

FLANDERS INVESTMENT & TRADE MARKET SURVEY



ICT-SECTOR IN IRELAND

7.01.2021



CONTENT

1.	Preface	3
2.	ICT-sector	
2.1	New sectors	5
2.2	Geographical spread	7
3.	Rising ICT-sectors	8
3.1	Social media	8
3.2	Mobile applications	3
3.3	Cloud computing	9
3.4	Microelectronics	1
3.5	Internet of Things (IOT)	12
3.6	E-commerce	13
3.7	Gaming	14
3.8	Augmented, virtual & mixed reality	15
4.	Research & development	
5.	Assocoations, organisations & websites	17
6.	Events	

1. PREFACE

By its nature, the ICT-sector is a fast-changing environment, where technology is constantly evolving and developing. This market study will therefore focus mainly on the newer branches of the sector. Sectors like hardware and software remain to be a vital part of the ICT-sector in Ireland, but given their well-established status, we deem it more interesting to focus on the new players in the sector with high growth potential and where the opportunities are for our Flemish companies.

First of all, Ireland is an ideal place for ICT-development. Many multinationals have chosen Ireland to locate their European Headquarters due to the favourable tax regime, highly skilled workforce, and for being an English-speaking country within the European Union. The Irish start-up scene is also very vibrant due to many governmental support schemes, mostly in terms of finance and information.

This report will focus on the new ICT sectors:

- Social media
- Mobile applications
- Cloud computing
- Microelectronics
- Internet of Things (IoT)
- E-commerce
- Gaming
- AR, VR & MR

All these innovations couldn't take place without proper research and development. Ireland houses a vast amount of state-of-the-art public and private R&D-centres which we focus on in the second part of this study.

To conclude, this report provides a directory of key associations and organisations involved in the Irish ICT-sector as well as a directory of the main events in Ireland in this area.

For Flemish companies active in this field, Ireland can be an interesting market to establish partnerships or to sell their own products or services. With this study we try to give an overview of new developments in the Irish ICT-sector, in order to provide Flemish companies with an initial introduction.

For further information or assistance in approaching the Irish market, feel free to contact the local office of Flanders Investment and Trade in your province or the FIT office in Dublin.

Flanders Investment and Trade Dublin. December 2020

2. ICT-SECTOR

When we take a look at the list of the top 15 ICT-companies in the world, established by the Fortune Global 500 and ranked on profits, we see that 14 out of 15 have offices, manufacturing plants or R&D-facilities in Ireland¹.

Name	HQ	Ireland	Sector
Apple	USA	Cork	Hardware
Samsung Electronics	South Korea	Dublin	Hardware
Hon Hai Precision Industry	Taiwan	/	Hardware
Alphabet	USA	Dublin	Internet
Microsoft	USA	Dublin	Software
Huawei Investment & Holding	China	Dublin	Hardware
Dell	USA	Dublin	Hardware
Hitachi	Japan	Dublin	IT
IBM	USA	Dublin + Galway + Cork	IT
Sony	Japan	Dublin	Hardware
Panasonic	Japan	Dublin	Hardware
Intel	USA	Leixlip + Shannon	Semiconductor
HP	USA	Leixlip	Hardware
Facebook	USA	Dublin	Internet
LG Electronics	South Korea	Dublin	Hardware

Source: Fortune 2019 Global 500 Technology – Fortune

There are multiple reasons why Ireland is an interesting location for big, global companies. As mentioned in the preface, the low corporate tax of 12.5% is definitely an important aspect². For start-ups there is a broad variety of programmes available to participate in, a lot of those are offered by Enterprise Ireland, IDA Ireland, Start-up Ireland and many other organisations or private investors. Furthermore, it is of importance, especially for American companies, that Ireland is an English-speaking country within the European Union. The quality and number of the available graduates also attracts foreign businesses. Furthermore, the extensive network of R&D facilities within Irish Institutes of Technology and large companies is important to attract IT-companies.

pagina 4 van 19 ICT-SECTOR in IRELAND 7.01.2021

¹ Fortune 2019 Global 500 Technology – Fortune https://fortune.com/global500/2019/search/?sector=Technology

 $^{^2 \} Doing \ Business \ in \ Ireland \ - \ Word \ Bank \ \underline{www.doingbusiness.org/data/exploreeconomies/ireland}$

The following figures give an idea of the size of the ICT-sector in Ireland:

- Ireland is the world's second biggest exporter of computer and ICT services. 97% of its production is sold internationally. Each year, over €50 billion is exported.
- Information, Communication & Computer Services delivered 116 402 direct jobs in 2019, a notable increase compared to 58 665 jobs in 2009.

There is also a healthy Venture Capital ecosystem in the country; Q2 2020 saw the highest levels of investment in Irish start-ups on record, with €363.8m invested between April and June 2020, up 58% on the same period in 2019³. In Q1 2020 ten companies collectively raised over €100 million in venture capital funding, with ACT Venture Capital participating in three of the top 5 deals and Fenergo, Cubic, GridBeyond, and Enterprise Ireland involved in four of the top 10 deals – Payslip, Code Institute, Cerebreon and Output Sports.

2.1 NEW SECTORS

In the last few years Ireland's ICT-sector has seen some significant changes. Traditionally, multinationals in Ireland were mainly active in hardware production and related services. In line with the global trend, the competition with low-wage countries grew stronger. One of the most striking examples was the delocalisation of the Dell-factory to Poland in 2009, losing 1,900 direct jobs in Ireland. The remaining hardware sector focuses on advanced production processes in the areas of microelectronics, semiconductor and telecommunication equipment. In the area of support services, Ireland is quite resilient to the global trend. However, competition with countries like India has also risen in this part of the sector, creating the need to focus on more innovations in Ireland.

Over the past decade some new sectors arose in the world of ICT. One of the relatively new sectors that has known an enormous boost in the past few years is of course **social media**, of which the main players (Facebook, Twitter, Google, LinkedIn) have located their European HQ in Ireland. The country plays a leading role in the adaptation and integration of social media. According to figures published by Eurostat, 71% of Irish businesses use social media.

³ https://www.ivca.ie/wp-content/uploads/2020/09/IVCA_Venture_Pulse_Q220.pdf

One in two EU enterprises use social media – Eurostat – https://ec.europa.eu/eurostat/en/web/products-eurostat-news/-/DDN-20200224-1

One of the latest movements in this sector came in June 2020, when the Chinese social media innovator TikTok, announced locating of its European Privacy operations in Ireland. Its 'Trust and Safety' Hub in Dublin will be its Head Quarters for its policy, legal and moderating teams for Europe.

Furthermore, **cloud computing** is gaining ground. In 2020, 51% of Irish enterprises bought a cloud computing service, compared to 45% in 2018⁵.

Linked to cloud computing is the emergence of the **Internet of Things**, or simply IoT. Research on IoT is conducted on a very high level in Ireland, for instance by IBM in the IBM Technology Campus and in the Tyndall National Institute in Dublin⁶.

These systems obviously cannot exist without the right technical equipment, which is also developed in Ireland. **Micro-electronics** is a growing industry in Ireland, currently employing over 8,000 people. There is a dynamic cooperation with research institutes such as the <u>Micro Electronic Circuit Centre</u> of Ireland and industry players. Major industry growth drivers continue to be emerging architectures for security and AI, as there has been a proliferation of complex electronic devices especially in automotive and medtech applications, and a growing amount of semiconductor content per device.

Today, **E-commerce** in which products or services are sold through electronic channels is indispensable. With the rise of e-commerce, the development of e-payments also accelerated. FinTechs and other ICT-companies are strongly investing in this. A striking statistic, that shows the size of e-commerce, 70% of large Irish companies bought something online in 2020 and 61% of their sales were made via e-commerce.

The **gaming industry** is likewise an important sector in Ireland, some of the biggest developers have a branch in the country⁷. **Augmented & Virtual Reality** industry has close ties with the gaming sector, given the possible applications and innovations collaboration can deliver.

The demand areas of interest to Flemish companies are Data Analytics, Artificial Intelligence/Cognitive Systems, Robotics, Animation, Gaming, Blockchain, Internet of Things, 3D Printing, Augmented and Virtual Reality, Cybersecurity/Next Generation Security.

In the following chapters, we will examine these sectors in more detail.

pagina 6 van 19 ICT-SECTOR in IRELAND 7.01.2021

⁵ Cloud Computing Services - Information Society Statistics, Enterprises 2020 - Central Statistics Office https://www.cso.ie/en/releasesandpublications/er/iss/informationsocietystatistics-enterprises2020/

⁶ https://www.research.ibm.com/labs/ireland/

⁷ A map of the Irish Games Industry – gamedevelopers.ie – <u>www.gamedevelopers.ie/irish-games-industry-map</u>

2.2 GEOGRAPHICAL SPREAD

Dublin is the centre of the tech industry in Ireland. The world's largest ICT-companies have offices in Dublin, e.g. Samsung Electronics, Amazon, Microsoft, IBM, Alphabet, Sony, Panasonic, Huawei, LG Electronics, Cisco Systems, Lenovo Group. Most of them are located around the Grand Canal Dock area, locally also known as The Silicon Docks. Benefits are the proximity of an international airport, other multinational companies and start-ups for collaboration and the presence of excellent human asset flowing out of Trinity College Dublin, Dublin City University and University College Dublin. However, the cost and availability of housing in Dublin, forces many start-ups and newcomers to start in other parts of Ireland.

In the southern part of the country you can find multiple cities with a big presence of ICT-companies. **Cork** is the second largest city of Ireland and since the beginning the Irish homestead of Apple. Apple recently celebrated 40 years in Cork, now with over 6000 employees in the region. **Waterford** is home to various R&D-centres and start-ups, often linked to the Waterford Institute of Technology.

In the West of Ireland there are three tech hubs. **Galway** is the fourth city of Ireland and has a vibrant start-up climate. Both city and county encourage entrepreneurship, and new industrial areas and R&D-centres are appearing everywhere. These are often linked to the Galway-Mayo Institute of Technology. **Limerick** also accommodates multiple research- and production facilities of multinationals. And finally, **Sligo** also is home to a large number of ICT-companies, mostly active in the software sector.

To sum up, you could say that the majority of ICT-companies in Ireland is located in and around Dublin, because of the beneficial circumstances. However, there are other cities who are on the rise and invest in attracting ICT-companies. Ireland for this reason sometimes get referred to as the digital hub of Europe³.

⁸ Why Dublin is the digital hub of Europe – Silicon Republic https://www.siliconrepublic.com/companies/ida-infographic-dublin-digital-hub-europe

3. RISING ICT-SECTORS

3.1 SOCIAL MEDIA

Ipsos MRBI has published research about the ownership and usage of social media in Ireland in December 2019. Many of the social media platforms are owned by American companies, who have their EMEA HQ in Dublin e.g. Facebook, Twitter, Google and LinkedIn. The data from Ipsos MRBI show that the number of account owners has stayed more or less stable since April 2017.

The daily usage of Facebook and Instagram is highest, reaching 64%, followed by TikTok with 43%, and Twitter with 41%. In the table below you can find the percentage of the Irish population that holds an account to each social medium⁹. The numbers point out social media are widely spread and commonly used in Ireland. Not only individuals, but also companies are very willing to adopt social media. In 2019, the use of social media by Irish enterprises was the sixth highest in the EU, with 71% of enterprises using some type of social media.

Account ownership on social media in Ireland		
Facebook	66%	
LinkedIn	35%	
Twitter	30%	
Instagram	43%	
Pinterest	27%	
TikTok	6%	

Source: Account ownership - Ipsos MRBI 2019

3.2 MOBILE APPLICATIONS

The rapid growth of the number of mobile devices is a trend that cannot be ignored by the ICT-sector. Mobile applications are present everywhere and are big business. Forecasts say that revenue generated in the App Store and Play Store will increase up to 109 percent in the next three years. The App Store will generate a profit of €14.4 billion and the Play Store €12.5 billion. Global app revenue reached €320 billion, it is expected that this will rise to €819 billion in 2023.¹⁰

https://www.ipsos.com/sites/default/files/ct/news/documents/2020-01/soc_net_dec_19.pdf

pagina 8 van 19 ICT-SECTOR in IRELAND 7.01.2021

⁹ Account ownership – Ipsos MRBI

¹⁰ 3-Year European Market Forecast: App Spending to Surpass \$23 Billion in 2022 as Non-Gaming Surges https://sensortower.com/blog/sensor-tower-europe-app-market-forecast-2022 + https://www.statista.com/statistics/269025/worldwide-mobile-app-revenue-forecast/

According to data from Deloitte Ireland:11

- 85% of people who own a smartphone use WhatsApp
- 38% of women use their phone to check their fitness level
- 4% of people check their phone over 200 times a day

Each year there is a growth in the downloads of mobile applications. In 2018, experts saw a 15 percent increase in the downloads of apps and they predict another increase of 25 percent from 2018 to 2022. ¹² According to these statistics there is plenty of room for new applications to gain ground. They can respond to new needs and incorporate new technological developments.

There are still numerous opportunities in developing apps, since many companies, organizations and government bodies don't have an app. Especially in the development and deployment of financial applications, business in the area of e-payments can be won. Ireland adopted the use of electronic payments in the last four years, and innovations to phase out cash are on their way, boosting the Irish economy.

3.3 CLOUD COMPUTING

With the rise of internet speed and accessibility, more and more internet applications are being introduced. One of them is cloud computing, where data are stored on external/internal storage spaces, which can be accessed through the internet. This is very interesting for business, since they don't have to invest in hardware for storage of their data. Also, many people use it without knowing they are, for instance Gmail and Dropbox are free available cloud services. There are three different models commonly used in cloud computing services. Infrastructures-as-a-service (IaaS), Platform-as-a-service (PaaS), and Software-as-a-service (SaaS). This is often referred to as the Cloud Computing Stack.

SaaS/PaaS sales already make up 10% of revenues of Top 50 software companies, according to a study published by PWC.¹³ There are also three different types of clouds; the public, private and hybrid cloud. Irish enterprises are adopting cloud computing services at a rapid speed. Figures from the Central Statistics Office show that over 51% of enterprises in Ireland have bought such a service in 2020.

¹⁷ Global Mobile Consumer Survey 2019: The Irish cut – Deloitte Ireland https://www2.deloitte.com/ie/en/pages/technology-media-and-telecommunications/articles/global-mobile-consumer-survey.html

²Mobile Apps Download And Usage Statistics (2019) - Buildfire https://buildfire.com/app-statistics/

¹³ 25 Fastest Growing Cloud Companies – PWC Technology Institute www.pwc.com/gx/en/technology/publications/global-software-100-leaders/assets/25-fastest-growing-cloud-companies.pdf

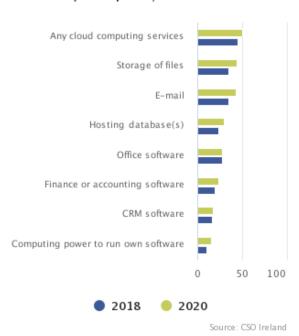


Figure 1: Purchase of Cloud Computing services by enterprises, 2018 and 2020

Many companies in the cloud computing sector have their European datacentres in Ireland, for example HP, Google, IBM, Amazon, Microsoft, etc. Ireland is an interesting place for cloud computing, because of different reasons, such as tax, skilled workforce, location, etc. But there is a specific benefit in Ireland for cloud computing, compared to many other countries. Since the Irish weather is constantly moderate, data centres only need 19 cooling days, compared to 40 in Iceland and 43 in Norway.

As of Q1 2020, there are sixty data centres of various sizes operating in Ireland. There are twelve data centres in construction and twenty-six data centres in the pipeline with approved planning permission.

Ninety-six percent (96%) of companies operating in this Digital Cloud sector are positive or very positive about business opportunities within the data centre and hosting service industry. Eighty-four percent (84%) of these companies also expect their employee base to grow in the next 12 months, potentially creating more than 1800 new jobs. The survey was conducted with a sample of 50 companies in the data centre ecosystem in Ireland. ¹⁴

Two of the major drivers of the cloud development in Ireland are the Irish Centre for Cloud Computing and Commerce (IC4), and the Irish Data & Cloud Cluster (IDCC). 15

pagina 10 van 19 ICT-SECTOR in IRELAND 7.01.2021

^{*} https://www.hostinireland.com/post/press-release-irish-data-centre-industry-to-add-1-800-jobs-in-next-12-months

¹⁵ Special Report: Ireland - 451 Research (www.slideshare.net/Irishtiger/451-advisors-ireland-special-report-1)

On the educational side, Cork Institute of Technology and Dell EMC recently collaborated on the development of the world's first suite of undergraduate and masters level degree programmes in cloud computing, namely Cloud Academy (http://cloud.cit.ie). On the website of the Irish Data & Cloud Cluster (www.theidcc.com/ecosystem.html), you can find the following directories: Universities, Accelerators, State Agencies, Venture Capitalist Funds, Start-Ups, and Service Providers. This governmental website is a good place to find a possible partner or opportunity in Ireland's big data or cloud computing sector. 16

3.4 MICROELECTRONICS

The microelectronics sector is present in Ireland since 1976 with the establishment of Analog Devices in Limerick. The next big company to arrive in Ireland was Intel, setting up in Leixlip in 1989. The sector grew thanks to innovation fuelled by indigenous enterprises, and several universities and Institutes of Technology. More and more research centres and global microelectronic companies found their way to Ireland. Nowadays the biggest driver of the industry is the Internet of Things (IoT), on which we will focus in the next chapter. $^{\text{T}}$

Some of the biggest semiconductor and microelectronics companies are present in Ireland:

Analog Devices ARM Cadence

Cypress Semiconductor Intel Corporation Microsemi Corp

On-Semiconductor Parade Technologies Qualcomm

ROHM Synopsys Xilinx

The most notable R&D-facilities in Ireland are:

- Tyndall National Institute
- CRANN Institute
- Microelectronic Circuits Centre Ireland (MCCI)

Another agency, MIDAS Ireland, the Industry Association for Microelectronics and Electronic Systems Design in Ireland, helps to produce a large stream of highly trained graduates in electronics, engineering, computing and system solutions design. It was established in 1999. It is an industry led partnership consisting of FDI and indigenous companies, educational organisations, research institutions and government agencies working together addressing common challenges within the sector in Ireland. It keeps innovation at the centre of Ireland's micro and nano-electronics system solutions industry. To give an indication of the activity in this sector, a list of industry partners can be found on the website of MIDAS Ireland -> https://midasireland.ie/about-us/midas-company-members/

¹⁶ The Irish Data & Cloud Cluster - (www.theidcc.com)

THistory and Background - MIDAS Ireland (https://midasireland.ie/history-background/)

3.5 INTERNET OF THINGS (IOT)

The internet of things is changing the way we live work and do business very rapidly. Thanks to the availability of internet and development of microelectronics, IoT is popping up everywhere around us. The forecasts say that 43 billion devices will be connected to the internet by 2023. Many planners see Internet of Things technologies as integral to the pandemic recovery effort. Sensors and autonomous devices will help track and secure buildings and people to aid in the economic recovery.

Ireland is considered one of the leading countries in implementation of the IoT:

- One of the first countries to establish an Office of Data Protection
- *Smart Dublin* is a testbed for IoT, wherein government, universities and industry join forces. Some of the most remarkable projects are the deployment of IoT in Croke Park, the placement of Smart Bins across Dublin and the implementation of a smart energy monitoring system in the Docklands area.¹⁸
- High-end R&D in Ireland by private companies; e.g. Intel, Dell, IBM, EMD, Vodafone, ...

The Advanced Materials and Bio-Engineering Research (AMBER) centre at Trinity College Dublin (TCD) won a €4.4m Horizon 2020 research contract to develop a new class of magnetic materials for electronics. Its TRANSPIRE project could lead to on-chip and chip-to-chip data links at least 100 times faster than current standards, enabling speedier data transfer for the internet of things.

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Although IoT has just begun to see daylight and R&D is ongoing, many applications are already present in our everyday lives: wearables, replenishment, wireless sensing and tracking, health and well-being, home automation, environment, agriculture, hospitality and tourism, and industry.

For example, Dublin-based Research and Markets predict the global market for IoT in agriculture to reach €24.04 billion by 2023, and this is an area where many Irish firms are already leading the way.²⁰

pagina 12 van 19 ICT-SECTOR in IRELAND 7.01.2021

¹⁸ Smart Stories - Smart Dublin 2020 (http://smartdublin.ie/smart-districts/)

¹⁹ https://www.siliconrepublic.com/machines/amber-transpire-research-contract

²⁰ <u>https://www.researchandmarkets.com/reports/5027859/iot-in-agriculture-market-outlook-and-forecasts#pos-1</u>

3.6 E-COMMERCE

E-commerce is often referred to as the digital economy. This covers: products and services which are bought online, business and employees delivering them, and business and government spend conducted over the internet. An interesting fact is that the digital economy seems to be (more) resilient to economic volatility than other parts of the economy.

The average Irish online shopper spends EUR2,708 a year, the third-highest amount amongst the European countries in our report. Only Norway and the UK spend more.²¹ The forecasts are that Irish ecommerce will grow at an annual rate of 11.3% to €3.8 billion by 2024. Amazon and eBay are the biggest players in the ecommerce sector, they represent 5.6% and 3.6% of the total market.²²



Not only individuals, but also Irish enterprises are part of the digital economy. In 2020, 61% of Irish large enterprises had e-commerce sales, 58% of medium-sized enterprises, and 35% of small enterprises.²³

https://www.jpmorgan.com/merchant-services/insights/reports/ireland-2020

²¹ E-commerce payment trends: Ireland – J.P. Morgan

²²Irish ecommerce sales forecast to hit €3.8 bn by 2024 – The Irish Times

⁽https://www.irishtimes.com/business/technology/irish-ecommerce-sales-forecast-to-hit-3-8bn-by-2024-1.3959224)

²⁸ <u>https://www.cso.ie/en/releasesandpublications/er/iss/informationsocietystatistics-enterprises2020/</u>

3.7 GAMING

The gaming sector is changing rapidly, and the traditional seven-year lifecycle of gaming consoles is obsolete. While it more or less stayed the same for 30 years, the past 10 years' change has moved with the rise of the internet. Games are more and more distributed digitally, with services like Steam playing a leading role in this evolution. Traditional games had to reinvent themselves, and now are offering extra packages that can be bought to upgrade the game and keep gamers engaged. Traditional gaming studios are clearing space for digital offices with a workforce spread around the world, or for development hubs shared between different studios. Multinationals Riot Games, EA and Activision all have operations in Ireland, along with homegrown success StoryToys.

Next to these changes in the gaming sector there is a strong growth in mobile gaming. In Europe 50% of mobile phone users use their device to play games. In 2018, 86% of internet users said they played games on at least one device. 64% of the internet users played games on their smartphone, followed by the PC/laptop with 49%.²⁴

On the website gamedevelopers.ie, you can find an interactive map of companies active in the gaming sector.



Source: A Map of the Irish Games Industry - gamedevelopers.ie

pagina 14 van 19 ICT-SECTOR in IRELAND 7.01.2021

²⁴ Entertainment flagship report 2018 - Global Web Index (https://www.amic.media/media/files/file_352_1697.pdf)

3.8 AUGMENTED, VIRTUAL & MIXED REALITY

Augmented, virtual and mixed reality are all quite new technologies in the ICT-world. They have been in development for a couple of years, but new innovations and applications are coming to the market faster than ever before

Worldwide in VR the biggest players and their flagship devices, at the moment, are Sony PSVR, Oculus VR and HTC Vice.

The possible applications are numerous. VR is predicted a future in amongst others, the gaming industry, and AR being predicted a bright future in everyday personal and business usage. MR is expected to be used widely in training, e.g. of surgeons to practice performing surgeries on virtual patients, but using their hands in real-life. An example of a leader in this field in Ireland is Immerse VR Education, based in Waterford. This company has gained a reputation for delivering outstanding virtual experiences, working with educators from Oxford University, New Haven University, The Royal College of Surgeons and large corporations such as the BBC. Listed on the Irish and London stock exchanges, VR Education Holdings is an innovator in virtual and augmented space.

That Ireland is taking advantage of the VR opportunities is shown by an example of Fáilte Ireland (Irish Tourist Board), who launched a VR tour of the Wild Atlantic Way on the Irish west coast.²⁵ Many opportunities lie in the implementation of VR and AR technologies in Ireland. Especially since Irish people are known to be early adopters of new technologies.

²⁵ Fáilte Ireland launches Virtual Reality tours of the Wild Atlantic Way - The Irish Independent (www.independent.ie/life/travel/travel-news/filte-ireland-launches-virtual-reality-tours-of-the-wild-atlantic-way-34547939.html)

4. RESEARCH & DEVELOPMENT

Knowledge Transfer Ireland (KTI) works with business, investors, universities, Institutes of Technology, State research organisations, research funders and government agencies to maximize State funded technology, ideas and expertise getting into the hands of business to drive innovation. KTI is located in Enterprise Ireland (EI) and funded by EI with co-financing from the Irish Universities Association (IUA). On the website of Knowledge Transfer Ireland, you can find a map that lists all the official research centres in Ireland. There are different categories.

You can find the link to the map here:

https://www.knowledgetransferireland.com/Research_in_Ireland/Research-Map-of-Ireland/

Government spend on R&D was €765.7m in 2018 which was an increase of 3.6% in expenditure over the previous year. It increased in 2019 by a further 5.5% with allocated funding of €808.1m. In 2019, Gross Expenditure on R&D (GERD) by all these sectors of the Irish economy was €3.704 billion. (estimate) The highest expenditure on R&D continues to be within the business sector, which accounted for €2.778 billion or 75% of total GERD.²⁶

<u>Disruptive Technologies Innovation Fund</u> is a €500 million fund established under Project Ireland 2040 and is run by the Department of Business, Enterprise and Innovation with administrative support from Enterprise Ireland. Funded until 2022, the projects cover areas including health tech, ICT, AI and sustainability.

pagina 16 van 19 ICT-SECTOR in IRELAND 7.01.2021

²⁶ https://dbei.gov.ie/en/Publications/Publication-files/R-D-Budget-2018-2019.pdf

5. ASSOCOATIONS, ORGANISATIONS & WEBSITES

www.cita.ie - Construction IT Alliance

Network of stakeholders in the Irish Construction Industry that encourages the benefits of IT.

www.thedigitalhub.com - Digital Hub Development Agency

Irish state agency that runs The Digital Hub, a cluster of digital content and technology enterprises, located in the centre of Dublin.

www.digitalbusinessireland.ie - Digital Business Ireland

The voice of the Irish digital commerce sector.

<u>www.enterprise-ireland.com</u> – Enterprise Ireland

Statutory Government body for funding commercialization and internationalization of HPSU and established companies in Ireland.

www.gamedevelopers.ie - Gamedevelopers.ie

Volunteer run project that exists to help local game developers both inside and outside of the industry to network, communicate and publicise their work.

www.gamesireland.ie - Games Ireland

Not-for-profit organisation working to support, promote and drive sustainable growth for the games industry in Ireland.

www.ics.ie - Irish Computer Society

Society which mission is to advance, promote and represent the interests of ICT professionals.

www.theidcc.com - Irish Data & Cloud Cluster

The Irish Data and Cloud Cluster was created to facilitate and accelerate the growth of cloud computing and data analytics sectors in Ireland.

www.irishdev.com - Irish Software Innovation Network

Network managed by the Irish Software Association. It provides matchmaking and knowledge-brokering services to help software companies identify and engage with relevant third-level research institutes.

www.irishtechnews.net - Irish Tech News

Online publication on Irish technology news.

www.itag.ie - Innovation Technology AtlanTec Galway

Association of professionals and companies from the IT-sector. Promotes Galway as an excellent location for IT-development.

www.itcork.ie - IT@Cork, European Tech Cluster

Not-for-profit business organisation, representing the interests of the IT industry in South West Ireland.

www.knowledgetransferireland.com - Knowledge Transfer Ireland

KTI works with business, investors, universities, Institutes of Technology, State research organisations, research funders and government agencies to maximise State funded technology, ideas and expertise getting into the hands of business to drive innovation. Funded by Enterprise Ireland and Irish Universities Association.

www.midasireland.ie - MIDAS Ireland

Organisation that helps define and develop the future direction of the micro and nano-electronics based 'system solutions' industry in Ireland. Includes IDA, EI and universities and Institutes of Technology involved in the sector.

www.pdsttechnologyineducation.ie - PDST Technology in Education

Part of the national education support service, promotes and supports the integration of ICT in teaching and learning in first and second level schools.

www.screenskillsireland.ie – Screen Skills Ireland

The leading agency with responsibility for investing in people and skills development for the screen sectors in Ireland, incorporating Immersive Tech, Screen, Animation, VFX

www.siliconrepublic.com - Siliconrepublic

Irish website for technology news.

www.sfi.ie - Science Foundation Ireland

Foundation that funds and supports basic and applied research in the areas of STEM.

www.tif.ie - Telecommunications and Internet Federation

Representative body for industry and interest groups in the field of electronic communications. Part of Ibec and associated with ICT Ireland.

www.technology-ireland.ie - Technology Ireland

Association within Ibec, which represents the ICT, Digital and Software Technology Sector.

www.thea.ie - Technological Higher Education Association

The body representing the Tech universities and Institutes in Ireland.

6. EVENTS

As Government guidelines and regulations are being re-evaluated according to the Covid-19 public health requirements on a regular basis, some of the mentioned events might not take place or will take place through a virtual platform.

Dublin Tech Summit - www.dublintechsummit.com

Summit about the global technology present in Dublin 17 June 2021 (Dublin's Silicon Docks)

Tech Connect Live - www.techconnect-live.com

Hosted by the city of Dublin, gathering of technology companies, start-ups, investors and the largest Irish and global end users of technology and services.

November 2021 (RDS, Ballsbridge, Dublin 4)

Datacentres Ireland - www.datacentres-ireland.com

Exhibition and conference about every aspect of planning, designing and operating your datacentre, server room, storage facility or solution.

16-17 November 2021 (RDS, Ballsbridge, Dublin 4)

Dublin Comic Con - www.dublincomiccon.com

Exhibition and gathering on gaming, comic books, ... 13-14 March 2021 - (CDD, Dublin 1)

IoT Week - www.iotweek.org

A conference looking into the future of technology and its impact on business and life. 2021 (Dublin)

MedTech Summit - www.informaconnect.com/medtech-summit/

Event hosted by *informaconnect* on several industries in MedTech. October 2021

Tech Summit Cork - www.techsummit.ie

Summit with an outlook on Cyber Security, Smart Cities and Customer Success 2.0. September 2021 (City Hall Cork, Co. Cork)

The IoT & Industry 4.0 Expo - www.iotconnectlive.ie

Expo about the future of manufacturing, with a focus on the benefits of IoT in manufacturing. 27-28 January 2021 (Citywest Exhibition Centre, Dublin)

UXDX Conference - www.uxdxconf.com

Conference on UX (user experience) and DX (developer experience) with speakers, companies, ... 4-5 March 2021 (online)