Skillnet IRELAND

Up-skilling Enterprise, Driving Competitiveness
Addressing Ireland's Future Skills Needs

Chief Executive Introduction

The Skillnet Ireland organisation, with its deep roots in enterprise, continues to make a substantial contribution to the future skills agenda and to the competitiveness of Irish firms.

However, advances in technology, market shifts, changing demographics and varied competitive forces are constantly driving new skilling requirements for industry. These trends, combined with disruptors such as robotics, artificial intelligence, big data and advanced manufacturing are accelerating the need to develop yet more innovative new programmes to meet the demands of industry.

The importance of investing in talent strategies that enable businesses to remain competitive, resilient and adaptable is widely recognised. However, anticipating future skills (in particular) will always be a challenge given the complex and dynamic world we live in.

Skillnet Ireland is well positioned to provide effective solutions to many of these challenges. Skillnet Ireland plays a unique role in maintaining a supply of new and future skills by facilitating a collaboration between enterprise, Higher Education Institutes, and industry training providers. The Skillnet Ireland Future Skills Programme is the vehicle through which that collaboration is achieved, and this report showcases just some of the initiatives developed under the programme this year.

In 2017, the OECD highlighted Skillnet Ireland as a best practice approach for Government sponsored, Enterprise-led workforce development. It found that our decentralised model generates highly specialised knowledge on employment and training related issues, resulting in better alignment between labour market needs and the supply of skills.

We are proud of our core competence in fostering and delivering effective enterprise-led training and I hope you find this report beneficial.

National Skills Strategy

A key objective of Ireland's National Skills Strategy 2025 is to increase the supply of skills to the labour market, to strengthen the role played by employers and to increase the focus placed by education providers on skills that are relevant to the economy. Undoubtedly, strong partnerships between education and enterprise are essential to the realisation of this objective.

A key theme of the Action Plan for Education is the need for focused engagement with enterprise to develop the necessary skills for a growing enterprise base. It found that the "critical success factor is real partnership between education and enterprise". It is essential that both parties work together to provide a broader range of flexible opportunities for learners to support an increase in lifelong learning. This activity will help to meet Ireland's current and future workforce needs, achieving greater productivity and supporting economic and social prosperity and growth.

Skillnet Ireland networks have developed innovative new programmes under the Future Skills Programme in 2017. In addition, Skillnet Ireland has supported the implementation of a number of key Government policies including the National Skills Strategy, the Action Plan for Education, FoodWise 2025, the ICT Action Plan, Hospitality Sector in Ireland 2015– 2020, IFS 2020 and the Action Plan for Jobs.

Skillnet Ireland is also closely aligned to Enterprise 2025, Ireland's national enterprise strategy for growth and job creation. Skillnet Ireland innovative new programme development makes a significant contribution to our national competitiveness agenda, primarily through increased investment in workplace learning and management development and in addressing future skills.

Skillnet Ireland Future Skills Programme

The strategic intent of the FSNP is to develop new programmes that address emerging skills gaps within growth sectors. Established in 2011, the FSNP has succeeded in developing a strong suite of new programmes each year. Skillnet Ireland provides 80% funding through FSNP to networks to develop new programmes, with the remainder of costs funded in matching contributions from participating businesses in the learning network.

This programme is open to all networks where there is a clearly identified gap in provision. Proposals must demonstrate a clear demand from enterprise, identify a proven gap in supply, and represent an innovative response in terms of programme design and effectiveness.

In addition to the financial investment, firms participating in Skillnet Ireland make a non-financial investment by deploying their staff to work with relevant institutions to define and design new programmes and qualifications. For enterprise, this approach provides a practical platform to collaborate with academic experts and L&D professionals who can translate new business requirements into effective and innovative programmes.

Programmes developed to date are varied and have included courses in Sustainable Finance, Animation, Software Product Management, Fintech, Cyber Security and Design Engineering for medical technologies. Enhancing SME management capacity is also a key priority for Skillnet Ireland and we supported the development of a number of innovative new programmes in management development and leadership.

> *"The greatest benefit of becoming involved in a Skillnet Ireland network is that companies get to create programmes that satisfy their needs that have never been in existence before. If they want to be competitive, getting involved gives companies an advantage in terms of developing new programmes with their peer organisations. If companies are not involved, they will miss out"*.
>
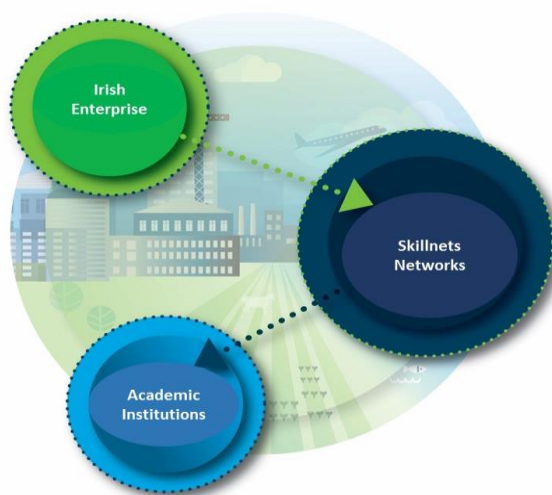> Paul Sweetman, Director, Technology Ireland

2017 FSP Achievements and Outputs

In recent years Skillnet Ireland has increased the level of funding allocated to FSNP. In 2017, Skillnet Ireland and network member firms jointly invested €730,000 in FSNP, of which €560,000 was invested by Skillnet Ireland and €168,000 invested by member companies.

Funding was awarded to develop programmes across 24 Skillnet Ireland networks, including networks in ICT, life sciences, retail, aviation, green economy, agriculture and the food and beverage sectors. This facilitated collaborations with a variety of stakeholders including business representative groups, higher education institutions, industry certifying bodies and statutory agencies.

All programmes developed through this fund are congruent with the strategic challenges and opportunities facing specific sectors and regions, with an emphasis on programme design that is:

- Reflective of the modern workplace and how adults learn.
- Optimised for maximum transfer of learning.
- Flexible, and straight forward for employed learners to access.
- Blended and highly integrated with work.
- Configured to tap the potential of technology-enabled learning.

Skillnet Ireland plays an important role in the provision of accredited training and education to industry and learners throughout Ireland. In terms of training delivery, blended learning already widely used within networks, featured strongly in the new certified programmes developed by the networks that are featured in this report.

Future Skills Case Studies

ICT & Technology Sector

A key action within the ICT Skills Action Plan 2014-2018 is the delivery of Skillnet Ireland ICT programmes to industry and deeper collaboration with industry to develop new programmes. Recently, the Expert Group on Future Skills Needs (EGFSN) identified third platform technologies as developments that will have the biggest impact on the businesses within the ICT sector in the future. These include cloud computing, mobile devices and technologies, the internet of things (IOT), big data analytics, artificial intelligence, advanced robotics, 3D printing, augmented/virtual reality, and cybersecurity. Skillnet Ireland networks are addressing these needs through the development and delivery of new programmes. The National Skills Bulletin 2017 recently highlighted key skills shortages in Ireland relating to the unification of software development and operations (DevOps) and user experience (UX) within digital product design. See case studies on new programmes in DevOps and UX Design on pages 8 and 9.

International Financial Services / Legal Sector

IFS2020, Ireland's strategy for the international financial services (IFS) sector, highlights the opportunities that Brexit will create to attract new operations to Ireland, while recognising the importance of retaining and growing existing IFS activities by remaining competitive. The scale and complexity of the challenge presented by Brexit and the opportunities it will create underscores the importance of the services provided by in-house counsel and legal firms that support Ireland's IFS sector. One of the key pillars of the IFS2020 strategy is to drive innovation and entrepreneurship within the sector, with a particular focus on governance, risk and compliance. These issues are core to a new Masters programme featured as a case study on page 12.

Agri-Food Sector

The FoodWise 2025 report sets out a 10-year vision for the Irish agri-food sector, involving both primary producers and agri-food businesses across the country and a target to almost double food and drink exports over the next ten years. Skillnet Ireland funds a number of networks operating in this sector, with membership ranging from large-scale manufacturing operations to small micro-enterprises including organic producers and producers of artisan foods and craft beers. As stated within FoodWise 2025, "there are huge opportunities for growth in the whiskey and craft beer sector. Emerging markets in Asia and the explosion of the craft alcohol market in the United States provide Irish companies with enormous potential to expand". See our related brewing case study on page 10. Foodwise 2025 also highlights how sustainable intensification leverages the strengths of the beef sector and underscores the importance of "improving productivity while using natural resources in a manner which protects them into the future" and the need for "embracing and applying the latest innovations, new technologies and processes." See our related beef farming case study on page 13.

Life Sciences Sector

Exports of medical devices and diagnostic products now represent 8% of Ireland's total merchandise exports. A recent report conducted by the Expert Group on Future Skills Needs (EGFSN) reflected the international brand recognition and the reputation for manufacturing excellence the sector has achieved, and the significant opportunities for sustained employment growth the sector presents. The medical technology (medtech) sector employs over 29,000 people in Ireland and is the second largest employer of medtech professionals in Europe. The EGFSN report also highlighted Ireland's excellent track record in compliance with statutory and quality regulations, and concluded that this "is a key competence and advantage in Ireland's proposition to sustain and attract investment" See our related regulatory affairs case study on page 11.

The advantages of Development Teams and Operations Teams collaborating to improve the delivery of technology solutions has meant a rapid adoption of DevOps approaches to the Software Development Lifecycle. With most technology organisations moving their delivery platforms to a DevOps approach, the shortage of people with related skills had become acute. Closely associated with Lean and Agile concepts in enhancing the delivery of technology solutions, the DevOps approach has impacted very rapidly on the Technology industry.

Developed by industry as a direct response to this need, this first-ever Master's degree in DevOps was designed by Technology Ireland ICT Skillnet to address these important talent gaps and provide standards and recognition to technologists already working in this field. Technology Ireland ICT Skillnet member firms established a working group of DevOps experts from five companies. This group drafted an outline content for the Masters and engaged with Tallaght Institute of Technology in July 2017 to develop and deliver the programme, in collaboration with the working group.

The 2-year, part-time Masters will be delivered almost entirely online and is due to commence in Jan. 2018. To date, companies involved with the programme include: Fidelity Ireland, Ericsson, IBM, Cisco, Hertz, Microsoft, Liberty IT and Vistatec. The MSc will place an emphasis on continuous assessment, practical and project work using exercises drawn from practical "real life" DevOps scenarios.

"Understanding not only the technical, but also the business and human factors at play during the high pressure demands of modern software delivery processes, is essential in the modern discipline of DevOps. This exciting course breaks new ground by combining these and the core technical elements into a new Masters validated at Level 9 on the NFQ".

Carmel Somers, Talent Manager, IBM Ireland Lab

Postgraduate Diploma in User Experience Design (UX)

Technology Ireland Software Skillnet

Dun Laoghaire Institute of Art, Design and Technology (IADT)

User experience (UX) is a key aspect of modern digital product design that has a significant impact on factors such as user acquisition, retention and engagement. There is a rapidly growing enterprise demand for people with specialised competency in UX design, who have the capability to ensure that digital products produce good interactive experiences. The programme aims to develop skilled and knowledgeable UX designers to fill the software industry's skills gap in this area into the future.

Enterprise involvement and collaboration were key to the development of the programme. The diploma was designed through collaboration between a working group of Technology Ireland Software Skillnet member companies, Technology Ireland and the Dun Laoghaire Institute of Art, Design and Technology (IADT). The postgraduate diploma is delivered on a part-time basis over a two-year period and blends classroom-based learning with real-world projects. The first graduates completed the programme in 2017.

"Our working group was established to design innovative professional UX Design programmes for the software sector. Without the collaborative partnership and combined effort of the involved companies and the IADT in examining our future skills needs, the new Technology Ireland Software Skillnet courses would not have the same impact or add such excellent value as they now do."

Fred Raguillat, Head of IBM Studios Dublin

Pictured at the launch of the Technology Ireland Software Skillnet Postgraduate Diploma in UX Design are Caitriona Murphy, Ericsson, Marion Palmer, IADT, Paul Sweetman, Techology Ireland, and Fred Raguillat, IBM.

This Taste4Success Skillnet NFQ Level 7 Certificate addresses a skills gap that has arisen due to the expansion in the production of premium beverages, sensory taste opportunities and the food essence industry. This programme upskills people with the scientific and engineering background required to work in craft and traditional breweries and distilleries. The programme plays an important part in up-skilling staff within the agri-food sector, which is essential to the continued success and growth of this diverse industry.

The Certificate was designed specifically for food and beverage companies within the Irish market. The progamme was developed by Taste4Success Skillnet member firms in partnership with CIT, the Irish Branch of the Institute of Brewing and Distilling (IBD), and senior engineers and technologists from local industry. This flexible, two-year, modular, part-time, evening programme combines lectures with industry-relevant laboratory practicals and site visits to manufacturing and production sites. To date, participating companies include Heineken, Rising Sons Brewery, Kinsale Distillery and 9 White Deer.

Pictured at the Launch at Cork Institute of Brewing and Distilling at Cork Institute of Technology are John O'Meara, Paul Wickham, Midleton Distillery, Michael Creed TD, Minister for Agriculture, Food and the Marine, and Rebecca Byrne, Midleton Distillery

"We are delighted with the programme which gives a comprehensive knowledge of brewing both from a scientific and engineering side. In addition to weekly lectures, the certificate offers a practical side to brewing with lab practicals and visits to breweries, distilleries and maltings. All of these factors enhance the learning experience for our people and open up the science of brewing for them".

Colette Brosnahan, Brewing Information & Systems Manager, Heineken

Fundamentals in Regulatory Affairs

Irish Medtech Skillnet

University of Limerick

This NFQ level 8 programme was developed to assist medtech companies to adapt rapidly to a changing regulatory environment and specifically to address the EU Medical Device and In Vitro Diagnostic (IVD) Medical Device Regulations (MDR). The programme aims to facilitate medtech professionals to transfer to the regulatory affairs function or upskill in regulatory affairs for their existing roles.

The programme was developed by Irish Medtech Association Skillnet member companies in partnership with the University of Limerick, Reidh Consulting, and the Irish Medical Devices Association Regulatory Affairs Expert Group. Programme lecturers include industry-based subject matter experts and learners undertake assignments that are specific to the needs of their firms e.g. Clinical & Technical Documentation Remediation, Clinical Investigation, Identification & Traceability, etc. The programme will further evolve in 2018 to incorporate more blended learning e.g. through the introduction of online lectures. There is strong demand for the programme from both SMEs and large multinationals based in Ireland.

Pictured at the Launch of the new Fundamentals in Regulatory Affairs for Medical Technologies were Martin Reddington, Reidh Consulting, Pauline O'Flanagan, Irish Medtech Skillnet, Mary Woolley, Harmac Medical, John Mullen, Veryan Medical, Michael Hennessy, University of Limerick.

"This Fundamentals in Regulatory Affairs course is very important for our business since it provides a forum for both new regulatory affairs professionals and experienced professionals in other areas to learn the basic regulations as they apply to the medical technology industry thereby preparing the company for the ever-changing regulatory environment."

Lorraine Whitney, Senior Manager Regulatory Affairs, Abbott Diagnostics

Masters in International Financial Services Law

Law Society Finuas Skillnet

UCD Sutherland School of Law

Law Society Finuas Network developed a Masters in International Financial Services Law to further enhance the base of sector-specific legal expertise in Ireland. This advanced degree will develop the capacity of legal and other professional services firms to support future growth within Ireland's IFS sector. The Master's degree was developed by Law Society Finuas Skillnet member companies in partnership with the UCD Sutherland School of Law.

In the intervening years, there has been consistently strong demand, with the legal and IFS sector now requiring a more advanced qualification to gain a greater understanding of key issues including: regulatory governance; online regulation; EU competition law; corporate governance, international tax law and data protection. The programme is highly practical in its emphasis and participants have a unique opportunity to learn from and interact with a highly experienced panel of speakers with a wide practical experience of the international financial services sector. This new part-time Masters programme will be supported by UCD's virtual learning environment, and is scheduled to commence In January 2018.

Pictured are the Law Society Finuas Skillnet congratulating graduates of the Post-Graduate Diploma in International Financial Services Law

I was initially attracted to the Postgraduate Diploma jointly offered by the Law Society and UCD because of the reputation of the course speakers and the innovative delivery methods of the course. I found the content to be targeted, concise and invaluable in enhancing my knowledge of international financial services law and ultimately has helped to progress my career in the short time since completing the course.

Dr. John Ahern, Price Waterhouse Coopers

Young Beef Farmer Sustainability Programme

Macra na Feirme Young Farmer Skillnet

Macra na Feirme Young Farmer Skillnet developed and launched its Young Beef Farmer Sustainability Programme in association with Dawn Meats. Young Beef farmers that participate on this 8-month programme will gain invaluable insights into profitability, sustainability and efficiency improvement on their own farms and an understanding of the beef industry from farm to fork. It is designed to help ambitious young farmers to develop their farming skills, their business and commercial awareness.

The programme assists your farmers to analyse and evaluate their own business and to make choices for future growth and efficiency, understand the customer requirements in the retail marketplace and how as beef farmers they can meet those requirements and identify practices on their individual farms that can enhance sustainability and profitability. Paul Nolan of Dawn Meats commented on the importance of supporting "*Macra's cohort of young beef farmers as they embrace the opportunities for efficient and sustainable beef production into the future.*"

The *Young Beef Farmer Sustainability Programme is an exciting opportunity for young beef farmers to help them improve the efficiency, sustainability and margins of their farms, and give our young beef farmers the confidence to undertake on-farm projects that add value to their beef farming enterprise.*" James Healy, National President of Macra na Feirme.

Pictured at the launch of Macra's Young Beef Farmer Sustainability Programme in association with Dawn Meats (L-R): Paul Healy, Chief Executive Skillnet Ireland; James Healy, Macra na Feirme National President; Karen Elliffe, Macra na Feirme, Michael Creed T.D., Minister for Agriculture, Food and the Marine; Sabrina King, Trade Marketing Manager, Dawn Meats; and Paul Nolan, Group Development Manager, Dawn Meats

13

Developing New Programmes to Develop New Talent Pipelines

Skillnet Ireland networks also worked with a range of education and training providers to develop many short accredited and non-accredited learning interventions on behalf of member firms through our other Programmes in 2017. These included a range of employment activation initiatives, including a suite of ICT conversion programmes for those seeking employment.

Women make up around 25% of the total technology workforce in Ireland, and across Europe only 9% of women above the age of 45 work in the sector. Technology Ireland Software Skillnet believes that retaining female talent is as much of a challenge as attracting them in the first instance. Women ReBoot is a highly-successful programme designed by Technology Ireland Software Skillnet aimed at reintroducing experienced women to tech jobs after career breaks, through a mix of coaching, online learning, networking skills and work placements in leading tech companies.

This innovative programme aims to redress the gender imbalance by attracting women with STEM experience back into the sector and has been highly successful in helping participants to secure employment. Companies supporting this programme include Opennet, Microsoft, Datalex, Logitech, Trend Micro and MongoDB. With coaching, online learning, honing networking skills and work placements, Women ReBoot will create a new talent pool of qualified and experienced women to fill some of the glaring talent gaps in the IT sector.

"For me the holistic approach of the ReBOOT programme from the training seminars, amazing career coaches and upskilling my technical abilities using the online learning platform was excellent." Amanda Evans, ReBoot Trainee

"We are always looking for new ways to find great talent, and change the ratio for women in technology. ReBoot seemed like a wonderful opportunity to do just that." Carol Teskey, MongoDB

"This is the first programme that I am aware of which has targeted bringing women in technology back into the workforce. It provided us with an opportunity to support talented and experienced women re-entering the workplace. It is an exciting and cutting-edge approach." Orla Kelly, Director of Organisation Development, Datalex

Addressing Future Skills Needs in 2018

Demand for this approach to future skills development is growing. Skillnet Ireland and participating enterprises have committed to investing over €1,000,000 in new programme development in 2018 spanning emerging needs in areas such as artificial intelligence, advanced manufacturing and global business services.

About Skillnet Ireland

Established in 1999, Skillnet Ireland works with businesses and their employees, to address their current and future skills needs. Skillnet Ireland provides high-quality training through over 65 learning networks in a range of sectors and regions. Our organisation is actively supported and guided by national employer and employee representative bodies including Ibec, the Small Firms Association, the Construction Industry Federation, Chambers Ireland and the Irish Congress of Trade Unions. Skillnet Ireland is funded from the National Training Fund through the Department of Education and Skills.

Our Programmes

- *Training Networks Programme: Over 65 enterprise-led learning networks delivering programmes nationwide*
- *Future Skills Programme: Development of innovative solutions to address future skills needs.*
- *Employment Activation Programme: Workforce activation initiative to assist job-seekers and others to gain employment.*
- *Management Development: A bespoke Management Development offering to support SME owner-managers.*

For further information on Skillnet Ireland see www.skillnetireland.ie