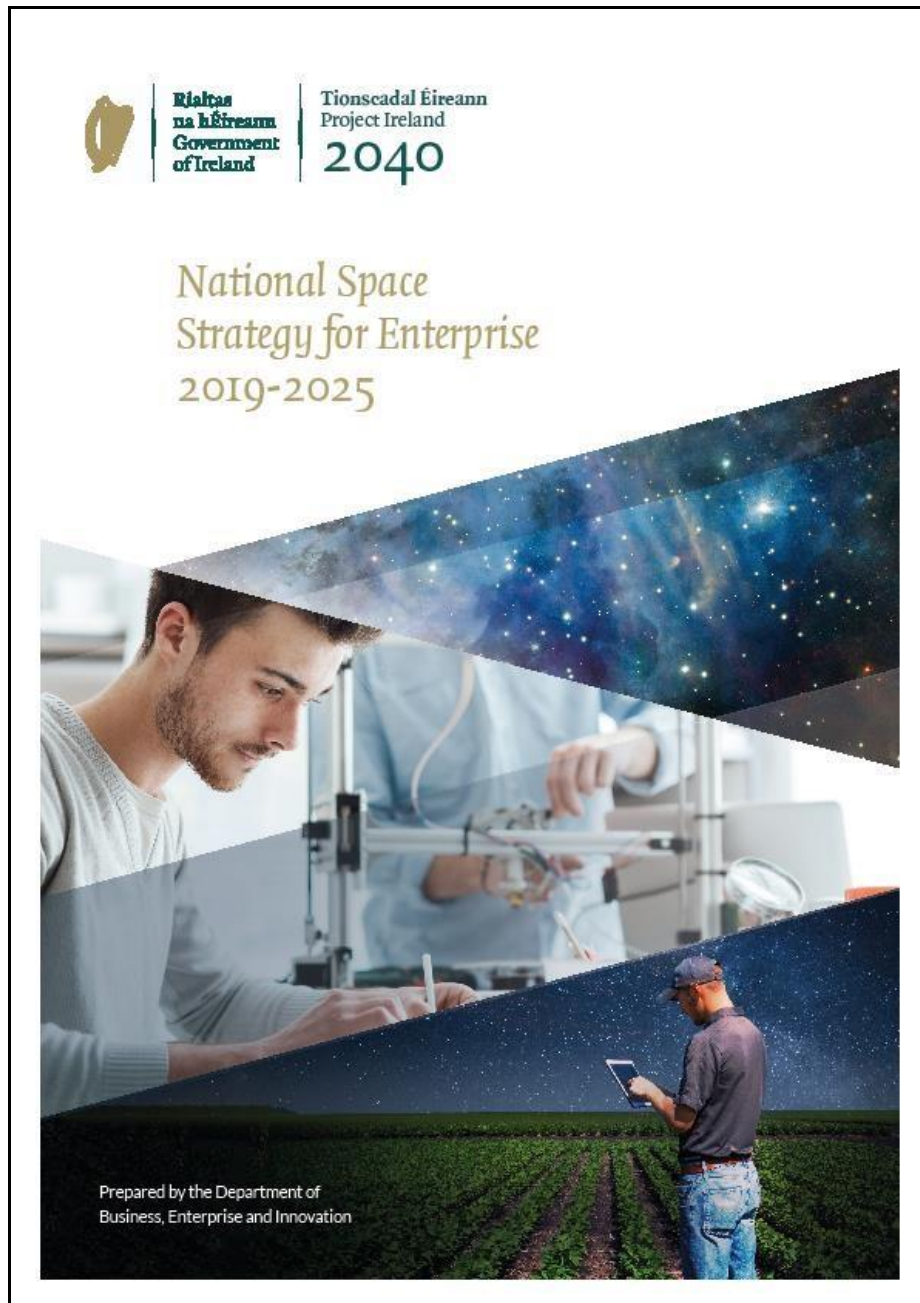


# National Space Strategy for Enterprise 2019-2025

First Progress Report (July 2019-June 2021)



Prepared by the Department of Enterprise, Trade and Employment  
November 2021

# **National Space Strategy for Enterprise Progress Report**

**July 2019 – June 2021**

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# Overview

The National Space Strategy for Enterprise 2019 – 2025 (NSSE) sets a vision for Ireland to develop ‘An economically sustainable and expanding space-active industry, delivering quality jobs for the economy of tomorrow’.

This is the first progress report on the implementation of the strategy, prepared by the Strategy Implementation Group and approved by the Space Enterprise Coordination Group. This document sets out the progress made in delivering the 19 key implementing actions in the reporting period July 2019 to June 2021. Two of the actions have now been completed, with 14 actions on schedule, two actions initiated and one action experiencing a delay.

The first progress report showcases the excellent work being carried out by Ireland’s space enterprises and researchers, and the growth in the sector overall. The number of Irish companies engaged with the European Space Agency (ESA) has grown from 70 in 2019 to 87 in 2020. This represents an increase of 24% in less than 2 years since the publication of the strategy. 2020 also saw record growth in the number of Irish companies engaging with ESA support programmes, with 13 new companies securing their first ESA contract; this is the highest number of new-entrant Irish companies recorded in any given year to date.

In 2020, Irish companies also demonstrated the practical value of their technologies by joining the fight against Covid-19. Three Irish companies were selected by ESA to develop solutions using satellite systems. The successful projects include a virtual command and control centre, which will streamline and support effective emergency response, a device that tracks the spread of Covid-19 using real time satellite data, and a wearable technology that will support remote monitoring of patient health in the community.

Another highlight in the reporting period, is the awarding of €6.4M in funding for the CAMEO (Creating an Architecture for Manipulating Earth Observation data) project under the Disruptive Technologies Innovation Fund, which represents a significant step in developing a national Earth observation infrastructure, a key aim of the strategy.

In the period ahead, we will continue to focus on the implementation of the actions outlined in the NSSE in order to achieve Ireland’s goals for space enterprise by 2025. We will also engage with appropriate representative bodies and experts to understand the evolving needs of industry and to further advance Ireland’s engagement with and use of space.

## Strategic Actions

The National Space Strategy for Enterprise will support Ireland’s overriding principle regarding space – to develop 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. 19 key implementing actions are identified to enable the delivery of the strategy’s goals.

Details on the progress of the 19 key implementing actions in the period July 2019 to June 2021 is reported below.



**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**

<b>Key Action</b>	<b>5.1.1 Investment to drive sustainability</b> 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.	
<b>Status</b>	a. On schedule	b. Initiated
<b>Implementation Date</b>	2019-2025	
<b>Lead Responsibility</b>	DETE, EI, IDA, Industry, SFI	
<b>Progress Update</b>	<p>a. Annual voted investment in ESA in 2019 was €18.3m. The value of industry co-investment in 2019 was €3.5m.</p> <p>Since the publication of the strategy in 2019, the Department of Enterprise, Trade and Employment has secured a total of €7.4m in once-off funding in addition to the annual contribution. While no increase has been allocated to the baseline, this additional investment goes partway towards meeting the commitments of the strategy.</p> <p>Industry co-investment in 2020 remained relatively static at €3.3m in 2020.</p> <p>b. While no explicit National Development Plan (NDP) funding has been provided for a Space Technologies Programme, Irish space active industry and researchers continue to benefit from publicly funded programmes including Enterprise Ireland’s R&amp;D fund and SFI’s Frontiers for the Future Programme.</p>	

<b>Key Action</b>	<b>5.1.2 New forms of investment</b> a. Collaborate with international partners including ESA, 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.	
<b>Status</b>	a. On schedule	b. On schedule
<b>Implementation Date</b>	2019 - 2025	

<b>Lead Responsibility</b>	DETE, EI, IDA
<b>Progress Update</b>	<p>a. ESA is currently exploring with Member States and the EIB the possibility of launching a funding instrument, to support European industry in the space sector, including SMEs and start-ups.</p> <p>In early 2021, the European Commission announced a new €1B European Space Fund, “CASSINI”, to support innovative entrepreneurs, start-ups, and SMEs in the space industry.</p> <p>Both ESA and EU loan platforms are at an early stage, but DETE and EI are engaging with ESA and the European Commission on a regular basis and will continue to follow developments closely.</p> <p>b. In 2019, the second call of the Project Ireland 2040 backed Disruptive Technology Innovation Fund (DTIF), supported three space active enterprises to further develop their technologies. The third call, announced in April 2021, supported a further three space active companies, as well as making a significant space focussed award to an eight-partner consortium. (See action 5.2a below.)</p>

## 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**

<b>Key Actions</b>	<b>5.2 Building on our strengths and pursuing new opportunities</b>		
	<p>a. Establish a Space Data Hub to provide access to data from European and other 3rd party space missions.</p> <p>b. Support industry in Ireland to develop advanced data analytic skills and deliver commercial services using the national Space Data Hub.</p> <p>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.</p>		
<b>Status</b>	a. On schedule	b. Initiated	c. On schedule
<b>Implementation Date</b>	2019-2025		
<b>Lead Responsibility</b>	EI		

<b>Progress Update</b>	<p>a-b. In April 2021, an eight-partner consortium, led by UCD, was awarded funding of €6.4m under the Disruptive Technology Innovation Fund. Their project “Creating an Architecture for Manipulating Earth Observation data” (CAMEO) aims to unlock the potential of Earth Observation (EO) data for non-specialist users by creating a new architecture with the aim of developing a sustainable internationally trading Earth Observation services sector in Ireland.</p> <p>As the architecture is developed, EI will support industry and researchers in Ireland to develop advanced data analytic skills and deliver commercial services using the national Space Data Hub.</p> <p>c. Enterprise Ireland supports Irish based companies to access ESA expertise to assist with their development needs on an ongoing basis. Enterprise Ireland also provide guidance and direction to support space active industry to engage with relevant EI and SFI technology centres.</p>
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**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**

<b>Description</b>	<p><b>5.3.1 The Space Enterprise Coordination Group and Strategy Implementation Group</b></p> <ul style="list-style-type: none"> <li>a. Establish a Space Enterprise Coordination Group (SECG).</li> <li>b. Establish a Strategy Implementation Group.</li> </ul>	
<b>Status</b>	a. Completed	b. On schedule
<b>Implementation Date</b>	2019	
<b>Lead Responsibility</b>	DETE	

<b>Progress Update</b>	<p>a. The Space Enterprise Coordination Group (SECG) is a cross departmental group comprised of departments with a policy interest related to space. The Group held its first meeting on 6 May 2021 and will meet on a bi-annual basis for the period of the strategy.</p> <p>b. The Strategy Implementation Group, currently comprised of Enterprise Ireland and DETE, was set up after the first meeting of the SECG in May. The first action of the Implementation Group was to hold bilateral meetings with members of the SECG to explore the relevance of space to each Department. Eight meetings have taken place to date with dates for the remaining two yet to be confirmed.</p>
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<b>Description</b>	<p><b>5.3.2 The Space Enterprise Website</b></p> <p>Establish a dedicated space enterprise website</p>
<b>Status</b>	Delayed
<b>Implementation Date</b>	2019
<b>Lead Responsibility</b>	EI, SFI, IDA, BCO, ISIG
<b>Progress Update</b>	<p>In 2020, Enterprise Ireland updated Ireland’s Space Industry Directory (see <a href="http://www.space-ireland.com">www.space-ireland.com</a>), which is currently hosted on Enterprise Ireland’s website.</p> <p>The directory will be updated regularly and will eventually form part of the Space website as described in the National Space Strategy for Enterprise.</p>



**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**

<p><b>Description</b></p>	<p><b>5.4.1 Education</b></p> <ul style="list-style-type: none"> <li>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).</li> <li>b. Drive awareness and engagement with space through promotion of National Space Week activities.</li> <li>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.</li> </ul>		
<p><b>Status</b></p>	<p>a. On schedule</p>	<p>b. On schedule</p>	<p>c. On schedule</p>
<p><b>Implementation Date</b></p>	<p>2019 -2025</p>		
<p><b>Lead Responsibility</b></p>	<p>SFI, DETE, EI, BCO, IRC</p>		
<p><b>Progress Update</b></p>	<p>a. Work on building awareness of national space education resources has continued steadily in the reporting period. ESERO Ireland remains Ireland’s primary resource aimed at national space education. Metrics on the outreach include followers of the ESERO twitter account, which grew by over 75% in 2020.</p>		
	<ul style="list-style-type: none"> <li>a. SFI extended their funding of the Irish Low Frequency Array (I-LOFAR) programme to the middle of 2021 through the SFI Discover Fund.</li> <li>b. During Space Week 2020, 600 events took place virtually across Ireland. Blackrock Castle Observatory were awarded funding through the SFI Discover call, for a project called Engaging Space until the end 2021. Part of this funding is used for the co-ordination of Space Week.</li> <li>c. In November 2019, at ESA’s triennial investment meeting of Ministers, Ireland committed an additional €500k in funding for PRODEX over the period 2020-2022.</li> </ul>		

<b>Description</b>	<b>5.4.2 Industry Upskilling</b> <ol style="list-style-type: none"> <li>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.</li> <li>b. Space Industry Skillnet to develop and coordinate the delivery of suitable courses supported by HEIs and other relevant training providers.</li> <li>c. Promote awareness of international programmes available to space-active industry to support knowledge development.</li> </ol>		
<b>Status</b>	a. On schedule	b. On schedule	c. On schedule
<b>Implementation Date</b>	2019-2025		
<b>Lead Responsibility</b>	DETE, Space Industry Skillnet, HEIs, EI, SFI, IRC		
<b>Progress Update</b>	<ol style="list-style-type: none"> <li>a. Enterprise Ireland commissioned a report in 2020 to determine benchmark figures for the NSSE, from which to measure progress. The report includes a study of training/skills development needs. Discussions between Enterprise Ireland, industry, and the Space Industry Skillnet have begun on addressing gaps identified in the baseline report.</li> <li>b. In 2019, the Space Industry Skillnet held five space related training courses including an Earth observation data processing workshop. 11 additional training courses have been planned for the remainder of 2021.</li> <li>c. Enterprise Ireland support Irish based companies and researchers to access ESA expertise to assist with their knowledge development. EI also provide guidance and direction to the space active industry to engage with the EU Space Programme, the European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT) and the EU's programme for research and innovation, Horizon Europe.</li> </ol>		

## Pillar 5: International Engagement

**Aim: We will promote international awareness of Ireland’s space enterprise capabilities.**

**Actions: 5.5 International Awareness**

<b>Description</b>	<b>5.5 International Awareness</b> <ol style="list-style-type: none"> <li>a. Support 80 Irish companies to participate at international trade events focusing on integration in global space supply chains.</li> <li>b. Develop the online directory to promote Ireland’s space industry capabilities to the global space market.</li> <li>c. Develop Ireland-global collaborations through bilateral agreements, with space industry development organisations including NASA.</li> </ol>		
<b>Status</b>	a. On schedule	b. Completed	c. On schedule
<b>Implementation Date</b>	2019 -2025		
<b>Lead Responsibility</b>	EI, SFI		
<b>Progress Update</b>	<ol style="list-style-type: none"> <li>a. During the reporting period, 31 Irish companies participated in international trade events, including: <ul style="list-style-type: none"> <li>• A dedicated space supply chain event held in Enterprise Ireland in October 2019, with European Large System Integrators participating.</li> <li>• Virtual European industry space events held in 2020 and 2021.</li> </ul> <p>The specific focus of these events is to build supply chain relationships, particularly with the European prime companies such as Airbus, Thales and OHB.</p> </li> <li>b. The space industry online directory at <a href="http://www.space-ireland.com">www.space-ireland.com</a> was updated in 2020.</li> <li>c. Despite Covid-19 reducing the opportunity for global engagement, steady progress continued virtually on developing Ireland-global collaborations. These include: <ul style="list-style-type: none"> <li>• A series of events focussing on building co-operation between companies in Ireland and Northern Ireland. The first event took place in May 2021.</li> <li>• In Q1 of 2021, Maynooth University along with NASA agreed on a collaboration to help ground proof a NASA soil moisture instrument.</li> <li>• As part of the Ireland Germany <i>Joint Plan of Action for Enhanced Bilateral and EU Cooperation</i>, DETE and EI are exploring potential fields of cooperation within the space domain with the German Space Agency, DLR and the German economic Ministry.</li> </ul> </li> </ol>		

## Annex 1: Glossary

<b>BCO</b>	Blackrock Castle Observatory
<b>CAMEO</b>	Creating an Architecture for Manipulating Earth Observation data
<b>DETE</b>	Department of Enterprise, Trade and Employment
<b>DTIF</b>	Disruptive Technology Innovation Fund
<b>EI</b>	Enterprise Ireland
<b>EIB</b>	European Investment Bank
<b>ESA</b>	European Space Agency
<b>ESERO</b>	European Space Education Resource Office
<b>ESO</b>	European Southern Observatory
<b>EU</b>	European Union
<b>HEI</b>	Higher Education Institution
<b>I-LOFAR</b>	Irish Low Frequency Array
<b>IRC</b>	Irish Research Council
<b>SFI</b>	Science Foundation Ireland

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