



# Growth and Transformation

Economic Ties Between the  
San Francisco Bay Area and Ireland

August 2024

# Acknowledgments

This report was produced by Sean Randolph, Senior Director at the Bay Area Council Economic Institute, with support from Research Analyst Estevan Lopez. The Economic Institute particularly wishes to thank the Consulate General of Ireland in San Francisco, IDA Ireland, Enterprise Ireland, and Tourism Ireland for supporting this project, and the following individuals who generously shared their insights:

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**“This year marks the 100th anniversary of diplomatic relations between Ireland and the United States of America, which is underpinned by our shared heritage, values, and ambitions over almost two and a half centuries. The Bay Area, a world center of innovation, remains one of Ireland’s key economic partners. This report by the Bay Area Council Economic Institute clearly highlights our robust trade, investment, and people links and the immense potential for future collaboration and growth.”**

Ambassador Geraldine Byrne Nason

**“The strength and importance of the relationship between Ireland and California, and in particular between Ireland and the Bay Area, is reflected in Team Ireland’s mission and presence here on the West Coast. Building upon and future-proofing our relationship is essential as transformative technological developments—many originating from the Bay Area’s innovation habitat—proliferate, deepen, and disrupt. Such technologies are being developed, supplemented, and/or have an international market platform in Ireland’s innovative high-tech economy. We look to the future relationship between the Bay Area and Ireland with great pioneering optimism.”**

Consul General Micheál Smith

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# Executive Summary

As trade and investment with Europe grows, Ireland has successfully combined focused economic strategies with investment in talent and innovation, making it a European base for many US and Bay Area companies. This report documents these deep connections and the opportunities that exist for even closer cooperation between Ireland and the San Francisco Bay Area.

## The Irish Community in the Bay Area

The Irish presence reflects the history of Irish immigration, where together with New York, Boston, and Chicago, San Francisco has been a major destination. Since the 1800s, Irish immigrants and their descendants have played prominent roles in the Bay Area's government, business and civic life.

Reflecting the Bay Area's deep historical and family ties with Ireland, five cities in the region have established sister city counterparts: San Francisco with Cork, San Jose with Dublin, Menlo Park with Galway, Los Gatos with Listowel, County Kerry, and Dublin (California) with Bray, County Wicklow. A newly formed relationship is being developed between Palo Alto and Dún Laoghaire-Rathdown. In western San Francisco's Parkside neighborhood, the United Irish Cultural Center has served for fifty years as a home for the Irish community.

## University Connections

University connections add to the relationship. Key points of connection include the UC Berkeley Irish Studies Program; a collaborative program between Berkeley's campus-affiliated SkyDeck accelerator and University College Dublin; BioInnovate Ireland, which was spun out of the Stanford Byers Center for Biodesign; and a partnership between the University of California, Davis and University College Dublin, focusing on agriculture, food and health.

## The Bridge to California

### Team Ireland

Ireland's consulate in San Francisco marked the 90th anniversary of Ireland's diplomatic presence in the

Bay Area in 2023. In 2022, the Irish government's formerly dispersed footprint in the Bay Area was consolidated in San Francisco at Ireland House, which integrates government services while serving as a platform for visiting government officials and business leaders. Agencies resident in Ireland House include the Consulate General, Enterprise Ireland, and Tourism Ireland.

## Tourism

Ireland is a major destination for Americans, with the US being the top source of visitor revenue. Since 2015, the number of US visitors to the island has grown 44.2%, with approximately one-fourth originating on the West Coast, including more than 200,000 from California. Ireland's national carrier Aer Lingus has provided direct service between San Francisco and Dublin since 2014.

## Irish Investment in the US and California

Investment between Ireland and the United States is a two-way street. In 2023, 500 Irish companies had operations in the United States, employing 98,000 people at 2,269 locations across all fifty states. In 2022, Ireland was the seventh-largest overseas investor in California, ahead of China, with 480 establishments supporting an estimated 25,464 jobs and \$3 billion in wages.

## US and Bay Area Investment in Ireland

Considering its small size and population—only 5 million—Ireland is remarkable as a destination for investment from the United States. More than 900 US companies currently operate in Ireland, directly employing 210,000 people. Bay Area companies play a particularly strong role. Five of the ten biggest foreign direct investing companies in Ireland (LinkedIn, Meta, Intel, Apple, Alphabet/Google) are Bay Area headquartered. Between 2017 and 2022, Bay Area companies made 161 distinct investment deals in Ireland, totaling \$30.6 billion. More than 85% of that investment is directed toward ICT and electronics.

Bay Area companies with major operations in Ireland include: Airbnb, Alphabet/Google, Apple,

Applied Materials, Autodesk, BioMarin, Cadence, Cisco, Docusign, Dropbox, eBay, Fidelity, Fitbit, Gilead, GoFundMe, Hewlett Packard Enterprise, Indeed, Intel, LinkedIn, Meta (Facebook), Oracle, PayPal, Salesforce, Slack, Stripe, Twilio, Uber, Udemy, VMware, Wells Fargo, Workday and Zendesk. For many, Ireland serves as the company's European headquarters.

## A Growing Knowledge Economy

With a population of only 5 million, Ireland has seen its economy emerge from relative poverty to achieve strong economic growth, enabling the country to become a dynamic European technology center, that spans both tech and life science and hosts large numbers of multinational corporations (MNCs).

- The IMD World Competitiveness Ranking 2023 places Ireland at #2 (behind #1 Denmark) out of 64 economies in the world.
- The INSEAD 2023 Global Talent Competitiveness Index ranks Ireland #12 out of 134 economies it assesses.
- WIPO's Global Innovation Index 2023 ranks Ireland #22 out of 132 economies tracked.
- The KOF Swiss Economic Institute's 2022 Globalization Index, which evaluates 196 economies, places Ireland at #11 in its ranking.

Several factors have driven Ireland's economic growth: economic stability, low corporate taxes, sound budget policies, deregulation, EU membership, EU subsidies, a highly educated English-speaking workforce, and close ties with the US. The Good Friday Agreement, a 1998 political settlement between the British and Irish governments and Northern Ireland's major political parties, has provided a stable environment on the island, accelerating a shift of resources toward investment attraction and economic development.

### Growth, Taxation and Education

Apart from a sharp downturn in 2008–09 during the global financial crisis, Ireland's economy has steadily

expanded and saw just under 12% annual growth in 2022. In the post-COVID period, the economy has proven resilient. GDP per capita (2022) is over \$100,000.

A number of policies have supported this growth trend, particularly in taxation and education. Ireland's attractive 12.5% corporate tax rate has been one of several factors in attracting foreign direct investment (FDI), which under agreements reached in the OECD and the EU will be harmonized in 2024 to an agreed standard minimum of 15% for large companies. While tax policy has played an important role in Ireland's ability to attract foreign investment, Ireland's primary competitive advantage comes from its deep talent base—a factor that is expected to counterbalance the planned global harmonization of corporate tax rates. With 33% of its population under the age of 25, Ireland is home to the youngest and most highly educated workforce in Europe. The OECD ranks Ireland's workforce as the most productive within its membership.

### Technology Clusters

Foreign investment was initially drawn to Ireland by its low costs and favorable regulatory environment, offering a strong manufacturing base for the European market. While manufacturing remains a core focus, the business model has since then moved into technology and services, with universities playing a growing role. Technology and investment in Ireland cluster in four cities: Dublin, Cork, Galway, and Limerick. The fDi Intelligence 2023 European Cities and Regions of the Future 2024 index ranks Dublin in the top three major cities in Europe for foreign direct investment, after only London and Amsterdam. The same index ranks Cork, which supports a major cluster of tech, cybersecurity and life science companies, as number two for economic potential among the top Small European Cities. Limerick ranks number two among Micro European Cities overall and Galway, with a strong focus on medtech, ranks number three.

### Science and Innovation

Ireland has invested in its science infrastructure, linked to economic goals:

- Six National RD&I Institutes provide specialized support to enterprises, with a focus on basic research.

- Science Foundation Ireland's 16 research centers partner with industry and academia to support collaborative research.
- The Enterprise Ireland and IDA Ireland joint Technology Centre Programme operates nine technology centers that support companies through market-focused R&D.
- Sixteen centers of the Enterprise Ireland Technology Gateway Network advance targeted R&D aligned with industry needs.

## Startup Ecosystem

Though smaller scale than other leading startup ecosystems, Dublin places number five in Startup Genome's Top 100 Emerging Ecosystems 2023 ranking. The compounding effect of the presence of large multinationals supports innovation, as many employees who leave multinational companies either join local companies or launch startups. The Bay Area's Plug and Play accelerator plans to add Ireland as its next global site. Y Combinator has invested in Irish or dual-based companies, including Stripe.

## Digital Policies

Ireland's growth has been built on manufacturing as opposed to R&D, though that pattern is changing. Government investment in R&D, which amounted to less than €250 million in 2000, now approaches €1 billion. The country's enterprise research, development and innovation base has grown from 800 active R&D firms thirty years ago to 1,800 R&D-active enterprises today. Still, a gap persists between the innovation performance of enterprises in Ireland and other advanced economies, and between the performance of MNCs in Ireland and local firms.

Digitalization is a priority. The government launched its national strategy—Harnessing Digital: The Digital Ireland Framework—in February 2022, followed by the creation of a "Grow Digital" Fund (formally known as the Digital Transition Fund) in June 2022. AI and cybersecurity are key areas of focus. The digital strategies are finding success. The European Commission's Digital Economy and Society Index (DESI) 2023 shows Ireland holding a leading position

in the EU on several enterprise, skills, and connectivity indicators and performing above the European average in measures such as the share of residents with basic digital skills, the share of SMEs with at least a basic level of digital literacy, and the share of Gigabit-network-covered businesses and households.

## Research Opportunities

Ireland offers a distinctive window for R&D. The US-Ireland Research & Development Partnership connects the United States, Ireland, and Northern Ireland through research, melding science and diplomacy. A related window comes through Science Foundation Ireland's SFI Industry RD&I Fellowship program. To date, SFI has had 300 engagements on the West Coast with 154 partner organizations. While university research is core, 45% of SFI's West Coast projects are non-academic.

## All Island Economy

An "All-Island" economy is developing that integrates and leverages capacities on both sides of the Ireland-Northern Ireland border. That economy is supported by the Good Friday Agreement, reinforcing its peace dividend and supporting growth in the north and south. Since its signing in 1998, cross-border trade in goods more than tripled to €10.5 billion in 2022. From an external perspective, the island can be seen as a single market and business ecosystem, with all-island employment and supply chains.

## Conclusion

Ireland and the Bay Area are deeply connected through immigration, history, and a shared cultural heritage which facilitates communication and the movement of people. Civic and university ties deepen the foundation.

Ireland has enjoyed economic success that belies its small size, serving as the European headquarters for a wide range of Bay Area companies in technology and life sciences. Its dynamism builds on competitive tax policies and a business-friendly environment, but most importantly on Ireland's sustained commitment to education and the development of talent. Those strengths continue to attract investment from the

Bay Area, which has an outsized presence in the Irish economy.

While Ireland's relationship with the Bay Area is well-established, it continues to present opportunities:

- Generous windows are available to support bilateral R&D in both industry and academia. Aggressive outreach to potential partners, particularly in industry, can help expand their reach.
- While technology companies are well-represented as investors in Ireland, other sectors with significant potential for growth include biotech, medical technology, fintech, and the green economy.
- There is room for deeper engagement between Ireland and the Bay Area university, science, technology, and investor community. Ireland's recently announced placement of a Talent and Innovation Attaché in San Francisco offers an opportunity to expand those ties.
- The all-island economy offers opportunities to leverage resources in both Northern Ireland and Ireland, drawing on human resources and industry depth on both sides of the border—in cybersecurity, for example—and strengthening access to both the EU and UK markets.
- Growing business investment and strong flows of both tourist and business travel present a clear opportunity to expand direct air service between the Bay Area and Ireland.
- To deepen the talent connection with the US and the Bay Area, the duration of Ireland's visa program for foreign graduates of Irish universities in priority fields could be lengthened.
- With strong and diverse relationships in place, there is a case for considering the activation of an Irish business association or chamber to connect new and existing business networks. This entity would link Irish business leaders and companies with a local presence, as well as US companies with interests in Ireland and Europe. While this initiative could be confined to the Bay Area, a state-level focus may also be useful, building on preparatory work that has already taken place.
- With its strong US ties, English-speaking culture and business-friendly policies, Ireland is also well positioned as a business gateway to Europe and a bridge to the European Union in fields such as venture capital and digital regulation.







## Introduction

As the Bay Area's trade and investment with Europe grows, Ireland occupies a unique position as a platform and technology bridge between the US and Europe. It has successfully combined targeted economic strategies with talent and innovation, creating a highly competitive European base for Bay Area and other US companies. The Bay Area's relationship with Ireland reflects a mutually beneficial economic alignment but also deep historical roots, with 2023 marking the 90th anniversary of Ireland's diplomatic presence in San Francisco. Through its large Irish community, active engagement by the Irish Government, and strong economic and cultural linkages, the San Francisco Bay Area serves as a key connector between Ireland and the United States.

## The Irish Community in the Bay Area

The Irish presence is deep-rooted and reflects the history of Irish immigration, where together with New York, Boston, and Chicago, San Francisco was a major destination.

Boosted by the Gold Rush, San Francisco's Irish population grew to 4,200 by 1852,<sup>1</sup> and 10–20% of miners in the gold camps were reportedly Irish.<sup>2</sup> Emigration spurred by the Potato Famine brought San Francisco's Irish population to 30,000 by 1880, constituting a third of the city's population.<sup>3</sup>

Irish immigrants and their descendants played prominent roles in government and in civic life over generations. Irish Associations proliferated, laying the base for future political power and over time helping to financially underwrite the Republican movement back in Ireland.<sup>4</sup> General Bennet Riley, the military and civilian governor of the territory of California, was responsible for the drafting of the state's constitution in 1849; John Geary became the first Mayor of San Francisco in 1850; and Frank McCoppin, born in County Longford, became Mayor of San Francisco and the first Irish-born Mayor of a major US city in 1867.<sup>5</sup>

The Irish rose to prominence in business as well. Samuel Brannan, who is believed to be the first person to become a millionaire in the Gold Rush, printed San Francisco's first newspaper in 1846 and later owned as much as 20% of the city's land.<sup>6</sup> John Sullivan, born in Limerick, founded Hibernia Savings and Loan,<sup>7</sup> which served the Irish community much as the Bank of Italy (later the Bank of America) served Italian Americans. The "Silver Kings" James Graham Fair, born in Ireland, and James Flood, a son of Irish immigrants, made fortunes in the Comstock Lode;<sup>8</sup> Fair purchased the land atop San Francisco's Nob Hill that later became the site of the Fairmont Hotel, built by his daughters in honor of their father and named by combining the Fair surname with "mont" to describe its hilltop location.<sup>9</sup> James Phelan (the father of future Mayor of San Francisco and US Senator James Phelan) established the First National Bank of San Francisco; John Daly, a son of immigrants,



subdivided his land to create Daly City;<sup>10</sup> Daniel O'Connell, born in County Clare, was a co-organizer of the Bohemian Club in 1872;<sup>11</sup>

The Irish also played a prominent role in developing the Bay Area's infrastructure. In 1847 Jasper O'Farrell, a civil engineer and surveyor born in County Wexford, drew the original plan for the city's urban grid with Market Street as its major thoroughfare.<sup>12</sup> City Engineer Michael O'Shaughnessy, born in County Limerick, developed the Hetch Hetchy water system that continues to provide water for San Francisco and the Peninsula.<sup>13</sup>

Numerous traditions that began in the 1800s continue to the present day and contribute significantly to San Francisco's cultural life. The first St. Patrick's Day Parade was held in the early 1850s.<sup>14</sup> Over time, the St. Patrick's Day Parade & Festival, organized by the United Irish Societies of San Francisco, has become the largest St. Patrick's Day event west of the Mississippi, attracting an attendance of more than 100,000 people.<sup>15</sup>

Reflecting the Bay Area's deep historical and family ties with Ireland, five cities in the region have established sister city counterparts: San Francisco with Cork, San Jose with Dublin, Menlo Park with Galway, Los Gatos with Listowel, County Kerry, and Dublin (California) with Bray, County Wicklow. A newly formed relationship is being developed between Palo Alto and Dún Laoghaire-Rathdown. San Francisco mayors have regularly traveled to Cork, while Lord Mayors of Cork visit San Francisco regularly with business and university delegations, often coinciding with St. Patrick's Day.



In western San Francisco's Parkside neighborhood, the **United Irish Cultural Center** has operated for fifty years as a home for the Irish community, connecting

organizations representing Ireland's counties, hosting events, and promoting Irish culture in the city. Its annual calendar includes dinners, cultural programs, sporting events, festivals, Irish youth summer camps, and scholarship programs.<sup>16</sup> Its 2025 Project aims to replace the Center's 20,000 square foot 1970s era building with a dramatic new six-floor, 100,000 square foot structure at the corner of 45th Avenue and Wawona Street. With a capital campaign underway, the proposed facility will house a museum, bar and restaurant, library and genealogy center, gym and sports center, dance and music studios, conference rooms and event space providing expanded venues for cultural and community events and programming.<sup>17</sup>

Also providing a home away from home for Irish immigrants, the non-profit, volunteer-managed **Irish Immigration Pastoral Center (IIPC)** provides culturally-attuned advice, information, advocacy, referral, and practical assistance for new arrivals.<sup>18</sup>

At the business and professional community level, the **Irish Network Bay Area** connects Irish and Irish-American executives and working professionals, as well as friends of Ireland. Most have worked for a Bay Area company in Ireland, often having been promoted in Ireland and brought to headquarters. Others have come to the region through universities, but the primary link is to career paths, with concentrations in tech, life sciences, and finance.<sup>19</sup>

The **Irish Technology Leadership Group (ITLG)** serves as a network for business leaders in technology. Founder John Hartnett came to the Bay Area in 2007 to work with Palm Inc. and Apple. Seeing more focus in the local community on Ireland's past than its future, Hartnett founded a business network that has since grown to more than 20,000. While part of its focus is on events hosting speakers from Ireland, much of its orientation is toward youth and women. Through the Young Innovators program, young people aged 14–16 are brought to the Bay Area from Ireland every year for an early exposure to technology. The program started in 2015 when more than 1,000 young people gathered at Shannon Airport for a pitch competition, with the winning team invited to spend a week in Silicon Valley. Approximately 50 young technologists have visited the Valley since then. Through its Women's Leadership Group, ITLG organizes

workshops on themes such as how to become a company director. An annual Silicon Valley Global Awards dinner held at Stanford recognizes the contributions of executives of Irish-origin. And each year, ITLG's Silicon Valley 50 program highlights Irish or Irish American executives who are making a significant impact on technology in Silicon Valley in their respective fields.<sup>20</sup>

## University Connections

University connections add to the relationship. The **UC Berkeley Irish Studies Program**, housed in the Institute of European Studies, is supported by the Government of Ireland's Emigrant Support Programme in partnership with the Irish Consulate General in San Francisco. The Irish Studies Program focuses on scientific cooperation with Irish universities and research centers; cultural programs with writers, scholars, and artists; programs with Irish diplomats and politicians; and business and technology exchanges.<sup>21</sup> Berkeley's campus affiliated **SkyDeck** accelerator accepts Irish entrepreneurs through a collaborative program with University College Dublin.<sup>22</sup>

The **Stanford Byers Center for Biodesign**, with a focus on health technology innovation, supports 10-month experiential fellowships for innovators in the medical devices, diagnostics, digital health, drug delivery and biotech fields, targeting novel technologies and their delivery through patient care, startups and corporations. The Center works with a select number of global affiliates that are considered to have the highest quality biodesign programs. **BioInnovate Ireland** opened in

Ireland in 2011 after its program director Mark Bruzzi trained at Stanford.<sup>23</sup> An independent program that offers fellowships and industry training, BioInnovate uses the Stanford model to develop multidisciplinary innovators. Based at the University of Galway, it builds on the city's status as a medtech hub. Eighty-one alumni are now spread across the healthcare sector, and to date 22 companies spun out from BioInnovate have raised over €29 million in funding.<sup>24</sup> Fellows from BioInnovate and Stanford Biodesign collaborate throughout the academic year.

From 1996 until her death in 2020, Dublin-born poet Eavan Boland taught creative writing and Irish literature at the **Stanford School of Humanities and Sciences**. One of the foremost female voices in Irish literature, Boland was a fierce advocate for young writers and a champion of interdisciplinary education, guiding the Creative Writing Program to become one of Stanford's most vibrant cultural centers.<sup>25</sup>

The **University of California, Davis** and University College Dublin have benefited since 2014 from a strategic partnership focused on agriculture, food, and health.<sup>26</sup> In 2021 the universities established an International Innovator Fellowship Program at the UC Davis **Innovation Institute for Food and Health** to enable graduate students from Dublin to work in the UC Davis and San Francisco Bay Area innovation ecosystem through immersive PhD residencies. The program includes a six-month residency with the opportunity to conduct research in a UC Davis laboratory and a three-month residency in a San Francisco Bay Area venture capital firm.<sup>27</sup>









## The Bridge to California

“Ireland serves as a crucial bridge between the US and Europe, thanks to our pro enterprise environment, an unwavering commitment to the EU, access to a strong talent pool, and a strong RD&I ecosystem. Our strong, historic ties with the Bay Area create a competitive base for California companies considering international growth, and our track record of fostering successful partnerships drives mutual growth and development for both the Bay Area and Ireland.”

Michael Lohan, CEO, IDA Ireland

“The Bay Area and Ireland share a bond built on innovation, which has forged a dynamic business partnership. Irish companies leverage the Bay Area’s ecosystem to scale globally, while the Bay Area benefits from Ireland’s highly skilled workforce and pro-business environment. This transatlantic partnership fosters innovation on both sides, driving economic growth and creating a bridge between the leading tech hubs of the US and Europe.”

Killian McMahon, Head of West Coast,  
Enterprise Ireland

## The Government Footprint: Team Ireland

Ireland’s consulate in San Francisco, one of the first to be established in the United States together with those in New York, Boston and Chicago, opened in 1933<sup>1</sup> and marked the 90th anniversary of Ireland’s diplomatic presence in the Bay Area in 2023. In 2022, the Irish government’s formerly dispersed footprint in the Bay Area was consolidated in San Francisco at **Ireland House**,<sup>2</sup> which integrates government services while serving as a platform for visiting government officials and business leaders. Agencies resident in Ireland House include the Consulate General, Enterprise Ireland, and Tourism Ireland. The West Coast office of the European Union, opened in 2022, is also located within Ireland House. Each of Ireland’s government agencies in the region has a distinct role.

**Enterprise Ireland** is the Irish government organization that supports the development and growth of Irish enterprises in world markets, investing in innovative companies through all stages of their growth and supporting Irish companies as they scale internationally. Its team acts as a conduit to Irish innovation, products, and services, making introductions to and forming partnerships with businesses. The agency’s Funding

& Scaling Department, in collaboration with the San Francisco office, connects Bay Area investors with the latest Irish technology and innovation. One of six offices in the US and forty globally, the San Francisco office celebrated its 25th anniversary in the Bay Area in 2023. The agency as a whole supports more than 5,500 client companies, approximately 1,000 of which export to the US, accounting for more than €5 billion in exports in 2022. On average, 15–20 Enterprise Ireland client companies establish a new presence on the US West Coast each year.

**IDA Ireland** works to attract foreign direct investment (FDI) to Ireland, with a major focus on the technology, life sciences, engineering, and finance sectors. It also works with existing investors in Ireland to support their operations. With a global network of offices, its Bay Area office, located in Mountain View, is its second largest, reflecting the region's importance for inbound investment. IDA Senior Vice President for the West Coast Ivan Houlihan notes, "With a 40-plus-year track record in the Bay Area, we have built strong, enduring relationships with California companies."

**Tourism Ireland** is responsible for marketing the island of Ireland overseas as a leading holiday destination, with a mandate to increase tourism to the island of Ireland and to help Northern Ireland realize its tourism potential. Overseas tourism to the island of Ireland contributed approximately €6 billion to the economy in 2023. The United States is the number one source market in terms of revenue and with offices in New York and San Francisco, Tourism Ireland undertakes an extensive and targeted program of marketing activity.<sup>3</sup> The opening of its office in San Francisco in May 2022 indicates the importance of the Bay Area and U.S. West Coast to Ireland's tourism development.

Ireland's official presence will expand in 2024 with the placement of its first **Talent and Innovation Attaché** in San Francisco, the initial placement of six attachés that will be located in the United States. The attachés are part of Global Citizens 2030, the new Talent and Innovation Strategy launched in January 2024, which aims to strengthen Ireland's talent and innovation footprint globally, with the San Francisco-based office leveraging strategic relationships and partnerships on the West Coast. Focused on confirming Ireland's

place as a thought leader in education, research, and innovation and science policy, and implemented under the Team Ireland approach, the program falls under the Department of Further and Higher Education, Research, Innovation and Science, working with the Department of Foreign Affairs.<sup>4</sup>

Ireland House has been a destination for government leaders since its opening: ministerial visitors have included Michael McGrath, (former Minister for Finance, previously Minister for Public Expenditure and Reform); Catherine Martin (Minister for Tourism, Culture, Arts, Gaeltacht, Sport and Media), Simon Coveney (Minister for Enterprise, Trade and Employment); and Simon Harris (Minister for Further and Higher Education, Research, Innovation and Science and Minister for Justice at the time of his visit and now Ireland's Taoiseach (Prime Minister)).

## Tourism

Tourism is another link between the Bay Area and Ireland where the bridge is particularly strong. Ireland is a major destination for Americans, with the US being the top source of visitor revenue (€1.6 billion in 2019). Since 2015, the number of US visitors to the island has grown 44.2%. Twenty-six percent of US visitors to Ireland in 2019 originated on the West Coast, including 217,000 from California. In the same year, 57,000 Irish visitors came to California.

Visitors coming from the US West Coast contribute more to the economy than travelers coming from other parts of the US, as they tend to stay longer in Ireland (62% stay more than six nights) and spend more. Because they stay longer, they are more likely to visit not just Dublin but other parts of the island, including Northern Ireland. They are also more likely to be interested in luxury travel. Reflecting its importance to the Irish economy, the tourism sector supports 300,000 jobs across the island.

Ireland's national carrier Aer Lingus has provided direct service between San Francisco and Dublin since 2014. With the large flow of business travelers that moves continuously between the headquarters of Bay Area companies and their facilities in Ireland, along with travelers on holiday, it is likely that the San Francisco-Ireland corridor could support increased air services.<sup>5</sup>



## Irish Investment in the US and California

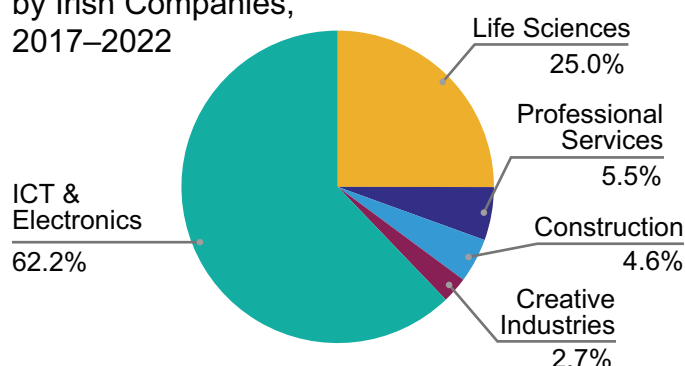
Investment between Ireland and the United States is a two-way street. In 2023, 500 Irish companies had operations in the United States, employing 98,000 people at 2,269 locations across all fifty states. Ireland is the ninth-largest source of foreign direct investment in the United States.<sup>6</sup>

California mirrors this, only more intensely. In 2022, Ireland was the seventh-largest overseas investor in California, ahead of China, with 480 establishments supporting an estimated 25,464 jobs and \$3 billion in wages. Ireland is also the seventh-largest overseas employer in the Bay Area, with 163 companies supporting 9,337 jobs and \$1.16 billion in wages. Investment focuses primarily on manufacturing.<sup>7</sup>

### FDI: Ireland to the Bay Area

Between 2017 and 2022, Irish-headquartered companies made eleven investment deals in the Bay Area, totaling \$208.1 million. The leading destinations are San Francisco County (\$145.6 million), followed by San Mateo County (\$52.1 million), and Santa Clara County (\$10.4 million). Sixty-two percent of the capital invested is in ICT and electronics, with life sciences accounting for 25%.

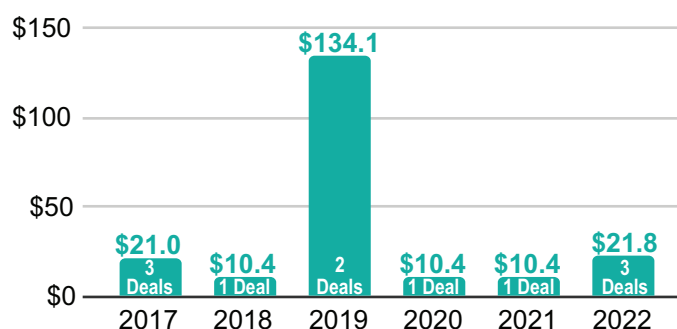
### Sectors in the Bay Area Receiving Investment by Irish Companies, 2017–2022



Source: fDi Markets  
Visualization: Bay Area Council Economic Institute

In the same period, the Bay Area also received notable investments from Irish companies in the construction management and AI sectors.

### Investments in the Bay Area Made by Irish Companies, 2017–2022 (\$ billions)



Source: fDi Markets  
Visualization: Bay Area Council Economic Institute

**Linesight**, an Ireland-based global project management company serving the construction industry, opened its new San Francisco office in November 2017 with a ceremony presided over by An Taoiseach (Prime Minister) Leo Varadkar.<sup>8</sup> With 25 offices around the world including seven in the US, Linesight provides project management, supply chain management, cost management, procurement, and other services. Regional clients include Sacramento-based data center company RagingWire, where Linesight provided cost management support for its 160,000 square foot, 3.3 acre data center in Santa Clara.<sup>9</sup>

**Spearline**, an Irish telecommunications company, was founded in 2003 to provide testing and diagnosis of phone lines and telecommunications services for Ireland's domestic market. That expanded in 2011 with a contract from a US multinational, which led to Spearline signing a second Bay Area multinational client. Its portfolio of global clients has subsequently expanded to over 200 companies with a high concentration in the Bay Area, supported by 200 employees who focus on worldwide testing for companies' in-country toll-free numbers to assure quality and reliability.

Spearline co-founder Kevin Buckley initially came to Palo Alto in 2022 to open a Bay Area office but was soon approached by Cyara, a larger Bay Area company, which proposed an acquisition. The deal closed in March 2023. Cyara's AI-based platform addresses customer experience by enabling enterprises to deliver flawless experiences across voice, video, digital, and chatbot interactions. Buckley says, "The Bay Area, with

its multinationals and large Irish presence, has been a huge and fundamental part of our business. The FDI link between the US and Ireland is what brought us to the Bay Area, which started with our work for multinational clients in Ireland and grew from there.” The company now counts Google, Airbnb, and Salesforce among its leading clients.<sup>10</sup>

Investment in the Bay Area also comes through founders and entrepreneurs who have migrated from Ireland to the region to grow their companies, as illustrated in the following examples.

**Channel Mechanics**, a company “born in the cloud”, is the brainchild of three university students. In the past, most B2B buyers bought products directly from manufacturers, each with its own go-to-market strategy. Today, however, most sales are made through resellers, a transition that typically occurs as companies scale. Channel Mechanics developed a cloud-based platform that large numbers of companies can use to manage their resale partner programs, which can number in the thousands.

Launched at a University of Galway incubator in 2012 and still headquartered in Galway, the company initially provided consulting services, but soon developed its own products with direct delivery to clients. Most of those clients are on the West Coast, primarily in the Bay Area. Starting with Cisco in 2014, the list today includes Juniper Networks, Extreme Networks, Sentinel One, Barracuda Networks, Broadcom, and FireEye. In March 2023, the company organized the Global Channel Leaders Forum in Silicon Valley, attended by fifty partners. CEO Kenneth Fox, a frequent visitor to the region, says “Silicon Valley is a place of early adopters, which fits our model. It’s welcoming, there’s a brilliant innovation culture, and there’s no better place to try new things.” Channel Mechanics has seen 50%+ year-on-year growth for the last five years, and was acquired by a US company (Allbound) in March 2024.<sup>11</sup>

**Intercom**, a US company founded in 2011 by Irish entrepreneurs Eoghan McCabe, Des Traynor, Ciaran Lee and David Barrett,<sup>12</sup> helps companies interact with customers on their websites using automation tools and AI-powered chatbots. The idea was launched in 2011 in a café in Dublin, where the founders discussed how to improve online customer relations technology that they

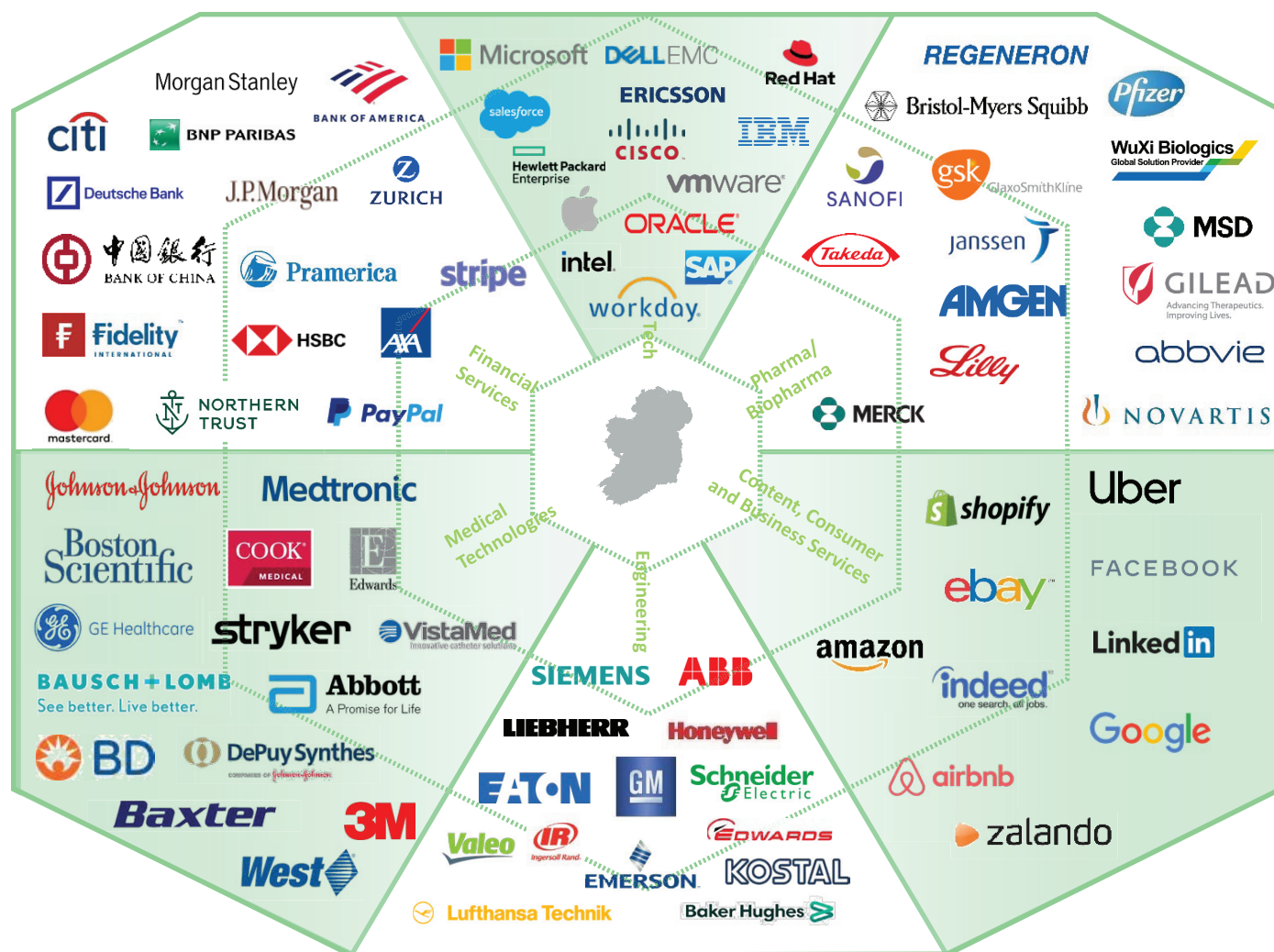
believed was impersonal, robotic, and user unfriendly. After an initial product using a conversational (speech bubble) format was created and user response was positive, McCabe moved to San Francisco and began hiring, growing the number of employees to eight (including the founders) and then seeing that number grow to 650 in under eight years.<sup>13</sup> Today the company’s smiley customer service bots are used by 25,000 companies globally including Atlassian, Amazon and Lyft, processing interactions with 600 million monthly active users and more than 500 million messages per month. Backed by \$239 million in funding from Kleiner Perkins, GV, Index and others,<sup>14</sup> and with headquarters in San Francisco and offices in Chicago, London, Sydney and Dublin, Intercom now has more than 700 employees.<sup>15</sup>

## US and Bay Area Investment in Ireland

Considering its small size and population—only 5 million—Ireland stands out as a destination for investment from the United States. Currently, 970 US companies operate in Ireland, employing 210,000 people directly and another 168,000 indirectly. In 2023, US multinational companies announced 156 new investments in the country, accounting for 63% of all new investments by multinational corporations.<sup>16</sup> In 2021, US affiliates in Ireland posted record levels of income (\$80 billion), followed by higher levels in 2022 (an estimated \$90 billion). In a recent survey conducted by the American Chamber of Commerce Ireland, 94% of the companies responding had favorable views of Ireland as an investment location and 61% indicated that they planned to expand employment there in the next 12 months.<sup>17</sup>

Part of the explanation lies in Ireland’s technically trained workforce, which has enabled investing companies from overseas to effectively scale their operations, facilitating ongoing expansions.

In all, more than 1,800 multinationals have operations in Ireland, predominantly clustered in six sectors: technology; financial services; pharma/biopharma; content, consumer and business services; engineering; and medical technologies.<sup>18</sup>



Source: IDA Ireland

Half of these foreign-invested companies have been present in Ireland for ten years or more, and one-third have been there for 20 years or more.<sup>19</sup> Bay Area companies play a particularly strong role. Five of the ten largest foreign direct investing companies in Ireland (LinkedIn, Meta, Intel, Apple, Alphabet/Google) are Bay Area headquartered.<sup>20</sup>

### SPOTLIGHT

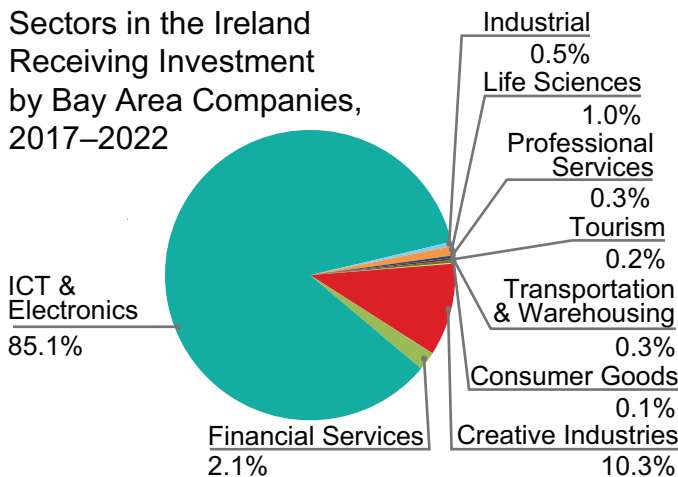
## Bay Area Companies with Major Operations in Ireland

|                   |                            |                 |             |
|-------------------|----------------------------|-----------------|-------------|
| Airbnb            | Docusign                   | Indeed          | Stripe      |
| Alphabet/Google   | Dropbox                    | Intel           | Twilio      |
| Apple             | eBay                       | LinkedIn        | Uber        |
| Applied Materials | Fidelity                   | Meta (Facebook) | Udemy       |
| Autodesk          | Fitbit                     | Oracle          | VMWare      |
| BioMarin          | Gilead                     | PayPal          | Wells Fargo |
| Cadence           | GoFundMe                   | Salesforce      | Workday     |
| Cisco             | Hewlett Packard Enterprise | Slack           | Zendesk     |

## FDI: Bay Area to Ireland

Between 2017 and 2022, Bay Area companies made 161 distinct investment deals in Ireland, totaling \$30.6 billion. More than 85% of that investment is directed toward ICT and electronics, followed by 10.3% attributed to creative industries. While the number of deals has remained stable over the past five years, capital expenditure levels have fluctuated, influenced by major investments such as Intel's.

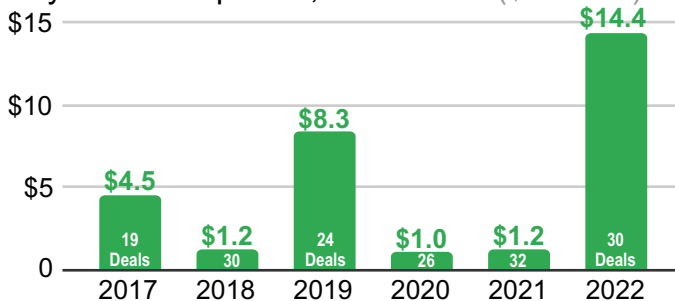
### Sectors in the Ireland Receiving Investment by Bay Area Companies, 2017–2022



Source: fDi Markets

Visualization: Bay Area Council Economic Institute

### Investments in Ireland Made by Bay Area Companies, 2017–2022 (\$ billions)



Source: fDi Markets

Visualization: Bay Area Council Economic Institute

In 2022, Intel committed to investing more than \$13 billion to expand its existing chip manufacturing facility in Ireland, which is the anchor for its European semiconductor ecosystem (on which it plans to spend \$87.8 billion over the next decade with new chip manufacturing sites across Europe).<sup>21</sup>

## Airbnb

Airbnb opened its European headquarters in Dublin in 2014. In the following year, it established a Hospitality Lab in Dublin, incorporating host induction and training with user experience initiatives for Airbnb users across Europe, with future plans to offer a Certification in Hospitality for the company's European community. With a staff of more than 300, Dublin is the company's second-largest office worldwide and home to functions spanning customer experience, finance, HR, training, and new services development.<sup>22</sup>

## Apple

Apple established a presence in Cork in 1980, initially employing 60 people at a single manufacturing facility. Since then the campus has experienced dramatic growth and Cork now serves as the company's operational European headquarters, supporting customers across the continent and beyond and employing more than 6,000 people. In addition to the now-expanded original manufacturing facility and AppleCare, the Cork campus includes operations, logistics, and other teams staffed by employees representing more than 90 nationalities.<sup>23</sup>

## Cadence

With a presence in Ireland since 1997, Cadence has operations in both Cork and Dublin, focused principally on finance, engineering, IT, and R&D. Its Cork R&D Centre of Excellence is home to an engineering team that supports hyperscale computing, 5G communications, and automotive, aerospace, industrial, mobile, and healthcare applications.<sup>24</sup>

## Dropbox

Dropbox established an international headquarters in Dublin in 2013—its first office outside the United States. A key goal was to provide multilingual support for European customers.<sup>25</sup> In 2021 as part of its global "virtual first" working model for staff, Dropbox redesigned its 18,000 square foot Dublin office space (reopened in 2022 as Dropbox Dublin Studio) to accommodate team-based activities, meetings, and community spaces.<sup>26</sup> Laura Ryan, Dublin site lead and Director of international HR at Dropbox said, "Dublin has always been our international HQ and will continue to be so, with a large concentration of employees, so it's been really exciting to design our first purpose-built Dropbox Studio here."<sup>27</sup>

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## SPOTLIGHT

# Autodesk

Seeing a business-friendly environment, talent, and the presence of other tech companies, Autodesk—a global leader in Design & Make technologies for the construction, manufacturing, and entertainment industries—opened its European hub in Ireland in 2018.<sup>a</sup> Amanda Fennell, Director of EMEA Marketing, Autodesk Construction Solutions at Autodesk Dublin, explains that “the talent is impressive. People with language skills and cultural knowledge come to Ireland from across Europe.” The city’s Silicon Docklands neighborhood, where Autodesk and other tech companies are concentrated, provides a “good community.”

The company has offices in most European countries. Its European headquarters in Dublin handles tax, finance, sales, HR, marketing, and elements of customer support and product development, and Autodesk is seeing growth in its European markets across construction, architecture, and engineering, as well as manufacturing, media and entertainment. Asked about any concerns, Fennell particularly points to the housing market, where supply is low and costs are high.

Autodesk is active in workforce development, supporting training in digital skills. It particularly works with the Technological University of Dublin (TU Dublin), a leader in STEM disciplines with 30,000 students. The company helped create the university’s Center of Excellence and provides its software free of charge for students and educators, adding to the university’s digital content offerings. Autodesk is also a sponsor of WorldSkills, a global organization engaging in vocational skills development for young people through competitions, events, and projects, where the company helps train Irish students in skills such as digital construction and digital manufacturing.<sup>b</sup>

a “Autodesk Finds the Location and Talent it Needs to Grow,” IDA Ireland, accessed August 20, 2023, <https://www.idaireland.de/success-stories/autodesk>

b Interview with Amanda Fennell, Director of EMEA Marketing, Autodesk Construction Solutions, and WorldSkills Site Leader for Autodesk Dublin

## SPOTLIGHT

# Gilead Sciences

Gilead manufactures, tests, and packages solid oral dose medicines in Ireland for the treatment of hepatitis, HIV, and cancer, with distribution across the EMEA (Europe, Middle East and Africa) region. Bulk tablets are also produced and shipped for distribution in the United States. Having established an initial presence in 1999 and manufacturing operations in 2006, the company grew its workforce over time to more than 900 employees across four locations in Dublin and Cork. Most are in manufacturing, with Cork serving as the company’s European manufacturing center, while other teams focus on sales, legal affairs and finance, and R&D. A Pediatric Centre of Excellence develops drugs specifically tailored for pediatric patients.

Gilead came to Ireland as its global footprint was growing and it needed the internal capacity for manufacturing in Europe. It also needed a regional distribution center to centrally deal with a myriad of country-level packaging and other requirements. Having established sales operations there already, Gilead was particularly attracted by a talent base where many held degrees (AA, BS and above). There were tax benefits as well, but they weren’t the major driver.

The relationship with government was also good. Senior Vice President for Chemical Development and Manufacturing Operations Ken Kent says, “The government was and is forward-thinking. It has a long-term outlook and has done some impressive things.” Asked about pharma in particular, he points to a training center created by the government specifically for biologics, when it realized that more drugs would be coming from large molecule biologics. The center, since spun off as an independent operation, served as a training center for young technical staff and was seen as a game changer. He also observes that “the government thinks ahead about business needs and, unlike some other places, sees the relationship with industry as a partnership. Our experience has been positive and we’ve continued to invest.”\*

\* Interview with Ken Kent, Senior Vice President, Chemical Development and Manufacturing Operations, Gilead Sciences



## Intel

Intel established its European manufacturing and technology operations in Ireland in 1989 and its Leixlip campus has grown since then to accommodate more than 4,500 employees based on \$32 billion in investment.<sup>28</sup> Intel's Irish activity is centered on manufacturing, foundry services, and back-end production for advanced semiconductors.<sup>29</sup> New technologies are continually being designed and produced in Ireland, and the company's recent \$7 billion FAB 34 construction project at Leixlip is doubling its Ireland manufacturing space and paves the way for production of the Intel 4 processor (at the 7 nanometer level),<sup>30</sup> an expansion that is expected to create 1,600 new jobs.<sup>31</sup>

## Meta

Ireland is the primary international hub for Meta (formerly Facebook), serving customers in the EMEA region. Its headquarters was established in Dublin in 2008,<sup>32</sup> followed later by a data center in Clonee, County Meath, its second data center in Europe. One of the most advanced, efficient and sustainable data centers in the world, the 31,000 square meter Clonee facility was designed to be fully powered by renewable energy, particularly making use of Ireland's abundant wind resources.<sup>33</sup>

## PayPal

PayPal, a global leader in online payment solutions, opened an operations and customer service center in Ireland in 2003 with 25 employees to support the European market. Today it has two sites, in Dublin and Dundalk (County Louth), employing 2,000.<sup>34</sup> Activities at its European Centre of Excellence include business analytics, product design, risk management, information technology, operations and merchant services.<sup>35</sup> Capability is also growing in big data distributed storage and processing, business intelligence, and natural language processing.<sup>36</sup>

## Salesforce

Salesforce arrived in Ireland in 2000, opening its first international operation outside the United States and making Ireland a center for its European operations. Seeing Ireland as "a world-leading technology hub," the company has continued to grow its operations.



The newly opened (May 2023) Salesforce Tower in Dublin is the company's largest office in Europe, serving as a talent hub for its European operations and an onboarding center for new employees from across the region. More than 2,500 employees from 28 different nationalities work there in functions spanning tech support, customer support, IT, and software engineering.

In the community, the company has given over \$6.5 million in local grants, contributed more than 300,000 volunteer hours to Dublin-based organizations, and provided its products at no cost to more than 600 non-profit and educational institutions. It also helped pilot Waterford IT, Ireland's first apprenticeship program for the tech sector. Clients include prominent Irish companies such as the Kerry Group and Waystone.<sup>37</sup>

## Square

Before the launch of its services for customers in Ireland (which rolled out in 2021), Square established an operations center in Dublin in 2017 as a European headquarters and EMEA market support hub for customer functions and compliance.<sup>38</sup> Six months after the 2021 services launch, the company announced the creation of 30 new jobs, bringing its Dublin employee count to 150, including roles in software engineering, product management, sales, marketing, legal, finance and accounting.<sup>39</sup>

## Twilio

Cloud communications platform Twilio established its EMEA headquarters in Ireland in 2015 with the creation of a multilingual European sales team.<sup>40</sup>

## Uber

Uber launched its services in Ireland in 2014 and set up its first Centre of Excellence outside the US in

Limerick in 2015. Starting with 150 employees, its staff has grown to more than 400. Operations at the Centre include both the company's Irish management team and its customer support hub for the UK and Ireland, and cover approximately fifty business lines, including safety, compliance, and account management.

At the community level, the Center of Excellence sponsors Enactus UL, a program that provides training in project development, social entrepreneurship, and leadership for University of Limerick students doing volunteer work on social issues. The company provides Enactus with financial support, presentations in public schools, and assistance with CV writing from its recruitment team. It also works through its Uber in the Community (UITC) program, where staff members volunteer locally with food drives, hospice volunteering, and charity assistance.<sup>41</sup>

## Zendesk

Dublin serves as one of Zendesk's major software development hubs, with 480 people on staff, including 150 engineers. From an office of two engineers in 2012, its numbers grew with the 2013 launch in Dublin of Zendesk's first European Data Centre (an activity that shifted later to AWS and one of its seven data centers in Ireland.)<sup>42</sup> Dublin serves as the company's EMEA headquarters and as a regional hub for product development. Besides sales and operational functions, the Dublin team spearheads mobile products and Zendesk Talk, a core component of the company's suite of products designed to help large companies meet changing consumer expectations.

The company moved to expanded offices in 2018, anticipating additional hiring in fields spanning engineering, infrastructure, product management and Android/iOS development, as well as non-technical support functions such as sales, customer advocacy, finance, and legal affairs.<sup>43</sup> Zendesk sees Ireland's multinational workforce as an advantage. According to CEO and Founder Mikkel Svane, "Ireland has really become a place where a lot of Europeans want to work, and we've been very lucky in attracting great talent from all over Europe that are now working in Dublin."<sup>44</sup>

## SPOTLIGHT

### Oracle

Oracle began operating in Ireland more than thirty years ago, when its first major client was the country's Electricity Supply Board, ESB Group. Its footprint has grown, and the company now has offices in Dublin and Galway that together employ more than 1,000 people. Dublin serves as the company's EMEA headquarters with roles ranging from sales, tax and finance functions, and engineering (software development) through to R&D. Senior corporate roles, such as the company's Chief Accounting Officer, are also based in Dublin.

Oracle Country Leader John Donnelly describes Ireland as a business-friendly environment that extends to skills and talent: "Any company establishing itself in Ireland focuses on access to talent." Executive Vice President for R&D Craig Stephen adds that "people there are as talented as anywhere on earth." One benefit the company finds in Ireland is the "concentration effect" of having a large number of multinational companies in the same jurisdiction, which helps to support a large pool of talent.

The Irish market itself is significant, with the company supporting key national infrastructure including water and electrical utilities, as well as other public sector organizations across central and local government and a significant presence in healthcare. Large private sector clients span banks to retail. Asked about the challenges of doing business in Ireland, executives point to access to housing, particularly in Dublin, and access to power for operating data centers.

Musing on the dynamics of the relationship between the two countries, Stephen points to the unique ties that bridge Ireland and the Bay Area, starting with the region's large diaspora. People continuously move between the two in a "huge conveyor belt" enabled by a social connectivity that makes movement easy in both directions.

Sources: Interviews with John Donnelly, Country Leader, Oracle Ireland; Craig Stephen, Executive Vice President, R&D, Oracle; Luke Kowalski, Senior Vice President Corporate Affairs & Architecture, Oracle; and Elliott Perkins, Senior Director, Government Affairs (Northern Europe), Oracle.

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## SPOTLIGHT

# Stripe

In many ways, Stripe embodies the Ireland-Bay Area relationship. That started with founders Patrick and John Collison. At age 16, Patrick Collison was the recipient of Ireland's BT Young Scientist of the Year Award, an annual competition for Irish students, while John received the highest-ever score by a student for Ireland's Leaving Certificate, the final exam for Ireland's secondary school system. Patrick left secondary school early to attend MIT and in 2007, while still a freshman, he co-founded Auctomatic and was enrolled in Y Combinator. In 2008, less than a year after incorporating, Auctomatic was bought for \$5 million by Live Current Media, where Patrick became Director of Product Engineering. John enrolled at Harvard in 2009 and in 2010 Patrick and John started Stripe together, with John becoming President and Patrick CEO.<sup>a</sup>

The issue they saw was how to simplify payments on the web. From Stripe's first product—code for developers to enable credit card payments on their sites—the company's suite of services has grown to include billing, tax, and other fintech tools.<sup>b</sup>

Most recently, the company has partnered with OpenAI to commercialize its generative AI technology using Stripe's suite of products to enable a global payments system for multiple OpenAI products and to automate financial operations such as recurring billing and tax compliance. (Stripe powers 75% of the Forbes Cloud 100 and many of the largest internet companies, from Amazon to Zoom.) Stripe is also incorporating OpenAI's GPT-4 natural language technology into its own products to enhance user experience by enabling natural language queries for quickly extracting specific pieces of information.<sup>c</sup>

Founded in San Francisco, Stripe received its first funding from Y Combinator, which was followed by funding from PayPal founder Peter Thiel, who was introduced to the company at a Y Combinator dinner, and from Sequoia Capital, Andreessen Horowitz, and SV Angel. A strategic partnership and investment from Visa followed in 2015.<sup>d</sup> Asked about the company's

Bay Area roots, Head of Public Policy for the Americas Amy Roberti says "They saw that to solve the problem they needed to come to the US and to Silicon Valley in particular. It's where the ideas, the investment, and the engineers are, and a place with passionate people. It was true then and it's true now."

The Collisons also saw an opportunity to build a company in both Silicon Valley and in Ireland, which offered a supportive European environment with deep engineering talent. Now with dual bases, Stripe's legal headquarters is in San Francisco, while it has a significant engineering hub in Dublin, where the company's head of global sales is also based. Stripe employs around 7,000 people across 23 countries. Approximately 30% of Stripe employees are remote. Reflecting on the company's dual identity, Roberti says "Stripe's commitment to Ireland is unwavering and its commitment to the Bay Area is the same."<sup>e</sup>

Valued at \$70 billion in July 2024, Stripe processed more than \$1 trillion in payments in 2023. Millions of companies—from the world's largest enterprises to startups—now use Stripe to accept payments, grow their revenue, and accelerate new business opportunities.<sup>f</sup>

a "The Collison Brothers and Story Behind the Founding of Stripe," Startup Grind, <https://www.startupgrind.com/blog/the-collison-brothers-and-story-behind-the-founding-of-stripe/>

b Phoebe Liu, "Stripe Raises \$6.5 Billion at \$50 Billion Valuation, Nearly Half its Peak," Forbes, March 15, 2023, <https://www.forbes.com/sites/phoebeliu/2023/03/15/stripe-raises-65-billion-at-50-billion-valuation-nearly-half-its-peak/?sh=424cc19b7963>

c "Stripe and OpenAI Collaborate to Monetize OpenAI's Flagship Products and Enhance Stripe with GPT-4," Stripe press release, March 15, 2023, <https://stripe.com/newsroom/news/stripe-and-openai>

d "The Collison Brothers and Story Behind the Founding of Stripe," Startup Grind, <https://www.startupgrind.com/blog/the-collison-brothers-and-story-behind-the-founding-of-stripe/>

e Interview with Amy Roberti, Head of Public Policy for the Americas and Global Tax Policy, Stripe

f Information provided by Niamh O'Donnellan, Public Policy Ireland, Stripe





## A Growing Knowledge Economy

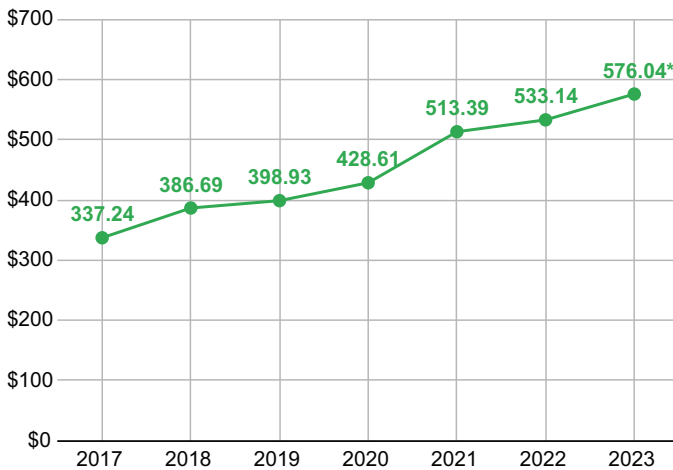
With a population of only 5 million,<sup>1</sup> in recent decades Ireland has seen its economy transition in a short time from an agricultural base at the turn of the 20th century to become today one of Europe's wealthiest economies and a dynamic European technology center.

- The IMD World Competitiveness Ranking 2023 places Ireland at #2 (behind #1 Denmark) out of 64 economies in the world that it analyzes in four categories: economic performance (where Ireland placed first); government efficiency and business efficiency (with Ireland placing third in both categories); and infrastructure (where Ireland placed 19th). Ireland's strong economic performance supported its jump to #2 in the 2023 overall rankings from its previous 11th place spot in 2022.<sup>2</sup>
- The INSEAD 2023 Global Talent Competitiveness Index ranks Ireland #12 out of 134 economies it assesses based on their ability to attract, grow, retain, and enable talent.<sup>3</sup>
- WIPO's Global Innovation Index 2023 ranks Ireland #22 out of 132 economies tracked, based on criteria including institutions, human capital and research, infrastructure, market sophistication, business sophistication, knowledge and technology outputs, and creative outputs.<sup>4</sup>
- The KOF Swiss Economic Institute's 2023 Globalization Index, which evaluated 196 economies for the year 2021 based on trade, financial, interpersonal, informational, cultural and political criteria, places Ireland at #12 in its overall ranking.<sup>5</sup>

A boom in the 1990s led to the term "Celtic Tiger"—a nod to fast-growing mid-sized economies in Asia such as Taiwan and Korea. Ireland's economy grew at an average annual rate of 9.4% from 1995 to 2000. A number of factors drove this: economic stability, low corporate taxes, sound budget policies, a business-friendly environment, EU membership, EU subsidies, an educated English-speaking workforce, and close ties with the US.<sup>6</sup>

Apart from a sharp downturn in 2008–09 during the global financial crisis,<sup>7</sup> Ireland's economy has steadily expanded and in 2022 saw just under 12% annual growth.<sup>8</sup> To some degree, this figure is driven by multinational accounting, which can inflate the numbers, but it also reflects strong performance, with double-digit growth in domestic demand and strong results in both the pharmaceutical and ICT sectors. The economy shifted to a slower growth path in 2023<sup>9</sup> as high interest rates impacted household consumption and business investment, contract manufacturing dropped, and pharma exports saw a post-COVID correction. The economy, however, has proven resilient. Foreign investment remained strong in 2023 with close to 250 investments, 83 of which were new.<sup>10</sup> ING sees Ireland's underlying economy remaining strong, with expectations for improvement in the pharma sector and modest economic growth in 2024.<sup>11</sup> GDP per capita (2022) is over \$100,000.<sup>12</sup>

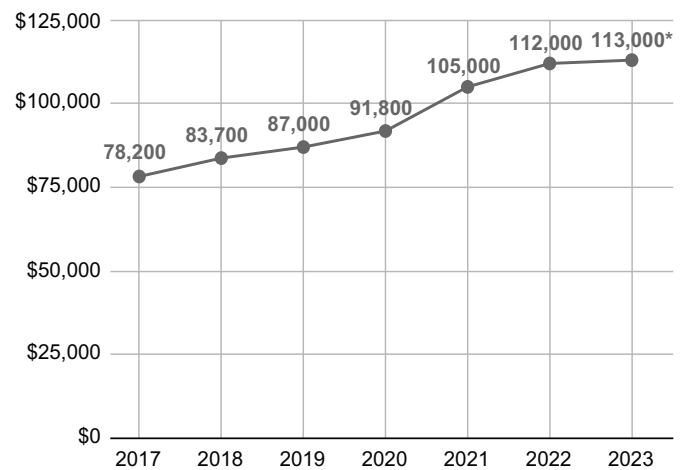
### Ireland GDP, 2017–2023 (current \$US Billions)



\*2023 numbers are provisional

Data Source: World Bank data reported by Trading Economics

### Ireland GDP Per Capita, 2017–2023 (\$US adjusted by current PPP)



Visualization: Bay Area Council Economic Institute

At the government level, growth has been supported by key policies.

### Taxation

Ireland's attractive 12.5% corporate tax rate has been one of several factors in attracting foreign direct investment (FDI). Under the recent Pillar Two agreement in the OECD, that rate will remain in place for smaller companies but will rise in 2024 to an agreed standard minimum of 15% for large ones.<sup>13</sup> The new rate will apply to businesses with annual global turnover of €750 million. Countries can implement their commitments in different ways, and Ireland will use a "top-up" tax to achieve a 15% effective rate for the affected companies while still maintaining the "headline Irish rate" of 12.5%.<sup>14</sup>

### Investment in Education

“What we hear from our members is ‘we’re here for the talent’.”

Colm O’Callaghan, Director of Public Affairs and Advocacy, American Chamber of Commerce Ireland

While tax policy has played an important role in Ireland's ability to attract foreign investment, Ireland's principal competitive advantage comes from its deep talent base—a factor that will remain important as taxes rise under the OECD's Pillar Two agreement on global tax rates. With 33% of its population under the age of 25,<sup>15</sup> Ireland is home to the youngest and most

highly educated workforce in Europe; one third of the population is under 25 and almost half is under 34.<sup>16</sup> As measured by Eurostat in 2022, 49.8% has a tertiary education and among people 25–34 years old the tertiary education share is 62.3% (1.3 points higher than second-place Luxembourg's 61.0%).<sup>17</sup> Ireland has the highest level of STEM graduates per capita in the EU among 20-29 year-olds.<sup>18</sup>

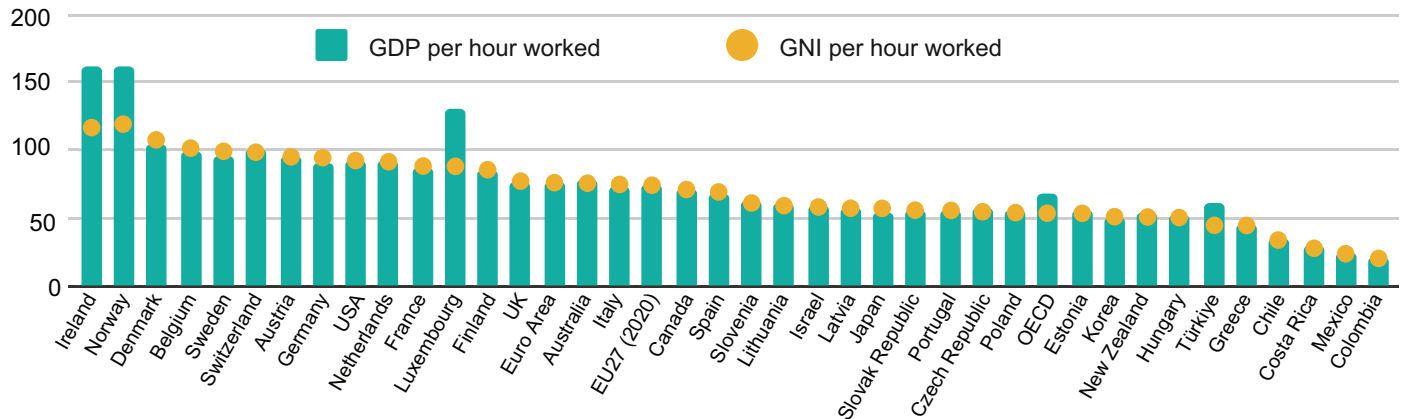
Close collaboration between universities and businesses supports the development of specific skills required by industry. Ireland's labor force also has a strong international component: in the second quarter of 2022, non-Irish citizens composed approximately 18.5% of the labor force. The make-up of this non-Irish-citizen workforce was 15% UK citizens, 53% EU citizens from outside Ireland, and 32% persons from other parts of the world.<sup>19</sup> Labor costs are above the average in the EU and Euro Area.<sup>20</sup> Nevertheless, the OECD ranks Ireland's workforce as the most productive within its membership.<sup>21</sup>

Besides opportunity, quality of life is a draw: the United Nations Human Development Index ranks Ireland number eight in the world for quality of life.<sup>22</sup> The 2024 Social Progress Index, which evaluates 170 countries based on non-economic aspects of global social performance (nutrition, water and sanitation, housing, safety, basic education, information and communications, health, environmental quality, rights and voice, freedom and choice, inclusive society, and advanced education) ranks Ireland in its top tier at #12.<sup>23</sup>



## Labor Productivity Comparison Across Countries

GDP and GNI per hour worked, current prices and current PPPs, 2022



Note: PPP = Purchasing Power Parities, which are currency converters that control for differences in price levels between countries and so allow for correct international comparisons of GDP volume and the size of economies.

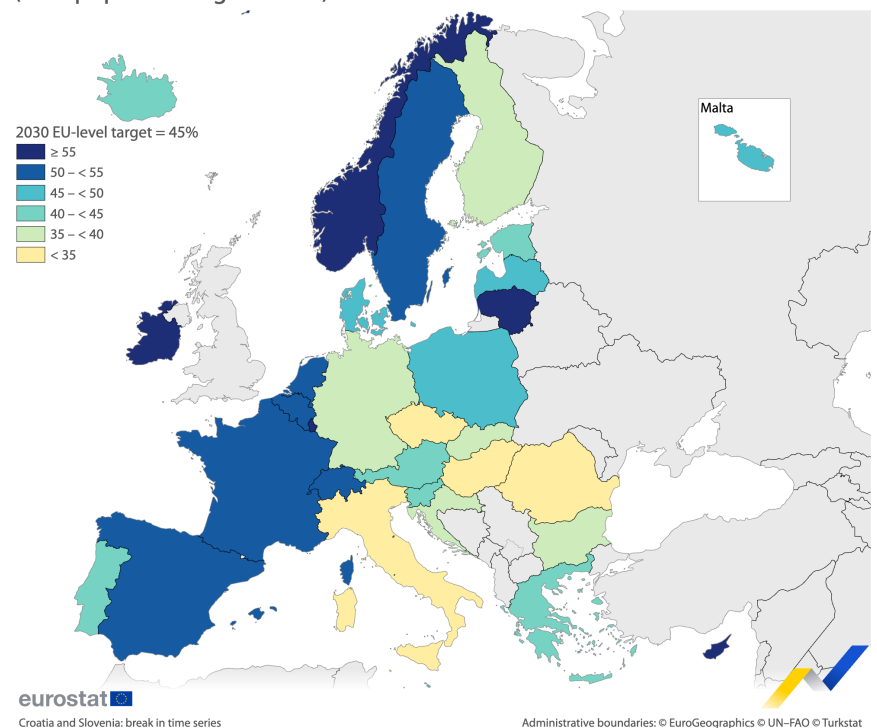
Source: OECD Compendium of Productivity Indicators 2024

Visualization: Bay Area Council Economic Institute

The government has taken a holistic approach to workforce education and training that engages extensively with industry to design upskilling and reskilling programs to address skills gaps and future skills needs. Examples of collaborative programs with industry include the Masters of Science in Immersive Software Engineering program co-created by the University of Limerick with over 40 industry partners including the Bay Area's Stripe, Intel and Workday,<sup>24</sup> and the Masters of Science in Global Business Services program co-created by Technical University Dublin with Skillnet Ireland and the American Chamber of Commerce Ireland.<sup>25</sup>

Ireland has also pioneered an advanced apprenticeship program led by industry consortia with university partners. Apprenticeships lead to nationally recognized qualifications from the certificate to PhD levels. There are currently 73 such programs—25 craft and 48 industry consortia-led. Bay Area companies that use these programs to develop and recruit talent include Google, Workday, HP, and LinkedIn.<sup>26</sup>

## Tertiary education attainment, 2023 (% of population aged 25-34)



Source: Eurostat Statistics Explained,  
[https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Educational\\_attainment\\_statistics](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Educational_attainment_statistics)

## Technology Clusters

Foreign investment was initially drawn to Ireland by its low costs and favorable regulatory environment, offering a strong manufacturing base for the European market. While manufacturing remains a core focus, the business model has since then moved toward technology and services, building on a strong foundation of talent and with universities playing a growing role in R&D.

Technology and investment in Ireland cluster in four cities: Dublin, Cork, Galway, and Limerick. As the nation's capital and leading business center, Dublin is the leader, attracting more than half (50.2%) of foreign investment projects and almost half (47.7%) of the jobs they create. Other cities offer robust investment environments, however. A government white paper issued in December

2022 sets the goal of attracting more than half of new projects to other parts of Ireland.<sup>27</sup>

### Dublin

The fDi Intelligence European Cities and Regions of the Future 2024 index ranks Dublin in the top three Major European Cities for foreign direct investment, after only London and Amsterdam. While Dublin's population is small compared to its larger competitors, it outperforms in FDI, attracting 652 projects between December 2017 and November 2022<sup>28</sup> and another 112 projects in 2023. Dublin is also ranked number four among major cities in Europe for business friendliness (after only London, Warsaw and Amsterdam), and number two for economic potential (after London). The Dublin region is also ranked as the top Small European Region of the Future, both overall and for economic potential.<sup>29</sup>

#### TOP 10 MAJOR EUROPEAN CITIES OF THE FUTURE 2024 — OVERALL

| RANK | CITY      | COUNTRY     |
|------|-----------|-------------|
| 1    | London    | UK          |
| 2    | Amsterdam | Netherlands |
| 3    | Dublin    | Ireland     |
| 4    | Warsaw    | Poland      |
| 5    | Paris     | France      |
| 6    | Munich    | Germany     |
| 7    | Madrid    | Spain       |
| 8    | Berlin    | Germany     |
| 9    | Stockholm | Sweden      |
| 10   | Barcelona | Spain       |

#### TOP 10 MAJOR EUROPEAN CITIES OF THE FUTURE 2024 — ECONOMIC POTENTIAL

| RANK | CITY      | COUNTRY     |
|------|-----------|-------------|
| 1    | London    | UK          |
| 2    | Dublin    | Ireland     |
| 3    | Paris     | France      |
| 4    | Amsterdam | Netherlands |
| 5    | Munich    | Germany     |
| 6    | Warsaw    | Poland      |
| 7    | Stockholm | Sweden      |
| 8    | Madrid    | Spain       |
| 9    | Berlin    | Germany     |
| 10   | Barcelona | Spain       |

#### TOP 10 SMALL EUROPEAN REGIONS OF THE FUTURE 2024 — ECONOMIC POTENTIAL

| RANK | REGION                  | COUNTRY        |
|------|-------------------------|----------------|
| 1    | Dublin Region           | Ireland        |
| 2    | South-West Region       | Ireland        |
| 3    | Luxembourg              | Luxembourg     |
| 4    | Canton of Zug           | Switzerland    |
| 5    | Oslo County             | Norway         |
| 6    | Prague Region           | Czech Republic |
| 7    | Canton of Vaug          | Switzerland    |
| 8    | Canton of Geneva        | Switzerland    |
| 9    | Brussels Capital Region | Belgium        |
| 10   | Vilnius County          | Lithuania      |

#### TOP 10 SMALL EUROPEAN REGIONS OF THE FUTURE 2024 — OVERALL

| RANK | REGION                  | COUNTRY        |
|------|-------------------------|----------------|
| 1    | Dublin Region           | Ireland        |
| 2    | Prague Region           | Czech Republic |
| 3    | Luxembourg Region       | Luxembourg     |
| 4    | Oslo County             | Norway         |
| 5    | Vilnius County          | Lithuania      |
| 6    | Skane County            | Sweden         |
| 7    | South-West Region       | Ireland        |
| 8    | Canton of Geneva        | Switzerland    |
| 9    | Canton of Zug           | Switzerland    |
| 10   | Brussels Capital Region | Belgium        |

Source: fDi Intelligence

Leading universities—**Trinity College Dublin**, **Dublin City University**, and **University College Dublin**—anchor research, while the **National Institute for Bioprocessing and Training (NIBRT)** supports the biopharmaceutical industry with facilities and training. As Ireland's leading technology hub, Dublin also has an extensive infrastructure supporting entrepreneurs and startups:

- **NovaUCD** is an innovation hub providing laboratory space, office facilities, and startup services and programs at University College Dublin since 2003. More than 500 startup and early-stage companies have been supported to date.<sup>30</sup> In a collaboration with UC Berkeley, UCD startups are eligible to participate in the Berkeley SkyDeck Accelerator after screening and evaluation by a NovaUCD panel.<sup>31</sup>
- **Tangent, Trinity's Ideas Workspace**, a collaborative workspace in the Trinity College Dublin School of Business, supports students, staff, startups and other businesses with knowledge and skills development, mentorship, hackathons and accelerator programs.<sup>32</sup>
- **NDRC**, which is operated by Dogpatch Labs, is Ireland's national startup accelerator program. Dogpatch supports startups and their founders through coaching and mentoring provided by international experts.<sup>33</sup>
- **Synergy**, an initiative of Trinity College Dublin, connects the Schools of Engineering, Natural Science, and Computer Science & Statistics with the Trinity's Tangent workspace, addressing global humanitarian challenges through technology design, development and delivery;<sup>34</sup>
- **Guinness Enterprise Centre**, operating since 2000, supports a community of 150 entrepreneur-led companies in a 95,000 square foot facility in central Dublin.<sup>35</sup>
- **Furthr**, operating since 1988, provides consultancy services, programs and events, and assistance securing funding, supporting more than 500 startups to date.<sup>36</sup>
- **Media Cube**, based on the campus of IADT (Institute of Art, Design & Technology), incubates startups and established small and medium enterprises (SMEs) that have the potential to grow and scale internationally. Since its inception in 2007, Media Cube has supported more than 400 companies in the Dublin-North Wicklow area.<sup>37</sup>
- **Food Works**, a government-supported accelerator, supports innovation in the food and beverage sector.<sup>38</sup>
- **ADAPT**, the Science Foundation Ireland (SFI) research centre specializing in AI-driven digital content technology, focuses on research in digital media and the interface between humans and digital content.<sup>39</sup>
- **AMBER**, the SFI Centre for Advanced Materials and Bioengineering Research, conducts research in materials science and is known for its work in advanced materials for health, energy, and industrial applications.<sup>40</sup>
- **CONNECT** is the SFI research centre for future networks and communications with next generation telecommunications initiatives that focus on sustainably deployed, dependable networks and Internet of Things (IoT) connectivity.<sup>41</sup>
- **I-FORM**, the SFI research centre for advanced manufacturing, channels expertise in materials science, engineering, data analytics, and cognitive computing to advance Irish manufacturing capabilities through the application of digital technologies to materials processing.<sup>42</sup>
- **Insight SFI Research Centre for Data Analytics** is one of the largest data analytics centres in Europe, focusing on applying the power of Big Data in areas such as smart enterprise, smart communities, and sustainability.<sup>43</sup>
- **Lero**, the SFI research centre for software, has significant operations in Dublin, focusing on software engineering, IoT, and edge computing.<sup>44</sup>

Dublin is home to the European and Irish operations of Bay Area multinationals including Autodesk, Google, Cadence, Dropbox, Meta, Salesforce, Square, and Zendesk.

Cork

fDi Intelligence European Cities and Regions of the Future 2024 ranks Cork number four among Small European Cities overall, number three for business friendliness, and number two for economic potential.<sup>45</sup>

| TOP 10 SMALL EUROPEAN CITIES OF THE FUTURE 2024 — OVERALL |            |             |
|---|------------|-------------|
| RANK  | CITY       | COUNTRY     |
| 1   | Luxembourg | Luxembourg  |
| 2   | Cambridge  | UK          |
| 3   | Geneva     | Switzerland |
| 4   | Cork       | Ireland     |
| 5   | Basel      | Switzerland |
| 6   | Ghent      | Belgium     |
| 7   | Espoo      | Finland     |
| 8   | Reading    | UK          |
| 9   | Delft      | Netherlands |
| 10  | Oxford     | UK          |

| TOP 10 SMALL EUROPEAN CITIES OF THE FUTURE 2024 — ECONOMIC POTENTIAL |            |             |
|--|------------|-------------|
| RANK   | CITY       | COUNTRY     |
| 1  | Luxembourg | Luxembourg  |
| 2  | Cork       | Ireland     |
| 3  | Geneva     | Switzerland |
| 4  | Basel      | Switzerland |
| 5  | Cambridge  | UK          |
| 6  | Espoo      | Finland     |
| 7  | Ghent      | Belgium     |
| 8  | Lausanne   | Switzerland |
| 9  | Reading    | UK          |
| 10   | Vantaa     | Finland     |

Source: fDi Intelligence

The city supports a major cluster of tech, cybersecurity and life science companies, with significant subsectors in photonics and microelectronics for semiconductors.

**University College Cork** is an anchor for research and home to the **Tyndall National Institute**, a leading deep-tech research center with a primary focus on integrated ICT hardware and systems, microelectronics and photonics. Core research areas include semiconductor wafer fabrication, quantum materials, microelectronic

and photonic integration, biophotonics, and smart sensor systems. With a multidisciplinary community of 600 researchers, engineers, and staff of 52 nationalities, the Tyndall Institute has worldwide collaborative programs with more than 200 industry leaders.<sup>46</sup>

With its main suite of four campuses in Cork and a pair of campuses in Tralee (Kerry),<sup>47</sup> **Munster Technological University** supports research and innovation programs with a staff of more than 500 researchers active across more than 400 projects. Its Innovation and Enterprise Office at Cork is a central services unit that supports incubation services and entrepreneurial development programs, research commercialization, collaborative research and consultancy with industry, and the creation of spin-out companies.<sup>48</sup>

As a technical university, MTU is industry oriented, with private companies serving on the committee that designs its programs and reviews their efficacy. Michael Loftus, the university's Vice President for External Affairs, describes the model as one of "co-development with industry." As one example, MTU co-developed the first master's degree in cloud computing in 2012 in partnership with EMC (now Dell EMC), for which people from around the world quickly signed up. Loftus comments that "because this was the first program of its type and we were talking about the cloud, we decided that it should be a virtual program delivered in the cloud." Virtual course delivery was enabled with technology and expertise provided by EMC and VMware, which also benefited because they needed trained employees. Many of their current employees are now graduates of the program.

Much of the focus at MTU is on small and medium enterprises and support for commercialization, with Enterprise Ireland serving as a funnel for startups into MTU projects through grants that help them participate. For foreign investors, the benefit comes through having a functioning research and workforce system waiting for them to plug into. At any moment there are roughly 100 projects underway with industry, some large but most small. Of the approximately €26 million in funded projects each year, €4 million in funded projects are conducted with MNCs.<sup>49</sup>

Other institutional players include another National RD&I Institute, the **Health Innovation Hub Ireland**



(located at University College Cork),<sup>50</sup> and **Cyber Ireland**, which is the national cybersecurity cluster organization supporting Ireland's cybersecurity ecosystem.<sup>51</sup> Additional programs and facilities support technology entrepreneurs, including the SPRINT Accelerator Programme at University College Cork, Start Up Lab (run by IGNITE UCC), deep-tech entrepreneurial programs at the Tyndall National Institute, and the Rubicon Centre, an on-campus incubator on the MTU Cork campus.<sup>52</sup>

Bay Area companies with a footprint in Cork include Apple, Ireland's first major investor from the Bay Area and the country's largest foreign investor;<sup>53</sup> Cadence, which opened its European R&D Centre of Excellence in Cork in November 2020;<sup>54</sup> NetApp; Gilead; and BioMarin.

## Galway

fDi Intelligence European Cities and Regions of the Future 2024 ranks Galway number three among Micro European Cities overall, number four for economic potential, number one for human capital and lifestyle, and number four for business friendliness.<sup>55</sup>

The University of Galway and the Irish Centre for High-End Computing (ICHEC), a National RD&I Institute, anchor research. ICHEC operates Kay (Ireland's national supercomputer) and the National Quantum Learning Platform, enabling researchers, enterprises and the public sector to innovate solutions for complex social, economic and environmental challenges.<sup>56</sup>

With 160 companies in the sector employing more than 25,000 people and generating more than €7.2

billion in revenue, Galway is the world's second largest medtech hub. Its cluster embraces operations of many of the world's largest medtech companies, including Medtronic and Boston Scientific. The city is also home to Ireland's largest home-grown medical device company, Creganna/Tactx, which has more than 800 employees worldwide. In addition to manufacturing, more than half of the medtech companies in Galway have dedicated R&D facilities.<sup>57</sup>

Ireland itself is home to over 450 medtech companies, employing more than 42,000 people. This makes Ireland a major European medtech hub. The sector includes operations of 14 of the world's top 15 medtech companies, such as Abbott. Ireland's medtech industry accounts for more than €13 billion in exports annually, accounting for 8% of the country's total exports.<sup>58</sup>

## Limerick

fDi Intelligence European Cities and Regions of the Future 2024 ranks Limerick number two among Micro European cities overall, number three for economic potential, number two for human capital and lifestyle, and number three for business friendliness.<sup>59</sup>

Research activity centers on the **University of Limerick**. Its Enterprise and Innovation initiatives support collaborative R&D with industry, engaging the university's research and technology centers, education and talent acquisition programs, licensing programs, and industry-oriented professional education programs.<sup>60</sup> The **Nexus Innovation Centre**, located at the heart of the UL campus, focuses on developing startups.<sup>61</sup>

### TOP 10 MICRO EUROPEAN CITIES OF THE FUTURE 2024 — OVERALL

| RANK | CITY        | COUNTRY     |
|------|-------------|-------------|
| 1    | Zug         | Switzerland |
| 2    | Limerick    | Ireland     |
| 3    | Galway      | Ireland     |
| 4    | Waterford   | Ireland     |
| 5    | Lugano      | Switzerland |
| 6    | Shannon     | Ireland     |
| 7    | Livingston  | UK          |
| 8    | Lutterworth | UK          |
| 9    | Farnborough | UK          |
| 10   | Konstanz    | Germany     |

### TOP 10 MICRO EUROPEAN CITIES OF THE FUTURE 2024 — ECONOMIC POTENTIAL

| RANK | CITY      | COUNTRY       |
|------|-----------|---------------|
| 1    | Zug       | Switzerland   |
| 2    | Monaco    | Monaco        |
| 3    | Limerick  | Ireland       |
| 4    | Galway    | Ireland       |
| 5    | Walldorf  | Germany       |
| 6    | Shannon   | Ireland       |
| 7    | Lugano    | Switzerland   |
| 8    | Waterford | Ireland       |
| 9    | Vaduz     | Liechtenstein |
| 10   | Mechelen  | Belgium       |

Source: fDi Intelligence

Digital Manufacturing Ireland (a National RD&I Institute formerly known as the Advanced Manufacturing Centre) launched a new advanced manufacturing center in the National Technology Park, Limerick in March 2023. The facility, which includes an end-to-end physical and digital production line for testing and deployment, will act as a national centre of excellence to accelerate the adoption by Irish-based manufacturers of innovative digital manufacturing technologies.<sup>62</sup>

Launched in January 2016, Bay Area-headquartered Uber’s Centre of Excellence (COE) in Limerick is the company’s first COE outside the United States.<sup>63</sup>

Science and Innovation

Ireland has invested in its science infrastructure while linking it to economic goals:

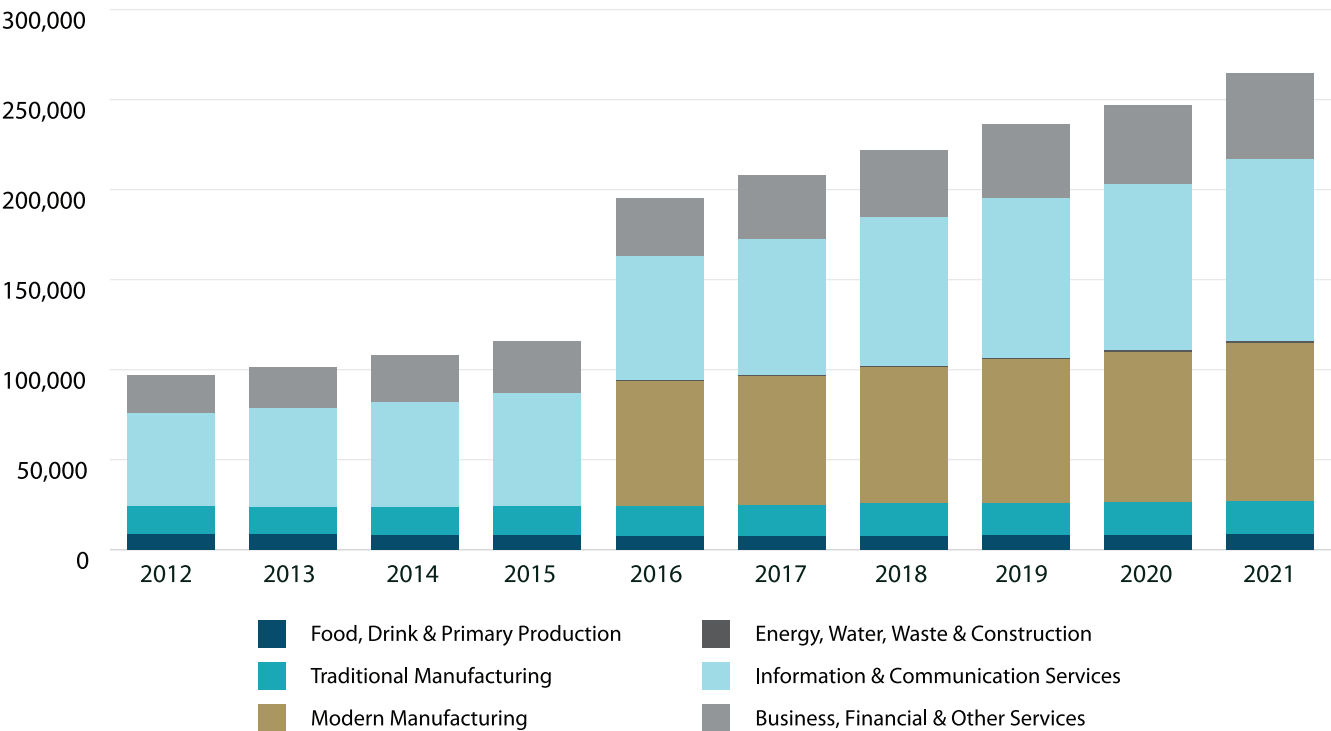
■ Six **National RD&I Institutes**—the Tyndall National Institute (ICT), Health Innovation Hub Ireland

(health care), Teagasc (agriculture and food), the Irish Centre for High-End Computing (supercomputing), the National Institute for Bioprocessing Research & Training (biopharma), and Digital Manufacturing Ireland (digital manufacturing technologies)—provide specialized support to enterprises, with a focus on basic research.

■ **Science Foundation Ireland’s** 16 research centres—focusing on life sciences, manufacturing and materials, digital technologies, and climate, energy and food—partner with industry and academia on collaborative research. In 2024, Science Foundation Ireland will merge with the Irish Research Council to form **Research Ireland**, a funding agency designed to drive a more ambitious and connected research system, supporting a broad spectrum of disciplines such as engineering, mathematics, science and technology, but also research in the humanities, arts and science.<sup>64</sup>

Ireland Department of Trade & Employment White Paper on Enterprise, 2022–2030

Figure 5: Foreign-Owned Companies – Permanent, Full-time Employment by Sector, 2012-2021



Source: Annual Employment Survey 2021  
Source: <https://enterprise.gov.ie/en/publications/publication-files/white-paper-on-enterprise-2022-2030.pdf>

■ The **Enterprise Ireland** and **IDA Ireland** joint **Technology Centre Programme** operates nine technology centres that support companies through market-focused R&D.

■ The **Enterprise Ireland Technology Gateway Network**, with 16 centres based at institutes of technology and technological universities, produces targeted R&D on innovative products and services aligned with specific industry needs.

Together, these programs support technological advancement from ideation through deployment.<sup>65</sup>

Universities are playing a growing role in Ireland's technology ecosystem by expanding their focus on entrepreneurial development and the commercialization of research. Launched in 2014,<sup>66</sup> **Knowledge Transfer Ireland (KTI)** was created as a national vehicle to accelerate the commercialization of publicly funded research by connecting technology, expertise, and ideas in a business-academic partnership. Reporting to the Department of Enterprise and advised by industry (both MNC and domestic), KTI supports technology transfer and university technology transfer offices in particular with a focus on collaborative research, intellectual property, licensing, technology transfer, and spin-out companies.<sup>67</sup>

## Startup Ecosystem

Though smaller scale than other leading startup ecosystems, Dublin places number five in Startup Genome's Top 100 Emerging Ecosystems 2023 ranking based on performance, funding, market reach, and talent & experience. "Emerging ecosystems" are startup communities at early stages of development that have high potential to become top global performers.<sup>68</sup> The compounding effect of the presence of large multinationals is supporting innovation locally, with many employees who leave multinational companies either joining local companies or launching startups.

Irish startups are finding global success in fields spanning AI, robotics, healthtech, medical devices, cybersecurity, and agritech.<sup>69</sup>

The Bay Area's **Plug and Play** accelerator plans to add Ireland as its next global site, bridging Ireland's startup ecosystem with the Bay Area's. As with investment by

MNCs, the key is talent. One goal for Plug and Play is to more deeply engage Irish corporations and MNCs in growing the local ecosystem, with food and medical devices as target sectors.<sup>70</sup>

Also from the Bay Area, **Y Combinator** has invested in Irish or dual-based companies including Stripe, Dublin-based Quorum (which provides a chat platform for creators and service providers to communicate to their clients),<sup>71</sup> video content startup Milk Video,<sup>72</sup> water management software company Klir,<sup>73</sup> and San Francisco-based Inscribe, a company using natural language processing and computer vision to scan documents for potential fraud. Founded and headquartered in San Francisco in 2017 by Irish brothers Conor and Ronan Burke along with Oisín Moran and James Eggers, Inscribe opened an engineering office in Dublin after raising \$3 million in funding in December 2018.<sup>74</sup> Y Combinator's 2021 accelerator program in Silicon Valley included five Irish startups.<sup>75</sup>

Also tapping into the ecosystem, Bay Area companies such as Apple, Google, Meta, and Intel have acquired Irish startups and Irish-developed technology in fields ranging from AI to semiconductors, digital media, and virtual reality.

■ **Alphabet/Google:** In 2015, Google acquired Thrive, a virtual reality technology developed by engineers at Trinity College Dublin that delivers high quality audio to the VR experience.<sup>76</sup> In 2020, it paid a reported \$160 million to acquire Pointy, an Irish startup that developed a website-connected scanner system that gives small retailers a way to make their stock visible online without having to invest in a full e-commerce system.<sup>77</sup>

■ **Meta/Facebook:** In 2016, Facebook's virtual reality firm Oculus acquired InfiniLED, an Irish startup specializing in next-generation LED display technology that offers greater power efficiency and lower cost. InfiniLED, which was spun out from the Tyndall National Institute, joined the Oculus research team in Cork.<sup>78</sup>

■ **Intel:** In 2016, Intel acquired chip-design company Movidius, which developed computer VPUs (vision processing units) that improve system responsiveness, power efficiency, and computing performance in advanced use cases such as AI and



intelligent cameras.<sup>79</sup> Purchased for approximately \$400 million, the company had been named as one of the 50 smartest companies in tech by the MIT Technology Review.<sup>80</sup>

■ **Apple:** In 2020, Apple acquired Dublin-based AI startup Voysis, which developed a platform for digital voice assistants inside online shopping apps to better understand natural language.<sup>81</sup>

As announced in the government’s White Paper on Enterprise Implementation Plan 2023–2024, Ireland is focusing on specific strategies to enhance and support the scaling capabilities of Irish startups and SMEs<sup>82</sup> to enable more Irish startups to grow to scale inside Ireland without being acquired. While acquisitions benefit both the acquirer and the company being acquired, the program’s goal is to enable the development of more mid-sized companies headquartered in Ireland that can themselves become multinationals.

Like other startup systems around the world, Ireland’s startup environment faced significant challenges in 2022, with the number of new companies dropping 16% year-on-year. With economic uncertainty engendered by inflation and high interest rates, insolvency grew 17%. Still, 21,637 new startup companies were registered, suggesting the system’s underlying resilience.<sup>83</sup> Ireland does well in seed and early-stage funding, but later-stage funding remains a challenge, and Ireland isn’t yet a major focus for Silicon Valley venture investors.

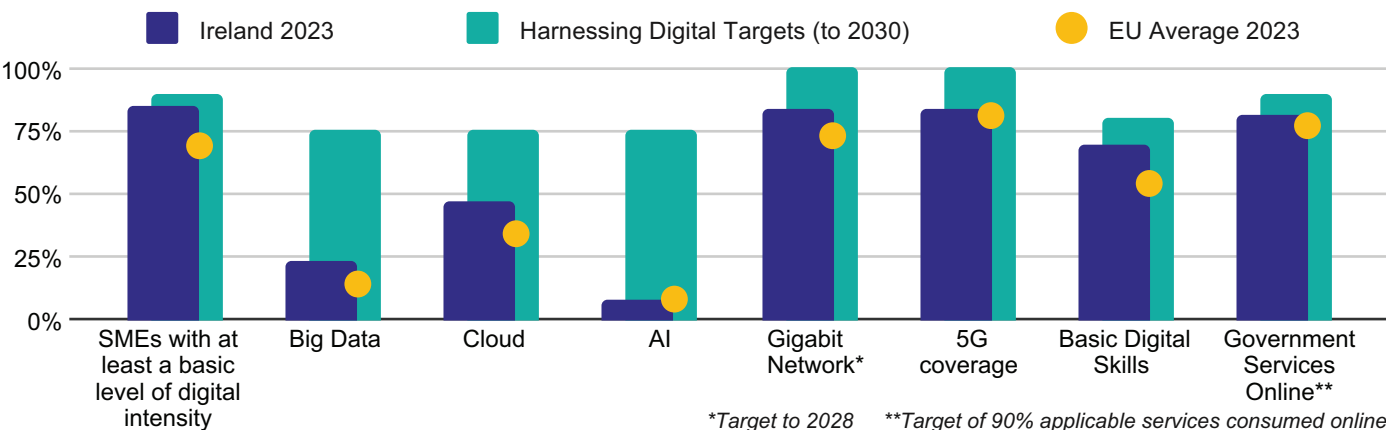
Most growing companies seeking investment look to London or the US, and particularly to Silicon Valley, with Enterprise Ireland (EI) serving as an important bridge. Anna-Marie Turley, Manager of Entrepreneurship, Enterprise Ireland says, “Ireland is known for the quality of its tech industry and a well-connected startup ecosystem of entrepreneurs, funders, incubators and co-working hubs. Enterprise Ireland works to ensure that Irish companies, especially startups, have access to capital that enables them to scale and grow in competitive global markets. In 2022, PitchBook named EI as Europe’s most active investor by deal count.”

### Digital Policies

Ireland’s growth has been built on manufacturing as opposed to R&D, though that pattern is changing. Government investment in R&D, which amounted to less than €250 million in 2000, now approaches €1 billion. The country’s enterprise research and development base has grown from 800 active R&D firms thirty years ago to 1,800 R&D-active enterprises today, with an aggregate €3.4 billion in annual expenditures. Still, a gap persists between the innovation performance of enterprises in Ireland and other advanced economies, and between the performance of MNCs in Ireland and local firms.<sup>84</sup>

Digitalization is a priority. The government launched its national digital strategy—Harnessing Digital: The Digital Ireland Framework—in February 2022,<sup>85</sup> followed by the creation of the “Grow Digital” Fund (formally known as the Digital Transition Fund) in June 2022.<sup>86</sup> AI and cybersecurity are key areas of focus. The Digital Ireland Framework aims to make Ireland a “digital leader at the heart of

### Ireland’s Progress against Harnessing Digital Targets as measured by DESI 2023

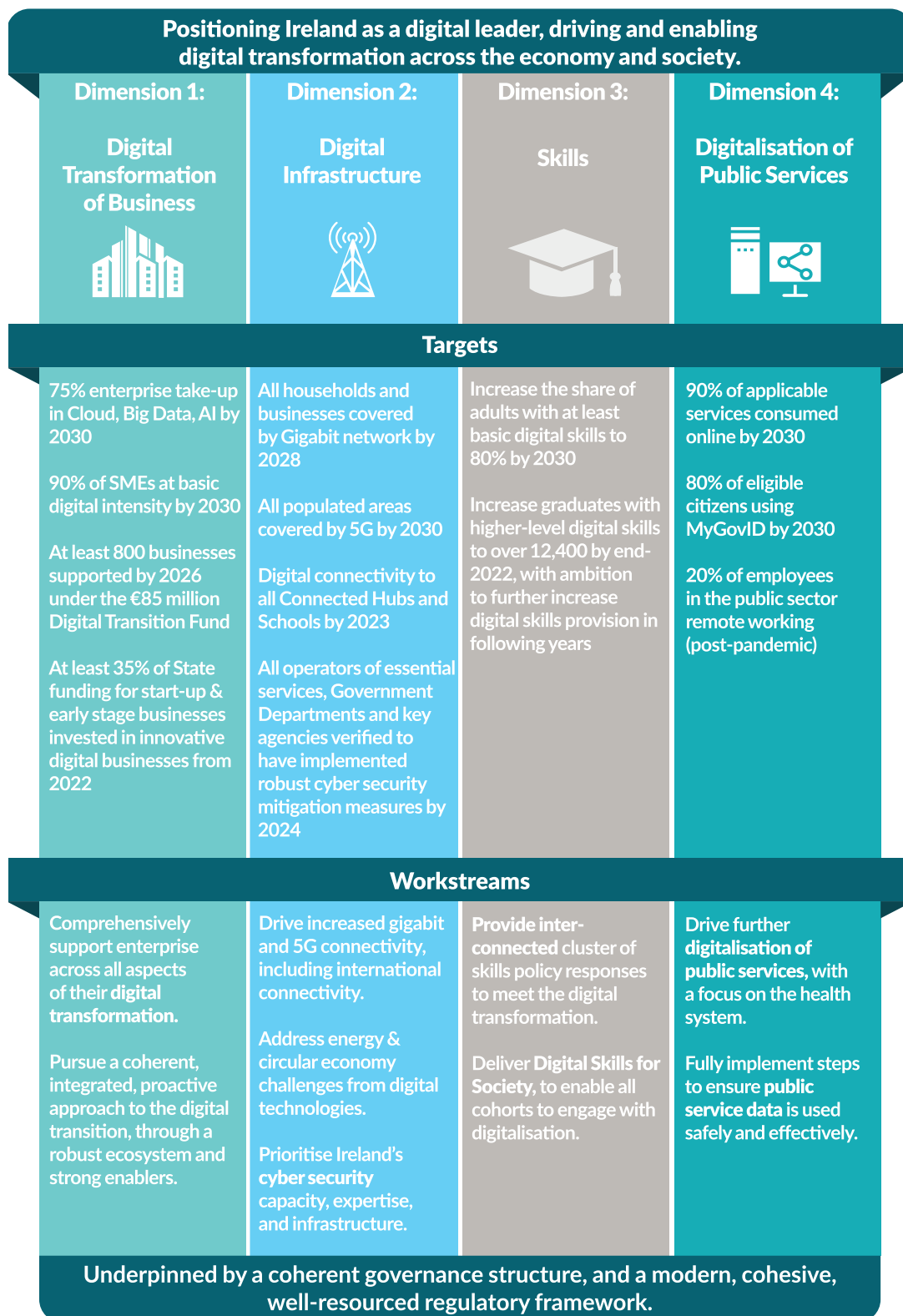


Data Source: European Commission Digital Decade Country Report 2023: Ireland  
Visualization Source: Harnessing Digital: The Digital Ireland Framework 2023 Progress Report

European and global digital developments,” suggesting a linkage between Ireland and the EU’s digital goals, which aim for the digital transformation of Europe by 2030, and its positioning as a bridge between the EU and the US in the digital field. To attract and support leading digital enterprises, Ireland is looking to become an international test bed for digital solutions by creating a supportive system that reduces regulatory barriers. Goals cluster in four areas: digital transformation of business, digital infrastructure, skills, and digitalization of public services.<sup>87</sup>

The second Harnessing Digital progress report, published in January 2024, highlights the continued progress across the digital agenda in 2023.<sup>88</sup> The digital strategies are finding success. The European Commission’s Digital Economy and Society Index (DESI) 2023 shows Ireland holding a leading position in the EU on several enterprise, skills, and connectivity indicators and performing above the European average in measures such as the share of residents with basic digital skills, the share of SMEs with at least a basic level of digital literacy, and the share of Gigabit-network-covered businesses and households.<sup>89</sup>

## Harnessing Digital - The Digital Ireland Framework



Source: Harnessing Digital: The Digital Ireland Framework, 2023 Progress Report

## Energy and Climate

The Irish government has made renewable energy a priority. Grid-scale solar projects are under development<sup>90</sup> and plans call for solar to be installed at every school,<sup>91</sup> most public buildings, and in homes throughout the country, with the ability (similar to California's system) for excess production from residential installations to be sold back to the grid.<sup>92</sup> Under the Renewable Electricity Support Scheme (RESS) in Ireland's Climate Action plan, five renewable energy auctions for onshore wind and solar, and in the future offshore wind, are committed to

take place between 2020 and 2025.<sup>93</sup> Offshore wind is a particular focus, with an Offshore Wind Delivery Taskforce created to enable a whole-of-government approach to meeting the government's target of 7 GW of installed offshore wind capacity by 2030.<sup>94</sup>

A new Celtic Interconnector, due to be completed in 2026, will link the electricity grids of Ireland and France as a step in the development of a more integrated system for the European energy market.<sup>95</sup>





## All-Island Economy

The Good Friday Agreement, a political settlement between the British and Irish governments and Northern Ireland's major political parties, approved by voters in Ireland and Northern Ireland in 1998, created a framework that ensured a stable political environment on the island.<sup>a</sup> By ensuring a stable political environment on the island, and creating an open border between Ireland and Northern Ireland, the agreement accelerated a shift of resources toward economic development that helped attract investment. Support from successive US administrations and the Irish diaspora has been critical to its success.

An "All-Island" economy is developing that integrates and leverages capacities on both sides of the Ireland-Northern Ireland border. That economy both supports and is supported by the Good Friday Agreement, reinforcing its peace dividend. Since the signing of the Agreement in 1998, cross-border trade in goods more than tripled to €10.2 billion in 2022.<sup>b</sup> Ireland is Northern Ireland's largest export market after Great Britain,<sup>c</sup> and Irish companies are the fourth-largest source of foreign direct investment in the North after the US, Great Britain, and Canada.<sup>d</sup> Businesses across the island see cross-border sales as their first export market. Data from Ireland's Central Statistics Office indicates that cross-border trade is continuing to grow, with a 23% increase in Northern Irish exports to Ireland and a 42% increase in Irish exports to Northern Ireland from 2021 to 2022.<sup>e</sup> From a multinational perspective, the island can be seen as an interconnected business ecosystem with all-island labor and supply chains and labor flows.<sup>f</sup> PayPal's workforce, for example, is drawn from Northern Ireland as well as the south.<sup>g</sup>

Two of the six bodies established under the Good Friday Agreement to facilitate the integration process are InterTradelreland and Tourism Ireland, which promotes the island of Ireland as a destination for international visitors.<sup>h</sup>

A priority for the Irish government, the Shared Island initiative is backed by its Shared Island Fund, which commits at least €1 billion through 2030 to all-island investment objectives. Between 2020 and 2022, the fund allocated more than €190 million to a range of infrastructure projects designed to enhance cross-border cooperation and connections. Research is

another focus, where more than €50 million has been invested in programs across the island.<sup>i</sup> In June 2023, an additional €44.5 million was invested to expand Ulster University's campus in Derry.<sup>j</sup> The Economic and Social Research Institute (ESRI) provides data-based analysis of the program's effectiveness and future development prospects.<sup>k</sup>

The Windsor Framework, agreed to by the EU and the UK in March 2023, provides an updated pathway to implement the UK-EU Protocol on Ireland/Northern Ireland that was adopted at the time of Brexit and that ensures an open border between Ireland and Northern Ireland with respect to trade.<sup>l</sup> Under its terms, Northern Ireland remains an integral part of the UK's internal market while at the same time having access to the EU's single market. The Windsor Framework supports Northern Ireland's attractiveness for overseas investors seeking access to both the UK and EU markets, with Northern Ireland's cybersecurity cluster being a draw.<sup>m</sup>

a Mariamne Everett, "Twenty-five years on: The legacy of the Good Friday Agreement," Al Jazeera, April 6, 2023, <https://www.aljazeera.com/news/2023/4/6/25-years-on-the-legacy-of-the-good-friday-agreement>

b Information provided by the Consulate General of Ireland, San Francisco

c "Northern Ireland Economic Trade Statistics 2021," NISRA (Northern Ireland Statistics and Research Agency), December 14, 2022, <https://datavis.nisra.gov.uk/economy-and-labour-market/northern-ireland-economic-trade-statistics-2021.html>

d Information provided by the Consulate General of Ireland, San Francisco

e "Companies who export cross border twice as likely to experience strong growth," InterTradelreland, August 15, 2022, <https://intertradeireland.com/news/companies-who-export-cross-border-twice-as-likely-to-experience-strong-growth>

f Michael Haverly, "NI Protocol Impact on Agri-Food Trade on the Island of Ireland," LinkedIn, February 17, 2023, <https://www.linkedin.com/pulse/ni-protocol-impact-agri-food-trade-island-ireland-michael-haverly/>

g Information provided by the Consulate General of Ireland, San Francisco

h "United States," Tourism Ireland, accessed August 9, 2023, <https://www.tourismireland.com/overseas-markets/north-america/united-states>

i "Shared Island Initiative Report 2022: Action on a Shared Future," Government of Ireland, December 2022, <https://assets.gov.ie/241284/a9f44582-2cfd-45c4-aebf-42b7fe425355.pdf>

j "Taoiseach announces €44.5 million Shared Island cross-border funding to expand Ulster University's Derry-Londonderry campus," Ulster University, June 20, 2023, <https://www.ulster.ac.uk/news/2023/june/taoiseach-announces-44.5-million-shared-island-cross-border-funding-to-expand-ulster-universitys-derry-campus>

k "Shared Island Initiative Report 2022: Action on a Shared Future," Government of Ireland, December 2022, <https://assets.gov.ie/241284/a9f44582-2cfd-45c4-aebf-42b7fe425355.pdf>

l "The Windsor Framework: A new way forward for the Protocol on Ireland/Northern Ireland," European Parliament, April 2023, [https://www.europarl.europa.eu/RegData/etudes/BRIE/2023/747095/EPRS\\_BRI\(2023\)747095\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2023/747095/EPRS_BRI(2023)747095_EN.pdf)

m "Northern Ireland delivery: Your gateway to the UK and the EU," KPMG, June 2023, <https://assets.kpmg.com/content/dam/kpmg/ie/pdf/2023/06/ie-northern-ireland-delivers-gateway-uk-eu.pdf>

## Research Opportunities

In addition to serving as a business and manufacturing base for Europe, Ireland offers a distinctive window for R&D.

The **US-Ireland Research & Development Partnership** connects the United States, Ireland, and Northern Ireland through research, melding science and diplomacy. While the 1998 Good Friday Agreement didn't specifically identify R&D as an area of cooperation, it did identify sectors such as health, the environment, and agriculture as fields for cooperation, leading to the launch of the US-Ireland R&D Partnership in 2006. InterTradelreland, a body created to advance the Good Friday Agreement's goals through all-island economic linkages, was assigned the role of coordinating Northern Ireland and Ireland collaboration for the new partnership. Under the program, any project must have significant research participation from all three sides and involve high-quality research, with merit reviews of proposed projects conducted by the US National Science Foundation (NSF) and the US National Institutes of Health (NIH). Each of the three partners funds only the activity of its own researchers.

Diabetes, cystic fibrosis, sensor technology, and nanotechnology were the initial fields targeted for joint research, with guidance from a steering committee composed of high-level representatives of the three jurisdictions. By 2014, fifteen jointly funded projects had attracted \$33 million in support, bringing together more than fifty principal and co-principal investigators from universities in Northern Ireland, eight from institutes in Ireland, and nineteen from US institutions.<sup>96</sup> As of March 2023, the Partnership has raised more than \$164 million and funded 86 projects, accelerating innovation in sectors including agriculture, health, energy and sustainability, telecommunications, and cybersecurity.<sup>97</sup>

A related window for R&D comes through Science Foundation Ireland's **SFI Industry RD&I Fellowship** program. Through the program, SFI (the government's science funding agency) promotes academic-industry partnerships for research, development and innovation by awarding grants to doctoral and post-doctoral researchers who want to spend time in industry. Fellowships can range from 1 to 24 months and can be either full- or part-time.<sup>98</sup> The expectation is that the researchers' skills will grow and that both the academic and the industry partner will benefit. Behind this lies the belief that the exposure of

academic researchers to an industry environment will open the door to careers in industry, maximizing the economic and societal impact of state-funded research. Of the first 100 fellows under the program, 50% were offered and accepted jobs at the companies where they did their research, 25% took jobs with other companies in the field and the balance started companies or went to work for startups.<sup>99</sup>

The research conducted can be either basic or applied, with SFI funding up to 80% of total costs depending on the size of the industry partner and the field of research, with industry partners covering the balance. SFI's direct costs are capped at €100,000 and cover salary, travel, and open-access publishing. To be eligible, industry partners must actively conduct research and can be located either in Ireland or abroad, opening the door to collaboration with US companies.<sup>100</sup>

To date, SFI has had 300 engagements on the West Coast with 154 partner organizations in 22 research fields, led by microbiology, materials science, biomedicine, engineering, and computer and information science. In addition to California partners such as the Scripps Research Institute and CalTech, partners in the Bay Area include Stanford University, UC Berkeley, and UC Davis.

For example, through SFI

- Irish research institute AMBER, California State University Northridge, UC Berkeley and UCLA have an ongoing collaboration on advanced materials and bioengineering research;
- Irish research institute BiOrbic and UC San Francisco are collaborating on the bioeconomy, supported by an MOU that encourages and facilitates partnerships between researchers; and
- Irish research institute MaREI has a research collaboration with UC Berkeley in energy and environmental science.

Forty-five percent of SFI's projects on the West Coast are non-academic, with 134 engagements and 103 collaborating organizations (85 in California) spanning 19 research fields. Leading partners in Ireland include Trinity College Dublin (TCD), University College Cork (UCC), University College Dublin (UCD), and the Tyndall National Institute (TNI), with industry partners in the Bay Area that include Applied Materials, Intel, and Genesys.<sup>101</sup>



## Conclusion

Ireland and the Bay Area are deeply connected through immigration, history, and a shared cultural heritage which facilitates communication and the movement of people. Civic and university ties and an integrated governmental presence provide a foundation.

Ireland has enjoyed economic success that belies its small size, serving as the European headquarters for a wide range of Bay Area companies in technology and life sciences. Its dynamism builds on competitive tax policies and a business-friendly environment, but most importantly on Ireland's sustained commitment to education and the development of talent. Those strengths continue to attract investment from the Bay Area, which has an outsized presence in the Irish economy.

While Ireland's relationship with the Bay Area is well-established, it continues to present opportunities:

- Generous windows are available to support bilateral R&D in both industry and academia. Aggressive outreach to potential partners, particularly in industry, can help expand their reach.
- While technology companies are well-represented as investors in Ireland, other sectors with significant potential for growth include biotech, medical technology, fintech, and the green economy.
- There is room for deeper engagement between Ireland and the Bay Area university, science, technology, and investor community. Ireland's recently announced placement of a Talent and Innovation Attaché in San Francisco offers an opportunity to expand those ties.
- The all-island economy offers opportunities to leverage resources in both Northern Ireland and Ireland, drawing on human resources and industry depth on both sides of the border—in cybersecurity, for example—and strengthening access to both the EU and UK markets.
- Growing business investment and strong flows of both tourist and business travel present a clear opportunity to expand direct air service between the Bay Area and Ireland.
- To deepen the talent connection with the US and the Bay Area, the duration of Ireland's visa program for foreign graduates of Irish universities in priority fields could be lengthened.
- With strong and diverse relationships in place, there is a case for considering the activation of an Irish business association or chamber to connect new and existing business networks. This entity would link Irish business leaders and companies with a local presence, as well as US companies with interests in Ireland and Europe. While this initiative could be confined to the Bay Area, a state-level focus may also be useful, building on preparatory work that has already taken place.
- With its strong US ties, English-speaking culture and business-friendly policies, Ireland is also well positioned as a business gateway to Europe and a bridge to the European Union in fields such as venture capital and digital regulation.



# Notes

## CHAPTER 1

### Introduction

- 1 James P. MacGuire, *Real Lace Revisited: Inside the Hidden World of America's Irish Aristocracy*, Lyons Press, 2017, [https://www.google.com/books/edition/Real\\_Lace\\_Revisited/hD2kDQAAQBAJ](https://www.google.com/books/edition/Real_Lace_Revisited/hD2kDQAAQBAJ)
- 2 Tom Deignan, "The Irish in California," *Irish America Magazine*, February/March 2008, <https://www.irishamerica.com/2008/02/the-irish-in-california/>
- 3 Daniel J. Meissner, "California Clash: Irish and Chinese Labor in San Francisco, 1850–1870," *Irish Literary and Historical Society of San Francisco*, 2018, <https://www.ilhssf.org/wp-content/uploads/2015/09/Irish-and-Chinese-Labor-.pdf>
- 4 Elizabeth Creely, "Irish Associationism," *FoundSF*, 2002, [https://www.foundsf.org/index.php?title=Irish\\_Associationism](https://www.foundsf.org/index.php?title=Irish_Associationism)
- 5 James P. MacGuire, *Real Lace Revisited: Inside the Hidden World of America's Irish Aristocracy*, Lyons Press, 2017, [https://www.google.com/books/edition/Real\\_Lace\\_Revisited/hD2kDQAAQBAJ](https://www.google.com/books/edition/Real_Lace_Revisited/hD2kDQAAQBAJ)
- 6 Tom Deignan, "The Irish in California," *Irish America Magazine*, February/March 2008, <https://www.irishamerica.com/2008/02/the-irish-in-california/>
- 7 "Minister Harris Celebrates Ireland's Strong Ties with California for St. Patrick's Day 2019," *Consulate General of Ireland | San Francisco*, March 18, 2019, <https://www.dfa.ie/irish-consulate/sanfrancisco/news-and-events/news-archive/minister-harris-celebrates-irelands-strong-ties-with-california-for-st-patricks-day-2019.html>
- 8 Dr. Roger D. McGrath, "The Silver Kings," *Irish America Magazine*, October/November 2012, <https://www.irishamerica.com/2012/09/the-silver-kings/>
- 9 Garrick Ramirez, "Fairmont Firsts: Inside the History of San Francisco's Most Iconic Hotel," *Fairmont San Francisco*, accessed November 25, 2023, <https://www.fairmont-san-francisco.com/blog/history-of-san-franciscos-most-iconic-hotel/>
- 10 James P. MacGuire, *Real Lace Revisited: Inside the Hidden World of America's Irish Aristocracy*, Lyons Press, 2017, [https://www.google.com/books/edition/Real\\_Lace\\_Revisited/hD2kDQAAQBAJ](https://www.google.com/books/edition/Real_Lace_Revisited/hD2kDQAAQBAJ)
- 11 Jack Tracy, "Early Sausalito's Poet Laureate," *Sausalito Historical Society*, 2009, <https://www.sausalitohistoricalsociety.com/2009-columns>
- 12 Janet Balicki Weber, "Pioneering Irishman Jasper O'Farrell helped shape Sonoma County," *The Press Democrat*, March 14, 2019, <https://www.pressdemocrat.com/article/news/pioneering-irishman-jasper-ofarrell-helped-shape-sonoma-county/>
- 13 Martha Brennan, "Michael Maurice O'Shaughnessy: The Irishman who built San Francisco," *Irish Star*, February 26, 2023, <https://www.irishstar.com/culture/nostalgia/michael-maurice-oshaughnessy-irishman-who-29309580>
- 14 "A Look At San Francisco's St. Patrick's Day Parade and Its Gold Rush History," *SFist*, March 16, 2016, [https://sfist.com/2016/03/16/san\\_francisco\\_st\\_patricks\\_day\\_parade\\_history/](https://sfist.com/2016/03/16/san_francisco_st_patricks_day_parade_history/)
- 15 "San Francisco St. Patrick's Parade," *SeeCalifornia*, accessed August 3, 2023, <http://www.seecalifornia.com/festivals/san-francisco-stpatricks-parade.html>
- 16 "About Us," *United Irish Cultural Center of San Francisco*, accessed August 4, 2023, <https://irishcentersf.org/about-us/>
- 17 Reidy, Liam, "Visionary Redevelopment Proposal Reveals New Look for Irish Center," *The Irish Herald/The New Irish Gael*, Volume 59, No. 09, June 2021, [https://irishcenter2025.org/wp-content/uploads/2021/06/IrishHerald\\_June2021\\_4pg.pdf](https://irishcenter2025.org/wp-content/uploads/2021/06/IrishHerald_June2021_4pg.pdf)
- 18 Irish Immigration Pastoral Center, "About," *LinkedIn*, accessed November 25, 2023, <https://www.linkedin.com/company/irish-immigration-pastoral-center/>
- 19 Interview with Gareth Coen, President, *Irish Network Bay Area*, <https://irishnetworkbayarea.com>
- 20 Interview with John Hartnett, Founder, *Irish Technology Leadership Group*, <https://itlg.org>
- 21 "Irish Studies Program," *UC Berkeley Institute of European Studies*, accessed August 4, 2023, <https://ies.berkeley.edu/irish>
- 22 Berkeley SkyDeck Facebook post, March 2021, <https://m.facebook.com/BerkeleySkyDeck/posts/3613273565447625/>
- 23 "Global Initiatives," *Stanford Byers Center for Biodesign*, accessed August 4, 2023, <https://biodesign.stanford.edu/programs/global-initiatives.html>
- 24 "History," *BioInnovate Ireland*, accessed August 4, 2023, <https://www.bioinnovate.ie/what-we-do/history.html>
- 25 Natalie Jabbar, "Stanford professor and celebrated poet Eavan Boland dies at 75," *Stanford News*, April 28, 2020, <https://news.stanford.edu/2020/04/28/renowned-poet-professor-eavan-boland-dies-75/>
- 26 "University College Dublin and University of California, Davis Strengthen Strategic Partnership," *UC Davis Global Affairs*, October 11, 2019, <https://globalaffairs.ucdavis.edu/news/in-the-news/university-college-dublin-and-university-california-davis-strengthen-strategic>
- 27 "University of College Dublin and UC Davis Announce New International Innovator Fellowship," *UC Davis Global Affairs*, December 9, 2021, <https://globalaffairs.ucdavis.edu/global-affairs-media/university-college-dublin-and-uc-davis-announce-new-international-innovator>

## CHAPTER 2

### The Bridge to California

- 1 "Timeline of events, 1919–69," *Documents on Irish Foreign Policy*, accessed August 4, 2023, <https://www.difp.ie/timeline-of-events-1919-69/>
- 2 "Ireland House," *William Duff Architects*, accessed August 4, 2023, <https://wdarch.com/portfolio/ireland-house/>
- 3 Information provided by Barbara Wood, Manager, *Western USA, Tourism Ireland*
- 4 "Minister Harris announces location of the first Talent and Innovation Attaché position under Global Citizens 2030," *Department of Further and Higher Education, Research, Innovation and Science, Government of Ireland* press release, February 14, 2024, <https://www.gov.ie/en/press-release/6c2c0-minister-harris-announces-location-of-the-first-talent-and-innovation-attache-position-under-global-citizens-2030/>
- 5 Information provided by Barbara Wood, Manager, *Western USA, Tourism Ireland*
- 6 "US-Ireland Business 2024," *American Chamber of Commerce Ireland*, February 2024, [https://www.amchambusinessreport.com/s/USIRL24\\_Report\\_06b.pdf](https://www.amchambusinessreport.com/s/USIRL24_Report_06b.pdf)
- 7 "Foreign Direct Investment in California, 2023," *Los Angeles World Trade Center*, April 2023, <https://laedc.org/wp-content/uploads/2023/04/WTCLA-2023-FDI-REPORT.pdf>

- 8 "Irish Prime Minister opens Linesight San Francisco's new office," Linesight press release, November 6, 2017, <https://www.linesight.com/en-us/news/irish-prime-minister-opens-linesight-san-franciscos-new-office/>
- 9 "RagingWire: Providing best-in-class data centers across the USA," Linesight, accessed August 10, 2023, <https://www.linesight.com/projects/ragingwire/>
- 10 Interview with Kevin Buckley, Senior Vice President, Growth and Market Intelligence, Cyara
- 11 Interview with Kenneth Fox, CEO, Channel Mechanics
- 12 "Intercom," Crunchbase, accessed August 11, 2023, <https://www.crunchbase.com/organization/intercom>
- 13 Liam Geraghty, "A Decade in the Making: An Oral History of Intercom's First 10 Years", Intercom, August 6, 2021, <https://www.intercom.com/blog/podcasts/feature-intercom-10th-anniversary/>
- 14 Ingrid Lunden, "Eoghan McCabe, the controversial Intercom co-founder who left the CEO role in 2020, is stepping back in," TechCrunch, October 6, 2022, <https://techcrunch.com/2022/10/06/eoghan-mccabe-the-controversial-intercom-co-founder-who-left-the-ceo-role-in-2020-is-stepping-back-in/>
- 15 Ingrid Lunden, "Eoghan McCabe, the Controversial Intercom Co-Founder Who Left the CEO Role in 2020, is Stepping Back in", Tech Crunch, October 6, 2022, <https://techcrunch.com/2022/10/06/eoghan-mccabe-the-controversial-intercom-co-founder-who-left-the-ceo-role-in-2020-is-stepping-back-in/>
- 16 "US-Ireland Business 2024," American Chamber of Commerce Ireland, February 2024, [https://www.amchambusinessreport.com/s/USIRL24\\_Report\\_06b.pdf](https://www.amchambusinessreport.com/s/USIRL24_Report_06b.pdf)
- 17 "US-Ireland Business 2023," American Chamber of Commerce Ireland, February 2023, [https://www.amchambusinessreport.com/s/1800-USIRL23\\_Business-Report-FINAL-DIGITAL-Spreads.pdf](https://www.amchambusinessreport.com/s/1800-USIRL23_Business-Report-FINAL-DIGITAL-Spreads.pdf)
- 18 Jamie Murphy, "IDA Ireland: overview," 2023, unpublished PowerPoint presentation
- 19 Jamie Murphy, "IDA Ireland: overview," 2023, unpublished PowerPoint presentation
- 20 George Morahan, "The 10 Biggest Foreign Direct Investment Companies In Ireland," Business Plus, September 4, 2022, <https://businessplus.ie/news/biggest-fdi-companies-ireland/>
- 21 Michael Kan, "Intel Plans to Spend €80 Billion on Chip Manufacturing in Europe," PCMag.com, March 15, 2022, <https://www.pcmag.com/news/intel-plans-to-spend-eur80-billion-on-chip-manufacturing-in-europe>
- 22 "Company spotlight: Airbnb," IDA Ireland unpublished slide presentation, April 3, 2023
- 23 "Apple's Cork campus celebrates 40 years of community and looks to the future," Apple Newsroom feature story, November 17, 2020, <https://www.apple.com/newsroom/2020/11/apples-cork-campus-celebrates-40-years-of-community-and-looks-to-the-future/>
- 24 "Cadence Expands Computational Software Development with Opening of New European R&D Centre of Excellence in Cork, Ireland," Cadence press release, November 5, 2020, [https://www.cadence.com/en\\_US/home/company/newsroom/press-releases/pr/2020/cadence-expands-computational-software-development-with-opening-.html](https://www.cadence.com/en_US/home/company/newsroom/press-releases/pr/2020/cadence-expands-computational-software-development-with-opening-.html)
- 25 Charles Arthur, "Dropbox chooses Dublin for first office outside US," The Guardian, December 3, 2012, <https://www.theguardian.com/technology/2012/dec/03/dropbox-dublin-office>
- 26 Jen Renzi, "For a Virtual-First Team, Dropbox Dublin Serves as a Collaborative Hub," Interior Design, January 26, 2023, <https://interiordesign.net/projects/dropbox-office-dublin-ia-interior-architects/>
- 27 Jenny Darmody, "First look: Dropbox Dublin's reimagined office to support remote working," Silicon Republic, July 8, 2021, <https://www.siliconrepublic.com/careers/dropbox-studios-remote-working>
- 28 "Intel Leixlip: It's What's Inside that Counts at Intel Ireland," Intel, accessed August 19, 2023, <https://www.intel.ie/content/www/ie/en/company-overview/intel-leixlip.html>
- 29 "Intel Plans Investments in Europe," Intel press release, June 16, 2023, <https://www.intel.com/content/www/us/en/newsroom/resources/eu-news-2022-press-kit.html>
- 30 "Intel Ireland Fab 34 the first batch to equipment to enter the plant and launch the 7nm process in 2023," Shanghai Metals Market news report, January 24, 2022, <https://news.metal.com/newscontent/101736237/intel-ireland-fab-34-the-first-batch-of-equipment-to-enter-the-plant-and-launch-the-7nm-process-in-2023>
- 31 Chantelle Dubois, "What Intel's European Investments Say About Its Tech Roadmap," All About Circuits, June 29, 2023, <https://www.allaboutcircuits.com/news/what-intels-european-investments-say-about-its-tech-roadmap/>
- 32 "Facebook to move international headquarters to Dublin," Trinity News, October 13, 2008, <https://trinitynews.ie/2008/10/facebook-to-move-international-headquarters-to-dublin/>
- 33 "Facebook Clonee Data Center Ireland," Meta blog post, May 17, 2017, <https://www.metacareers.com/life/facebook-clonee-data-center-ireland/>
- 34 Will Goodbody, "307 PayPal jobs under threat in Dublin and Dundalk," RTÉ.ie (Raidió Teilifís Éireann), May 25, 2022, <https://www.rte.ie/news/business/2022/0524/1300868-paypal-job-losses-in-dublin-dundalk/>
- 35 "PayPal European Centre of Excellence in Dublin," The Paypers, March 27, 2009, <https://thepappers.com/online-payments/paypal-european-centre-of-excellence-in-dublin--737687>
- 36 "How PayPal Leverages Big Data Analytics," IntelliPaat, June 6, 2023, <https://intellipa.com/blog/paypal-leverages-big-data-analytics/>
- 37 Information provided by Brittany Hendrickson, Corporate Communications, Salesforce, and Gordon L'Estrange, Vice President for Global Real Estate, Salesforce; IDA Ireland; and "Salesforce Tower Dublin Officially Opens as Talent Hub for Ireland and Europe," Salesforce press release, May 4, 2023, <https://www.salesforce.com/news/press-releases/2023/05/04/salesforce-dublin-office/>
- 38 Jonathan Keane, "Jack Dorsey led fintech Square eyes up Cash App launch in Europe from Dublin base," Independent.ie, January 2, 2021, <https://www.independent.ie/business/technology/jack-dorsey-led-fintech-square-eyes-up-cash-app-launch-in-europe-from-dublin-base/39920644.html>
- 39 Elaine Burke, "Square adds 30 new jobs to its European headquarters in Dublin," Silicon Republic, October 26, 2021, <https://www.siliconrepublic.com/jobs-news/square-jobs-dublin-fintech-european-headquarters>
- 40 "EMEA Headquarters for Twilio," IDA Ireland unpublished slide presentation, April 3, 2023
- 41 Information provided by Gustaf Palmér, Senior Public Policy Associate Northern Europe, Uber
- 42 "Zendesk Expands Team to 500 Staff in Ireland," IDA Ireland, accessed August 20, 2023, <https://www.idaireland.de/success-stories/zendesk>

- 43 "An Taoiseach Leo Varadkar Joins Zendesk to Open New \$10 Million EMEA Headquarters in Dublin," Zendesk press release, July 5, 2018, <https://www.zendesk.com/newsroom/press-releases/taoiseach-leo-varadkar-joins-zendesk-open-new-10-million-emea-headquarters-dublin/>
- 44 "Zendesk Expands Team to 500 Staff in Ireland," IDA Ireland, accessed August 20, 2023, <https://www.idaireland.de/success-stories/zendesk> and information provided by Kristen Durham, Senior Vice President, SMB and Startups, Zendesk

## CHAPTER 3

### A Growing Knowledge Economy

- 1 "Ireland Population," Worldometer, July 16, 2023, <https://www.worldometers.info/world-population/ireland-population/>
- 2 IMD-International Institute for Management Development, "IMD World Competitiveness Booklet 2023," June 2023, <https://imd.cld.bz/IMD-World-Competitiveness-Booklet-2023/2/>
- 3 INSEAD, "2023 Global Talent Competitiveness Index celebrated a decade of pioneering talent insights," INSEAD Newsroom, November 7, 2023, <https://www.insead.edu/news/2023-global-talent-competitiveness-index-celebrates-a-decade-pioneering-talent-insights>
- 4 "GII 2023 at a glance," WIPO-World Intellectual Property Association, September 2023, <https://www.wipo.int/edocs/pubdocs/en/wipo-pub-2000-2023-section1-en-gii-2023-at-a-glance-global-innovation-index-2023.pdf>
- 5 "KOF Globalisation Index 2023," KOF Swiss Economic Institute, accessed March 13, 2024, <https://kof.ethz.ch/en/forecasts-and-indicators/indicators/kof-globalisation-index.html>
- 6 Katelyn Peters, "Celtic Tiger: Definition, History, and How Irish Economy Thrived," Investopedia, October 13, 2021, <https://www.investopedia.com/terms/c/celtictiger.asp>
- 7 "Ireland: From Tiger to Phoenix," International Monetary Fund, August 2018, <https://www.imf.org/en/Countries/IRL/ireland-from-tiger-to-phoenix>
- 8 "Ireland: Staff Concluding Statement for the 2023 Article IV Consultation Mission, International Monetary Fund, November 3, 2023, <https://www.imf.org/en/News/Articles/2023/11/03/cs-irl-2023>
- 9 Padraic Halpin, "Irish central bank cuts economic growth, inflation forecasts," Reuters, December 18, 2023, <https://www.reuters.com/markets/europe/irish-central-bank-cuts-economic-growth-inflation-forecasts-2023-12-19/>
- 10 Information supplied by Niamh Roddy, Vice President, Technology Sector, IDA Ireland in the Bay Area
- 11 "Ireland: The engines stuttered in 2023 but the potential remains strong," ING, January 18, 2024, <https://think.ing.com/articles/ezq-irish-engines-stuttered-in-2023-but-potential-remains-strong/>
- 12 "Ireland," World Bank Data, 2022, <https://data.worldbank.org/country/IE>
- 13 "International tax reform: OECD releases technical guidance for implementation of the global minimum tax," OECD, February 2, 2023, <https://www.oecd.org/tax/beps/international-tax-reform-oecd-releases-technical-guidance-for-implementation-of-the-global-minimum-tax.htm>
- 14 "Irish Finance (No.2) Act – Implications for International and Irish Business," Maples Group, January 17, 2024, <https://maples.com/en/knowledge-centre/2024/01/irish-finance-no-2-act-implications-for-international-and-irish-business>
- 15 "Why Companies Choose Ireland," IDA Ireland, accessed August 5, 2023, <https://www.idaireland.com>
- 16 Information supplied by Niamh Roddy, Vice President, Technology Sector, IDA Ireland in the Bay Area
- 17 "Educational attainment statistics," Eurostat Statistics Explained, May 2023, [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Educational\\_attainment\\_statistics](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Educational_attainment_statistics)
- 18 Information supplied by Niamh Roddy, Vice President, Technology Sector, IDA Ireland in the Bay Area
- 19 "Migrants in the labour force in 2022," EMN-European Migration Network, August 26, 2022, <https://emn.ie/migrants-in-the-labour-force-in-2022/>
- 20 "Hourly labour costs," Eurostat Statistics Explained, March 2023, [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Hourly\\_labour\\_costs](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Hourly_labour_costs)
- 21 "GDP per hour worked," OECD Data, 2022, <https://data.oecd.org/lprdy/gdp-per-hour-worked.htm>
- 22 "Human development – Country rankings," TheGlobalEconomy.com, accessed March 9, 2024, [https://www.theglobaleconomy.com/rankings/human\\_development/](https://www.theglobaleconomy.com/rankings/human_development/)
- 23 "2024 Social Progress Index: Executive Summary," The Social Progress Imperative, January 2024, [https://www.socialprogress.org/static/7333da313f08098093a0479d86975b0f/2024%20Social%20Progress%20Index%20Executive%20Summary%20\(4\).pdf](https://www.socialprogress.org/static/7333da313f08098093a0479d86975b0f/2024%20Social%20Progress%20Index%20Executive%20Summary%20(4).pdf)
- 24 "BSc/MSc in Immersive Software Engineering," University of Limerick, accessed March 12, 2024, <https://www.software-engineering.ie>
- 25 "MSc in Global Business Services: 2 year part-time, blended learning programme," Technology Ireland ICT Skillnet, June 2023, <https://ictskillnet.ie/wp-content/uploads/2022/09/MSc-in-Global-Business-Services-2023.-pdf.pdf>
- 26 Information supplied by Niamh Roddy, Vice President, Technology Sector, IDA Ireland in the Bay Area
- 27 Ellesheva Kissin, "Ireland pushes FDI beyond its Dublin stronghold", fDi Intelligence, December 19, 2022, <https://www.fdiintelligence.com/content/news/ireland-pushes-fdi-beyond-its-dublin-stronghold-81872>
- 28 "European Cities and Regions of the Future 2023: The Best and the Brightest Among Europe's Investment Destinations," fDi Intelligence Special Report, February/March 2023, [https://www.fdiintelligence.com/content/download/82064/2683542/file/fDi\\_0223\\_ECOF.pdf](https://www.fdiintelligence.com/content/download/82064/2683542/file/fDi_0223_ECOF.pdf)
- 29 "fDi European Cities and Regions of the Future 2024: The Best and the Brightest Among Europe's Investment Destinations," fDi Intelligence Special Report, February/March 2024, [https://www.fdiintelligence.com/content/download/83489/2838195/file/FDIECRF\\_0224.pdf](https://www.fdiintelligence.com/content/download/83489/2838195/file/FDIECRF_0224.pdf)
- 30 "NovaUCD Start-Up Community," NovaUCD, accessed August 6, 2023, <https://www.ucd.ie/innovation/start-ups/novaucd-start-up-community/>
- 31 "Berkeley SkyDeck Accelerator Programme," NovaUCD, accessed August 6, 2023, <https://www.ucd.ie/innovation/start-ups/skydeckaccelerator/>
- 32 "Tangent, Trinity's Ideas Workspace," Trinity College Dublin, accessed August 6, 2023, <https://www.tcd.ie/tangent/about/>
- 33 "Our Story," Dogpatch Labs, accessed June 22, 2024, <https://dogpatchlabs.com/about/>
- 34 Synergy home page, accessed August 6, 2023, <https://tcdsynergy.org>
- 35 "About Us," Guinness Enterprise Centre, accessed August 6, 2023, <https://www.gec.ie>
- 36 Furthr home page, accessed August 6, 2023, <https://furthr.ie>
- 37 Media Cube home page, accessed August 6, 2023, <https://mediacube.ie>

- 38 "About Food Works," accessed August 6, 2023, <https://www.foodworksireland.ie>
- 39 "About ADAPT," The ADAPT Centre, O'Reilly Institute, Trinity College, accessed March 12, 2024, <https://www.adaptcentre.ie/about/>
- 40 "AMBER: Who We Are—Advancing Materials for Impact," AMBER Centre, Naughton Institute, Trinity College Dublin, accessed March 12, 2024, <https://ambercentre.ie>
- 41 "CONNECT: Catalysing Impact," CONNECT Centre, Trinity College Dublin, September 2020, <https://connectcentre.ie/wp-content/uploads/2021/02/CONNECT-Catalysing-Impact.pdf>
- 42 "What We Do," I-Form, John Hume Institute, University College Dublin, accessed March 12, 2024, <https://www.i-form.ie/about/whatwedo/>
- 43 "About," Insight SFI Research Centre for Data Analytics, accessed March 12, 2024, <https://www.insight-centre.org/about-us/>
- 44 Information supplied by Niamh Roddy, Vice President, Technology Sector, IDA Ireland in the Bay Area
- 45 "fDi European Cities and Regions of the Future 2024: The Best and the Brightest Among Europe's Investment Destinations," fDi Intelligence Special Report, February/March 2024, [https://www.fdiintelligence.com/content/download/83489/2838195/file/FDIECRF\\_0224.pdf](https://www.fdiintelligence.com/content/download/83489/2838195/file/FDIECRF_0224.pdf)
- 46 "About Us," Tyndall National Institute, accessed August 6, 2023, <https://www.tyndall.ie/about-us>
- 47 "Our Campuses," Munster Technological University, accessed August 6, 2023, <https://www.mtu.ie/about-mtu/our-campuses/>
- 48 Innovation and Enterprise," Munster Technological University, accessed August 6, 2023, <https://www.mtu.ie/partner-with-us/innovation-and-enterprise/>
- 49 Interview with Michael Loftus, Vice President for External Affairs, Munster Technological University, and Nial Smith, Head of Research, Munster Technological University.
- 50 "About HIHI," Health Innovation Hub Ireland, accessed August 6, 2023, <https://hih.ie/about/about-hihi/>
- 51 Cyber Ireland home page, accessed August 6, 2023, <https://cyberireland.ie>
- 52 Sean Lotty and Dr. Nial O'Keefe, "Business Development in Cork: An Entrepreneur's Guide 2023," Cork Local Enterprise Office, 2023, <https://publications.corkcity.ie/view/242972515/>
- 53 George Morahan, "The 10 Biggest Foreign Direct Investment Companies In Ireland," Business Plus, September 4, 2022, <https://businessplus.ie/news/biggest-fdi-companies-ireland/>
- 54 "Cadence Expands Computational Software Development with Opening of New European R&D Centre of Excellence in Cork, Ireland," Cadence news release, November 5, 2020, [https://www.cadence.com/en\\_US/home/company/newsroom/press-releases/pr/2020/cadence-expands-computational-software-development-with-opening-.html](https://www.cadence.com/en_US/home/company/newsroom/press-releases/pr/2020/cadence-expands-computational-software-development-with-opening-.html)
- 55 "fDi European Cities and Regions of the Future 2024: The Best and the Brightest Among Europe's Investment Destinations," fDi Intelligence Special Report, February/March 2024, [https://www.fdiintelligence.com/content/download/83489/2838195/file/FDIECRF\\_0224.pdf](https://www.fdiintelligence.com/content/download/83489/2838195/file/FDIECRF_0224.pdf)
- 56 "Introduction to the Irish Centre for High-End Computing," ICHEC, accessed August 6, 2023, <https://www.ichec.ie/about>
- 57 "The Ecosystem," BioInnovate, accessed August 6, 2023, <https://www.bioinnovate.ie/what-we-do/ecosystem.html>
- 58 "Medtech: Why Ireland for Med Tech investment," IDA Ireland, accessed June 22, 2023, <https://www.idaireland.com/explore-your-sector/business-sectors/medtech>
- 59 "fDi European Cities and Regions of the Future 2024: The Best and the Brightest Among Europe's Investment Destinations," fDi Intelligence Special Report, February/March 2024, [https://www.fdiintelligence.com/content/download/83489/2838195/file/FDIECRF\\_0224.pdf](https://www.fdiintelligence.com/content/download/83489/2838195/file/FDIECRF_0224.pdf)
- 60 "Enterprise and Innovation," University of Limerick, accessed August 7, 2023, <https://www.ul.ie/research/enterprise-and-innovation>
- 61 "Nexus Innovation Centre," University of Limerick, accessed August 7, 2023, <https://www.ul.ie/research/enterprise-and-innovation/nexus-innovation-centre>
- 62 Vish Gain, "New digital manufacturing centre opens in Limerick," SiliconRepublic.com, March 27, 2023, <https://www.siliconrepublic.com/innovation/digital-manufacturing-ireland-limerick-ida-centre>
- 63 "Opening of Uber's Centre of Excellence in Limerick, supporting more than 30 cities globally," Limerick City and County Council, January 11, 2016, <https://www.limerick.ie/business/news-events/news/opening-ubers-centre-excellence-limerick-supporting-more-30-cities>
- 64 Kevin O'Sullivan, "New Research and Innovation Funding Agency Announced", The Irish Times, November 16, 2023, <https://www.irishtimes.com/science/2023/11/16/new-research-and-innovation-funding-agency-announced/>
- 65 Information supplied by Jamie Murphy, Market Analyst—Emerging Business Division, IDA Ireland
- 66 Colin Ryan, "The current state of Ireland's knowledge transfer system," SiliconRepublic.com, May 19, 2023, <https://www.siliconrepublic.com/enterprise/knowledge-transfer-system-enterprise-ireland>
- 67 "About KTI: Mission," Knowledge Transfer Ireland, accessed August 7, 2023, [https://www.knowledgetransferireland.com/About\\_KTI/Aims-Purpose/](https://www.knowledgetransferireland.com/About_KTI/Aims-Purpose/)
- 68 "The Global Startup Ecosystem Report 2023: Emerging Ecosystems Ranking," Startup Genome, accessed November 25, 2023, <https://startupgenome.com/article/emerging-ecosystems-ranking>
- 69 Colin Ryan, "7 Irish Startups Celebrating Global Success", SiliconRepublic.com, March 16, 2023, <https://www.siliconrepublic.com/start-ups/7-irish-start-ups-global-success>
- 70 Interview with Nick Love, Corporate Partnership Manager, Plug and Play
- 71 Colm Gorey, "Irish-led Quorum Secures \$2m for 'WhatsApp with Community Management'," SiliconRepublic.com, July 22, 2020, <https://www.siliconrepublic.com/start-ups/quorum-chat-platform-funding-irish-engineers>
- 72 Jack Kennedy, "Irish co-founded Milk Video Closes \$1.5m seed round," SiliconRepublic.com, August 15, 2021, <https://www.siliconrepublic.com/start-ups/milk-video-1-5m-seed-funding>
- 73 Leigh McGowran, "Y Combinator now offers \$500,000 investment to start-ups," SiliconRepublic.com, January 11, 2022, <https://www.siliconrepublic.com/start-ups/y-combinator-accelerator-programme-funding-500k>
- 74 Jenny Darmody, "Irish-founded startup Inscribe Raises \$10.5m," SiliconRepublic.com, April 27, 2021, <https://www.siliconrepublic.com/start-ups/inscribe-fraud-detection-funding>
- 75 Vish Gain, "5 Irish startups selected for Silicon Valley's Y Combinator," SiliconRepublic.com, September 1, 2021, <https://www.siliconrepublic.com/start-ups/irish-startups-y-combinator-accelerator-programme>
- 76 "Google Acquires Virtual Reality Audio Technology Developed by Engineers," Trinity College Dublin News and Events, July 9, 2015, [https://www.tcd.ie/news\\_events/articles/google-acquires-virtual-reality-audio-technology-developed-by-engineers/](https://www.tcd.ie/news_events/articles/google-acquires-virtual-reality-audio-technology-developed-by-engineers/)



- 77 Ciara O'Brien and Charlie Taylor, "Irish retail tech company Pointy purchased for \$160m," *The Irish Times*, January 14, 2020, <https://www.irishtimes.com/business/technology/irish-retail-tech-company-pointy-purchased-for-160m-1.4139522>
- 78 Paul Sawers, "Facebook's Oculus acquires InfiniLED, an Irish startup that makes low-power LED displays," *VentureBeat*, October 14, 2016, <https://venturebeat.com/business/facebook-oculus-acquires-irish-startup-infiniled-an-irish-startup-that-makes-low-power-led-displays/>
- 79 "Intel Movidius Vision Processing Units (VPUs)," Intel, accessed August 7, 2023, <https://www.intel.com/content/www/us/en/products/details/processors/movidius-vpu.html>
- 80 Charlie Taylor and Eoin Burke-Kennedy, "Intel acquires Dublin-based chipmaker Movidius," *The Irish Times*, September 6, 2016, <https://www.irishtimes.com/business/technology/intel-acquires-dublin-based-chipmaker-movidius-1.2781200>
- 81 Mark Gurman, "Apple Acquires AI Startup to Better Understand Natural Language," *Bloomberg News*, April 3, 2020, <https://www.bnnbloomberg.ca/apple-acquires-ai-startup-to-better-understand-natural-language-1.1417257>
- 82 "White Paper on Enterprise, Implementation Plan 2023–2024," Department of Enterprise, Trade and Employment, May 2023, <https://enterprise.gov.ie/en/publications/publication-files/white-paper-on-enterprise-implementation-plan-2023-2024.pdf>
- 83 Vish Gain, "Number of new Irish start-ups at six-year low, figures show", *SiliconRepublic.com*, January 30, 2023, <https://www.siliconrepublic.com/start-ups/new-startups-in-ireland-numbers-crifvision-net>
- 84 "Impact 2030–Ireland's Research and Innovation Strategy," Department of Further and Higher Education, Research, Innovation and Science, May 2022, <https://assets.gov.ie/224616/5f34f71e-e13e-404b-8685-4113428b3390.pdf>
- 85 "Digital economy policy, EU Regulation and data access," Department of Enterprise, Trade and Employment, accessed August 8, 2023, <https://enterprise.gov.ie/en/what-we-do/the-business-environment/digital-single-market/national-digital-single-market-aspects/>
- 86 "Tánaiste and Ministers Troy and English announce €85 million 'Grow Digital' Fund," Department of Enterprise, Trade and Employment, accessed August 8, 2023, <https://enterprise.gov.ie/en/news-and-events/department-news/2022/june/202206201.html>
- 87 "Harnessing Digital: The Digital Ireland Framework," Department of the Taoiseach, February 2022, <https://assets.gov.ie/214584/fa3161da-aa9d-4b11-b160-9cac3a6f148.pdf>
- 88 "Harnessing Digital: The Digital Ireland Framework 2023 Progress Report," Department of Taoiseach, January 2024, <https://assets.gov.ie/280518/e7f7f7c5-2af8-4209-849a-8c75caf5ceab.pdf>
- 89 "Digital Decade Country Report 2023: Ireland," European Commission, September 2023, <https://ec.europa.eu/newsroom/dae/redirection/document/98639>
- 90 "Minister Ryan opens first grid-scale solar project to connect to the national grid under the Renewable Electricity Support Scheme (RESS)," Department of the Environment, Climate and Communications press release, April 29, 2022 and September 21, 2022, <https://www.gov.ie/en/press-release/b6b44-minister-ryan-opens-first-grid-scale-solar-project-to-connect-to-the-national-grid-under-the-renewable-electricity-support-scheme-ress/>
- 91 "Renewable Energy Generation: Questions (100)," Houses of the Oireachtas, May 16, 2023, <https://www.oireachtas.ie/en/debates/question/2023-05-16/100/>
- 92 Kayle Crosson, "New scheme will allow excess energy to be sold back to grid," *Green News*, January 14, 2021, <https://greennews.ie/mss-scheme-energy-sold-back-to-grid/>
- 93 George Morahan, "Government Announces Third Onshore RESS Auction," *BusinessPlus Magazine*, April 13, 2023, <https://businessplus.ie/industry-type/government-infrastructure/ress-auction/>
- 94 "In profile: The Offshore Wind Delivery Taskforce," *Energy Ireland*, February 22, 2023, <https://www.energyireland.ie/in-profile-the-offshore-wind-delivery-taskforce/>
- 95 Sarah Rigney, "How Ireland will benefit from the Celtic Interconnector," *Bonkers.ie*, April 3, 2023, <https://www.bonkers.ie/blog/gas-electricity/how-ireland-will-benefit-from-the-celtic-interconnector/>
- 96 Killian Halpin, Kerri-Ann Jones, and Fabian Monds, "A Trilateral Partnership for Supporting Research and Relationships," *AAAS Science & Diplomacy*, April 7, 2014, <https://sciencediplomacy.org/perspective/2014/trilateral-partnership-for-supporting-research-and-relationships>
- 97 "US-Ireland R&D Partnership," *InterTradeIreland*, accessed August 20, 2023, <https://intertradeireland.com/innovation/us-ireland-r-d-partnership>
- 98 "SFI Industry RD&I Fellowship Programme," *Science Foundation Ireland*, accessed August 20, 2023, <https://www.sfi.ie/funding/funding-calls/sfi-industry-fellowship-programme/>
- 99 Interview with Mark Ferguson, Chairman, European Innovation Council and former Director General, *Science Foundation Ireland*
- 100 "SFI Industry RD&I Fellowship Programme 2023, Science Foundation Ireland webinar slides, March 15, 2023, [https://www.sfi.ie/funding/funding-calls/sfi-industry-fellowship-programme/SFI-Industry-RDI-Fellowship-2023\\_webinar\\_slides\\_FINAL.pdf](https://www.sfi.ie/funding/funding-calls/sfi-industry-fellowship-programme/SFI-Industry-RDI-Fellowship-2023_webinar_slides_FINAL.pdf)
- 101 Information provided by Michael Ryan, Head of International and EU Operations, *Science Foundation Ireland*

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