

Ireland: New dawn, new opportunities

Having thrived under the double challenge of COVID and Brexit, Irish export-led entrepreneurs look forward to a bright future

“Ireland is one of the few countries in the world to record economic growth in 2020 and the only one in the European Union. Our relative prosperity wasn't built on gold, diamonds, oil, gas or colonies: it's based on the goods and services our land and people produce and sell abroad,” says Tánaiste and Minister for Enterprise, Trade and Employment Leo Varadkar.

Last year, those exports brought in a historically high €160.8 billion, 5.4 percent up on 2019. “That's down to strong and vibrant export sectors that include medical devices, pharmaceuticals and digital, as well as our food and drink industry. Companies in these sectors have seen higher revenues and increasing market share even during the pandemic,” he explains.

Traditionally an agrarian nation, Ireland has long been renowned for the quality of its agricultural products, which feed five times more people than live in the country. But over the last 30 years, it has also become a hotbed of innovation in life sciences, technology, financial services and other industries. One reason for this is that it has been selected as a European home for most of the global giants in those areas. “Ireland has seen huge growth in foreign investment. In tech, for example, we have Google, Facebook, Apple, Intel and so on, in pharma we have every leading brand name. The availability of talent is the number one criterion for these investors,” states Martin Shanahan, CEO of investment promotion agency IDA Ireland. Indeed, when Coca-Cola announced in May that it was establishing a new digital hub in Dublin to help accelerate its digital transformation across Europe, the Middle East and Africa, it cited the Irish capital's international reputation as an innovation city and the wealth of local tech talent as the reasons for its choice.

But in addition to being talented, the highly educated Irish population is entrepreneurial. “Irish businesses are at the center of technological innovation and entered 2020 in a position of strength and resilience. They were well placed to withstand the impact of COVID,” comments Julie Sinnamon, CEO of Enterprise Ireland, the agency responsible for the development and growth of Irish companies in global markets. Not only did home-grown firms withstand the pandemic, they responded to it by quickly developing innovative in-demand weapons for the world's fight back against the virus in areas including lifesaving equipment, vaccines, contact tracing, hygiene, logistics, e-commerce and online communications. “In an incredibly difficult year, I've seen count-



Leo Varadkar
Tánaiste and
Minister for
Enterprise, Trade
and Employment



International Markets Week, Ireland's largest annual exporter event

less examples of business owners demonstrating the ingenuity, adaptability and resilience that Irish entrepreneurs are known for,” remarks Varadkar.

Ireland has invested substantially in developing its innovative and entrepreneurial ecosystem. For example, notes the minister, “The government allocated €869.2 million to research and development last year, an 8.4 percent increase on the previous year.” It has also created a dynamic environment for up-and-coming businesses, Sinnamon asserts. “Enterprise Ireland is heavily investing in a strong pipeline of innovative Irish companies at all stages of their growth, from startups to building scale and expanding their reach internationally. In 2020, Enterprise Ireland invested more than €48 million in Irish startups.”

The unique solutions being generated by Ireland's entrepreneurs also attract international investment, Varadkar points out. “What we see a lot of the time is our very successful small businesses being bought up by the big companies.” Two illustrations of this came in May: Taxamo, a cloud-based pioneer in tax and payment automation, was acquired by the U.S.'s tax-technology specialist Vertex for \$200 million; while global equity firms Astorg and Bridgepoint signed an agreement to buy another fintech business, Fenergo, in a deal that

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Leo Varadkar, Tánaiste and Minister for Enterprise, Trade and Employment

reportedly values the young Irish company at about €900 million.

2020 was a particularly successful year for Irish startups in life sciences plus information and communication technologies. Looking to the future, Enterprise Ireland sees rising opportunities for the country's ambitious entrepreneurs in the green economy and those finding new ways to do business in a post-pandemic environment. According to research by supermarket chain SuperValu, Ireland's food and drink startups are also optimistic about the future: 93 percent expect revenue growth in 2021 due to increased consumer demand for Irish products.

A large proportion of those goods will be headed to the U.S., which currently accounts for 31 percent of all Ireland's exports. “We are ambitious for the U.S. and have set targets to grow our exports to that country by 50 percent. The U.S. is an important trading partner and friend of Ireland, President Biden is very conscious of his Irish roots and Ireland looks forward to building on these important relationships,” Sinnamon states.

A competitive force in global markets

Having entered 2020 in a position of strength and resilience, Irish companies used innovation to wage war against COVID

2020 brought an urgent global demand for novel solutions to fight an unprecedented challenge. Irish innovators answered the call, with the small nation exporting more COVID-related goods and services than all but four other countries worldwide.

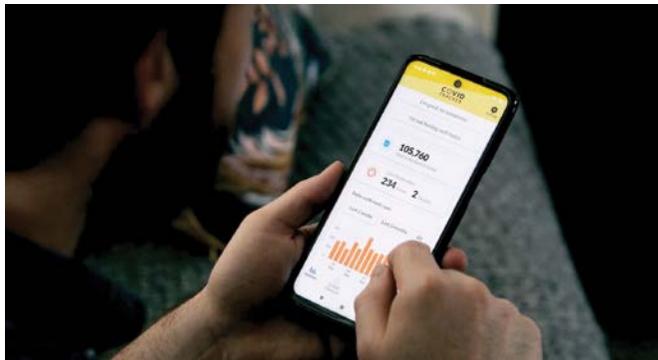
“Ireland is a leading technology hub, and Irish businesses are at the center of technological innovation, driven by a global mindset, commercial imperatives and developing solutions to meet the toughest challenges the world faces. This was evident in their response to the pandemic: we saw them react with agility and innovation to pivot to the new buyer and market needs which emerged,” states Julie Sinnamon, CEO of Enterprise Ireland, the state agency responsible for the development and growth of Irish companies in global markets.

“To give just a few examples, software firm NearForm built the world’s most widely used COVID-19 contact-tracing app that is used by millions across Europe and the U.S.; biometric authentication solutions provider Daon created VeriFLY, a mobile health passport adopted by American Airlines and British Airways; Kastus developed an antimicrobial coating proven effective against coronavirus that can be integrated into touchscreens; and Combilift engineered a splitter device to turn one ventilator into multiple ventilation stations.” Ireland has attracted many multinationals in sectors like pharmaceuticals, medtech, life sciences and digital technology, which have a substantial presence in the country, but what these illustrations help demonstrate is that, through Enterprise Ireland, it has also invested heavily to create a strong, vibrant base of resilient and highly successful home-grown tech businesses.

“Driving the competitiveness, innovation, diversification and global ambition of Irish companies is high on our agenda.”

Julie Sinnamon, CEO, Enterprise Ireland

At present, Enterprise Ireland is investing in and supporting over 1,000 Irish technology companies that employ more than 64,000 people. These firms recorded combined annual sales of €8.5 billion in 2019, up 11 percent on the previous year, while their exports grew by 14 percent to €5.1 billion. “We invest in the most innovative Irish companies through all stages of their growth and connect them to international customers across multiple industries. Driving the competitiveness, innovation, diversification and global ambition of Irish companies is high on our agenda. Internationally, our goal is to build successful, long-term business relationships between international companies and Irish partners: Enterprise Ireland has 40 offices worldwide with teams of industry experts that consult with those companies to understand and solve their needs,” summarizes Sinnamon.



Irish developer NearForm’s COVID app has been a total success

For early-stage Irish businesses, the agency has been a driving force in the establishment of a thriving venture-capital (VC) investment landscape, she notes. “Enterprise Ireland was ranked first in the world in Pitchbook’s 2020 league table of VC investors. That year, we invested over €48 million in Irish startups and supported a total of 125 new companies in sectors such as fintech, cybersecurity, digital health and agri-tech. That’s the highest level of funding that we have awarded to early-stage companies to date.” The agency aims for inclusivity in its portfolio: half of these newly backed firms are located outside Dublin and 38 are led by women, she reveals. “In 2011, 7 percent of our tech entrepreneurs were female when the global figure was 8 percent, which is really appalling. Today, we are at about 22 percent in Ireland and the global figure is still 8 percent. We’re so proud of what we have achieved to encourage female entrepreneurship.”



Julie Sinnamon
CEO
Enterprise Ireland

Enterprise Ireland has various tools for investing in startups. For instance, its innovative High Potential Start-up program provides equity investment on a co-funded basis for those raising pre-seed or seed funding, while its Competitive Start Fund is for innovators at proof of concept stage and offers €50,000 for 10 percent of a company’s equity. Both of these are open to international entrepreneurs that are headquartered in Ireland and meet certain other criteria. Further along a business’ life cycle, it oversees many initiatives that help Irish companies build scale, expand international reach and consolidate relationships within the country’s renowned innovation ecosystem. A key example is the €500-million Disruptive Technology Innovation Fund, asserts the CEO. “It drives collaboration between Ireland’s world-class research base and industry, as well as the development and commercial deployment of disruptive and innovative technologies. Eligible projects must have at least three partners and it has been incredibly important in bridging partnerships between multinationals, Irish small and medium-sized enterprises and universities.”

Ready for the next opportunity

While Ireland’s tech sectors were well placed to take advantage of the pandemic, firms in other areas were less fortunate, with those in hospitality and travel being hit particularly badly. Part of the agency’s role is to bolster Irish businesses during crises and prepare them for future challenges or opportunities. “As soon as COVID hit, we mobilized a range of supports to assist enterprises that have been negatively impacted to stabilize, reset and recover. In 2020, a total of €142 million was allocated to 1,919 companies,” Sinnamon points out.

The agency has also worked intensively with its exporting clients on their innovation, competitiveness and diversification in response to Brexit, she says. “Since January, we’ve had a fundamentally changed trading relationship with the U.K. but initial evidence suggests that Irish companies have prepared well for that. It will remain an important trading partner, although our reliance on the U.K. has decreased in the past decade as we have diversified our export markets.” One market that is gaining from that diversification is the U.S., Ireland’s biggest goods export destination that accounted for almost €5 billion or 31 percent of its exports in 2020. “We’re ambitious for the U.S.: we have set targets to grow our exports to that country by 50 percent and now have six offices across the U.S. to support that. Historically, we’ve had a close connection; U.S. multinationals have significant operations here, but Ireland also makes

“We’ve always prided ourselves on putting in place a proper infrastructure to allow international corporates to thrive here.”

Geoff Moore, Managing Partner, Arthur Cox

a strong economic contribution to the U.S.: more than 650 Irish companies have operations there and, over the last two years, Enterprise Ireland supported the establishment of 125 new company presences across the U.S.”

Another strategic priority for Enterprise Ireland is helping Irish companies to reduce their carbon footprint and capitalize on the opportunities emerging from the global low-carbon transition. The country is fifth worldwide in MIT Technology Review’s Green Future Index 2021 in terms of the progress it has already made toward becoming a green economy. As a result of this, it has fostered a forceful pipeline of innovators that are delivering high-tech sustainable solutions in areas such as clean energy, farming technologies, construction, transport and smart cities. These innovators bear the typical characteristics of Ireland’s innovators, according to Sinnamon. “Their forward-looking mindset means that product, service and process innovation are key driving factors. Irish companies are strong and loyal, with a unique approach to partnering with global customers and a proven track record of meeting their needs.”

A magnet for European investment

One reason why Ireland is producing so many indigenous business success stories is also a major factor in its appeal to foreign investors: exceptional talent. “The education standards in our country have definitely helped us bring in international corporates. We have the highest percentage of third-level educated students anywhere in Europe, plus Irish people tend to be resilient, hard working and focused on bettering themselves. That’s a very attractive proposi-

Innovation Ireland in numbers

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|  | Enterprise Ireland is the world’s top VC investor |  | Irish tech exports rose 14% to €5.1bn in 2019 |
|  | Over €48m invested in Irish startups in 2020 |  | 1,000+ tech firms with €8.5bn sales in 2019 |



Geoff Moore
Managing Partner
Arthur Cox

tion for employers,” says Geoff Moore, managing partner of Arthur Cox, the leading corporate and business law firm that has offices in Dublin, Belfast, London, New York and San Francisco.

“The Irish 12.5-percent corporate tax rate gets an awful lot of lazy headlines, but the attractiveness of Ireland for multinationals is far more than that: it’s the workforce and the system of doing business,” he adds. That system is straightforward to negotiate, particularly for U.S. companies looking for a base in the eurozone that can act as an easy gateway to the rest of Europe and other continents. “As a result of Brexit, Ireland is now the only primary English-speaking country in the European Union. For North American inward investment, the fact that our legal system is broadly equivalent to that which North American corporates are familiar with helps as well.”

Another key element that contributed to Ireland’s investment inflows remaining buoyant in 2020 is the ongoing support that multinationals in forward-focused sectors like financial services, technology, pharmaceuticals and life sciences receive from government bodies like Enterprise Ireland and investment promotion agency IDA Ireland long after they have set up operations in the country, Moore remarks. “Growing, innovating and providing day-to-day practical guidance—such as helping corporates secure real estate and linking them up with universities in terms of research and development hubs—is a very important part of our success story. We’ve always prided ourselves on putting in place a proper infrastructure to allow international corporates to thrive here.”

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Can Dublin take over as Europe's Silicon Valley?

The Irish capital makes a good springboard for entrepreneurs eyeing the global market, as illustrated by successful software company Workhuman

Dublin is a dynamic tech hub that has attracted hundreds of businesses from startups to giants like Google, Facebook and LinkedIn. Prominent among its local success stories is Workhuman, previously known as Globoforce, which was valued at over \$1 billion in 2020, making it Ireland's second unicorn. Could you introduce the firm that you co-founded in 1999?

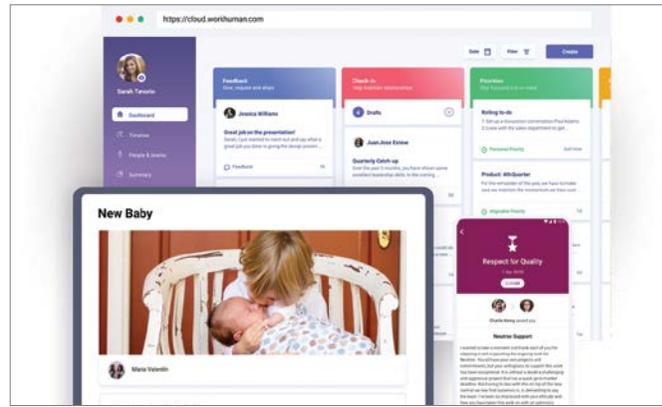


Eric Mosley
Co-Founder and CEO, Workhuman

Workhuman is the world's leading tech platform for creating more inclusive and happier workplaces through social recognition and continuous performance management. At the heart of what we do is a software platform that allows companies to run social recognition programs. With these, a company will take a percentage of their payroll budget and give it to their employees, who give each other small micro bonuses to say thank you for great performances. Our customers include some of the world's largest multinationals like GE, Procter and Gamble, Cisco, Dell and Johnson & Johnson that have staff all over the world—the 5 million employees on our platform are in 180 countries. We've been profitable for 10 years, will hit a billion dollars in billings this year and are coming up to 1,000 employees.

Workhuman is dedicated to making workplaces more human. Why is that important and how does technology help achieve it?

At the heart of a knowledge economy is creativity and innovation. By creating a more human workplace, you are solving the core human needs of employees: to have connection with others, feel appreciated and feel recognized. If those aren't met, we all struggle, but when they are met, we are free to be more creative. Workhuman is a software company that aims to inspire users and make them feel good about themselves and their colleagues. The more we can deepen their relationships, the more powerful our product becomes. Artificial intelligence (AI) and data science are at the core of what we do because the data that we generate is unique and powerful: we have 50-million data moments in our database. Our data scientists provide incredible insights to our customers about how work gets done in their firms. Leaders are able to answer new questions, such as who are the unsung heroes and we can also find patterns around issues like gender and race. We are ramping up our investment in data science through our Workhuman Analytics and Research Institute because we feel it can help not just our customers but society as well.



Workhuman solutions enable employee recognition and inclusion

What impact did the pandemic have on your business?

We are on an incredible growth trajectory. Companies saw an increase in productivity when their employees started to work from home, but that waned. Over time, company cultures were disintegrating and the relationship between employees was wearing away because they weren't interacting in anything other than transactional online business meetings. We became much more urgent for our customers as they looked to rescue the feeling of community.

After the pandemic is over, some people will choose to continue to work from home. Mobility in the workforce will go up and retention of talent will become an issue for employers. If they want to retain their employees they will need to do new things. Creating a recognition culture helps remote employees feel more connected and we know from our data that people don't tend to leave organizations where they have colleagues, friends, a community and they feel good about the workplace.

"Workhuman is the world's leading tech platform for creating more inclusive and happier workplaces."

Eric Mosley, Co-Founder and CEO, Workhuman

How global is your market in terms of both geography and size of customer?

A lot of our initial customers were U.S. based and the majority of our sales and marketing investment was in that market, while functions like software development and finance stayed in Dublin. We're still only at the tip of the iceberg in the U.S. but, over the last five to seven years, we've had big European companies come to us like BP, Schneider Electric and AstraZeneca. Our product and this way of managing employees—by inspiring them and creating great cultures—is now much more globally accepted. We are starting to invest in sales and marketing in Europe and, after that, we see countries like Australia, New Zealand and then Asia as opportunities.

We've also created a version of our product that works more efficiently for smaller enterprises and aim to build our presence in the mid-market and then with small to medium-sized enterprises. What we do is as powerful if you have 100 employees as if you have 100,000—companies that want to thrive today and in the future have to look after their people at a meaningful human level; that's the way to create very strong, powerful businesses.

Coping with global e-commerce acceleration

The surge of e-commerce and the need for sustainability in its field have carved a place of choice for Irish packaging giant Smurfit Kappa



Smurfit Kappa is a global leader in corrugated packaging

According to analyst firm eMarketer, the value of worldwide e-commerce purchases shot up 27.6 percent in 2020 to reach over \$4 trillion as lockdowns drove people online to purchase goods that could be delivered to them.

Under the circumstances, the world's supply chains held up surprisingly well to this dramatic shift in buyer behavior, with manufacturers, banks, retailers, postal services and delivery companies all adapting their practices and boosting their digital capabilities to cope with changing demands. But there are other, unsung protagonists that have played a vital role. Among them is Smurfit Kappa, one of Ireland's largest companies and a global leader in the manufacture of paper-based corrugated packaging, containerboard and bag-in-boxes. "Corrugated boxes are an essential item: without boxes food doesn't get delivered and pharmaceuticals and medical devices don't get shipped, for example. In Europe alone, one in every five or six of those boxes is from Smurfit Kappa, so we had to make sure we kept going during the crisis. We managed by taking very quick decisions about how to keep our supply chains uninterrupted and by implementing strict procedures that prioritized the safety of



Tony Smurfit
CEO
Smurfit Kappa

others. Its operations are integrated: most raw materials for its packaging are sourced from its own paper mills and are made up of sustainable material, it owns about 67,000 hectares of forest globally that are certified by the Forest Stewardship Council, and by reprocessing over 6.5 million metric tons of recovered paper every year, it's Europe's largest recycler. "Our product is biodegradable, it's recyclable and, therefore, it's a better product. Our business is completely recycle oriented; for example, we have closed-loop systems with customers: we supply the boxes, then we collect the

waste from them or their customers and bring it back into our mills. Everything that we do is geared toward reducing waste, that's the thing that makes me proud," he explains.

The company's 28 research and development centers across the world are also tasked with increasing sustainability, states the CEO. "We've got a thousand designers working on packaging innovations, such as how do you replace polystyrene or make paper waterproof. At the end, though, the real cleverness is to be able to explain to a customer that if they change their yogurt-pot height, they will get one more pallet line on a truck, reducing their costs and their carbon-dioxide emissions—that's innovation." Smurfit Kappa is also spending hundreds of millions of euros to reach carbon neutrality by 2050. "We don't believe in an offset approach to sustainability: you've got to invest hard cash to make sure you reduce your usage of energy, water, everything," he remarks.

As well as being a good citizen for the planet, the firm aims to be a good local citizen, Smurfit adds. "Our mission is to be globally admired and, for that, you have to put money back into society. We spend about €7-8 million a year helping local communities. Where our admiration will come from is being the kind of company that we are, for the communities in which we operate, continuing to innovate for our customers and delivering for our stakeholders." The CEO's visionary approach certainly has many global admirers: Smurfit Kappa recently raised €660 million to accelerate investment in its business worldwide and he was named CEO of the year by market analysts Fastmarkets RISI. "I think the award was a recognition of everyone in Smurfit Kappa. I'm just the figurehead making sure everything is moving in the right direction, the hard work is done by our 46,000 employees," he notes modestly. "The future is looking very strong for us, the trends and our investment plans are in great shape. My personal view is that in the next five years the company will go from strength to strength."

"Everything that we do is geared toward reducing waste, that's the thing that makes me proud."

Tony Smurfit, CEO, Smurfit Kappa

our staff while keeping everything flowing well," reveals CEO Tony Smurfit.

Those supply chains are vast: the Dublin-headquartered FTSE100 firm has 350 production sites in 35 countries that create a combined 11.7 billion square meters of packaging a year for 65,000 customers. As well as being Europe's top paper-based packaging manufacturer, it's also the only Pan-American producer of containerboard and corrugated packaging with a regional headquarters in Miami. Established in 1934 in Ireland and listed on the London and Irish stock exchanges, the dynamic company has expanded its international footprint over the decades to become the global force it is today: in the last five years alone, it has acquired paper, packaging and recycling businesses in Serbia, Bulgaria, the Netherlands, France, Portugal, Russia, Greece, the U.K. and Brazil. As e-commerce has flourished over that period, so has Smurfit Kappa, and 2020 saw the firm generate €8.5 billion in revenues and 10 percent more profit than in 2019. "Our business is in excellent shape because the pandemic has accelerated trends that were already present in the market," asserts Smurfit.

In addition to the rise of e-commerce, the other trend driving the company's growth is sustainability, an issue on which it sets much higher standards than

Sustainability: At the fore of service delivery

The digital and sustainable transformation of Ireland’s postal services epitomizes the country’s innovative journey

In 2020, Ireland experienced one of the longest lockdowns in Europe. Even so, its citizens stayed connected and businesses kept trading thanks to a postal system that is recognized as being among the best in Europe.

“An Post’s purpose is to act for the common good, to improve quality of life now and for generations to come—this informs everything we do. During the past year, the company truly acted for the common good by keeping our postal service and post offices open. Our frontline staff—our delivery, sorting and post office workers—have been heroes,” states David McRedmond, CEO of the state-owned company that has played a substantial role in Ireland’s development over 400 years.

The most significant impact on its services last year came from the boom in e-commerce, McRedmond says. “Anything bought online had to be delivered and most was delivered by us. Parcel volumes increased by over 100 percent and at one point that was up to 300 percent. We installed more infrastructure, capacity and automation throughout the year, which enabled us to deal with that increase.” Meanwhile, An Post’s almost 950 post offices that cover the country were of central importance to their local locked-down communities. As always, customers could use them to access postal services, social welfare payments and to pay bills. They also act as branches for Irish State Savings accounts, and provide banking services for all major banks in Ireland, many of which have withdrawn from rural areas in recent years.

As a demonstration of the company’s solidarity with Irish citizens, it initiated additional vital services during the crisis, such as offering free postage to

“An Post’s purpose is to act for the common good, to improve quality of life now and for generations to come.”
David McRedmond, CEO, An Post

nursing and care homes, extending financial services and providing almost €2 million in assistance to small businesses through discounted postage and direct mail support to boost their online sales. “Despite the challenges we faced in 2020, we grew our revenues by 2 percent to €915 million. We handled €13 billion in transactions over the year, our profits before depreciation were €33 million and we have €22.8 billion in Ireland’s State Savings products through our post offices, an increase of 7 percent. We grew our business and accelerated our transformation into an e-commerce company regardless of COVID,” he reveals.

An Post’s ongoing, rapid evolution into a highly digitalized business is primarily aimed at improving profitability, raising revenues and introducing new services, explains McRedmond. “To date, most of our internal digital



An Post’s parcel volumes increased by 100 percent in 2020

transformation has been about building out our parcel e-commerce infrastructure so that we can trade internationally. It’s been extremely complex because of Brexit: 70 percent of our international parcels come from the U.K., so we’ve had to make sure that we can put all of that through a new customs platform and enable end-to-end frictionless trade. That’s working extremely well.”

The firm is also digitally transforming customer services. It has created a very advanced online track-and-trace system for customers and is building out its e-commerce capabilities, so that customers can manage deliveries and collections for out-of-home e-commerce as easily as they can when they are in a static location. Additionally, it’s launching An Post Commerce, a business-to-business platform to help enterprises trade more freely online and internationally, and the expanding financial services brand, An Post Money, is becoming more digitally enabled as well.

In tandem with its digitalization, An Post has a leadership role in Ireland’s transition toward a low-carbon society as one of the country’s 12 appointed Sustainable Development Goals champions. “Sustainability is at our core. We have Ireland’s largest electric fleet of vehicles and Dublin was the first city in the world to have zero-carbon postal deliveries. All our deliveries in every Irish city will be electric by June. However, the postal network was built to deliver small, light letters and so we are completely rebuilding all of our local delivery units over the next three years to accommodate more parcels and this will be completed to the top rating achievable for energy efficiency. By 2030, we aim to be carbon neutral,” he asserts. The company also intends to invest heavily in the circular economy and environmentally friendly packaging, utilizing the skills of local experts such as paper-based packaging giant Smurfit Kappa.

To help its customers embrace sustainability, An Post recently launched its Green Hub platform, notes the CEO. “It simplifies access to great value loans, state grants, building and planning experts to make homes greener and with higher energy ratings. That’s an example of innovation that can make sustainable living commonplace for people.”

McRedmond believes that the firm will play a crucial part in Ireland’s economic recovery as it emerges from the pandemic. “COVID has accelerated the future strategy for postal services: it’s now not only about a postal person delivering mail, but also about e-commerce, trading and logistics. These are vital services in a fully open international economy like Ireland. We’ve built a world-class postal system and we’re open for business.”



David McRedmond
CEO
An Post



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*PitchBook 2020 Annual League Tables

Broadband access for all means no one is left behind

With the help of the private sector, the government is offering high-speed internet access to everyone in a huge €3 billion digitalization drive

Companies of all sizes active in a diverse range of sectors across Ireland had to learn and adapt pretty quickly to overcome the unprecedented challenges placed on normal work patterns in the early and subsequent stages of the COVID-19 pandemic.

As employees switched to home workstations, the challenge to navigate the remote-working revolution and cope with the increased pressures on hardware and software systems was one that Irish businesses faced head on and conquered with the support and forward-thinking approach of the government.



David McCourt
Chairman
National Broadband Ireland

Almost a decade ago, ministers launched the ambitious National Broadband Plan (NBP); the government's initiative for the delivery of high-speed broadband services to all premises in Ireland. The large-scale, comprehensive blueprint is being delivered through investment by the commercial enterprise National Broadband Ireland (NBI), coupled with intervention by the state in those parts of the country where private companies have no wish to invest in high-speed broadband provision.

In total, the state intervention area covers over 544,000 premises, 1.1 million people, more than 54,000 farms, around 44,000 non-farm businesses and almost 700 schools. "We've done a huge amount of work to try and get our smaller companies online, both before and during the pandemic," states Tánaiste and Minister for Enterprise, Trade and Employment, Leo Varadkar. The minister played a pivotal role several years ago in the decision to roll-out cutting-edge telecoms services to villages and rural areas, rather than limit access to people and firms in towns and cities, a decision that is now benefiting thousands of people.

"The pandemic has been an accelerator in that regard," he adds. "Through our NBP we're investing €3 billion, which is a huge amount of money for Ireland. The aim is to bring fiber to 99 percent of homes, farms and businesses in the country. Broadband is the future, and Ireland is one of the first countries in the world to do this, to make high-speed broadband as ubiquitous as electricity or telephone lines would have been in the past."

Around 18 months ago, NBI was awarded the government contract to deliver the NBP in a move encompassing the single largest investment ever in telecom infrastructure by an administration and the largest investment in Ireland since rural electrification. The initial timeline for



NBI is installing enough cable to go round the globe four times

the public-private partnership called for project completion within ten years, but this was soon revised down to seven years, before the government expressed its intention to try and complete it in five years because of the pandemic situation and the increased need for digitalization.

This massive extra workload and race against the clock might have unnerved some companies, but NBI—headed by well-known American-Irish billionaire, and reputed business and telecoms guru, David McCourt—is taking the challenge in his stride. "The government was unbelievably bold in that it showed huge leadership as the first country in Europe to mandate such a move," NBI's chairman explains.

"No man, woman or child will be left behind. Broadband connection allows people to lead a prosperous life in a rural environment, with equal access and equal opportunity. Urban areas around the world have been growing by three million people a week; it's just unsustainable. The only way to turn that around is to get people employed where they live, so they don't have to commute. People in a rural environment need to be able to start a business or grow a business from where they are. We

"Delivering universal access to technology for every man, woman and child is something that Ireland will be very proud of. The rest of the world will admire what we have achieved."

David McCourt, Chairman, National Broadband Ireland

need to ensure that everyone has equal access to high-speed connectivity. Once you do that, you can then transform healthcare, education, commerce and so on. You can transform how people work, how they're educated, how they care for themselves, how they care for their family, but you can't do any of that if you don't start with broadband. The size and scale of Ireland's NBP will pave the way, not only for Ireland, but hopefully for other nations to hold up as a successful blueprint."

According to McCourt, NBI is progressing very well with the project, despite the obstacles created by the pandemic. Once finished it will be seen as the global "gold standard" and put Ireland on the international technology map. "Delivering universal access to technology for every man, woman and child is something that Ireland will be very proud of. The rest of the world will look at and admire what we have achieved. Ireland has been a leader in tax reform, in education reform and the nation now has the chance to repeat that position in healthcare reform, employment reform and more."

Telecoms sector investment is catalyst for connectivity

Fast, efficient and reliable mobile services are being introduced to every corner of the country

The National Broadband Plan comprises just one part of Ireland's telecommunications growth strategy, with national and international companies investing billions of euros in wireless, cable and broadcast infrastructure, as well as state-of-the-art data centers and fast, secure and reliable networks.

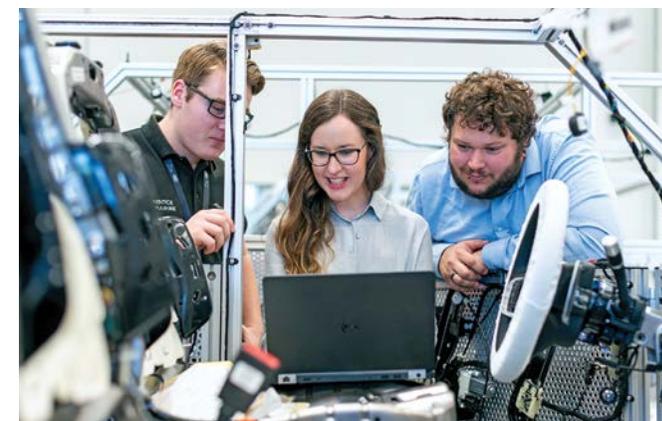
The early stages of the pandemic saw telecommunications networks record an average 35 percent increase in peak traffic. Eamon Ryan, Minister for Environment, Climate and Communications, and Minister for Transport, is excited about its prospects. "There are three technological revolutions taking place: in digital, clean energy and transport," he says.

The government's forward-thinking approach to the telecoms sector has certainly been matched by the enthusiasm of major international players. Three Ireland is one of the leading mobile operators in the country and a substantial investor in telecom infrastructure via Hong-Kong-based parent CK Hutchison. The group has allocated more than €2 billion to operations as part of its mission to spearhead technological development. With almost 40 percent market share across consumer and business segments, Three Ireland is well positioned to capitalize on the many opportunities created by the expansion of 5G network coverage. The company has strong foundations for such optimism given it currently carries over 60 percent of all mobile data in Ireland—more than all other operators combined—with 99 percent 4G population coverage.

"Despite the various challenges of 2020, we maintained our investment in infrastructure and committed over €130 million."

Robert Finnegan, CEO, Three Ireland

"We are the only operator to have a ubiquitous holding of 5G spectrum right across the country between rural and urban, with no differentiation between both. This means our customers in rural Ireland have access to the same high-quality connectivity we expect in urban settings. Three was the first network in Ireland to provide 5G in every county, for both pre-pay and bill-pay customers," says Robert Finnegan, CEO of Three U.K. and Ireland. "2020 was an incredibly challenging year for all businesses and I'm extremely proud of our team who kept our customers connected. Despite the various challenges of 2020, we successfully maintained our investment in infrastructure and committed over €130 million. The importance of connectivity cannot be underestimated, even more so at the moment."



Three Ireland turned on its 5G network in September 2020

Three Ireland is certainly no slouch when it comes to technological transformations, leveraging the latest technology such as artificial intelligence or data analytics to drive innovation and conquer new frontiers. "Since 2017, we have gone through a massive digitization of the business," adds Finnegan. "We have embraced technology hugely and will continue to do so. For our customers, we are always seeking to bring rich data sets that provide deeper insights and drive better business decisions."



Robert Finnegan
CEO
Three Ireland

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Irish life-science industry expands its global footprint

Ireland's growing pharmaceutical and biotech reach has given the national economy and export industry a shot in the arm

Even before the COVID-19 pandemic emerged, Ireland's biopharma sector was performing strongly in many strands of the innovative and crucial industry, with companies active in this arena exporting products valued at more than €96 billion in 2020—over 60 percent of all export goods.

Over the last decade, some of the world's biggest biopharma companies have invested billions of dollars in modern Irish manufacturing facilities that produce tablets, treatments and vaccines for a broad range of health conditions and ailments. Eighteen of the top 20 pharmaceutical companies in the world are manufacturing in Ireland, attracted less by its favorable investment and tax climate than by its large talent pool. For example, U.S. titan Pfizer recently unveiled plans to invest \$40 million at its Grange Castle facility in Dublin to manufacture a key component of the mRNA Pfizer-BioNtech COVID-19 vaccine.



Irish Combillift's splitter creates multiple ventilation stations

The high-profile announcement was hailed by influential business representative organization Ibec as further proof Ireland has the capability to become a continental leader in the biopharma sector. Also on the national agenda is the development of digital health solutions to attract international investment and growth in high-tech indigenous companies. Matt Moran, director of BioPharmaChem Ireland (BPCI), the body that represents biopharmaceutical manufacturing within Ibec, says the nation is pleased about the way Ireland supplies countries across the world with essential medicines. "BPCI is immensely proud of this achievement and the ongoing role that Pfizer and the biopharmaceutical industry plays in helping to end the pandemic," he states.

Along with household names, one of the oldest privately held biotech companies present in Ireland is Aalto Bio Reagents, the market leader in the development of proteins and antibodies for new and emerging diseases. In addition to being Europe's largest provider of bulk disease state plasma for controls, the firm is a major custom manufacturer of new recombinant antigens, while its strong product portfolio includes bulk antigens and antibodies. Pre-COVID-19, much of its work was concentrated on tackling serious tropical diseases, but it has now grown into a leading developer of critical raw materials and reagents for the development of diagnostic tests.

"If there is a new disease, we find the solution early. A lot of the rapid COVID-19 tests on the market have Aalto-based proteins in them."
Philip Noone, CEO, Aalto Bio Reagents

"If there is a new disease, we find the solution early," states CEO Philip Noone. "We are finding that solution first, we are finding it early and we are going to solve the problems of the world in terms of touching hundreds of millions of people's lives by being able to diagnose diseases earlier and faster than anybody else. Through the COVID-19 experience, we have been able to shorten the development process from 15 months to within two months. We have now fine-tuned our internal processes so that we can build it a lot quicker. A lot of the rapid COVID-19 tests on the market have Aalto-based proteins in them to do that diagnosis."

Noone believes that life science, as a business, is extremely robust, as evidenced by Aalto's continued operation and solid production throughout the current pandemic. "We are going to continue to grow, expand and add very innovative products that nobody else has in the market and try to be first with those products," he pledges.

Medtech sector leads global fight against COVID-19

Irish expertise and medical device technology is helping save the lives of seriously ill patients at intensive care units across the world

One of Ireland's most successful export-driven industries is also one of its lesser known, with the country's medtech sector among just a handful of emerging hubs throughout the world. Centered on the historic harbor city of Galway, the dynamic medtech hub boasts eight of the world's top-ten market participants, and features a strong support network of firms and entities in fields including research and development, education, manufacturing and logistics.

Industry data shows the impressive size and success of the Irish medtech sector, with more than 300 companies employing almost 30,000 people, and exports of modern medical devices worth nearly €13 billion per year. Having grown in recent years into the second-largest exporter of medical devices in Europe, Ireland is playing a crucial role in the worldwide battle to save the lives of hospital patients struck down by COVID-19.

Nowhere has this life or death contest been more apparent than at the headquarters of Aerogen, a designer and manufacturer of an innovative aerosol drug delivery system that allows drugs to be administered to ventilated patients. Highly regarded by its peers, the award-winning enterprise founded by John Power is a home-grown company turned into a global champion, with its life-saving products utilized in intensive care units around the world.

"Aerogen is the only globally available nebulizer that enables delivery of drugs to ventilated COVID patients through a closed circuit system."
John Power, Founder and CEO, Aerogen

"Three million ventilated patients were treated with our technology last year and, along with the number of programs we're involved in with the drug companies for treatment of infected patients, I seriously doubt whether there's another single company in the world that has had more contact with COVID-19 patients than Aerogen," says Power, who is also the firm's CEO. "Aerogen is the only globally available nebulizer that enables delivery of drugs to ventilated COVID patients through a closed circuit system. Once people realized how important that was, as a lot of the caregivers were getting sick, that meant they really desperately needed our product."

"We started getting approached by lots of pharmaceutical companies and biopharma companies who had drugs but didn't have ways of delivering them to the ventilated patients. They wanted to work with us, with our systems, to deliver their drugs specifically to patients. We formed a group called COVID Response Team. Between research institutes, phar-

maceutical companies and biopharma companies, Aerogen is involved in about 30 different programs for different drugs for treatment of COVID-19. Suddenly, we became the preferred means of delivery for all these companies. We're only a small firm, of about 330 people, but just by chance it happened to be our sweet spot. The pandemic brought Aerogen right into the frontline and I'm just happy we were able to respond."



John Power
Founder and CEO
Aerogen

The senior executive has some words of advice for businesses seeking to establish operations in Ireland, noting the absence of a large internal market, when compared to the likes Germany, France and the U.S. "In Ireland, you can't service your home market, you have to grow and become an exporter," he explains. "If you start a company in Ireland in the technology space, you immediately have to think of export; Irish companies are born global. When I started this company—which invests all of its profits back into research—I was thinking the U.S. and Europe. I wasn't concentrating on what I was going to do locally."

Turning his attention to future medtech developments, Power reveals Aerogen is working on a way to deliver a drug to premature babies via nasal cannula. He also highlights the rich talent available on his doorstep thanks to the medtech hub that has mushroomed in Galway. "The city is one of the biggest medtech hubs in Europe and the university has extensive courses in biotechnology, medtech and medical engineering. There is a constant stream of young graduates coming through," he adds.

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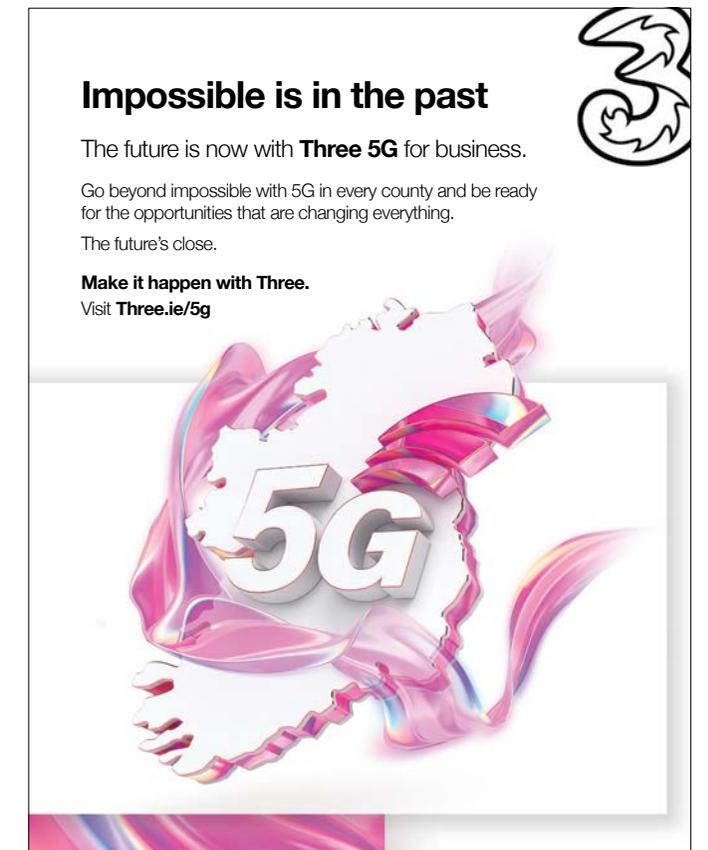
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A trusted partner for clinical development

Thanks to Dublin-based ICON's focus on partnership and innovation, COVID-19 vaccines reached the market with unprecedented speed

In December, after one of the largest and fastest clinical trials ever conducted, the U.S. Food and Drug Administration granted its first Emergency Use Authorization vaccine approval to Pfizer and BioNTech.

With so much riding on rapid, accurate evidence for the Pfizer-BioNTech COVID-19 vaccine's safety and effectiveness, the pharmaceutical-biotech consortium turned to Irish experts to conduct the complex phase-3 study involving 44,000 patients worldwide: ICON, a global provider of outsourced pharmaceutical, biotech and medical-device development and commercialization services. "30 years ago, the pharmaceutical companies did everything; they'd do the research, find the drugs, develop, manufacture and sell those drugs. These days, they have the opportunity to outsource that clinical development. We work for companies that have a need to continually do research and development (R&D); specifically, it's more the D that we do rather than the R," explains ICON CEO Steve Cutler.

One reason it was entrusted with the trial is the huge capabilities of a clinical contract research organization (CRO) that expects to grow its revenues by at least 21.6 percent this year to hit \$3.4 billion or more. Established in Dublin in 1990 by a team of five, the firm currently employs around 16,000 staff in 41 countries, 1,000 of whom worked on the phase-3 project. "Scale is important in large clinical trials as you have to recruit patients in many different countries quickly and effectively. With the Pfizer-BioNTech vaccine, we were able to establish sites in Argentina, Brazil, the U.S. and South Africa where virus outbreaks were taking place, so that we could enroll subjects who were likely to be exposed to it and would benefit from being protected," says Cutler.

ICON is about to get even bigger, having recently announced its proposed purchase of U.S.-based PRA Health Sciences, which should be completed during July. PRA is another leading CRO, with approximately 19,000 employees in over 75 offices across the world that provide outsourced clinical development and data-solution services. "This is a very important acquisition for us. It will more than double our size and bring us to either number one or two worldwide in the key segments of the clinical development market, whether it be full service, functional service or early-phase research," he states.

Another reason ICON was chosen for this and other COVID studies is that, having collaborated closely with most of the big pharma companies over many years, the multi-award winning firm is recognized as a trusted partner, asserts the CEO. "Pfizer was one of our first customers in 1990, for example.



Steve Cutler
CEO
ICON



Pharma companies increasingly outsource clinical development

Because of our strategic partnership, we could move very quickly, we understood their operations and processes, we knew what they were going to do, what we were going to do and how that interaction would happen. Partnerships with pharmaceutical and biotech companies are a key focus for us—it's a long-term thing." As a result of its vast expertise across diverse clinical areas, 92 percent of ICON's trials come in ahead of schedule and on or under budget, he notes. "We are able to take our experience of developing vaccines, or drugs targeting cancer, asthma, infectious diseases or any other therapeutic area, and apply that to new compounds as they come through. That's one of the benefits of being in the CRO market: we're not locked into any one specific method of clinical development. We have our own standard operating procedures, processes and technology platforms, but we also have an ability to be agile and work out the best option for a particular drug."

Innovation is at the core of ICON's activities and, during the COVID vaccine trial, it utilized a full suite of innovative approaches and technologies to accelerate the study's timelines while ensuring delivery of high-quality data for regulators. "We want to be the industry's innovator in a way that allows our customers to be really successful in terms of the number of drugs they get to market, the speed at which they get them there and, of course, the benefits

"We have to continually move forward, reinvent our business and reinvent the landscape of clinical development."

Steve Cutler, CEO, ICON

of those drugs when they get to the market. For instance, artificial intelligence has helped us to accelerate documentation-related processes, reducing the cost of conducting a trial. Being more efficient and effective with our customers' budgets is what we try to do as an organization. Another crucial area of innovation concerns decentralized trials, which combine mobile and connected health platforms, a global site network, home-health services and wearables," comments Cutler.

ICON sees patient-centered decentralized trials as just one way in which it can speed up the future development of much-needed medicines that save or improve lives, he says. "In our business, you're really only as good as your next project. We have to continually move forward, reinvent our business and reinvent the landscape of clinical development. I think that we have a sustainable growth path in what is an expanding market worldwide; ICON can be a significant force in the industry over the long term for our partners, other customers, shareholders, employees and, of course, for society at large."

Healthtech eases hospital burdens

Ireland is a center of excellence in the provision of access and communication services for patients

The COVID-19 pandemic brought into sharp focus the severe financial and staffing pressures many of the world's health systems face today.

Increasingly, hospitals and other healthcare providers are realizing that one answer to these challenges lies in allowing medical professionals to focus on what they do best—treating patients—by outsourcing other services. A key illustration of this trend is Ireland's healthcare communications consultancy and outsourcing specialist RelateCare. "We provide a broad range of services, including onsite consulting centered



Conor O'Byrne
CEO
RelateCare

on improving and optimizing patient access and engagement, and offsite smart-sourcing solutions, where our clinical and non-clinical employees act as a seamless extension of our hospital partners' contact-center operations along the patient journey, from pre-hospitalization appointment scheduling to post-discharge follow-up. We've invested in the people and technology to offer competitive solutions that are often more enhanced than their in-house services and outcomes: we bring an elevated customer experience in a cost-effective way," explains CEO Conor O'Byrne.

RelateCare began in 2014 as a joint venture between the experienced Irish customer-management and services organization Rigneydolphins and Ohio's world-renowned Cleveland Clinic. It now has more than 800 employees across the U.S. and Ireland that managed over 5 million patient contacts plus a vast number of interactions through SMS, email, social media, chatbots and other channels in 2020. "We maintain our roots in Ireland but are also deeply embedded in the innovative U.S. healthcare industry, with most of our longstanding client partners being globally respected U.S. providers: we are currently working with five of the top 20 U.S. health systems and seven of the world's best 200 hospitals. In Ireland, we are a partner of the Health Service Executive on services including a COVID helpline and vaccine rollout solutions, and we are working with private healthcare providers," he states.

Continuous innovation through state-of-the-art technologies is a competitive advantage for RelateCare, O'Byrne adds. "For example, we've partnered with an artificial-intelligence company on an interactive post-discharge program, we're introducing video communication and looking to deploy robots to automate workflow steps." He believes the company has substantial growth potential. "We're building up our services and targeting expansion into remote patient monitoring, chronic care and disease management. We will continue to invest in the U.S. but we have started to explore other markets as well. We expect our turnover and workforce to grow by 50 percent this year and are looking to triple the size of the organization before 2025. In that scenario, we want to continue to grow and work with great hospitals and health systems, while expanding our solutions that blend people-based service delivery with enabling technologies and innovation."

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Protection technologies come in handy

Preventing the virus' spread requires a strict multi-disciplinary approach involving many different parties

The global race to secure personal protective equipment at the start of the pandemic dominated headlines around the world. Governments and health authorities spent fortunes on scarce supplies of life-saving medical items, such as surgical masks, safety goggles, rubber gloves and bio suits.

Slightly away from the spotlight, many cleaning companies and providers of hygienic equipment and related facilities were working around the clock to ensure hospital wards and medical centers were adhering to strict standards of hygiene. Their efforts reduced the risk of transmission between patients, staff, visitors and ancillary workers, and also helped to reduce viral loads, so boosting a patient's chances of survival. Among those at the heart of this battle was Ireland's DorteK, a specialized door manufacturer whose product range includes high-tech sanitary doors for laboratories and hospitals. For more than 50 years, DorteK's innovative, high-end solutions have graced hygiene and industrial environments at home and abroad. Clients of the award-winning firm

include many of the world's leading pharmaceutical, health, food, retail and industrial companies.

"We manufacture all kinds of clean room doors, ranging from basic to much more complex sliding, hermetic, acoustic, x-ray, automatic doors and so on," explains DorteK CEO Alan O'Keane. "There are a lot of variations we can put in to make some very bespoke and complex door sets. Our team has the most extensive and unique expertise in the market. We partner with building contractors, architects, clients and end users to design a door exactly for their requirements." COVID has triggered a sharp increase in orders, with more medical facilities, hospitals and intensive care units required, which means greater spending on healthcare, places of research and vaccine manufacturing facilities, with a major uptick in orders from the U.S.



Alan O'Keane
CEO, DorteK

"We supplied doors very quickly to a Moderna facility in the U.S., also to Pfizer in Belgium and a lot of other vaccine facilities elsewhere."

Alan O'Keane, CEO, DorteK

"We are increasing our manufacturing capacity, but also need to increase our design, project management capacity and installation capacity," O'Keane notes. "We are scaling up to cope with this and to handle emergency projects; we supplied doors very quickly to a Moderna facility in the U.S., also to Pfizer in Belgium and a lot of other vaccine facilities elsewhere."

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How a nation of 5 million feeds 25 million

Ireland's sustainable, non-intensive food and drink production methods have boosted its export credentials

"We view the wealth of our soil, our grass, our climate as Ireland's very unique natural resources, says Tara McCarthy, CEO of Bord Bia, the state agency charged with bringing the country's outstanding food, drink and horticulture to the world, and enabling the growth and sustainability of Irish producers.

Food and agriculture is Ireland's largest indigenous industry, with the nation's bountiful lands and seas providing harvests capable of feeding five times more people than live in the country. Which is lucky for the world, as its high-quality, distinctive exports are much in demand. In 2020, they achieved €13 billion in sales to over 180 countries, only slightly down on 2019's record-breaking €13.2 billion—this despite COVID, Brexit and additional, now suspended, U.S. tax tariffs on some Irish goods. Its success was driven by world-class dairy goods, as well as beef, pork, lamb, poultry, cereals, seafood, alcoholic drinks such as renowned cream liqueurs and whiskeys, plus value-added prepared foods. "To reach €13 billion during a pandemic is an amazing performance for our industry. It's proved hugely agile: standing on its two feet and maintaining focus on production and filling orders when so many other industries around the world collapsed," states McCarthy.

The sector also accounts for about 7.1 percent of Irish employment, with the majority working on small farms tended by their families for generations. "We are privileged to have centuries of tradition in agriculture and production methods that are aligned with what global consumers are demanding. Sustainability is the biggest driver of change and opportunity: people want food they can trust, that's traceable, close to nature, good for them and for the planet. Ireland is ahead of the game in this area," she reveals. One of Bord Bia's roles is to build awareness of the inherent natural goodness of Irish food and to back this up with scientific proof. A key tool in this is the pioneering national Origin Green program that sets and measures achievement of sustainability targets across the whole value chain, asserts McCarthy. "Policy and commerce have come together in a unique way on this, no other country has been able to follow our example. 53,000 or 95 percent of Irish farms are members of our program, as well as producers representing over 90 percent of exports and four of our top-five retailers—everybody is involved."

Bord Bia and scientists from the state agency providing research, advice and education for agriculture in Ireland, Teagasc, regularly visit all those members to assess, record and track their carbon footprints, and suggest areas for improvement. Among many other things, Teagasc experts are able to analyze exactly where a cow's calories come from, she explains. "Our farmers are doing



99 percent of Irish farms are family owned

what they were always doing, but we can now verify and prove to the consumer that 95 percent of an animal's inputs come from grass, for example. Science is enabling nature."

With 16 offices around the globe, Bord Bia is additionally tasked with nurturing international partnerships in support of growth opportunities that the agency has identified. "The world is full of opportunities but they aren't all equal. We've examined the countries that we export or could export to and identified the top potential markets for each sector. We are now building insight to understand their individual nuances, so that we can bring Ireland's story to life in those countries through our communications," McCarthy notes.

Perhaps surprisingly, the agency sees the U.K. as a key market going forward. "It's Ireland's largest customer for food products and U.K. consumers view us as their natural breadbasket. We spent four years learning about customs, documentation and training systems that were needed for our post-Brexit relationship and put those in place. That's been successful but we've also focused on diversification since 2016. Between then and 2020, 10 percent of our growth was in the U.K. and 90 percent in other markets," she comments. Targeting total exports of €19 billion by 2025, another priority for growth is the U.S., the CEO adds. "The American consumer is very open to

"People want food they can trust, that's traceable, close to nature, good for them and for the planet. Ireland is ahead of the game in this."

Tara McCarthy, CEO, Bord Bia

Irish food and drink: it's our second-largest market, valued at over €1 billion this year. 42 percent of our U.S. exports are in the alcohol sector, which is going through incredible change, with many new distilleries, smaller artisanal products and whiskeys seeing a revival. Next are dairy exports, which increased in value by 11 percent in 2020 to €380 million, powered by our phenomenal Kerrygold brand. Our grass-fed credentials are key for U.S. consumers: last year, for instance, we saw our grass-fed Irish beef exports reach €34 million, up 74 percent on 2019."

A further priority for the agency is fostering Ireland's future food and beverage entrepreneurs: in collaboration with corporate and academic partners, its Bord Bia Talent Academy offers a range of education and training programs for students, graduates and postgraduates, she says. "More and more young Irish people are looking to work in our fabulous food industry, which they view as future-focused and dynamic. The Irish food industry is in a very exciting place at the moment."

Irish dairy industry sets the standard

With centuries of farming tradition, a temperate climate and grass-based feeding, Ireland stands out as the best and most sustainable dairy producer

“Ireland is one of only two countries worldwide where a cow’s predominant diet is grass. That puts us in a unique position to produce what we believe is the best-quality milk in the world,” states John Jordan, CEO of Ornuia.

Over half of the country’s lands are covered in grass grazed by 1.4 million cows that are cared for in small herds by 18,000 dedicated farmers, 14,000 of whom entrust their milk to dairy giant Ornuia. The co-operative markets and sells the products of its members, Ireland’s dairy processors, whose advanced facilities turn this milk into distinctive butters, cheeses and other delights that are exported to 110 countries. “We’re ultimately owned by Irish farmers and our purpose is to add value for them through our brands that include Kerrygold, Ireland’s first-ever billion-euro food brand, and our business-to-business food ingredients,” Jordan says. “Dairy farming is a huge part of the Irish way of life. 99 percent of farms are family owned, handed down from generation to



Kerrygold is the preferred butter for 10 percent of U.S. consumers

generation. When you hear our farmers tell their stories about what they learned from their parents and grandparents, and how they are passing that down to their children, it’s very emotional,” he adds.

Those farmers are committed to sustainability. Ireland is one of the world’s most carbon-efficient countries for producing milk and 99 percent of the sector’s water comes from rainfall, the CEO notes. “It’s also the first to have a sustainable dairy assurance scheme, which is third-party accredited, transparent and over 96 percent of our farmers are signed up to it. It measures a wide range of parameters from grass intake levels to animal welfare, carbon emissions and biodiversity.”

A large part of Ornuia’s €2.3 billion global turnover is attributable to its star brand Kerrygold. “It’s the top dairy brand in Germany, number three in the U.K and the number-two butter in the U.S., 10 percent of U.S. consumers say it’s their preferred dairy brand. It’s also well established in many other markets: every week we sell over 10 million packets of its cheeses and butters.” Kerrygold’s U.S. sales grew in 2020, despite COVID and the introduction of a 25-percent tariff on European butter imports in 2019, which was suspended in March 2021. “Almost 90 percent of butter exported from Europe to the U.S. is Kerrygold and we had no choice but to pass the premium on to consumers. The fact that we still saw growth is down to the quality of the product: there are only two ingredients in Kerrygold butter, cream and salt, you can really taste the difference.”

Ornuia will continue to invest in its existing portfolio, as well as product innovation and newer markets, he says. “Recently, for example, we’ve launched a cheese range in the U.S., milk powders in Nigeria and invested over \$10 million to expand our U.S. ingredients business. However, we will stay close to our heritage. With the world’s population growing and an increased demand for natural, quality, sustainable products, the future is bright for Irish dairy.”



John Jordan
CEO
Ornuia

Ireland’s dairy exports in 2019


Butter exports
increased by 13%
to reach €1.2bn


Cheese exports
increased by 22%
to reach €998m

SOURCE: BORD BIA

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Objective sustainability

Innovation will be central to the development of the agri-food sector

In April, the Irish government launched its draft Agri-Food Strategy, a roadmap for the country to become recognized as a world leader in sustainable food systems by 2030.

“Ireland has a tremendous track record of producing high-quality, safe and healthy food, but there has to be an increasing worldwide emphasis on how food is produced and how it relates to the environment. Ireland wants to act as role model in sustainability, addressing climate change and biodiversity decline. As a country, we are very much up for that,” says Minister for Agriculture, Food and the Marine Charlie McConalogue.

It’s already a pioneer in sustainability, having established a national scheme that sets and monitors targets across the whole food value chain: Origin Green. “That program has enabled us to engage with our global customers around growing trends such as traceability, food safety and sustainability. What the country is producing now and the extensive agri-food ecosystem that has developed in Ireland—from primary producers and farmers to processors, government agencies and universities—lends itself to a demand that is right at the heart of what consumers are looking for today,” states Edmond Scanlon, CEO and executive director of Kerry Group, the global frontrunner in taste and nutrition solutions for the food, beverage and pharmaceutical industries. Founded in 1972 as a small Irish farming cooperative, Kerry generated €7.2 billion in revenues in 2019, with millions of consumers around the world taking in foods that contain its innovative ingredients, flavors and nutritional products. Its portfolio contains over 18,000 items that are manufactured at 148 locations worldwide and it employs more than 26,000 people including 1,000 research scientists and nutritionists, many of whom work at its global technology and innovation center in Kildare.

To remain successful, Kerry keeps its technology and capabilities ahead of developing market trends, notes Scanlon. “Innovation is fundamentally core to our business strategy and sustainability is absolutely embedded in our innovation strategy. A lot of our innovation today is developed around natural taste, preservation and things we can do to improve food waste, proactive health and plant-based protein.” According to the CEO, taste is still the number-one driver for repeat purchases of food and drink. “Everybody wants products that are going to be better nutritionally in terms of digestion, immunity, salt, sugar or calorie levels, for example, but nobody wants to compromise on taste. What really excites us is improving the nutritional profile, environmental and social impact of our customers’ products, while also enhancing their natural taste.”

He is optimistic about the future. “COVID has brought to the fore the things that are really important to people, such as food and drink, health, wellness and sustainability—trends that I believe are here to stay. Ireland is aligned with these trends and that’s its strength.”



Charlie McConalogue
Minister for
Agriculture, Food
and the Marine

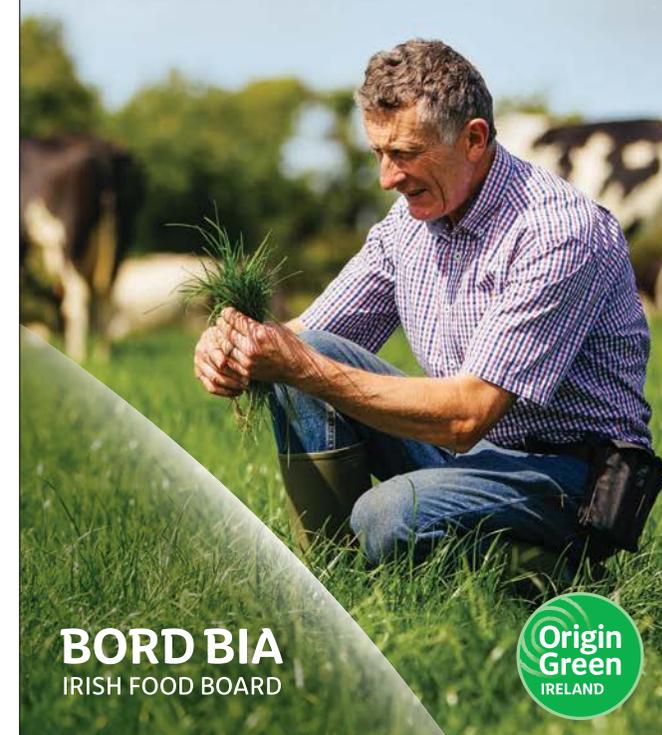
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Cask selection and maturation is essential in the making of Irish whiskey



The Jameson Distillery in Bow Street, Dublin, the birthplace of Irish whiskey

Golden era unfolds for Irish whiskey

The famous drink is enjoying a major period of renaissance and revival, with exports to the U.S. a key factor in its solid success

With its roots stretching back more than 1,000 years, Ireland's famous whiskey industry has experienced many highs and lows over the past millennium, but the last decade has certainly fallen into the former category.

Global sales have soared from 60 million bottles per year in 2010 to nearly 150 million bottles by early 2020, with this rapidly increasing popularity reflected in the number of distilleries now active in the country. The U.S. market has been a key component as it accounted for 51 percent of sales growth over the decade. In 2010, 1.4 million cases of whiskey were exported from the shared island to the U.S.—by 2019, this figure had grown to over 5 million cases worth €890 million.

William Lavelle, head of Drinks Ireland and the Irish Whiskey Association, highlights the export-oriented industry's impressive growth: "In 2010, there were just four distilleries operating on the island of Ireland," he says. "Now, we have 38 distilleries working in towns and villages, creating jobs, attracting visitors and resulting in the restoration of distilling to areas that once had rich traditions in whiskey production. We have seen hundreds of millions of euros invested in leading distilleries such as Tullamore D.E.W. and Midleton, while new distilleries such as Teeling Whiskey Distillery in Dublin and The Shed Distillery in Drumshanbo, County Leitrim have played a pivotal role in the regeneration of their respective communities."

While Lavelle's organization, which aims to promote the category domestically and internationally through work with government agencies and the European Commission, acknowledges the impact of COVID-19 on industry sales due to the closure of thousands of pubs, bars and restaurants, he believes its resilience will see demand rebound strongly as lockdowns start to lift in many of the 140 countries where the whiskey is exported. "Irish whiskey can look forward knowing there are still many opportunities out there, from the potential for market diversification in terms of growth in Asia and Africa, to the opportunities resulting from the emergence of e-commerce as a major new sales channel for spirits," he adds.

One of the finest Irish whiskeys, with a remarkable history that spans over several centuries and 12 generations is certainly Hyde. The firm's products have won many accolades and praise around the world, with its focus on quality that is attested to by CEO Conor Hyde, who personally oversees each and every distillation batch to ensure all its whiskey is made to only the highest standard using 100-percent Irish malted grain. "In order to be called an Irish whiskey, it must be distilled and matured on the island of Ireland in wooden barrels for three years, with a minimum of 40-percent alcohol by volume (ABV)," he explains. "At Hyde we go a step further, with every whiskey at least 46-percent ABV for a fuller, richer flavor experience with a long, smooth finish."



William Lavelle
Head, Drinks Ireland and the Irish Whiskey Association

One of the most unique and latest participants to the fast-growing market, Lambay Whiskey is an interesting tale of marriage between the French cognac blending tradition with the Irish whiskey heritage, all set on the island near Dublin from which the brand borrows its name. "We are a small company of only six people, so we are quite a boutique artisanal brand," reveals managing director Jean-David Costerg. "We have a small team, smaller production capacity and all these four parameters explain why this single malt and small batch blend have been really well received by customers. We sell about 12,000 cases a year—each case contains 12 bottles of 70 centiliters—which for a company that was only launched in 2018 is a nice performance. We distribute to more than 35 countries and focus on a few key markets, where we see good traction and good feedback."

Irish whiskey's decade of dominance



Jameson: The star of Irish whiskeys

Bought by French group Pernod Ricard, the giant is Ireland's leading spirit and wine supplier, distributing a broad portfolio of brands

According to a detailed state of the sector report by leading industry body Drinks Ireland that was published in late 2020, market players invested a combined €1.55 billion over the past decade, headed by capital investment in distillery and plant developments.

Official data shows Irish whiskey is the most valuable Irish food and drink export to the U.S., accounting for 46.8 percent of the value of all Irish food and drink exports in 2019. The U.S. remains by far the largest market for Irish whiskey, representing 42 percent of all sales, up from 28 percent in 2010. California and New York have been the two leading individual states; each recording sales in excess of any other international market.

The most significant producer of alcoholic beverages in Ireland, Irish Distillers, is the creator of the world's bestselling Irish whiskey, Jameson. The award-winning titan is the number-one producer of Irish whiskey, while Jameson stands as number-one Irish whiskey in the world with approximately 70-percent market share. "We've seen Jameson enjoy 30 years

of continued growth. We are now just on the edge of being a top-ten international premium spirit brand. We're in the top-five whiskeys of the world. It's a phenomenal success story for Irish Distillers. Few brands can actually match the success story that Jameson has for international spirits in that time frame," enthuses the firm's international marketing director, Brendan Buckley.



Brendan Buckley
International Marketing Director Irish Distillers

"A lot of whiskeys are maybe too serious, taking quite an elitist exclusionary approach. The success around Jameson has been that it's a super high-quality product, but it's accessible. You don't need to bestow all these elitist codes around it. That's not to say we're not very serious about how we make it, because it's very high quality."

Buckley describes the U.S. as a "hugely important market" given it represents half of its entire business, and adds that, while Jameson is the most popular choice by far, its sibling brands are also making a name for themselves. "As consumers are intrigued by our big blockbuster brand Jameson, they begin to dig deeper and they find our other brands," he says. "Redbreast is growing 25-30 percent per annum. It's been a challenge for us to keep up with demand because these are age statement whiskeys.

"Irish Distillers has played a critical role in the renaissance of Irish whiskey. You will see more and more Irish whiskeys around the world, there is still massive headroom for growth. Scotch whisky is now 100 million cases, Irish whiskey is currently around 12 million cases, so we're still well behind where we can get to," he concludes.

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Financial services rise from the ashes of 2008

Having buttressed Ireland’s economy through the pandemic, banks are now supporting the country’s ambitions for sustainability

“Ireland’s financial services industry has navigated the twin shocks of COVID-19 and Brexit well. It has demonstrated resilience, continued investment and a strong contribution to the economy,” asserts Cecilia Ronan, CEO of Citibank Europe and Citi country officer for Ireland.

The industry entered 2020 in a robust and buoyant position, she says. “It has performed really well. Between 2014 and 2019, the contribution the financial services industry made to gross domestic product (GDP) increased by 30 percent and it was responsible for almost a quarter of Ireland’s corporate tax income in 2019.” It had also learned hard lessons from 2008’s global financial crisis, she adds. “A key strength here now is deep expertise in risk management. Citi itself was well prepared for COVID-19 in terms of supporting our clients’ capital and liquidity requirements.”

One of the first foreign banks to enter the country in 1965, Citi Ireland offers a full portfolio of services covering corporate, investment, commercial and private banking, markets and securities, treasury and trade solutions. It’s also a leading example of how the Irish sector is gaining international importance. “We’re number one in corporate and investment banking in Ireland, with clients ranging from large Irish corporates to multinational subsidiaries. When clients want a global solution, they choose Citi because we’re in more than 160 countries and have the platforms to support them. Traditionally, Ireland was regarded as an operational base providing support services to Citi globally because of the access to talent, infrastructure and time zone. However, we have evolved over the years and Ireland is now the headquarters for Citibank Europe, responsible for 22 countries and 11,000 employees,” Ronan states.

The Dublin-based operation’s balance sheet has almost quadrupled in the last four years to reach about \$75 billion, she reveals. “Ireland has become a hub for international and European financial products and clients. London will remain the Europe, Middle East and Africa headquarters but Dublin is now our European Bank headquarters.”

Citi’s growth is also driven by its ability to deliver what its clients want. In 2009, it was the first financial services company to open an innovation lab in Ireland. “We have over 500 people working in tech roles from software engineers to data scientists—they are creating new generations of banking solutions,” notes Ronan. “We’ve been developing and launching products to



Cecilia Ronan
CEO
Citibank Europe



A view over Dublin’s International Financial Services Centre



Francesca McDonagh
CEO
Bank of Ireland

support clients’ switch to digital that has been significantly expedited by COVID-19.” Dublin is the location of Citigroup’s new global center of excellence for artificial intelligence and Ronan points out that one reason it’s a hub for innovation within the group is the ability to collaborate with the tech multinationals based in the country. “There are also really smart emerging fintech companies that Citi can partner here: they have the agility but we have the global network, that’s a strong combination.”

In addition, the bank has become a major player in sustainable finance, she says. “Ireland has plans to become a green-financing hub, and Citi is working in that area more and more. We believe global institutions like Citi have the opportunity and responsibility to play a leading role in the transition to a net-zero economy. Globally, we have committed \$1 trillion to sustainable finance by 2030 and have made a commitment to achieve net-zero emissions by 2050.”

“We believe global institutions like Citi have the opportunity and responsibility to play a leading role in the transition to a net-zero economy.”

Cecilia Ronan, CEO, Citibank Europe

Francesca McDonagh, group CEO of the country’s biggest lending institution, Bank of Ireland, confirms the trend toward green financing. “We have a sustainable finance fund of €2 billion and €950 million has been drawn down already, particularly by homeowners. We have also issued €750 million to fund sustainable projects across green buildings, energy efficiency, renewable energy and clean transportation. Our strategy is focused on enhancing financial well-being of customers, colleagues and communities, and enabling the transition to a green economy.”

McDonagh agrees that the banking sector’s adaptability and resilience has supported the Irish economy through the worst of the pandemic. “Our projection is for GDP growth of 5 percent this year and 5.8 percent in 2022. There are real reasons to be optimistic. As a bank, our ability to lend to support is clear, and we are doing that from a more efficient, more digital base than we were before COVID.”

Dublin gains speed as a global financial hub

The continued expansion of the Irish banking sector is supported by a world-class center of excellence for specialized and life-long financial education

Today, Ireland is a top-20 location when it comes to international banking, with all 20 of the world’s leading banks operating from the country.

“We’ve seen a fairly dramatic change in Ireland’s financial services sector, driven recently by Brexit, but also by the diversity of business that’s done here: everything from fund services to payments, investment and commercial banking. We’ve moved from banks just banking in Ireland to globally banking from Ireland across Europe, the Middle East, and Africa,” states Fiona Gallagher, CEO of Wells Fargo Bank International and chair of the Federation of International Banks in Ireland. Brian Hayes, previously Deputy Finance Minister of the European Parliament and now CEO of the Banking and Payments Federation Ireland lobby group agrees: “We have a very strong offering; we’re not a Frankfurt, Paris or London, but we certainly are at the level of an Amsterdam or Luxembourg.”

The Irish banking sector is ambitious to grow and compete further with its better-known European peers, says Gallagher. “To do that, international and domestic banks here have to be more visible and confident, highlighting our resilience, strong pillars of liquidity and capital, and the support we gave to clients and stakeholders during the pandemic. There are great opportunities here.” She gives some reasons why the country has become a magnet for global operators like Wells Fargo: “It’s small, accessible, multicultural, with a straightforward way of doing business. It’s also a very collaborative place to work and a nice place to live. In the end though, it all goes back to the core Irish talent, which is dynamic and willing to adapt, and a strong education system.”

Central to that education system is the Institute of Banking (IOB), Ireland’s oldest and largest professional membership institute that is a recognized college of University College Dublin, which ranks within the top 1 percent of universities globally. “Our 33,500 members all work in the financial services industry. We support them by providing accredited education programs across a vast range of topics at different levels from professional certificate to master’s. We’re a not-for-profit institute with a mission to educate, enable and empower a community of professionals to deliver financial services to the highest standards in the best interest of customers,” explains CEO Mary O’Dea.

The IOB prides itself on its understanding of issues impacting domestic and international banking, which is reflected in its unique education model, O’Dea notes. “We develop our programs in partnership with our corporate members and have a pool of about 100 associate faculty who work in the industry. It’s very applied learning.” With the financial services sector in constant flux due to changing technology and international regulations, she is keen to stress the importance of lifelong learning. “The jobs of the future are



Ireland ranks fourth in the EU for wholesale financial services

not the jobs of today. The best gift anyone could give themselves is to keep up with new skills in areas like digitization, sustainable finance, culture and ethics. IOB is here to support them on that journey.”

One way it is encouraging continuous professional development is through its recently launched app-based IOB Learn platform, O’Dea comments. “It gives our members access to our accredited programs, short courses and micro-learnings, and is important for the industry. For example, if there is a breaking issue in the financial markets, one of our experts would create content around that and people could access that either immediately or to fit into their working day. We’re passionate about improving our members’ learning experience and IOB Learn puts the learner in the driving seat. Their interests and needs shape their learning path—it’s a different way of learning that is much more personalized and interactive.”

“The best gift anyone could give themselves is to keep up with new skills in areas like digitization, sustainable finance, culture and ethics.”

Mary O’Dea, CEO, Institute of Banking



Mary O’Dea
CEO
Institute of Banking

In partnership with Bank of Ireland, AIB, Ulster Bank and Deloitte, another IOB innovation is the world’s first blockchain platform, EdQ, she adds. “It provides real-time secure access to education qualifications, designations, credentials and continuing professional development records. It takes risk, administration and delays out of the system. We think it has lots of potential in the broader world of education as we move toward micro-credentialing.”

O’Dea is optimistic that Dublin can carry on boosting its position as a global financial hub. “It has the huge advantage of being the only native English-speaking country within the European Union (EU) now. The ability to provide financial services cross border makes it attractive for the funds, international asset management and bank sectors, for example. Ireland is also very well poised as the EU capital markets’ union moves toward finalization in terms of the strategy around sustainable finance and digital. As an educator, we really want to support our clients as they develop in these areas.”