

INNOVATION ISLAND SERIES



TECHIRELAND

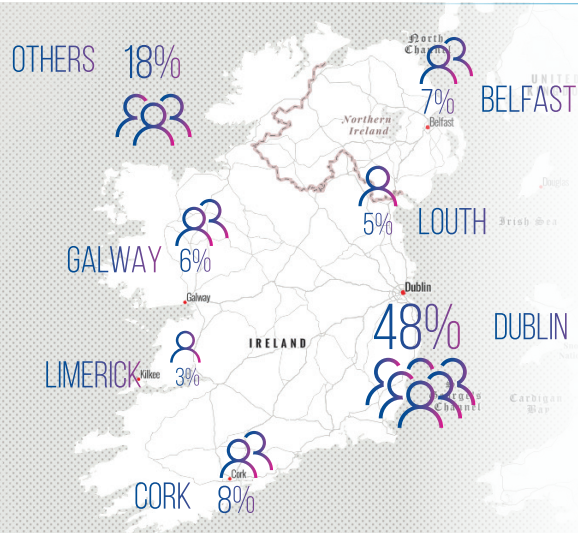
WORKFORCE DEVELOPMENT 2022



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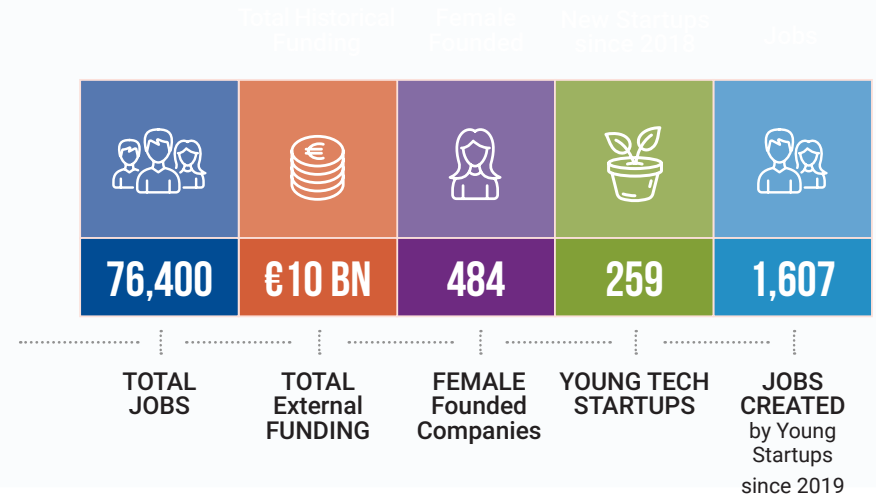


WORKFORCE BY REGION



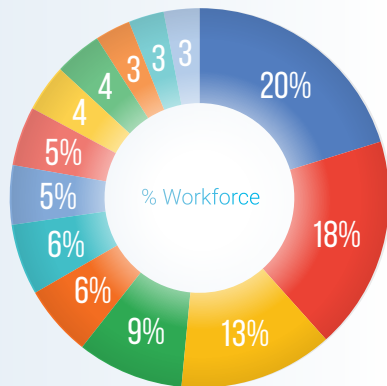
2,100

STARTUPS AND SCALEUPS



WORKFORCE BY SECTOR

- Enterprise Solutions
- HealthTech
- Fintech
- Industrial Technologies
- CleanTech
- Travel
- eCommerce
- TelecomTech
- Entertainment/ Sport
- Education
- Security
- Media/AdTech
- Agri/ Food



NEW JOBS CREATED

BY ENTERPRISE IRELAND COMPANIES IN 2021

11,911

68%

OF NEW JOBS IN 2021 WERE CREATED IN THE REGIONS OUTSIDE DUBLIN

BY IDA IRELAND COMPANIES IN 2021

29,000+

17,000

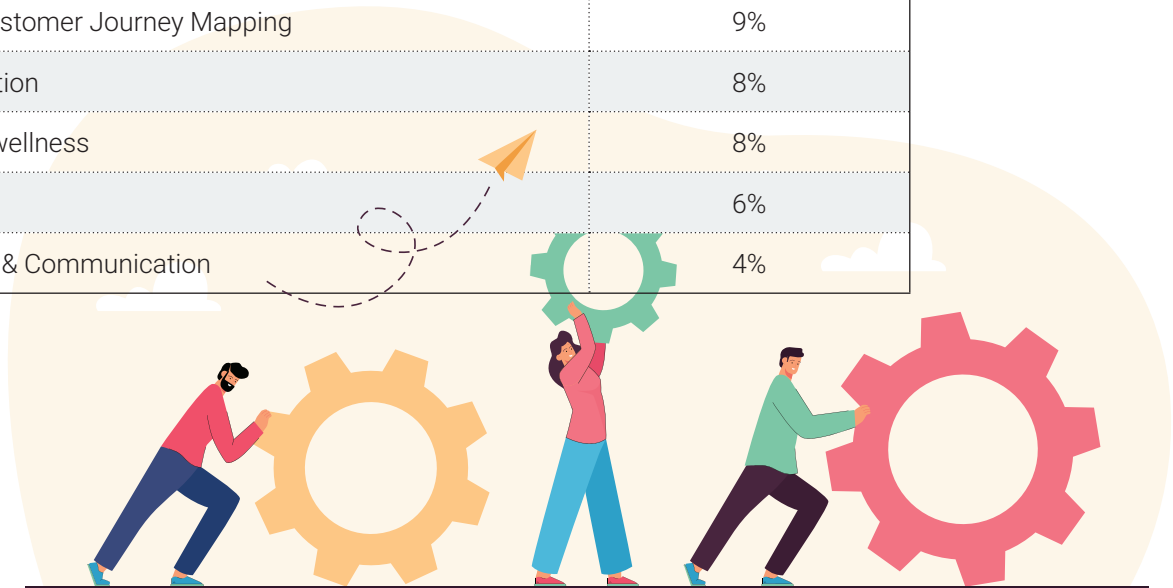
INCREASE YOY



| TOP SKILLS IN DEMAND | % COMPANIES THAT VOTED FOR THE SKILL |
|---|--------------------------------------|
| B2B Sales (Sales Pipeline, Pitch, Enterprise Sales, Renewal, Referrals, Relational etc) | 13% |
| Innovation Management (Product Dev, Route to Market, Product Life Cycle Planning) | 13% |
| Technical Product Management (Tech road map) | 12% |
| Digital Marketing (SEO, Social Media, Online Ads, Analytics) | 10% |
| Scaling & Managing Diverse & Distributed Teams | 10% |
| Leadership Development | 9% |
| Service Design, Design Thinking, Customer Journey Mapping | 9% |
| Prospecting & Opportunity Recognition | 8% |
| Employee well-being or workplace wellness | 8% |
| Creativity & Problem Solving | 6% |
| Effective Networking, Collaboration & Communication | 4% |

B2B SALES & INNOVATION MANAGEMENT TOPPED SKILLS NEEDS OF IRISH COMPANIES

Source: TechIreland Survey





Demand for skills by technology domain (Source: ICT Skillnet)

| Technology Domain | % |
|-------------------------|-----|
| Artificial Intelligence | 90% |
| Data Analytics | 80% |
| Cybersecurity | 60% |
| Digital Transformation | 50% |
| Blockchain Technology | 45% |
| Innovation/Leadership | 35% |



Popular workforce development methods adopted by Irish startups and scaleups

Source: TechIreland Survey

| | |
|--------------------------------|-----|
| Coaching/Mentoring | 22% |
| Group discussions & Activities | 20% |
| Project based Learning | 17% |
| Lectures | 15% |
| eLearning | 14% |
| Role-playing | 12% |



40%

year-on-year increase in demand for **Software Dev** qualifications this aligns with growing market demand for developers



A recent Coding Careers for Women initiative run by Code Institute in collaboration with Regional Skills Fora and ETBs has demonstrated the effectiveness of all-female cohorts in breaking down the barriers to entry and producing work-ready graduates with well above average success rates. This is a scalable solution that can both bridge the skills-demand gap and level up on the equality front. Coding Careers for Women is a joint initiative between Code Institute, ETBs, Regional Skills Fora and Employers.

This year will produce

50+

female software developers.

This represents a

35.4% INCREASE

in the annual number of female software developers graduating

Less than

25%

of Tech roles in Ireland are filled by women

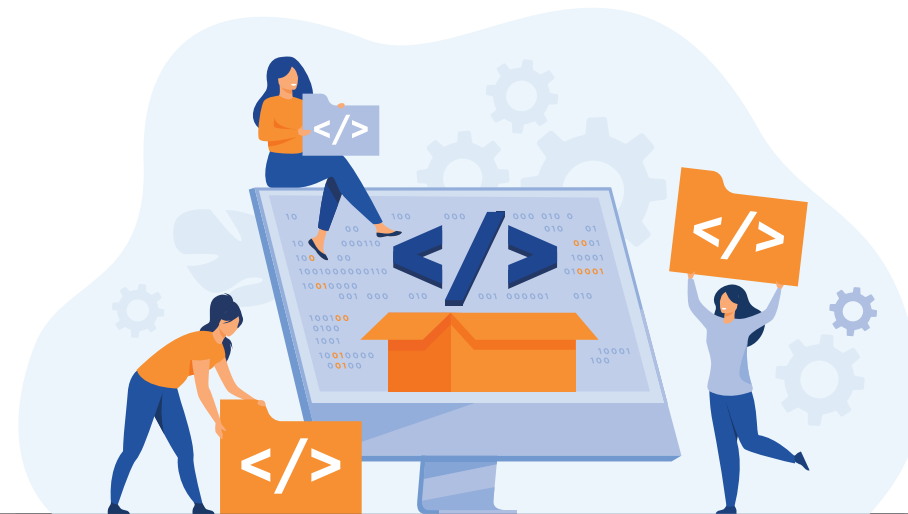
(Source; WITS Ireland)

Enrollment figures for software development

15.4% (141)

of female graduates

(HEA)



WORKFORCE DEVELOPMENT - A KEY PRIORITY FOR IRISH TECH

Workforce development can be described as all those employment initiatives by companies and the state to help create, sustain, and retain a viable workforce, helping individuals and businesses to prosper.

The TechIreland Pulse Survey of tech startups and scaleups is showing that workforce development and training is one of the top priorities for the CEOs of Irish tech businesses as advances in technology, automation and international competition are shaping every worker's job and career potential.

At its core, workforce development is about maximising the potential of employees and enabling them to handle problems. Employees who feel they are valued and trusted are likely to stick around for the long haul.

Workforce development benefits both workers and businesses with increased job satisfaction, better operating efficiency, more innovation and proactive problem solving.

It isn't a one-size-fits-all or a single training program. Effective workforce development is an ongoing process of educating and empowering staff, for today's but also tomorrow's challenges.

Looking across the TechIreland community of Irish tech companies, it is interesting to see that the top skills in demand are B2B Sales, Innovation

management and Digital marketing, while in terms of tech skills, there is a huge demand for AI, Data Analytics and Cybersecurity. Workforce development is a complex and demanding issue, but there are lots of supports to help companies understand how to retain and develop your workforce for superior performance.

This report, the latest in our Innovation Island series, provides insights from some of the leading experts in the field. Thanks Mark Jordan (Skillnet Ireland), Jim Cassidy (Code Institute), Elaine Murphy (Signify Health), Catherine Hough (Fiserv), Dave Feenan (ICT Skillnet), Sohini De (Empeal) and Aislinn Mahon (Huckletree D2). Thanks also to ICT Skillnet and Code Institute for their support in sponsoring this publication and to our Foundation Partners - Enterprise Ireland, IDA Ireland, Google and InterTradeIreland for supporting our work. If you are seeking to connect with the Tech sector in Ireland or Northern Ireland, we are always happy to help.



JOHN O'DEA
TechIreland



DRIVING IRELAND'S COMPETITIVENESS THROUGH INNOVATIVE LEARNING



MARK JORDAN
SKILLNET IRELAND

During the past 2 years, we have seen a rapid acceleration in both digital adoption, and digital transformation across all of our major business sectors here in Ireland. This is driven in no small part by automation and speed to market tools, such as artificial intelligence, machine learning, the internet of things and robotics, and underpinned by the insights and analytics provided by both internal and external data sets. At Skillnet Ireland, we believe that if harnessed correctly, emerging technologies can be adopted by business to offer greater potential and enable improvements in areas such as; Growth & Competitiveness, Customer Retention, Cost Management and Talent Retention.

With our deep industry connections, we know that the most successful companies will be those who align their overall business objects with the tools and talent that deliver success. Technology plays a role in this, but equally important is the investment in skill development pathways for employees – to provide greater opportunities to deliver impact further up the value chain.

Skillnet Ireland's collaborative PhD and MSc programmes in Data Science, AI, Blockchain, Leadership, Innovation and Technology and Cyber

Security are great examples of our response to the national need for industry to develop the skills and capabilities to ensure technologies are integrated into business processes efficiently. Our programmes dedicated to matching solutions providing SME's with solution searching MNC's (*The Innovation Exchange*), our SME leadership mentoring programme (*Mentorswork*), and our initiative focussed on environmental sustainability (*Climate Ready*), allow us deliver a response at scale to areas of national and international policy. Along with these, our business network partners run many other programmes geared towards developing technology and leadership skills for all levels.



Through the delivery of cutting-edge talent development programmes, it is fascinating to see how the utilisation of technologies and smarter business practices – are shaping the future of work both within the larger multinational companies, and across our indigenous businesses who focus on globalisation opportunities.

Skillnet Ireland, are committed to continue to provide support to these important initiatives along with the work we do in developing other solutions to help business address workforce challenges.

We are all working towards and share the common goal of making Ireland a leader in business excellence, and we see talent development as being critical in achieving that.

Link

skillnetireland.ie





CHANGE CAREER TO BECOME A FULL-STACK SOFTWARE DEVELOPER



JIM CASSIDY
CODE INSTITUTE

Rapid change is a defining characteristic of the era we live in. The chronic workforce skills shortage, particularly in the tech sector, is in the eye of a perfect storm of accelerated automation and digital transformation. Ultimately, businesses and individuals need to access these skills as quickly as possible.

Code Institute understands the transformative power of technical skills. We empower career changers to add full-stack software development to their underlying capabilities and transferable skills in order to find roles in the tech sector.

Most of our learners are also working or juggling other commitments. We understand that and so we provide the level of academic agility and flexibility that learners need. They find studying online with our wrap-around supports of on-tap tutoring, industry mentors, community and career services a rich and rewarding experience. Gaining a recognised professional qualification in just a year is very appealing and the flexibility of the delivery makes that possible.



Our Diploma in Full-Stack Software Development is hugely popular. We've had a 40% year-on-year increase in learner numbers. Career changers love it because they all get the practical, hands-on skills they need, a portfolio of evidence and personal career coaching.

Employability is at the heart of what we do. Consequently, our learners are in high-demand. 90% of them are employed within a few months of graduating. They're recognised as being motivated, hard working and able to manage themselves autonomously. These are hugely appealing characteristics to the many tech companies who are our hiring partners and who also appreciate having access to pipeline learners graduating on a weekly basis.



25%
of our students
are hired before
graduation

Code Institute's team of tech professionals are well attuned to the changing needs of industry and have made significant investment to deliver three specialisations in e-Commerce, Predictive Analytics and Advanced Front End. Learners still qualify as Full Stack Software Developers but they now have an extra specialisation aligned to their career aspirations.

We're also launching a new qualification to provide a foundational understanding of the software development ecosystem. This will span topics including project management, robotics, programming languages, structures, implementation and testing. It will give learners the contextual insights for career advancement.

The skills needs of tech companies and tech employees are continuously evolving. Therefore, continued investment and product innovation with purpose is Code Institute's business strategy.

Visit www.codeinstitute.net or email jane@codeinstitute.net for more information.





TRAINING AS A STRATEGIC INVESTMENT



DAVE FEENAN
ICT Skillnet

Globalisation; outsourcing of operations; generational shifts in the workplace; and the rate of technological change are all having a significant impact on business operations. In addition, remote working and digitalisation are compounding these changes. A report by Dell (2017) predicted that 85% of jobs that will exist in 2030 are yet to be created¹, raising the question whether to upskill or hire? Most organisations will do both. They need to plan today to be able to thrive in the business world of tomorrow.

Businesses face a rapidly growing economy coupled with significant skills and labour shortages in addition digital transformation and new working models are adding greater complexity. Helping employees to achieve both their own goals and the organisation's is going to be of real benefit.

While learning enables employees to develop the skills they need to grow and move forward in their careers, there are other benefits also. As an example, automation is destined to make certain roles obsolete. However, the organisation will need people who can understand business processes with the skills needed to automate them. Talent will need to interpret the data the organisation captures and produces and

determine if the algorithms are unbiased, performing as designed, and generating the expected results. So, as roles disappear or evolve due to technology, employees will need to develop the skills to implement and maintain these new technologies and solutions. Organisations are now beginning to view training as a strategic investment rather than a cost. At [Technology Ireland ICT Skillnet](#), we work in tandem with organisations to help grow their business for the future. We focus on the technologies they are going to need, including [Artificial Intelligence \(AI\)](#), [Data Analytics](#) and [Blockchain](#) as well as [Cybersecurity](#).



¹ [e Realizing 2030: A Divided Vision of the Future](#) Published by Dell Technologies, authored by the Institute For The Future (ITFF) and a panel of experts

ICT Skillnet has programs for [Talent Retention](#), [Innovation](#) and [Leadership](#), all critical for a business' success. Our primary goal is to ensure we develop industry relevant programmes, frameworks and pathways and we do this with input from industry to ensure immediate and tangible benefits to both the individual and the business.

Link

[ictskillnet.ie](https://www.ictskillnet.ie)




HUCKLETREE

WORKSPACES TO ENCOURAGE BRAINSTORMING AND OPEN COMMUNICATION



AISLINN MAHON
HUCKLETREE D2

What is the future for office space? It's a question that is increasingly being asked post covid. Everyone who has worked from a home office over the past two years has a view. While some organisations have staked their future on a fully remote workforce, most are opting for office and hybrid working – for good reasons.

At HuckleTree, the tech workspace in Dublin, we can see first-hand how some of our most innovative and forward-thinking technology companies are adapting to the new environment across high growth sectors including fintech, enterprise solutions and ecommerce. In a fiercely competitive environment, these employers place tremendous value on their people and understand the important role they play in scaling their businesses across the globe.

Many companies are using their face-to-face time to deliver training programmes as part of away-days. This calls for meeting spaces and boardrooms to be equipped with whiteboards and flip charts, to encour-

age offline thinking and brainstorming. And state-of-the-art smart cameras and screens can bring in team members from all over the world.

Not only is the physical workplace important, health and mindset is a key component of any successful training or programme. In addition to ensuring that workspaces are well thought out and designed, at HuckleTree, we also run regular yoga



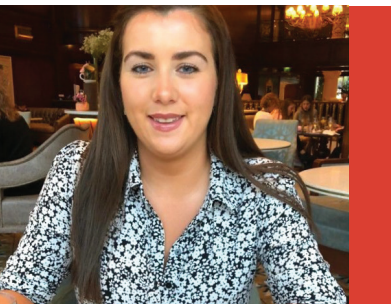
and meditation sessions to help alleviate burnout and create space in people's minds to absorb new ideas, listen more and be less reactive.

The new generation of workspaces are designed to encourage brainstorming, free thinking and open communication. In today's world, the commute is only justified when it leads you to an exciting, dynamic workplace and a space that offers you more than what your working-from-home set-up ever could. Flexibility and remote work remains essential, but if we learned anything from the pandemic, it was the importance of face-to-face time, collaboration and skill-sharing.

Link

huckletree.com/hubs/dublin




 fiserv.


CATHERINE HOUGH
FISERV

DIPLOMA IN SOFTWARE DEVELOPMENT - NEW CAREER OPTIONS FOR WOMEN

Fiserv, Inc. is an American multinational serving the financial services sector. We have operations in Nenagh, Co Tipperary and Dublin and we have a strategic focus on opening up more diverse & inclusive pathways for candidates from both higher & further education.

We have just implemented our first strategic Female Returneeship this year & were delighted to participate in the pilot cohort of Diploma in Software Development in partnership with local Education & Training Boards (ETBs) and Code Institute. This 1-year online programme gives candidates the opportunity to design, create, test, and project manage a Full-Stack web-based software application. It involves a 3-month placement with an employer in the Midwest to gain practical workplace experience. It has been hugely successful and a great experience. We are looking forward to getting involved again this year.

The course is very practical and industry focussed, covering a range of entry level software development modules.. The placement really benefits

the candidates and can be a trial run for longer term career prospects within the company.

Fiserv have recently hired from this cohort because the placement gave us the time to assess the candidate's attitude, culture fit and aptitude for further learning within the project team. Gaps in technical skills can be taught & developed in house with mentoring and support, the decisive factors would be cultural fit and longer term potential. The work placement gives the company an opportunity to assess the candidate over a 3 month period and evaluate their future potential opposed to solely their current skills & experiences.

This involves a shift in mindset compared to traditional hiring approaches when a gap in skills was seen as a red flag. Now we see that when we invest in diverse talent such as the Women returnees we can simply close any skills gap with internal upskilling bootcamps and we get huge return



² [Collegeoffet.ie/code](https://collegeoffet.ie/code) Coding Careers for Women* is a joint initiative between Limerick and Clare Education and Training Board and the Mid-West Regional Skills Forum. It is intended to be a stepping stone to a career in the technology sector, where less than 25% of tech roles in Ireland are currently filled by women.

on investment in the long term. Candidates appreciate that we have given them opportunities, invested in them & offered career progression.

The benefits are significant for both the candidates and industry partners. There is a global skills shortage in the Tech market and this Women in Coding course is aiming to bridge some gaps. Many Industry partners have helped design the course & the learning modules. The course is relevant, in demand and taps into an valuable pipeline of talent in our communities.

Links [fiserv.com](https://www.fiserv.com)

https://www.yourcareer.ie/women-in-stem/how-do-we-encourage-more-women-into-tech/?utm_source=Fiserv-distro&utm_medium=client#

How do we encourage more women into tech?





NEW KIND OF PLATFORM TO HELP UNDERSTAND WHAT EMPLOYEES VALUE



SOHINI DE
EMPEAL

During the pandemic, as the majority of staff worked from home, organisations became increasingly conscious of the difficulty of managing the health and wellbeing of their employees. And the main reason was their very limited ways of implementing data driven strategies. This becomes even more difficult with hybrid and remote working, the new environments that seem to be here to stay.

Empeal is a new kind of platform that helps organisations understand what employees value and need, saving HR department's time and reducing the complexity of their job. It enables employees interact with programmes, coaches, clinicians, and support groups with full data privacy. The gamified aspect provides fun challenges, and the platform gives access to social engagements and clubs.

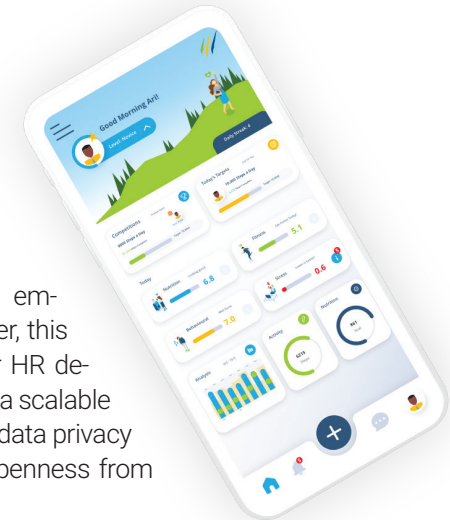
Why are these so necessary?

Organisations have come to realise that giving staff access to what they value can deliver better employee engagement. We are living in an age of talent shortages across industry. By having a finger on the pulse of their

workforce, companies can improve employee sentiment and morale. However, this means significant additional work for HR departments unless they have access to a scalable digital solution. This can also prompt data privacy issues leading to lack of trust, and openness from the employees.

For employees, having access to fun and inclusive activities, can help in collective wellness. Today, we live in the world of choices, including how we look after our health. We all know old saying, 'Mens sana in corpore sano' ("A healthy mind in a healthy body"), so healthy and happy employees are productive workers with fewer absences.

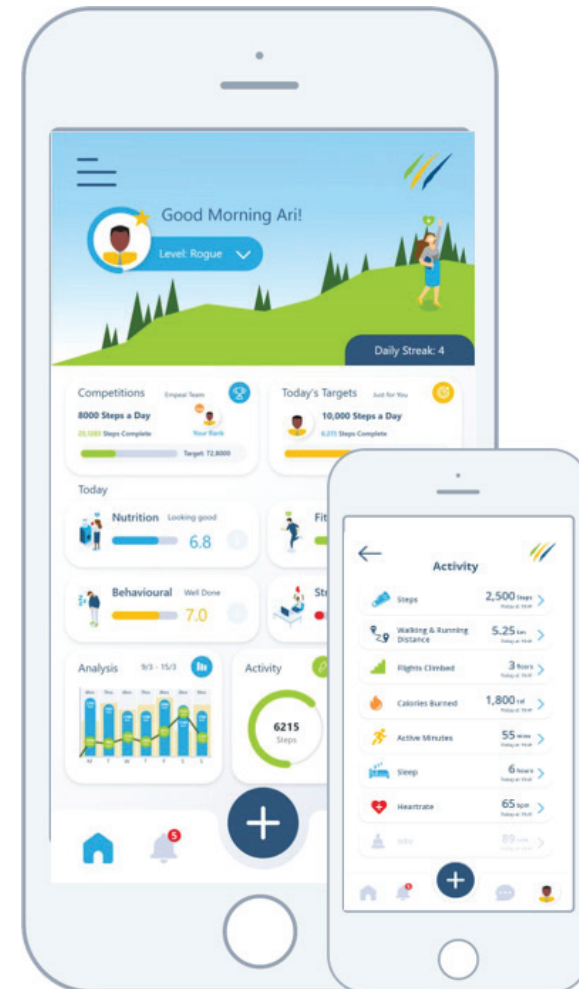
These are the values that we try to deploy in our Empeal platform. Our use cases and controlled trials data are showing consistent improvement in sleep, stress, activity, happiness, and positive emotion markers. Inter-



vention-based wellness management is effective because of two main reasons, as pointed out by the users. First, they tell us they feel that they are being heard – solutions aren't dispensed, rather they get practical ideas to help their wellbeing journey. Second, they feel good because they are giving something back to peers through the activities and support groups.

Link

[Empeal.com](https://empeal.com)





DEMAND FOR SOFTWARE DEVELOPERS WILL CONTINUE GROWING ACROSS IRELAND



ELAINE MURPHY
SIGNIFY HEALTH

Signify Health, one of the fastest growing US Health-Tech companies, is planning to create 125 new jobs in Galway by 2024, following the opening of our new tech-focused centre in the city. The first phase of recruitment in Ireland is targeting product management and software engineering roles, as well as scrum masters. We are currently recruiting for a range of software roles.

When we were exploring Galway as a possible location for our tech centre, Jane Gormley, Code Institute's director of Employer Engagement, proactively reached out to me to discuss employment opportunities for their graduates. Jane invested the time to better understand our business, future hiring needs and the skills and requirements we needed. Since 2020, we have hired Code Institute graduates in full-stack and front end developer roles and I am impressed how proactive and polished they are. They actively engaged in the hiring process by connecting with me, starting conversations and convincing me to hire them. It was a good decision - they are bringing tremendous value to the business. Code Institute grads are work ready—they interview well, possess

solid soft skills to forge working relationships across the business, are curious and eager to learn.

Now is a great time for graduates with a software development qualification to be coming to the jobs market. As well as looking for jobs on LinkedIn, I always advise being really prepared for interviews by getting to know the company culture, being aware of the company's mission and goals and understand the interview process. Good preparation saves the company time as well.

Demand for software developers will continue growing across Ireland. Employers should be open to diversifying their recruitment strategies to consider options such as



Code Institute. Also, tech companies like Signify Health are always keen to engage with education and training providers, to come in and talk to upcoming graduates, giving them the opportunity to network, learn about the company's goals and values and gain insights about the positions prior to interviewing with the company.

Link

signifyhealth.com/ireland



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