

Ireland Sector Guides

Healthcare | Life Sciences

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Contents



This Healthcare Sector guide shall include an overview of the following:

- 1. European Healthcare Sector Overview, Including:
 - An overview of the emerging trends
- Ireland's Healthcare Sector Overview, including:
 - An overview of the emerging trends and international trade partners
- 3. Market Entry Strategy, Including:
 - The opportunities that are available within the Market
 - Key areas for Engagement
 - Potential routes to Market
 - Key Players in the Market
 - Relevant Industry Associations



Section One

European Healthcare Sector Overview

Healthcare in Europe







\$2125 billion

The Expected Value of the European Healthcare market in 2020



Key Markets

Switzerland, France, Germany, Sweden and Norway had the highest expenditure on healthcare as a percentage of GDP across Europe, all over 10.5%.



Four

The number of Payment methods for healthcare, which includes general taxation, voluntary and compulsory health insurance and out of pocket expenses.



10.5%

The percentage of the population that is employed in the European healthcare sector.

The Healthcare sector in Europe is highly advanced and is considered a vital component of the economy. The industry itself accounts for 10.5% of the continents entire employment, and is forecasted to be worth \$2125 Bn by 2020. The markets with the highest healthcare expenditure relative to GDP across include, Switzerland, France and Germany, meanwhile The UK and Ireland were ranked 11th and 19th respectively. Furthermore, there is no standardized healthcare payment method in Europe, as each country is free to implement their own payment structure.

European Healthcare Market Trends





In conjunction with improving survival rates and increasing life expectancy, the aging population throughout Europe is placing a fiscal strain on economies, particularly in countries that finance their healthcare systems via public taxation. As a result, governments have implemented systematic budget cuts throughout Europe, however, in recent years, this has somewhat reversed, with expenditure increasing.

As a result of the budget cuts, patients have witnessed longer waiting times and difficulty in regards to accessing medical professionals. However, this intense public scrutiny has in turn seen the healthcare sector become more patient centric in recent years, particularly with the integration of technology and the use of analytics to enhance the treatment process.

Throughout Europe, governments have gradually attempted to implement a healthcare prevention model. As a result, they are operating various social sensitization programs, particularly around improving nutrition and mental wellbeing, whilst also attempting to reduce alcohol and tobacco consumption, in order to elevate the fiscal burden associated with treating related illnesses.

A further trend emerging throughout Europe is the need for Improving patients access to high quality healthcare services, which has become a focal point in many government mandates. This in turn has also lead to the growth of a strong domestic or home care market, particularly for elderly individuals or those with mobility issues.

European Healthcare Market Policies



The European Union typically drafts and implements minimum standards regulation on behalf of all member states in an attempt to reduce trade frictions, such as CE Marking, however, each country is free to draft more stringent legislation should they wish to do so.

With regards to the Healthcare industry, the market is governed by the Article 168 of the Treaty on the Functioning of the European Union, which outlines broader initiatives that the EU wishes all member states pursue, primarily in relation to topics such as public health.

The European Union has mandated several key policy objectives for the 2016-2020 period, these include:



The primary objective is to achieve greater cost-effectiveness and improving competition within the industry, which should in turn reduce the cost of treatment and alleviate the burden associated with financing healthcare. These policies are however constrained by a single caveat, which states that the quality of treatment a patient receives must not deteriorate in an effort to reduce costs.

The second key issue in the healthcare industry is focused on making healthcare more accessible and reducing waiting times, which is being combated by attempting to establish channels based on the severity of a patients symptoms, such as visiting General Practitioners or Nurses for minor ailments, and hospitals for emergences.

The final mandate revolves around tackling emerging global threats, such as antimicrobial resistance and outbreaks. This in part is being addressed through other initiatives, such as raising awareness for vaccination, sanitation and hygiene.



Section Two

Irish Healthcare Sector Overview



Healthcare in The Republic of Ireland







83.6 & 79.9

The Average life expectancy for women and men in Ireland respectively



€16.8 billion

Total public health expenditure in 2018.



+ 116,000

The Number employed in the public health services in Ireland



45 Public & 19 Private

Number of Hospitals in the Republic of Ireland.

The healthcare market in Ireland is valued at approximately €16.8 billion, and operates under a two tier system, consisting of both public and private sectors. The public sector is larger and is financed using public taxation, whilst the private system is financed by a blend of insurance and out of pocket expenses. In terms of healthcare expenditure as a percentage of GDP, Ireland spends 7.4%, in contrast to the UK which spends 9.6%.

Republic of Ireland Public Sector

Public Sector



The public healthcare system is heavily funded by the Irish Government, with the deficit paid through voluntary health care payments and household spending. A large proportion of expenditure goes towards hospitals and ambulatory health care providers, of which curative and rehabilitative care and long-term care receive the largest financial support.

Although the public healthcare system is largely financed by the Irish Government, individuals may be required to pay fees for certain health care (e.g. attending an accident and emergency department without a referral.)

To enable people who otherwise cannot afford to pay for healthcare treatment a Medical Card system was introduced. This Card entitles individuals to access a range of health services free of charge. The number of individuals entitled to a Medical Card has increased in recent years irrespective of the age of applicants.

A subsequent system in place is the GP Visit Card scheme which allows individuals and families to visit their GP for free. Another system in place, which residents may apply for, is the Drugs Payment Scheme, which caps the amount that an individual or family has to pay per month for approved prescribed medication at 144 Furos.

Republic of Ireland Private Sector



Private Sector

Although Ireland's public health system offers treatment at a significantly reduced rate, the long waitlists turn many Irish people to private health insurance. Tax relief is available for premiums paid for health insurance. Some employers may provide health insurance as part of their employment package. Only four companies offer private insurance in Ireland:

- 1. Irish Life Health
- 2. Laya Healthcare
- 3. VHI Healthcare
- 4. HSF









Private insurance is regulated by the Health Insurance Authority (HIA). In Ireland, the percentage of the population covered by private health insurance has risen slightly between 2013 and 2017, from 41.4% to 42.8%.

Irish Healthcare Market Trends





A key trend driving the Irish Healthcare market is technological advancement and innovation. Ireland is known for its vibrant MedTech ecosystem, which focuses on the development and integration of new technologies into medical devices in an attempt to improve patient care and treatment outcomes.

Life sciences companies within Ireland are well known for collaborating with tertiary level academic institutions in order to conduct research and advance the sector as a whole. This is particularly true with regards to conducting research for the detection, diagnosis and treatment of rare diseases, which in turn has resulted in considerable growth in the personalized medicine field.

Patient Centricity is a key feature for the Irish market, as many companies now seek to develop methods that improve the quality of service delivered to patients at all levels. This has been heavily influenced by wearable technology, giving rise to an e-health industry, which in turn collects data on users in order to enhance their experience.

Healthcare in Northern Ireland







£4.2 billion

Northern Ireland's Healthcare expenditure.



82.3 & 78.5

The Average life expectancy for women and men in Northern Ireland respectively



46

The Number of Public Hospitals in Northern Ireland



115,750 +

Employees in the Health & Social sector in Northern Ireland.

The Healthcare Market in Northern Ireland is valued at approximately £4.2 Bn, and is the considered the highest per capita when compared to the rest of the United Kingdom. Healthcare in Northern Ireland is provided largely by the NHS, which is publicly funded via taxation, however, there does remain a small market for private healthcare, although this usually consists of non-essential treatments not covered by the NHS. There is over 115,000 individual's employed within the Northern Irish healthcare industry, across 46 public hospitals and over 200 private clinics, making it a key component of the economy.

Northern Ireland Public Sector





Public Sector

Health and Social Care in Northern Ireland (HSC) is the designation of the publicly funded service which provides public health and other social care services in Northern Ireland. The NI Executive through its Department of Health is responsible for its funding, while the Public Health Agency is the executive agency responsible for the provision of health and social care services across NI. It is free of charge to all citizens of NI and the rest of the United Kingdom.

For services such as A&E, patients simply walk in, state their name and date of birth, are given treatment and then leave. Patients are unaware of costs incurred by them using the service. It is sometimes called the "NHS", as in England, Scotland and Wales, but differs from the NHS in England and Wales in that it provides not only health care but social care too (NHS Scotland also includes social care). Social services are provided by local councils. Procurement in the HSC is done centrally and there is an exchange in the border counties between people of both countries.

The NHS spends about £27 billion every year on goods and services. Companies can sell directly to the healthcare service provider of its choice. This process involves identifying the right contact (generally clinicians, the procurement team and the finance team) within the selected NHS organisation. All public bodies abide by strict rules regarding how they spend public money. So if the cost of any project amounts to more than £181,302 (as of February 2018) it must go out to public tender.

Northern Ireland Market Structure



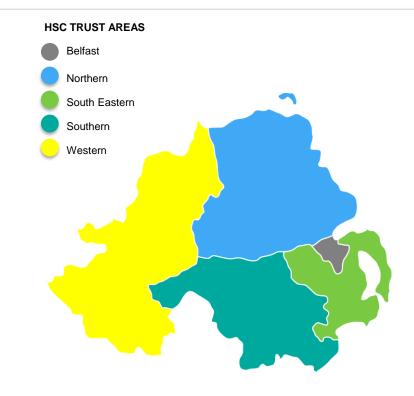
Health and Social Care in Northern Ireland is provided as an integrated service. The following organisations work together to deliver Health and Social Care across Northern Ireland.

Health and Social Care Board (HSCB)

The HSCB is responsible for commissioning services, resource management and performance management and service improvement. It works to identify and meet the needs of the Northern Ireland population through its five Local Commissioning Groups which cover the same geographical areas as the HSC Trusts.

Health and Social Care Trusts

There are 5 HSC Trusts that provide integrated health and social care services across Northern Ireland. (As shown in the image on the right) These trusts manage and administer hospitals, health centres, residential homes, day centres and other health and social care facilities and they provide a wide range of health and social care services to the community. The sixth Trust is the Northern Ireland Ambulance Service, which operates a single Northern Ireland wide service to people in need.



Northern Ireland Healthcare Market Trends





Northern Ireland has the highest level of mental health disorders when compared to any other region in the UK. As a result, the government has financed a series of initiatives targeting patients cognitive wellbeing. These campaigns aim to reduce the stigma associated with mental health and to educate individuals in relations to diagnosing psychological disorders.

Northern Ireland has come under intense scrutiny in recent years due to its ever rising healthcare expenditure. According to official government reports, Northern Ireland has more hospitals and medical professionals per capita than any other region in the UK, yet waiting times still do not meet patients expectations. As a result, it has come under intense pressure to improve its organizational and structural efficiency.

Several initiatives have received funding from the Northern Irish Government, which aim to develop a vibrant technology ecosystem. The goal of these programs is to improve innovation and in turn collaboration, between both public and private sectors, in order to support the healthcare market and deliver quality care to all patients.



Market Entry Overview





5

Potential Routes to Market for prospective Suppliers



Belfast & Dublin

Largest cities by population in Ireland



861

The Average Number of patients registered to a General practitioner



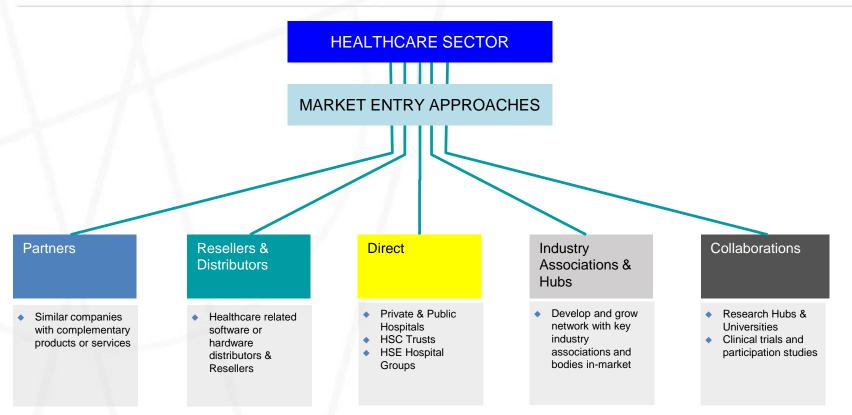
€11.81Bn and €0.56Bn

The expenditure on curative or rehabilitative care and preventative care respectively

Both Northern Ireland and the Republic of Ireland have well established consumer markets, with their citizens having a relatively high standard of living, as GDP per capita in 2018 was recorded at approximately \$27,000 and \$78,800 USD respectively. In addition, Ireland boasts a diverse economy with an innovative life sciences and MedTech ecosystem, the majority of which are clustered around its major cities, including Dublin, Galway and Cork. This in turn presents a number of opportunities for prospective companies seeking to enter the Irish marketplace.

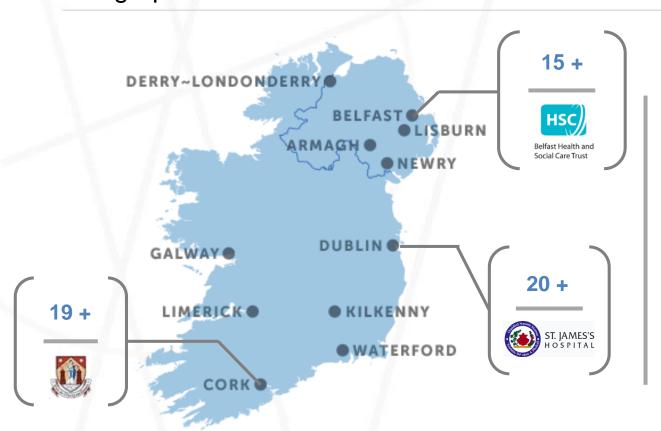
Possible Routes to Market





Geographical Distribution of the Healthcare Sector





The Healthcare industry in Ireland is predominantly clustered around dense population centres, hence the geographical distribution of the industry is in close proximity to major cities, in addition to reputable tertiary level academic institutions that often collaborate with primary care service providers.

As a result, the industry is heavily concentrated around the Dublin region, with additional clusters located in Belfast and Cork.

Key Players: Public Hospital Profiles





Royal Victoria Hospital Overview

Sector: Public Founded: 1797

Patients P.A.: 500,000+
AD: Barrow Street, Dublin, IE
Website: www.belfasttrust.hscni.net

St. James's Hospital Overview

Sector: Public Founded: 1727 Patients: 300.000+

AD: James's St, Ushers, Dublin, IE

Website: www.stjames.ie



Organization Summary

Founded in 1797, The Royal Victoria Hospital is one of Northern Irelands largest care providers. The hospital itself is managed by the Belfast Health and Social Care Trust and treats over 80,000 as inpatients and 350,000 as outpatients. Almost two thirds of Northern Irelands Population lives within 45 Minutes of the hospital, which is situated just outside the city centre. The hospital itself offers a range of services to patients, although it specialises in Cardiac Surgery, Critical Care and Trauma.

Organization Summary

Founded in 1727, St. James's Hospital is one of Irelands largest hospitals, and is managed by the Dublin Midlands Hospital Group. St. James' Hospital is also a key teaching hospital, and collaborates closely with Trinity College Dublin, one of Irelands most prestigious educational establishments. The hospital itself provides a broad range of services to its patients, however it specializes in cancer treatment, cardiovascular diseases and rehabilitation.

Key Players: Private Hospitals Profiles





The Hermitage Medical Clinic

Sector: Private Founded: 2006 Employees: +330

AD: Lucan Rd Old, Fonthill, Dublin, D2-W722

Website: www.hermitageclinic.ie

Mater Private Hospital

Sector: Private Founded: 1986 Employees: 1000+

AD: City Gate, Mahon, Cork, Ireland

Website: www.materprivate.ie



Hospital Summary

The Hermitage Medical Clinic is a 101 bed private hospital, specialized medical teams that provide medical, surgical and advanced radiotherapy care to patients and are supported by the very latest medical technology. The Hermitage Medical Clinic is committed to providing excellence in patient care and ensure that patients are looked after by competent and caring staff using state-of-the-art facilities in comfortable surroundings. The Clinic offers an outstanding level of expertise and cutting edge technology

Hospital Summary

Mater Private offers technologically advanced treatment options and has pioneered many major developments in the delivery of healthcare in Ireland. A team of over 300 leading consultants bring their patients from all over the country to the facilities with the highest confidence in the standard of care offered. Mater Private Healthcare Group includes: two hospitals located in Dublin and Cork, two advanced Cancer Centers located in Limerick (Mid-Western Radiation Oncology Centre at the University Hospital Limerick) and Liverpool (Clatterbridge Private Clinic).



Industry Associations: Private Hospitals Association



Private Hospitals Association

Sector: Private Founded: 1988 Members: 18

AD: Pembroke House 28-32, Street Upper, Dublin

Website: www.privatehospitals.ie

Association Summary

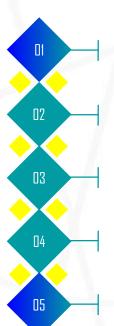
Founded in 1988 and originally named the Independent Hospitals Association of Ireland (IHAI), the Association has coordinated the representation of private hospitals for nearly 30 years and offered a forum for exchange of information and best practice between members throughout that time. Over recent years it has become increasingly involved in contributing to the formulation of various Health Policies. In 2016 the Association resolved to change its name to the Private Hospitals Association.



Irish Healthcare Market Opportunities



There are a number of opportunities for US Companies seeking to enter the Irish Market, these include:



They key opportunity in the market relates to improving the efficiency of the healthcare system. Governments have come under pressure for the excessive levels of expenditure on healthcare, and with life expectancy increasing and populations aging, its placing a greater strain on the public finance. Hence, there are opportunities for products or services that seek to improve the cost-effectiveness of the healthcare services.

A significant opportunity in the Irish market relates to Patient Centric Care. Patients have high expectations with regards to the quality of care and services they receive, a significant part of which revolves around waiting times and accessing care itself. Therefore, there are opportunities for goods or services that aim to improve the patients experience.

Ireland is known for its vibrant MedTech Ecosystem, which centers on innovation and integrating technology into medical goods. A growing proportion of the market is health related tracking deceives, which collect and record datapoints. This growing Digital health or e-health industry presents a number of opportunities for companies seeking to enter the market.

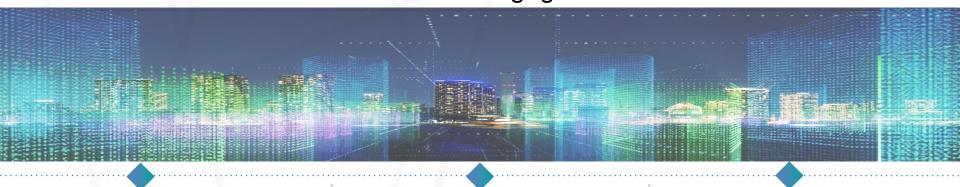
There is a number of opportunities available for companies seeking to collaborate with tertiary level academic institutions and other private sector bodies, in order to conduct research and to advance patient treatment outcomes. This is particularly prevalent within the rare disease category.

Lastly, Ireland is experiencing a gradualistic shift towards preventative action as opposed to reactive care, in an effort to alleviate the fiscal burden associated with treating conditions at a later stage. This is particularly prevalent with regards to mental health, nutrition and lifestyle choices, hence it provides opportunities for companies operating in this field.



Irish Healthcare Market - Areas for Engagement





A way for prospective US suppliers to initially enter the Irish market is to collaborate with academic institutions, hospitals or related industry organizations, with the objective of advancing research and development. This will enable companies to establish a foothold in the market and in turn leverage these relationships to foster growth.

For Prospective Healthcare related service providers that are seeking to enter the Irish market, the key area for engagement would be to either enter the market directly or engage with channel partners that has connections in both public and private hospitals.

Prospective US companies that are seeking to supply healthcare related devices or digital software packages are likely to engage with resellers and distributors in market, as they already have preexisting connections with relevant end users in place.

Geography Summary





Ireland is an island situated in the British Isles and is politically divided into two distinct regions: Northern Ireland (NI) and the Republic of Ireland (RoI).

Northern Ireland is a part of the United Kingdom, which also consists of England, Scotland and Wales, meanwhile The Republic of Ireland is an independent country.

Both the United Kingdom and Ireland are members of the European Union, however, on the 23rd of June 2016, the UK voted in a national referendum to leave the European Union, and, as a result, exit the customs union.

This means that, whilst the UK will no longer be bound by EU laws, it will also no longer be able to trade freely with other members states, which will in turn result in tariffs being implemented on traded goods and services. This may generate trade frictions between both Northern Ireland and The Republic of Ireland.

Currently, the UK is in a transitionary period, whereby it is negotiating its future relationship with the EU, which also involves negotiating tariff rates and legislation.

At the time of writing, there is no deal in place.

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- 1. European Life Science Sector Overview
 - Including a breakdown of the MedTech and Pharmaceutical industries and emerging trends
- Ireland's Life Science Sector Overview
 - Including a breakdown of the MedTech and Pharmaceutical industries and emerging trends
- Market Entry Strategy
 - The Opportunities that are available within the Irish Marketplace
 - Including key areas for Engagement
 - Key Players in the Market
 - Including relevant Industry Associations



Section One

Europe's Life Science Sector Overview



European Life Science Market Overview







\$2125 Billion

The Expected Value of the European Healthcare market in 2020



2/3 outsourced

The proportion of manufacturing conducted by third party drug manufacturers



Key Markets

UK, Germany, France, The Netherlands and Switzerland



6.5% Increase

The growth Rate of novel therapies that addresses new, and previously unmet needs

The European Life Science Industry has grown consistently over the past several years due to sustained investments in R&D and technological advancements, with the key markets including the UK, Germany and France. The Life Science industry itself can be broken down into further sub-categories, which mainly comprises Medical Technology, otherwise known as MedTech and Pharmaceuticals. The industry's primary goal is to advance healthcare and patient treatment by developing new, novel treatments to cure a range of conditions, and in particular rare diseases.

European MedTech Market Overview







€115+ Billion

The Value the European MedTech sector generates annually.



675,000+

The Number employed within the European MedTech Sector



Key Markets

Germany, UK, France, Italy Switzerland and Ireland



7.2% and 6.5%

The percentage of healthcare expenditure spent on Medical Technologies and Medical Devices Respectively

The Medical Technology Sector is a key component of the European economy, and is valued at €115+ Billion, employing over 675,000 highly skilled workers, with the major European Markets including Germany, UK, and France, whilst Switzerland and Ireland also boast thriving MedTech clusters. The Medical Technology industry consists of three primary sub-sectors, namely medical devices, in-vitro devices and digital healthcare. Furthermore, 7.2% of all European healthcare expenditure is spent on Medical Technologies, of which, 6.5% consists of expenditure on medical devices.

European Pharmaceutical Market Overview







€260+ Billion

Total Value of the European Pharmaceutical Sector.



The number of people employed within the sector



UK, Germany, France, The Netherlands and Switzerland



€35+ Billion

Expenditure on R&D, with Germany, Switzerland, UK and France leading

The Pharmaceutical industry is an integral component of the Life Science sector and in turn, the European economy. The industry itself is valued at over €260+ Billion and is known for its highly educated labour, employing over 760,000 qualified professionals. Expenditure on R&D is key to the industries ongoing success and improving patient welfare, with countries such as Germany, Switzerland and the UK leading the way with capital investments. Areas of particular interest that have merited sustained exploration include Oncology, Diabetes, Rheumatology and Antivirals, among others.

European Life Science Market Trends





The Life Science industry in Europe has a relatively high degree of competition, with the majority of businesses classified as SMEs. However, the European MedTech Sector has a relatively lower degree of concentration in comparison to the pharmaceutical industry, which is primarily due to its less intensive capital requirements. Currently, there are over 27,000 active MedTech companies in Europe, 95% of which are SMEs.

An emerging trend within the Medical Technology industry is the development and implementation of non-invasive implements, and in particular wearable device, especially those that have the capacity to collect, track and analyze data on users, in order to refine and enhance patient care. This emerging sub-sector is typically referred to as Digital Health.

An emerging trend within the pharmaceutical industry is R&D investments into novel therapies with the aim of treating rare diseases. This is part of a systematic movement to tailor treatment to patients individual requirements, otherwise known as patent centricity. However, returns generated by R&D in recent years have been impacted substantially, in part due to governments fiscal austerity measures that have been implemented throughout Europe.

A key trend witnessed throughout the Life Science industry is Outsourcing. Drug developers are licensing manufacturing rights to 3rd party companies, with only 1/3 of all production occurring inhouse. Meanwhile, due to the inflating R&D costs, much of these activities have gradually been shifting to emerging economies, such as Brazil, China and India, who have seen growths of 11.4%, 7.3% and 11.2% respectively.

European Life Science Market Regulation



The European Union typically drafts and implements minimum standards regulation on behalf of all member states in an attempt to reduce trade frictions, however, each country is free to draft more stringent legislation should they wish to do so.

With regards to the Life Science industry, the market is governed by the European Commissions and the medicines regulatory authorities in member states, which outlines initiatives on topics including suitability for human use, clinical trials and international co-operation.



The pharmaceutical industry is governed by the European Commissions Directive 2001/83/EC, which outlines regulations pertaining to the and harmonization of clinical trials, the quality and safety of medicines and marketing authorization in order to ensure their suitability for human consumption. Policymakers and pharmaceutical companies are currently collaborating in order to renew and update the regulatory landscape.

Medical Devices are heavily regulated, both pre and post introduction to the market, in order to ensure they suitable for human use. Medical Devices are assessed under the MD Directive, which outlines a risk based classification system, segregated into four tiers based on the invasiveness of the device itself. Meanwhile, In-vitro devices, which are regulated by the IV Directive, are also classified into four tiers based on the risk the device poses to public health.

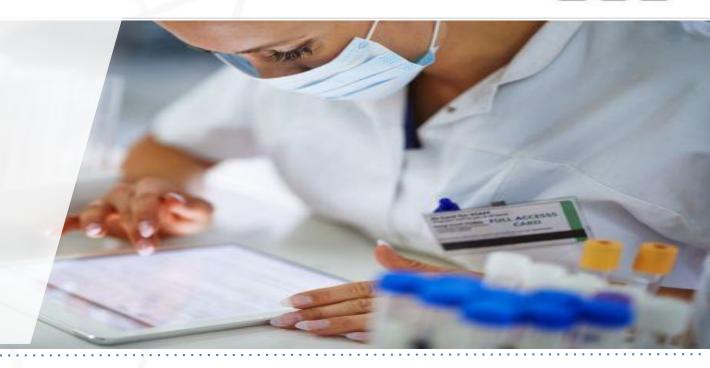
A key piece of regulation impacting the functioning of the Life Science industry as a whole is Intellectual Property Rights. Advancements in patient treatment and novel therapies is heavily reliant on investments R&D, and without patents to protect the returns of pharmaceutical companies, the industry itself would not be able to sustain an environment that fosters innovation. Subsequently, this has also give way for the development of the drug licensing industry.



02

Section Two

Ireland's Life Science Sector Overview



Ireland Life Science Market Overview







€45+ Billion

The value of Irish Life Science exports



Top 5 Hub

Ireland is one of the top 5 Global MedTech Hubs



50,000+

The number of professionals employed within the Irish Life Science Sectors



8/10

Of the top Medical Device diagnostic companies, including: Abbot, Bayer, Medtronic and Stryker

Irelands government has been at the forefront of the Life Science industries development over the past several decades, founding several initiatives and outlining a series of policies, which in turn has resulted in sustained investment into the region, particularly from large multinational companies, developing an innovative and thriving ecosystem. The industry itself is valued at over €45Bn and employs over 50,000 highly skilled individuals, and is known for promoting collaboration between its various academic institutions, private clusters and public sector bodies.

Ireland MedTech Market Overview







€12.6+ Billion

The value of the Irish MedTech Sector Exports



160 +

The Number of Companies operating within the Industry



38,000+

The number employed within the Irish MedTech sector



> 50%

The percentage of MedTech Companies that have R&D facilities in Ireland

Ireland has solidified its status as a key player in the Global MedTech sector by attracting a number of leading multinational companies, including 8 of the top 10 operating within the industry, such as Bayer, Boston Scientific, Johnson & Johnson and Medtronic, whilst also developing a number of domestic companies. This is primarily due to its highly educated and highly skilled labour force, which drives innovation and R&D. Additionally, Ireland exports over €12 Billion worth of Medical Devices per annum, making it the second largest exporter in Europe, narrowly placing behind Germany.

Ireland Pharmaceutical Market Overview







€39+ Billion

The value of Pharmaceutical Exports



75

The Number of Pharmaceutical companies operating in Ireland



29,000+

The number of professionals employed within the Irish pharma sector



10/10

Of the Worlds Top Pharmaceutical Companies

The Pharmaceutical sector is a key component of Irelands economy, generating over €39 Billion worth of exports and directly employing over 29,000 workers, hosting 75 pharmaceutical companies, including 10 of the top 10 in the world. Ireland is renowned internationally for its biopharmaceutical manufacturing capability and there are several factors that contribute to its strength, this includes; Irelands highly educated labour, which provides a strong talent pool for companies, and drives innovation, in addition to collaboration between its various life science clusters and public sector bodies.

Irish Life Science Market Trends





The Life Science industry in Ireland has a relatively high degree of competition and a low degree of concentration, with 4 out of 5 companies operating in the sector classified as startups or SMEs. However, Ireland also hosts a number of large Multinational Life Science companies, including a large US cohort, such as Abbott, Bayer, Boston Scientific, Johnson & Johnson and Medtronic, indicating diversity within the cluster.

Ireland is known internationally for its innovative MedTech ecosystem, which focuses primarily on improving patient care. One of the key drivers of the industry is the development of minimally invasive medical devices or equipment, particularly those that can be applied quickly, without the need for major surgery.

Ireland is one of the leading pharmaceutical and biotechnology hubs in Europe, and is renowned for its manufacturing capabilities, which it has invested heavily into developing over the past two decades. This is reflected through the growth of the market, as In 2003, Ireland had only two pharmaceutical manufacturing facilities, however, by the beginning of 2018, it had 18 sites operational.

A growing trend in the Irish and wider European life science market is the focus on patient centric care, which is reflected by the advancement of treatments and therapeutics to combat rare diseases. Ireland has invested heavily into conducting research in order to address patients previously unmet needs, and is a leader on the field of oncology, gastrointestinal disorders and antiviral vaccines.





Market Entry Overview







Potential Routes to Market for Life Science Suppliers



Cork

The largest Life Science Hub in Ireland



450 + 75

The Number of MedTech and Pharma Companies located within Ireland



€1.98Bn & 9.54Bn

The Value of Irish MedTech and Pharmaceutical Imports

Ireland has a well established consumer market, with its citizens having a relatively high standard of living, as its GDP per capita in 2018 recorded at \$78,764 USD. In addition, Ireland boasts a diverse economy with an innovative life sciences ecosystem, the majority of which is clustered around its major cities, including Dublin, Galway and Cork, and is driven by its highly educated labour force. This in turn presents a number of opportunities for prospective companies seeking to enter the Irish marketplace.

Route To Market

ROUTE TO MARKET MARKET ENTRY APPROACHES Resellers & Direct Industry Collaborations **Partners** Associations & **Distributors** Hubs Develop and grow Private & Public Research Hubs & Licencing Medical Device or Hospitals network with key Universities Pharmaceutical agreements industry product distributors HSC Trusts associations and Clinical trials and & Resellers American bodies in- market participation studies companies based in **HSE** Hospital Ireland Groups

Geographical Distribution of The Irish Life Science Industry



Munster 23,750

- Clare 1300
- Cork 10.580
- Kerry 420
- · Limerick 3900
- Tipperary 3900
- · Waterford 3650

Leinster 13,906

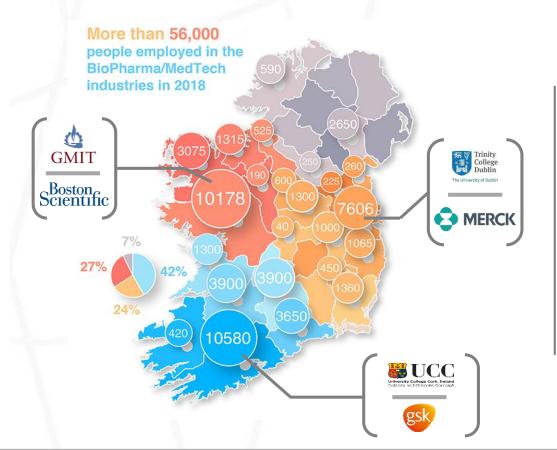
- Carlow 450
- Dublin 7606
- Kildare 1000
- Longford 600
- Louth 260
- Westmeath 1300
- Wexford 1360
- Wicklow 1065
- Meath 225Offaly 40

Connacht 15,283

- Galway 10,178
- Leitrim 525
- Mayo 3075
- Roscommon 190
- Sligo 1315

Ulster 3490

- Armagh 2650
- Cavan 250
- Donegal 590



The Life Science industry in Ireland is largely driven by high quality labour, innovation and collaboration, hence the geographical distribution of the industry clusters are in close proximity to reputable tertiary level academic institutions that offer Life Science and other related courses.

As a result, the industry is heavily concentrated geographically around the Cork, Galway and Dublin regions, where key players can also be located.

Furthermore, the industry is continuing to grow steadily and expects to add over 6,000 new jobs by 2021.

Key Pharmaceutical Players: Company Profiles





GlaxoSmithKline Overview

Sector: Pharmaceuticals & Biotechnology

Founded: 1715

Employees: +10,0000

Int. Presence: EUR, AFRICA, ASIA, AMERICAS

AD: Citywest Business Campus, Dublin, IE

Website: www.gsk.com

Merck Overview

Sector: Pharmaceuticals

Founded: 1891 Employees: +69,000

Int. Presence: AMERICAS, EUR, ASIA, AFRICA

AD: Citywest Business Campus, Dublin, IE

Website: www.msd-ireland.com



Company Summary

Founded 1715, UK-based GlaxoSmithKline a research-based pharmaceutical operates It develops, manufactures and markets company. over-the-counter vaccines. prescription, and medicines. as well as health-related consumer products. It provides a range of treatments for various ailments including infections, skin conditions, asthma, cognitive disorders, heart and circulatory disease, and cancer. The company established its manufacturing facility in Cork in 1974 and continues to expand its operations.

Company Summary

Established 1891, US-based Merck is a leading global biopharmaceutical company which focuses on developing, manufacturing and marketing vaccines and others medicines to address patients unmet medical needs, in fields such as oncology, cardiovascular and infectious diseases. Merck has several facilities located throughout in Ireland, centred on Research and Development, in addition to manufacturing.

Key Pharmaceutical Players: Company Profiles





Pfizer Overview

Sector: Pharmaceuticals

Founded: 1849 Employees: 92,400

Int. Presence: US, EUR, ASIA, AFRICA, AUST

AD: The Watermaque Building, Dublin IE

Website: www.pfizer.com

Genzyme Overview

Sector: Biotechnology Research

Founded: 1981 Employees: 10,100

Int. Presence: AMERICAS, EUR, ASIA, AFRICA AD: 18 Riverwalk, Citywest Business, Dublin

Website: www.sanofigenzyme.com



Company Summary

Founded in 1849, US-based Pfizer is a biopharmaceutical company that discovers, develops, and provides medicines, vaccines, and consumer healthcare products. The company offers prescription and non-prescription medicines, over-the-counter products, vitamins and mineral supplements, for various illnesses and diseases, such as cardiovascular disease, arthritis, headaches, joint and back pain, and certain types of cancers. Pfizer has IDA-supported facilities at five sites in Ireland that employ 3,500 people.

Company Summary

Founded in 1981, US-based Genzyme is a healthcare company that engages in research and treatment the field rare diseases, including multiple sclerosis, oncology and immunology. In 2001 Genzyme corporation announced the establishment of a new multi-phase manufacturing facility in Waterford, and in 2007 received a grant of €3.9 million to support a major new R&D investment and a €19.5 million facility.

Key Medtech Players: Company Profiles





Boston Scientific Overview

Sector: Electromedical equipment

Founded: 1979 Employees: 29,000

Int. Presence: US, EUR, ASIA, AFRICA, AUST

AD: Ballybrit Business Park, Galway, IE Website: www.bostonscientific.com

Medtronic Overview

Sector: Biotechnology Research

Founded: 1981 Employees: 90,071

Int. Presence: AMERICAS, EUR, ASIA, AFRICA AD: 20 On Hatch, Hatch Street Lower, Dublin, IE

Website: www.medtronic.com



Company Summary

Founded in 1979, US-based Boston Scientific is a developer, manufacturer and marketer of medical devices whose products are used in a range of interventional medical specialties, including interventional radiology, interventional cardiology, peripheral interventions, neuromodulation, neurovascular intervention, electrophysiology, cardiac and vascular surgery. Boston Scientific established operations in Ireland in 1994, with the support of IDA, and has grown to be the largest MedTech employer in Ireland.

Company Summary

Founded in 1949, Ireland-based Medtronic is a medical technology and services company that develops, manufactures and markets its medical devices and technologies for hospitals, physicians, clinicians and patients. The company operates in more than 370 locations in 160 counties, and has four separate groups, including: Cardiac and Vascular group, Minimally Invasive Technologies Group, Restorative Therapies Group and Diabetes Group.

Key MedTech Players: Company Profiles





Depuy Overview

Sector: Electromedical equipment

Founded: 1895 Employees: 9,000

Int. Presence: AMERICAS, EUR, ASIA, AFRICA

AD: Loughbeg, Ringaskiddy, Co. Cork, IE Website: www.jnjmedicaldevices.com

Creganna-Tactx Medical Overview

Sector: Healthcare Founded: 1979 Employees: +1,100

Int. Presence: AMERICAS, EUR, ASIA, AFRICA

AD: Parkmore West, Galway, IE Website: www.creganna.com



Company Summary

Founded in 1895, US-based DePuy is a leading global MedTech company which offers a comprehensive portfolio of orthopaedic and neuro products and services for joint reconstruction, orthopaedics and biomaterials. Depuy's Irish operation was established in 1997 to manufacture orthopaedic products, and is based in Co. Cork, employing over 575 people.

Company Summary

Founded in 1979, Ireland-based Creganna Medical provides a range of services to design, develop and deliver finished medical devices to market. They offer a various outsourced solutions to medical device companies from clinical and regulatory support to design and manufacturing services. The company has manufacturing facilities in California, Minneapolis, Massachusetts, Ireland and Singapore and employs over 1,100 people worldwide.

Industry Associations





Irish MedTech Association Overview

Sector: Industry Association

Founded: N/A Employees: 10

AD: N/A

Website: www.irishmedtechassoc.ie

Biopharmachem Ireland Overview

Sector: Industry Association

Founded: 1985 Employees: 10

AD: N/A

Website: www.biopharmachemIreland.ie



Association Summary

The Irish MedTech Association is the Industry association within IBEC that is responsible for representing the medical devices and diagnostics sector within Ireland. The Irish MedTech Association has almost 200 members located throughout the island of Ireland, and their main focus is to promote and support an environment that encourages the sustainable development and profitable growth of the industry.

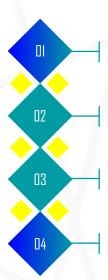
Association Summary

Biopharmachem Ireland is the Industry association within IBEC representing the biopharmaceutical and chemical sectors. BPCI allows members to appropriately address the strategic issues facing the sector, by being actively involved and shaping the future strategy and priorities for the sector including the development of new business models. Participation in the association and working groups enables members to network and collaborate for the future development of the Sector.

Irish Life Science Market Opportunities



There are a number of opportunities for US Companies seeking to enter the Irish Market, these include:



A key trend that has arisen within the MedTech Industry is the development of Non or Minimally Invasive medical Devices, particularly those that do not require surgery to implement. This trend is is part of a wider movement to enhance patient care and alleviate the fiscal strain on the healthcare system, and hence presents opportunities for companies operating in this sector.

An Important trend within the Pharmaceutical industry is the sustained investment into Research & Development, particularly focusing on rare diseases. Ireland boasts a highly educated labour force, which in turn is driving the drug discovery process in fields such as Oncology, gastrointestinal diseases and viruses. This presents opportunities for companies seeking to collaborate with research institutions and supply the R&D process.

A further trend within the industry includes companies seeking to outsource various stages of production process to external providers. Ireland is a leading European Life Science hub that is renowned for its manufacturing capabilities, however, a number of companies tend to license the final production to third party providers. This presents opportunities for companies seeking to enter this segment of the market.

Another Trend within the Irish Market is the focus on Data Analytics with a specialism for Healthcare. A large number of medical devices collect and track data on users, meanwhile, pharmaceutical companies often collate copious amounts of data from their various clinical trial stages, all of which needs to be analysed before it can be actioned upon. This in turn presents opportunities for companies operating within this area.



Irish Life Science Market - Areas for Engagement





A number of companies that are present in the Irish market are headquartered in the therefore. prospective companies seeking to enter the Irish market may be able to do so by connecting initially with their counterparts, and then leverage this existing relationship to supply their Irish Facilities. This is applicable for both medical Device and related service providers.

For Prospective Medical Device related service providers that are seeking to enter the Irish market, the key area for engagement would be to identify and collaborate with channel partners and industry clusters that are already present within the Market. This will enable the company to access the market through their connections.

For prospective Pharmaceutical market suppliers, the key area for engagement involves collaborating with research institutions and other sector bodies for the R&D process. Meanwhile, those seeking to enter the manufacturing supply chain may seek to License production rights from companies that own the intellectual property.

