space active enterprise sector through the new Project Ireland 2040 Funds.	
Status	a. Achieved	b. Achieved
Implementation Date	2019-2025	
Lead Responsibility	DETE, EI, IDA	
Progress Update	a. SMEs and start-ups have continued to interact with investment funds with several Irish based companies engaging with the EIB and European Investment Council (EIC). In 2024, Mbryonics secured €17.5 million from the EIC to develop a manufacturing and testing facility over five years, and its co-founders were named EY Established Entrepreneurs of the Year. Pilot Photonics received EIC funding for a project involving astrophysical spectrometer calibration, while TCD and Msemicon Teoranta jointly secured over €1.1 million for their HYPERSONIC project. b. In 2024 space active companies continued to drawdown Project Ireland 2040 funding through the Department's Disruptive Technologies Innovation Fund.	

Pillar 2: Strengths and opportunities

Aim: We will build on our strengths and actively pursue new opportunities to develop agile and sustainable space enterprise in Ireland.

Actions: 5.2 Building on our strengths and pursuing new opportunities

Key Actions	**5.2 Building on our strengths and pursuing new opportunities** a. Establish a Space Data Hub to provide access to data from European and other 3rd party space missions. b. Support industry in Ireland to develop advanced data analytic skills and deliver commercial services using the national Space Data Hub. c. Help the space-active enterprise sector in Ireland to identify and access the most relevant research performing organisations to assist with their development needs.		
Status	a. Achieved	b. Ongoing	c. Achieved and ongoing
Implementation Date	2019-2025		
Lead Responsibility	EI		
Progress Update	a. The initiative originally focused on improving access to space data but evolved in response to sectoral needs leading to the development of the “Irish Innovation Directory” (https://directory.enterprise-ireland.com/vendors), a centralised platform enabling space-active Irish companies to showcase their profiles and connect with potential collaborators and customers in one location. b. Space Industry Skillnet continued to support Irish space sector enterprises in enhancing their capabilities and competitiveness, while ensuring alignment with current industry certifications and standards. For further details, refer to “Pillar 4 – Action 5.4.2: Industry Upskilling." c. 2024, showed a steady growth in the number of Irish companies engaging with ESA support programmes with 9 companies winning their first contract with ESA. In addition, ESA BIC Ireland signed incubation contracts with three start-up companies and selected a further six companies for future engagement. ESA BIC Ireland continued to develop new supports for its current clients and alumni, hosting two well-attended national networking events at Kilkea Castle in Kildare. ESA’s Technology Disruptors Manager from the Directorate of Space Transportation and the Industry Policy Office provided informative presentations. The Irish Space Association whose mission is to support and promote the growth of the space economy, played a very active role hosting, networking and participating at national and international fora. Some events include the National CanSat Finals in Laois, a Scotland and Ireland space event in Dublin, Irish Space delegation visit to ArianeGroup and CNES in Paris, Paris Space Week and the Slovak Irish Business Partnership event.		

Pillar 3: Governance

Aim: We will create an appropriate environment for business

Actions: **5.3.1 The Space Enterprise Coordination Group and Strategy Implementation Group**

5.3.2 The Space Enterprise Website

Description	**5.3.1 The Space Enterprise Coordination Group and Strategy Implementation Group** a. Establish a Space Enterprise Coordination Group (SECG). b. Establish a Strategy Implementation Group.	
Status	a. Achieved	b. Achieved
Implementation Date	2019	
Lead Responsibility	DETE	
Progress Update	a. In 2024, the SECG met twice, advancing Ireland's space agenda with highlights such as the Department of Agriculture's use of space data for Common Agriculture Payments, Austria's application of ESA's Green Transition Information Factory (GTIF), and progress across NSSE and Enterprise Ireland initiatives. The Department of Climate, Energy and Environment have been engaging with the UK-Ireland-France GTIF partners to assess possible outputs relevant to Ireland, including air quality and renewable energy. The year also saw the launch of the National Advisory Forum for Space Research to strengthen strategic collaboration. b. The Strategy Implementation Group (SIG) continued to engage with Members of the SECG as required.	

Description	**5.3.2 The Space Enterprise Website** Establish a dedicated space enterprise website
Status	Achieved
Implementation Date	2019
Lead Responsibility	EI, SFI, IDA, BCO, ISIG
Progress Update	Enterprise Ireland's website has been updated to include additional information on Ireland's membership of ESA, our National Space Strategy for Enterprise, and will continue to host the Irish Space Industry Directory for the foreseeable future. Following the revamping of the Enterprise Ireland corporate website, the deployment of the Innovation Directory portal (and for the avoidance of duplication of effort and resources), the SECG considers that the objective of this action is met. See also 5.2 the deployment of a new "Irish Innovation Directory (hhttps://directory.enterprise-ireland.com/vendors).

Pillar 4: Attract and develop Talent

Aim: We will foster a pipeline of capable graduates and postgraduates and enable upskilling within space enterprises

Actions: **5.4.1 Education**

5.4.2 Industry Upskilling

<table>
<tr><td>Description</td><td colspan="3">5.4.1 Education

a. Build awareness of national space education resources such as the European Space Education Resource Office (ESERO) Ireland and Ireland's recent memberships of the Low Frequency Array (LOFAR) and the European Southern Observatory (ESO).
b. Drive awareness and engagement with space through promotion of National Space Week activities.
c. Grow the enterprise capabilities of the space research community with appropriate funding for ESA's science and technology PRODEX programme, and national research programmes.</td></tr>
<tr><td>Status</td><td>a. Achieved and ongoing</td><td>b. Ongoing</td><td>c. Ongoing</td></tr>
<tr><td>Implementation Date</td><td colspan="3">2019-2025</td></tr>
<tr><td>Lead Responsibility</td><td colspan="3">Taighde Éireann, DETE, EI, BCO,</td></tr>
<tr><td>Progress Update</td><td colspan="3">a-b. ESERO Ireland (European Space Education Resource Office) is co-funded by ESA and Taighde Éireann and provides supports to teachers and students. ESERO partners with the Research Ireland Curious Minds programme, MTU Blackrock Castle Observatory and Oide (Department of Education teacher support service) to provide continuous professional development opportunities and classroom resources.

2,364 teachers nationwide availed of professional development opportunities in 2024.

ESERO Ireland and Oide delivered Climate Detective workshops to 180 teachers and in partnership with MTU Blackrock Castle Observatory coordinated the ESERO CanSat competition engaging 35 teams involving 35 teacher and 150 students in payload design and delivery, with 6 teams advancing to the final.

At the Dublin ESB Science Blast, ESERO partnered with Dunsink Observatory, engaging 840 teachers and 12,000 students. It also supported Armagh Observatory's mobile planetarium, reaching 3,000 students across Donegal, Cavan, Monaghan and Louth.

The Space Goes to School programme brought space professionals to classrooms during Science and Space Week, involving 2,319 students. Collaborating with Microsoft Dreamspace, ESERO streamed space</td></tr>
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	career talks to 1,337 students, and an influencer campaign attracting 39,197 teachers and students. Space Week 2024, coordinated by MTU Blackrock Castle Observatory with ESERO and RI support, featured 460 events nationwide engaging some 25,000 people, with highlights including astronaut visits, the Europa Clipper launch, and NASA Space Apps Challenges. During Science Week, Spacefest drew over 4,500 visitors to Elfordstown Earthstation while also expanding Cork City, collaborating on STEAM programming with UCC, IPIC, Tyndall, and MTU. c. EIRSAT-1, (Educational Irish Research Satellite-1; Ireland's first satellite launched in December 2023) detected both its first and second gamma-ray bursts during 2024, achieving two critical goals for the GMOD payload and marking another milestone success for the mission. The first burst was a relatively common (about 70% of those observed) signal of the "long" duration type, lasting more than two seconds. After only 79 minutes, GMOD detected a second burst, this time of the rarer "shorter" type, likely caused by the collision of two neutron starts, leading to the formation of a black hole. The distance to this burst was determined by ground-based follow-up observations to be about 2.8 billion light years. In January, Enterprise Ireland hosted its annual bilateral with the ESA PRODEX Programme to review and advance Irish research projects, the 2024 meeting included Taighde Éireann and DFHERIS representatives, discussions focused on exploring potential collaboration with EI and DETE. In April, the European Organisation for Nuclear Research (CERN) taskforce arrived in Ireland to assess Ireland's membership bid. The Taskforce met with Minister's, Government Officials and representatives from higher education institutions, enterprises and research groups, as well as representatives from DETE, EI and Taighde Éireann. The taskforce will produce a report on Ireland's fulfilment of the criteria for Associate Membership.

Description	**5.4.2 Industry Upskilling** a. The Strategy Implementation Group to consult with industry to agree skills shortages and develop a Detailed Description of Needs (DDN) to support the development of space focused programmes/courses by relevant training and education providers. b. Space Industry Skillnet to develop and coordinate the delivery of suitable courses supported by HEIs and other relevant training providers. c. Promote awareness of international programmes available to space-active industry to support knowledge development.		
Status	a. Achieved and ongoing	b. Achieved and ongoing	c. Achieved and ongoing
Implementation Date	2019-2025		
Lead Responsibility	DETE, Space Industry Skillnet, HEIs, EI, SFI, IRC		
Progress Update	a-b. Space Industry Skillnet provided a total of 1088 training days to 102 companies and 389 trainees during the reporting period. Course topics included Cyber Security Awareness, Satellite Navigation GNNS Drones, Space Radiation Environment for Electronic Equipment and Python Software Programming. It's worth noting that these courses are enterprise-led and over the past number of years this increased demand has been driven by businesses engaged in the space sector. c. In February, Professor Carole Mundell, Director of ESA's Science Programme and a senior ESA Executive team travelled to Ireland on an official visit to meet with research groups from across the island of Ireland. This event was hosted at DIAS Dunsink Observatory, where several diverse topics were discussed including Fundamental Physics, Galaxies and Cosmology, Heliophysics, Planetary Science, Star Formation and Exoplanets, Stars and Stellar Evolution as well as the successful development and launch of EIRSAT-1. Several senior officials from Taighde Éireann and DETE were also in attendance. Additionally, over 40 senior Irish space-active scientists were given the opportunity to pitch their research to the visiting Director and ESA Science team. Enterprise Ireland is continuing to engage with Irish based companies and support their engagement with ESA and the EU's programme for research and innovation - Horizon Europe, the EU Space Programme, and the European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT).		

Pillar 5: International Engagement

Aim: We will promote international awareness of Ireland's space enterprise capabilities.
Actions: 5.5 International Awareness

Description	**5.5 International Awareness** a. Support 80 Irish companies to participate at international trade events focusing on integration in global space supply chains. b. Develop the online directory to promote Ireland's space industry capabilities to the global space market. c. Develop Ireland-global collaborations through bilateral agreements, with space industry development organisations including NASA.		
Status	a. Achieved	b. Achieved	c. Ongoing
Implementation Date	2019-2025		
Lead Responsibility	EI, SFI		
Progress Update	a. Since the launch of the Strategy over 100 companies have been supported by EI to participate at international trade events surpassing the original target of 80 outlined in the NSSE. During 2024: • 5 companies attended the Earth Observation Commercialisation Forum in Paris, and 4 companies attended the ESA Navigation Innovation and Support Programme (NAVISP) Industry Days - both events were well attended by industry and investors with plenty of opportunities for exhibition benefiting Irish enterprise. ▪ The Paris space week event was attended with at least 6 companies participating with exhibition stands supported by Enterprise Ireland, IDA Ireland and ISA. ▪ Irish companies also participated at the Bremen Space Week with some taking their own stands, alongside Enterprise Ireland with a view to greater participation in 2025. The inaugural "Irish Space Technology Showcase" was held in October by Enterprise Ireland marking a significant milestone for Ireland's growing space sector. The event brought together 16 leading international companies—including Airbus DS, Argotec, Ariane Group, ASTECH Paris, Exolaunch, GMV, Leonardo, OHB DE, PLD Space, TAS Italia, TTTech, and Viasat—from Germany, Italy, France, Switzerland, and Spain. They engaged with 23 innovative Irish companies, comprising 16 Enterprise Ireland and 7 IDA Ireland clients. The showcase was officially opened by the then Minister of State for Enterprise, Trade and Employment, Emer Higgins, TD followed by remarks from Charlotte Mathieu, Head of the European Policy and Space Economy Division at the European Space Agency (ESA). The programme featured presentations from SME4SPACE, space industry SMEs, and two dynamic panel discussions highlighting the critical role of collaboration between prime contractors and SMEs. Irish companies then had the opportunity to pitch their technologies during a dedicated session, followed by structured one-to-one meetings.		

	A total of 108 meetings took place during the afternoon, reflecting a high level of engagement and strong interest from all participants. b. The space industry online directory at www.space-ireland.com was completed in 2020. c. In February 2024, UCD hosted an Ireland-Scotland space event, attended by former Minister of State for Enterprise, Trade and Employment, Neale Richmond TD. exploring Ireland's potential to learn from the success of the Scottish space sector and identify further opportunities for deeper collaboration between the two countries. In March 2024, 6 space active EI client companies met with the French Space Agency in Paris to discuss collaborative opportunities with other French companies. In 2024, DETE held exploratory discussions with the US Embassy on Ireland's potential participation in the Artemis Accords.

Annex 1: Glossary

BCO	Blackrock Castle Observatory
CAMEO	Creating an Architecture for Manipulating Earth Observation data
CNES	French Space Agency
DETE	Department of Enterprise, Tourism and Employment
DFHERIS	Department of Further and Higher Education, Research, Innovation and Science
DOT	Department of Transport
DTIF	Disruptive Technologies Innovation Fund
EI	Enterprise Ireland
EIB	European Investment Bank
EIF	European Investment Fund
ESA	European Space Agency
ESERO	European Space Education Resource Office
ESO	European Southern Observatory
EU	European Union
EUSPA	European Union Space Programmes Agency
HEI	Higher Education Institution
ISA	Irish Space Association
IPIC	Irish Photonic Integration Centre
MOU	Memorandum of Understanding
MTU	Munster Technology University
NSSPI	National Space Subsystems and Payloads Initiative
RI	Research Ireland
SME	Small and Medium-Sized Enterprise
TCD	Trinity College Dublin
UCC	University College Cork
UNGA	United Nations General Assembly

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