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# Executive summary

Amazon Web Services (AWS) is one of Ireland's biggest private sector investors and employers. With cutting-edge cloud infrastructure, and a highly-skilled technology-focused workforce, the company sits at the heart of the country's thriving digital economy. This report, based on research undertaken by Indecon International Economic Consultants (Indecon), now describes in detail the positive impact AWS' investment has had in Ireland over the last decade (2012-2022).

Indecon's analysis of AWS' operations in Ireland indicate that the benefits of the company's investment here extend across four principal areas:

## 1 Powering Employment

Sustaining more than  
**10,000 jobs**  
across the country.

Over  
**4,200** direct employees  
with AWS.

**3,000 people**  
working for AWS suppliers & sub-contractors.

**2,900** other roles  
elsewhere in the workforce  
attributable to AWS investment.



## 2 Driving economic growth

AWS investment has increased economic output in Ireland by over

**€11.4 billion** since 2012.

In 2022 alone, AWS investment supported **€2.4 billion** in additional economic output – a ten-fold increase on the corresponding figure for 2012.



## 3 Fostering a world-leading cloud infrastructure ecosystem and creating valuable export opportunities for domestic contractors

AWS investment has enabled over **500** domestic suppliers to expand and grow.

Irish contractors, who work with AWS, now export services to

**28 different countries** across the globe.



## 4 Creating economic opportunities for Ireland through new data centre infrastructure

AWS capital investment in a typical data centre campus leads to an additional

**€604 million**

in economic output in each year of the three-year construction phase,

A TOTAL OF OVER  
**€1.8 BILLION.**



AWS expenditure on a typical campus fuels employment growth, with the construction phase of development supporting

**2,250 jobs** annually.



Even when construction is complete, an AWS data centre campus supports over

**250** full time roles on an annual basis.



# Key findings

## AWS investments and operations in Ireland are creating high-quality jobs across the country

AWS first launched an infrastructure region in Ireland in 2007. Today, over 17 years later, it now supports over 10,000 jobs in different parts of the economy.

AWS directly employs more than 4,200 people at its Irish sites. Such direct AWS employment has grown at an average rate of 38% per year over the last decade.

**AWS employment has grown at an average rate of 38% per year over the last decade.**



The positive impact of AWS on job creation extends far beyond roles created within the company itself. More than 3,000 other jobs have been generated in the firm's suppliers and contractors, all of which are directly supported by contracts with AWS. Given these same suppliers and contractors employ a total of 9,000 people, it means that AWS is, on average, directly responsible for one-third of their total employment.

Another 2,900 jobs in Ireland – according to Indecon's analysis – are attributable to the induced effect and other indirect effects of direct AWS employment in the country. This underlines the positive employment multiplier effect of AWS-related job creation.



*"Data Centres are now core enabling infrastructure that help companies across all sectors of the global economy to run their businesses today. Ireland's technology sector has been building for the last 60 years but cloud computing has been a huge contributor to the phenomenal growth that we've seen in the last 20 years. Investments in digital infrastructure enable so much more across the economy, and today's report by Indecon for AWS shows just that. Not only has AWS' cloud investments in Ireland resulted in complementary FDI in software, FinTech and in IT services, but they have also led to substantially increased knowledge, employment and export capacity in the Irish economy."*

Michael Lohan,  
CEO, IDA Ireland



## The depth and breadth of AWS investment is fueling economic growth

The scale of AWS expenditure in Ireland has served as an engine of economic growth. Since 2012, its investments in the country have increased economic output by over €11.4 billion. This has made a material contribution to the strong performance of the wider Irish economy over that same period.

In 2022 alone, AWS' investment in the Irish economy – including direct, indirect and induced impacts – produced approximately €2.4 billion in additional economic output. Every million euro spent by AWS in that calendar year increased economic output in Ireland by nearly €500,000. AWS' positive macroeconomic impact is tracking too on a remarkable upward curve, with the 2022 figures representing a ten-fold increase on 2012.



*"We know that Ireland's future economy will be technology driven. Companies such as AWS and its cloud infrastructure in Ireland will be an even more important part of our lives in the coming years."*

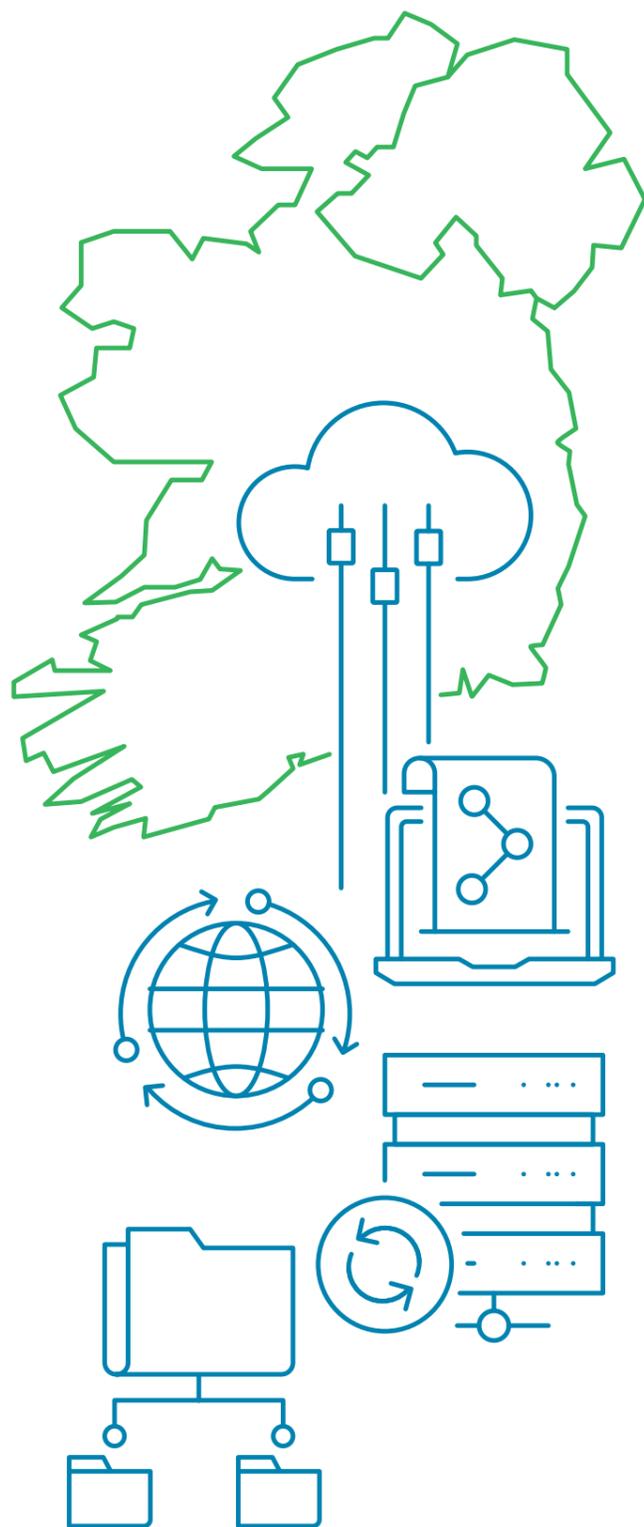
Danny McCoy,  
CEO, Ibec

## AWS has helped create a vibrant cloud infrastructure ecosystem in Ireland and generated export opportunities abroad for domestic firms

A successful ecosystem of Irish cloud infrastructure firms has steadily developed alongside AWS over the last decade. Many of those same companies, such as STS Group and Standard Control Systems, are now recognised as world-leaders in their fields and are increasingly exporting their services abroad. Due to their success, Ireland has earned an enviable global reputation as a centre of excellence for cloud infrastructure services.

AWS investment has had a major role to play in this. Its expenditure on the development of its infrastructure in the country has enabled the expansion and growth of over 500 suppliers.

As noted, many of those contractors are now active exporters to 28 different countries around the world. In 2023, contracts won by AWS supplier firms to provide services for the development of data centres overseas rose to an estimated €240 million, an exponential increase on the equivalent figure for 2013 (€2.8 million). This figure is expected to increase steadily in the years ahead.



## Data centre infrastructure can create significant economic benefits for localities

It's sometimes perceived that data centre investment brings little in the way of economic benefits. Indecon's analysis comprehensively illustrates that that is not the case for AWS cloud infrastructure. AWS data centres, in fact, can generate transformative economic benefits for the localities in which they are located.

Indecon undertook analysis of the economic impact of a typical AWS data centre campus, which is comprised of three separate data halls and would require a construction phase of three years in total. On that basis, its findings are that AWS capital investment in such a campus leads to an additional €604 million in economic output in each of the three years of the construction phase. Cumulatively, over the entirety of the construction period, AWS investment is therefore estimated to support €1.8 billion in wider economic output.

While the construction costs of a typical data centre campus are responsible for a larger percentage of the economic impact, there are still significant economic benefits once construction is complete and the campus enters its operational phase. Indecon's findings are that a typical data centre campus results in an increase in total economic output of €381 million annually based purely on the expenditures to operate and maintain the facilities.

There are also strong employment benefits. The three-year construction phase of the campus is estimated to support a total of 6,700 full-time roles between direct, indirect and induced impacts. This works out at an average of 2,250 jobs annually. While the jobs supported by the operational phase are lower in number, they are still significant. Indecon determined that a typical data centre campus supports over 250 full-time roles in the local economy on an annual basis through direct, indirect and induced effects.

### Adam Gabarov, Data Centre Technician

I work as a data centre technician, where I service and repair the hardware at our infrastructure sites. I'm part of great team and every day there is a new problem for us to solve.

As for my background, I had to flee my home in Chechnya in 2004 and a job I loved with the United Nations. I subsequently became a security guard at an AWS data centre in Tallaght. This is where I first encountered our data centre technicians and I quickly became fascinated with their work.

After consulting with a few colleagues and friends I applied for the AWS-sponsored Data Centre Technician Programme. This allowed me to re-train for a highly-skilled role. I'm now a full-time technician in the very same data centre that I originally worked at as a security guard.



# Indecon's approach

The information contained in this report is taken from an evidence-based analysis undertaken by Indecon, a leading firm of independent research economists.

Drawing on well-established economic modelling, Indecon calculated the estimated direct, indirect and induced effects of AWS investments in Ireland.

## Direct effects

This includes the economic output generated by AWS itself, through its purchases of goods and services (including labour) from the Irish economy. For example, the wages paid by AWS to Irish employees is a direct impact, as well as spending by AWS on other Irish suppliers of services and products.

## Indirect effects

The indirect impacts arise through AWS' purchase of goods and services from other businesses and sectors in the economy to support its activities in Ireland. These purchases generate income for the supplying enterprises/ industries, which they, in turn, spend on their own purchases from suppliers. For example, AWS' expenditure on services provided by Irish construction firms will lead to an increase in output from the suppliers to these same companies.

## Induced effects

As a result of the direct and indirect effects the level of household income throughout the economy will increase as a result of increased employment. A proportion of this increased income will be re-spent on final products.

Indecon's empirical evidence has examined data from a wide range of sources to present the most accurate representation of the effects of AWS investments in the Irish economy. These included:

- Central Statistics Office data
- Detailed analysis of AWS internal data on investments, operating expenditures, and employment; and
- Results of an Indecon-administered survey of major suppliers and sub-suppliers.

# About AWS

Amazon Web Services (AWS) is the world's largest cloud platform. AWS allows users to access IT services, such as computing power, storage and AI, on a pay-as-you-go basis, instead of having to own and maintain their own data centres and servers. Millions of customers – including giant multinationals, tiny start-ups, public sector bodies, and international organisations – now harness the power and capabilities of the AWS cloud daily.

AWS provides cloud services to thousands of Irish entities. This includes large firms like Ryanair, Bank of Ireland and Stripe and more emerging businesses like Intercom and Swerve. The Irish public sector – including bodies such as the HSE and Ordnance Survey Ireland – is also increasingly utilising the AWS Cloud.

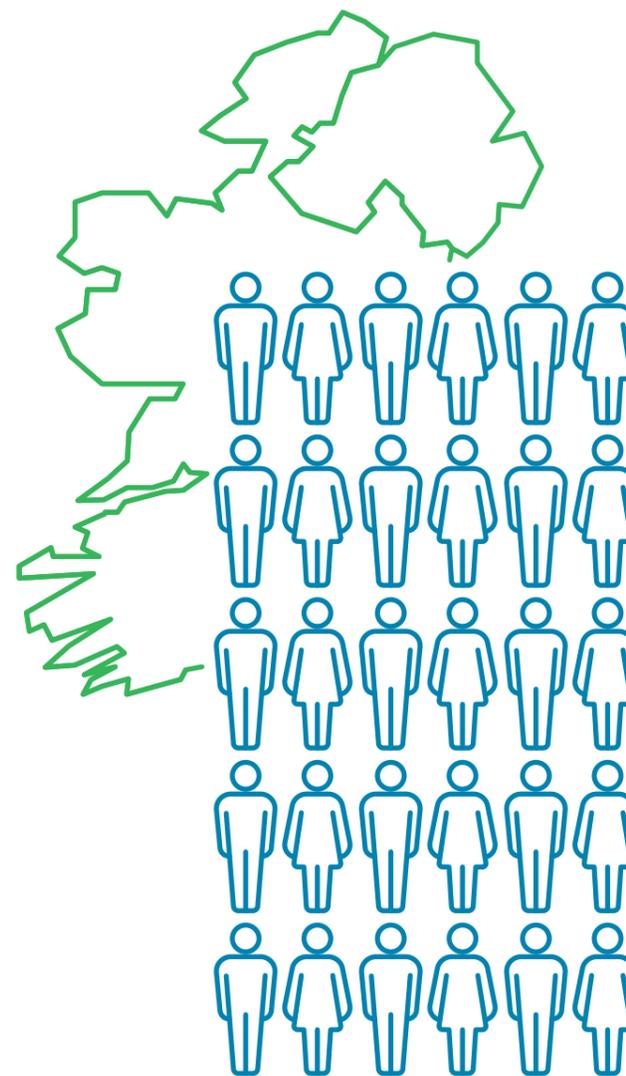


# 1

## Powering employment



## AWS is powering employment creation across Ireland



To assess the job creation impact of AWS' operations in Ireland, Indecon used both macroeconomic modelling and an input-output analysis to calculate total employment-related direct, indirect and induced effects.

Sustaining more than  
**10,000 jobs**  
across the country.

Over  
**4,200** direct employees  
with AWS.

**3,000 people**  
working for AWS suppliers & sub-contractors.

**2,900** other roles  
elsewhere in the workforce attributable to  
AWS investment.

These figures make AWS one of the largest private sector employers in the country. According to IDA Ireland, AWS has been amongst the ten biggest job creators from the Agency's client base every year over the last decade (2012-2022).

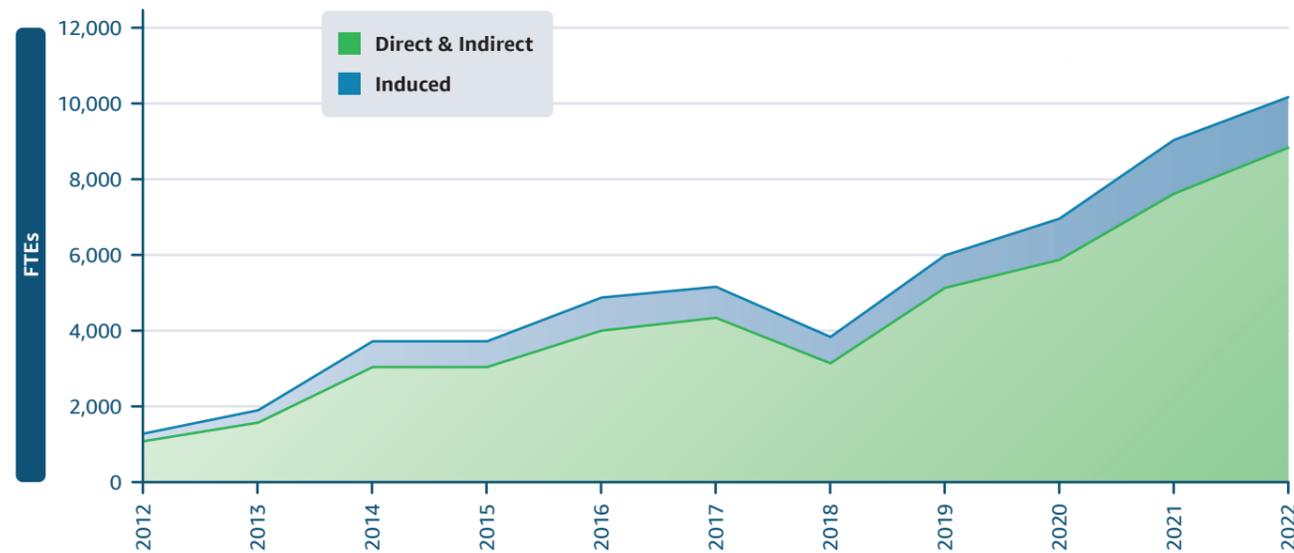
*"The experience that our teams have developed working on these projects with AWS has allowed us to expand our business internationally, creating jobs and developing further expertise and talent here in Ireland."*

Liam Linehan,  
Business Development Director, STS Group

# 2

## Driving growth

### Impact of AWS' investment and expenditure on employment in Ireland



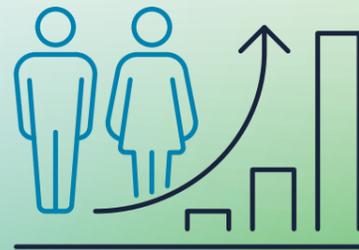
Source: Indecon

Roles in AWS in Ireland are across a variety of areas. They include: software development; DevOps; engineering; cloud architecture; cybersecurity; sales; marketing; solution architecture; construction; and HR. This direct employment has grown at an average rate of 38% over the last decade.

The positive impact of AWS on job creation is not consigned to AWS itself. More than 3,000 other jobs have been generated in the firm's suppliers and contractors, all of which can be attributed to contracts with AWS. As these same suppliers and contractors employ a total of 9,000 people, it means that AWS is, on average, directly responsible for one-third of their total employment.

Another 2,900 jobs in Ireland – according to Indecon's analysis – are attributable to the induced effect and other indirect effects of direct AWS employment in the country. This underlines the positive employment multiplier effect of AWS-related job creation.

**Direct employment at AWS has grown at an average rate of 38% over the last decade.**



# AWS is driving wider economic growth

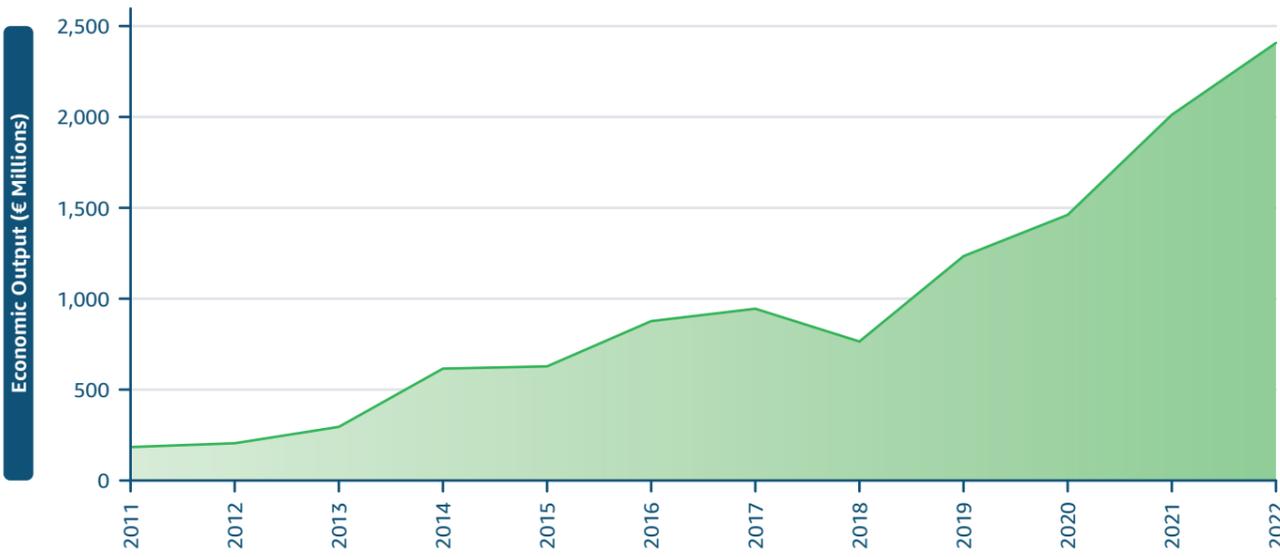
AWS does more than just create jobs in Ireland – its investments also help fuel the wider Irish economy, generating new opportunities for businesses and communities. This spillover effect of AWS expenditure is a classic example of how capital-intensive foreign direct investment (FDI) can bring much wider benefits to Ireland.

The figures are telling. AWS investment has increased economic output in the country by over €11.4 billion since 2012. In 2022 alone, AWS' total investment in the Irish economy – which incorporates direct, indirect and induced impacts – produced approximately €2.4 billion in additional economic output. AWS' positive macroeconomic impact is following a marked upward curve, with the 2022 figures representing a ten-fold increase on 2012.

**AWS investment has increased economic output in Ireland by over €11.4 billion since 2012.**



**Impact of AWS Investment and Expenditure on Economic Output in Ireland - 2012-2022 - €m**



Source: Indecon

# 3

## Supporting a thriving Irish cloud infrastructure system



# AWS investment has helped give rise to a successful Irish cloud infrastructure ecosystem

An important benefit of AWS operations and investment in Ireland has been its role in developing a vibrant domestic cloud infrastructure ecosystem – comprised of local companies – over the last decade. Indecon’s analysis found that AWS expenditure on its infrastructure here has enabled the expansion and growth of over 500 such firms in sectors such as engineering, manufacturing, construction, energy and logistics. As these companies are located all over Ireland, it has ensured the advantages of AWS investment are enjoyed across a wider geographical area. A Limerick-based contractor to AWS, for example, would both employ staff from Munster and buy goods and services in the region, reflecting the multiplier effect of AWS expenditure.

What’s more, many of those companies – such as Davenham Switchgear and Danann Air – have become world-leaders in their respective fields. Ireland has, as a result, earned a global reputation as a centre of excellence for cloud infrastructure services.



*“Since opening its operations in Ireland, AWS has provided business opportunities for Irish companies to start, grow and scale in international markets. The partnership and co-operation that exists between Irish businesses and global companies invested here has a hugely positive impact on the Irish economy. AWS continues to expand its support to a range of businesses, including start-ups and scale-ups and plays a significant role in nurturing innovation and growth within the overall enterprise eco-system.”*

Leo Clancy,  
CEO, Enterprise Ireland



The effects of that ever-burgeoning reputation can be seen in the growth of exports by Irish cloud infrastructure firms. In 2023, contracts won by suppliers and subcontractors to AWS, for the development of cloud infrastructure overseas, increased to an estimated €240 million. That figure is forecasted to rise further over the remainder of the decade. A total of 28 different countries are now recipients of exports from Irish companies in this space. This includes both the largest European States – such as France, Germany and Italy – and major markets further afield, including China, Japan and India.

## Export Value of Construction Contracts by Suppliers to AWS in Ireland – 2013-2023 (€m)



Source: Indecon Survey of Amazon Web Services Construction Companies and Sub-suppliers



Source: Indecon Survey of Amazon Web Services Construction Companies and Sub-suppliers

The connection with AWS has been key to these Irish businesses. The extent and depth of AWS expenditure on contracts with those firms has provided opportunities to scale and deepen technical expertise. It has also had a positive clustering effect, encouraging healthy competition and innovation within the sector here.

Surveys of these companies, conducted by Indecon, underscore the importance of their business relationships with AWS. 82% of sub-suppliers to AWS, for example, agreed that their supply of services to AWS had a very significant effect on their own market reputation. Similarly, over 82% of those firms identified AWS infrastructure as having a very significant effect in facilitating sub-suppliers to expand their respective footprints in Ireland.

*“AWS makes it incredibly easy to scale up what we do, particularly when looking at new markets abroad – they provide strong market knowledge, existing relationships and an open and supportive culture as we expand.”*

David McKay,  
Managing Director of Danann Air

## The Hanley Story

Hanley Energy are global innovators in critical power and energy management solutions, with a stable of world-class engineers shared between European headquarters in Ireland (Meath) and North America (Virginia). In 2009, Hanley Energy had three employees in Ireland and today the business employs over 700 people globally, with offices across North America, Australia and South Africa.

Hanley Energy initially worked with AWS to develop a prototype which was subsequently adopted at AWS facilities across the globe. The Hanley-AWS relationship has gone from strength-to-strength ever since.

At the end of 2022, Hanley Energy announced over 225 new jobs in a significant expansion of its operations in Ireland, including a new manufacturing facility in Monaghan and large development of its existing site in Dundalk.

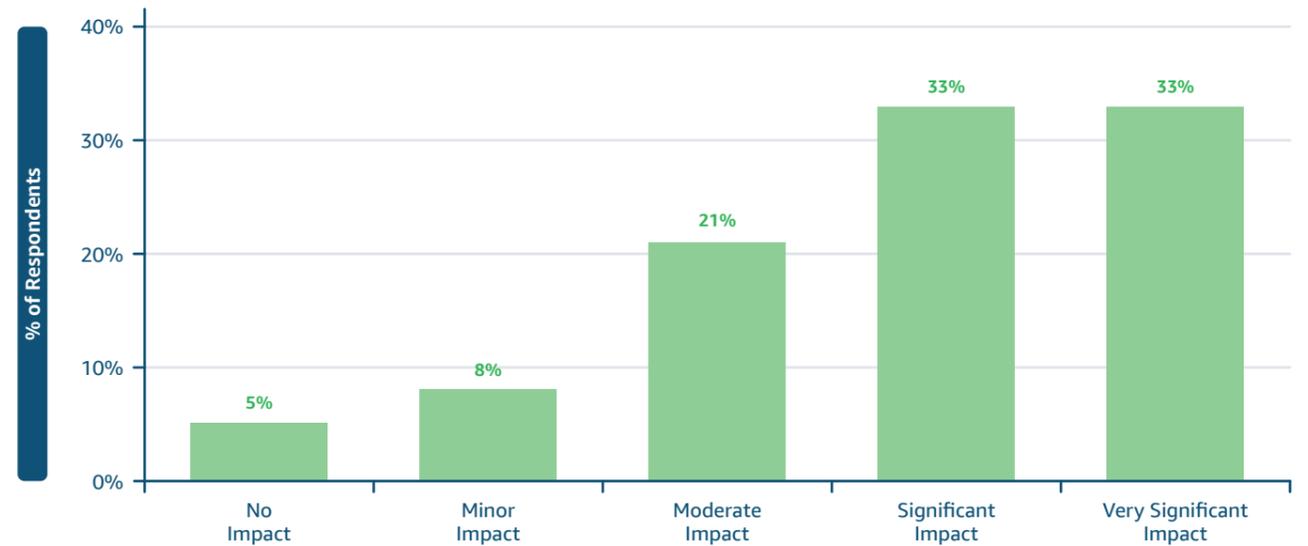
*“Our work with AWS is the perfect example of two businesses complementing each other’s skills and driving each other forward. AWS’ relentless focus on innovation, and customer obsession, ensures that for our employees there’s a constant flow of new challenges, and new skills.”*



Dennis Nordon,  
Managing Director, Hanley Energy



## Impact of AWS Data Centres in Facilitating Suppliers' Revenue Growth



Source: Indecon Survey of Amazon Web Services Construction Companies and Sub-suppliers

# 4

## How future AWS cloud infrastructure can deliver economic benefits



## New AWS data centre infrastructure can generate extensive economic advantages for Irish localities

The economic impact of data centres can often be misunderstood. Analysis carried out by Indecon demonstrates unequivocally that, when it comes to a typical AWS data centre campus, there are major economic gains – driven both by the initial capital investment to construct the facility and the operational expenditure to operate and maintain it.

With respect to the capital expenditure benefits, Indecon's findings reveal that AWS' capital investment in a typical campus is responsible for an estimated additional €604 million in economic output in each year of the construction phase. Cumulatively, over the full duration of the three-year construction phase, AWS' investment is estimated to support €1.8 billion in wider economic output.

Although the operational expenditure needed to run and maintain a typical data centre is less than the up-front construction costs, it still delivers significant economic impact. Indecon determined that a typical AWS data centre campus will result in increased total economic output of €381 million annually.

The extent of the capital and operational expenditure figures should not obscure the employment benefits. The construction phase, in particular, of a typical AWS data centre campus is a source of major job creation. Indecon estimate that 6,700 full time jobs – driven by direct, indirect and induced impacts – are supported across that three-year timeframe. That equates to an average of 2,250 jobs annually.

An AWS data centre campus supports over 250 full time roles.



AWS' capital investment in a typical campus:

**€604 million**

(in economic output in each year of the construction phase)

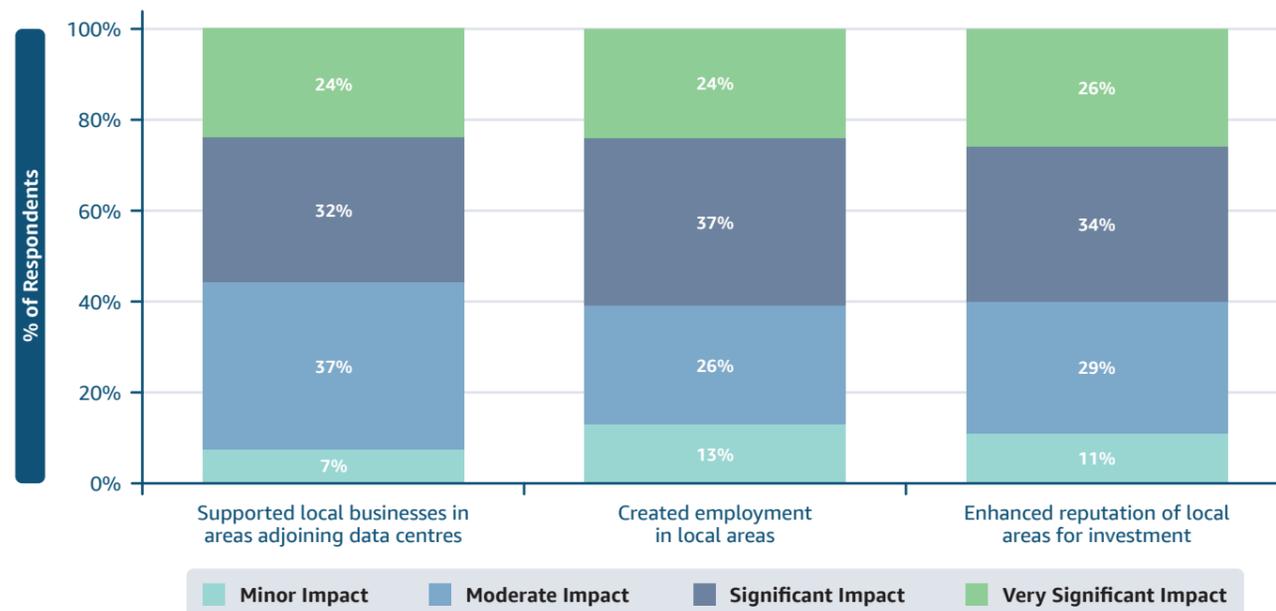
*"We are so proud AWS chose South Dublin County to locate. They are a great addition to our business and wider community. Through many interventions including district heating, staff volunteering, developing third level courses, resourcing many of our community groups not to mention the obvious in providing employment, paying local taxes and supporting local businesses directly and indirectly, you could not ask for more."*

Peter Byrne,  
CEO, South Dublin Chamber

Even when the major capital expenditure associated with the construction of such a campus is complete, there are still strong employment upsides. Indecon's findings are that, once a campus enters its operational phase, it supports over 250 full time roles in the local economy annually through direct, indirect and induced effects.

The findings of Indecon's economic modelling are supported by evidence of Indecon's separate survey of AWS suppliers. Respondents to that survey were typically very positive about the impact that AWS infrastructural investment has had on employment and SMEs in the local areas in which it is situated. Respondents also underscored how AWS investment in data centres can improve the reputation of the area in terms of securing future other investment.

### Impact of AWS Investment on the Local Area



Source: Indecon Survey of Amazon Web Services Construction Companies and Sub-suppliers

*“AWS has made a demonstrable contribution to economic activity and employment in South Dublin, delivering two new workplaces of significance which have, respectively, particularly generated growth and local regeneration. Additionally, their partnership in local district heating and community initiatives have brought marked additionality through innovation, collaboration and social gain.”*

Colm Ward,  
Chief Executive, South Dublin County Council



#### Fiona Forde, Business Manager for EMEA Construction

After time working abroad, I was delighted to take up a role with AWS in Dublin as a construction manager in 2021. In February 2022 I transitioned into a Business Manager Role within the construction team, which effectively manages the operational efficiency of the organisation both within Ireland and EMEA wide. I'm proud to work with AWS and support the construction of cutting-edge cloud infrastructure.

I enjoy working with our many local and EMEA wide vendors, contractors and suppliers, who have become world-leaders in their own right when it comes to cloud infrastructure. The variety of my work is one of the things I enjoy most – no day is the same.

There is a strong team culture at AWS too and I find the collaborative spirit here both inspiring and motivating. I am involved in ID&E initiatives in EMEA. I'm also involved in AWS' GetIT programme, which aims to inspire younger secondary school students – and particularly girls – to consider a future in STEM (Science, Technology, Engineering, Mathematics).



# 5

## Community impact



## AWS partners closely with local Irish communities

Ever since it first established a presence in Ireland, AWS has worked hard to support the local Irish communities in which its infrastructure and offices are based. This reflects the company's dedication to being a good neighbour and ensuring that the benefits of its investment in Ireland are also felt at grassroots levels.

The AWS InCommunities Fingal Fund embodies its approach to local community engagement within Ireland. Launched in 2022, it supports initiatives in the Fingal area that can make a positive impact across education, the environment, health and wellbeing. Resources from the fund, which is managed by ChangeX, a non-profit organisation, have already been allocated to 36 separate projects in Fingal and surrounding areas. More than 2,250 people have participated in these projects, with a further 8,600 benefitting from them. Similarly, a separate InCommunities Fund has supported 38 local projects in the Drogheda area to date, benefitting a further 5,500 people.

**More than 2,250 people have participated in these projects, with a further 8,600 benefitting from them.**



## Foróige Sound Cabin

Kevin Lacey is the Youth Officer in the computer club at the Blanchardstown branch of youth organisation Foróige in Fingal. He's leading a project funded by the AWS InCommunities Fingal Fund to turn a previously unused cabin into a state-of-the-art musical creation space for young people in the area.

Kevin said:

*"Foróige is Ireland's leading youth organisation, and the sound cabin we've created with the funding from AWS is both a melting pot of musical creativity and a safe space for young people to meet and socialise. The funding from AWS InCommunities Fingal Fund has gone exclusively into buying instruments and audio production technology that our service users wouldn't normally have access to.*

*One thing it's helped us purchase is our modular synth. We work with a lot of young people with ADHD (attention deficit hyperactivity disorder) and Autism, and they can become agitated or lose interest if we ask them to look at a computer for too long when making electronic music. The modular synth is really tactile, so we've had a lot of success with our young people who can't sit at a computer for very long or struggle with traditional instruments like the guitar, a bass or piano."*



Strengthening education and skills has been a particular focus for AWS' community work in Ireland. For the past six years, AWS has partnered with the Tallaght Campus of Technological University Dublin (TU Dublin) on their Data Centre Technician Programme. AWS has also supported the development of similar courses with TU Dublin Blanchardstown and the Drogheda Institute of Further Education. These programmes offer participants the opportunity to re-train with annual bursaries and the possibility of a paid work placement with AWS.

Every year, 55 scholarships are offered to members of the local community so that they can develop the skills required to build a successful career in the cloud industry. Nearby AWS data centre infrastructure allows participants to gain hands-on experience with the most advanced technology.

On average, across the programmes, students have a 79% success rate of subsequently securing full-time employment in the IT sector following completion of their studies.

AWS runs a number of other educational programmes in Ireland. This includes: "GetIT", which develops the digital skills of secondary school students; "Educate", that helps integrate cloud skills into school curriculums; and "re/Start", a scheme that provides AWS cloud skills to participants from disadvantaged backgrounds.

AWS investment in these various initiatives is complemented by the significant volunteer work



undertaken by its staff. AWS employees undertook over 5,700 hours of voluntary work over the last five years. In 2022 alone, AWS staff gave up 3,200 hours of their own time to support local causes and communities. This includes supporting projects in local schools, hospitals, and community services. The value of this volunteering is assessed at over €200,000 by Indecon.

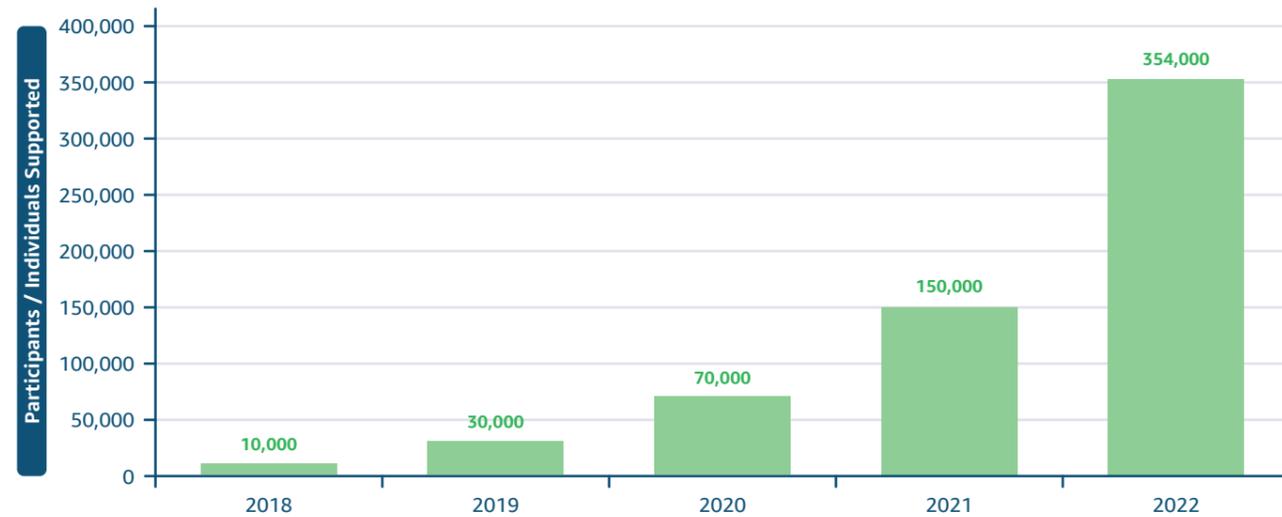
**Indecon estimates that between initiatives funded by the AWS InCommunities programme (€3.5 million) and the value of volunteering provided by AWS staff (€200,000), AWS has invested nearly €3.7 million in community engagement since 2018.**



# 6

## AWS sustainability in Ireland

### Participants / Individuals Supported by InCommunities programmes



Source: Indecon analysis of AWS data

#### Joanne Reynolds, Community Engagement Manager

I lead AWS Community Engagement in Ireland. My work, which I love, involves engaging with the local communities in which AWS is located to support various social impact and educational programmes. The AWS philosophy is that when we commit investment to infrastructure, we also commit to the community in which it's based.

Having grown up in Clondalkin, and not having experience in a any technical field, a job in the tech industry never crossed my mind. It just felt vaguely intimidating and alien. But I then stumbled into what has turned into a great career with AWS.

One of the best things for me about AWS is that the company genuinely values diversity of backgrounds. We want different voices in the room when big decisions are being made. And your view or opinion will be respected, no matter who you are or where you come from.

I'm also continually inspired by my female colleagues, particularly those who work at our infrastructure sites. It was often the case that they were amongst the very few women in their respective third level courses; now they are continuing to break gender stereotypes and excel in fields like technology and engineering within AWS.



# The AWS sustainability story in Ireland

AWS isn't just committed to investment and employment creation in Ireland – it's also dedicated to addressing some of the world's biggest environmental challenges. That means powering its Irish infrastructure with clean and renewable energy; designing that same infrastructure to be class-leading in terms of energy efficiency; utilising excess heat generated by AWS data centres to warm nearby homes and businesses; and constantly innovating in the manufacture and recycling of cloud hardware to limit waste.

This approach in Ireland reflects Amazon's wider global sustainability commitments. In 2019, Amazon co-founded the Climate Pledge, a commitment to reach net zero carbon emissions by 2040, ten years ahead of the Paris Agreement. The company is now on a path to power its operations by 100% renewable energy by 2025, five years ahead of its original 2030 target. Globally, Amazon has already announced over 400 renewable energy projects representing 20 gigawatts of clean energy capacity.

As for its specific operations in Ireland, Amazon was the first company in the country to enter into unsubsidised corporate power purchase agreements (CPPAs). In other words, it's bringing renewable energy on stream without any direct Government subsidy. Its first CPPA project, located in Cork, is now fully operational. Other projects, situated in Galway and Donegal, are expected to come into operation in late 2023 and 2024 respectively. In total, these will together add 229 MW of renewable energy to the Irish grid each year – enough to power 185,000 Irish homes per annum.

*"I have asked my officials that, when it comes to data centres, who is doing most to help us find solutions on sustainability? The answer was AWS. AWS is flexible, innovative and a partner for government."*

Minister for the Environment, Climate and Communications, Eamon Ryan T.D.

## The Tallaght District Heating Scheme uses recycled heat from a nearby AWS data centre to warm local houses and other premises.



AWS designs its Irish data centres to meet exacting standards when it comes to energy and water use. For example, its cloud infrastructure in Ireland use direct evaporative cooling systems that cool servers with outside air. This means that for more than 95% of the year, AWS uses no water to cool its Irish data centres. For the few hot days that Ireland does experience, only modest amounts of water are required. AWS' newest data centres in Ireland use as little as 1000m<sup>3</sup> of water for cooling annually – that's the equivalent to the yearly water usage of eight average Irish households. Moreover, new AWS data centres in Ireland will reduce embodied carbon in concrete and steel through the use of ground granulated blast-furnace slag and green steel respectively.

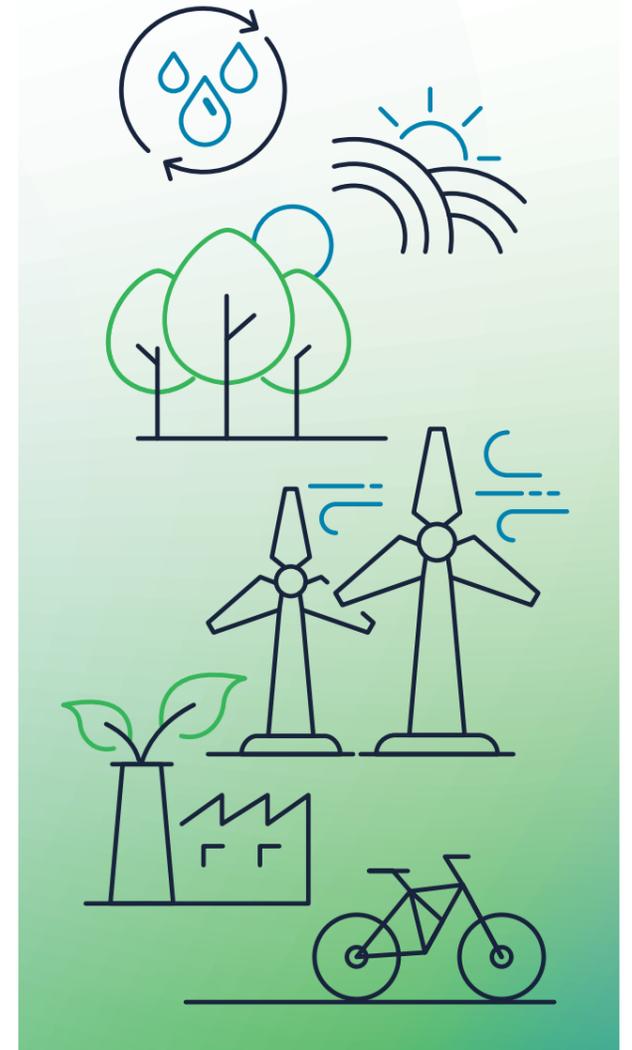
AWS also supports local sustainability initiatives. In Dublin, AWS has worked with South Dublin County Council to deliver the Tallaght District Heating Scheme (TDHS), the first such initiative nationwide. This involves the use of excess heat from an AWS data centre to heat nearby public sector, residential, academic and commercial premises. It is projected that the TDHS will save almost 1,500 tonnes of CO<sub>2</sub> per annum during its first phase of operation.

AWS' approach to sustainability extends to the hardware deployed within its data centres. In 2019 the company opened a specialised server recycling facility in Dublin 15, where used server racks and components are sent in order to extend the life of data centre hardware. Racks are securely demanufactured, with components repaired and tested for re-use. In November 2020, the facility achieved the highest possible rating for Zero Waste to Landfill Certification. It is thereby helping AWS to avoid waste generation, reduce the use of raw materials and lower carbon emissions across its supply chain.

*"We're excited to be working with AWS to help drive their renewable energy transition through the supply of our HVO. At Certa, our mission is to connect our customers with the most progressive energy solutions available, and as a straight drop-in replacement for conventional diesel, our HVO Bio Fuel provides up to 90% reduction in carbon emissions instantly, with no generator retrofitting required. We look forward to continuing the energy transition journey alongside AWS."*

Andrew Graham,  
Managing Director, Certa Ireland

## Amazon was the first company in Ireland to enter into unsubsidised corporate power purchase agreements.



# 7

## AWS & Irish public sector digital transformation

### AWS is helping the Irish public sector to digitalise and improve public services

Irish public sector bodies are increasingly moving to the AWS cloud in order to digitalise and improve service delivery. This is another benefit of AWS' infrastructure in Ireland – it affords Irish PSBs ready access to world-class cloud technology and expertise. The Government itself has recognised the importance of public sector cloud adoption. This is clear from its recent national digital and public sector ICT strategies, with their objectives of ensuring that 90% of applicable services are consumed online through a cloud-first approach.



*“Public Sector Organisations should no longer decide whether to move to cloud for new or existing systems. The decision to be made now is what, how and when to move to cloud, which can offer a step change in carbon efficiency, security and value for money.”*

Minister for Finance,  
Michael McGrath T.D.

The Government's deployment of AWS in response to the COVID-19 pandemic underlines how the company's services are being put to good use by the public sector. AWS, for example, provided the underlying cloud platform for the HSE's "COVID Tracker" smartphone app. This allowed a secure and reliable solution to be rolled-out quickly, enabling the HSE to improve the speed and accuracy of contact tracing for over 1.3 million of the app's active users. Similarly, when the Department of Health needed to rapidly establish a contact centre to assist the public with the EU Digital Covid Certificate, it turned to AWS. The company's virtual call centre service, Amazon Connect, allowed the Department to manage huge volumes of public queries, with more than 400,000 calls alone in the first weeks of operation.

The global shift by Governments to the cloud in order to improve public services is forecasted to quicken in the years ahead. Ireland is uniquely well-positioned to successfully navigate that transition, given the AWS infrastructure on its doorstep. Irish public sector bodies therefore have the opportunity of becoming global exemplars in how cloud technology can be deployed to better serve citizens.

# How the Irish Refugee Council leveraged AWS to assist Ukrainian refugees

When Russia invaded Ukraine in February 2022, the nonprofit Irish Refugee Council (IRC) mobilised to support Ukrainians who were fleeing the conflict. The IRC needed a dedicated call centre that was scalable and could connect directly to staff who spoke Ukrainian. It also required a message service for after-hours contact to help Ukrainian refugees who couldn't call while they were sheltering or in transit.

The IRC engaged AWS and TTEC Digital, an AWS partner. Within two weeks a Ukrainian information helpline was launched using Amazon Connect, a cloud contact centre, which was subsequently used to assist more than 4,000 Ukrainians. Whether through the helpline or through web chat, Ukrainian refugees received reliable information in their native language so they could quickly understand their rights and potential supports in Ireland.

*"It isn't simple for someone to find credible information when they don't speak the language, don't know whom to trust, and are facing a huge disruption in their lives because of a war. That's why it was critical that the Irish Refugee Council was able to give Ukrainians access to reliable, confidential, and trustworthy information. Amazon Connect allowed us to do that – using just laptops and headsets. It's been a privilege to work with the AWS team and to bring the benefit of robust technology to those who need it – and fast. Our partnership with AWS has made a real difference to our efforts to help people affected by the ongoing war in Ukraine."*

Marianna O'Neill,  
Ukraine Response Lead, IRC



# Neil Morris, AWS Ireland Country Lead

Neil Morris is the AWS Country Lead for Ireland and AWS Operations Director (Northern Europe & Israel). Neil leads the AWS business in Ireland and represents AWS' interests with stakeholders across the country. He has worked in the multinational technology sector in Ireland for over 30 years. His experience includes, Data Centre Architecture & Operations, Semiconductors, Engineering, High Performance Team Leadership, Performance Psychology, Lean/Six Sigma, and electronics. Neil is a graduate of Dublin City University with a B.Sc. in Physics and has a proven track record in international management and delivering world class results in cross-cultural teams.

Neil is married to Evelyn and has lived in Kildare for the past 25 years. He enjoys playing traditional Irish music and being outdoors, as well as running and cycling.



