

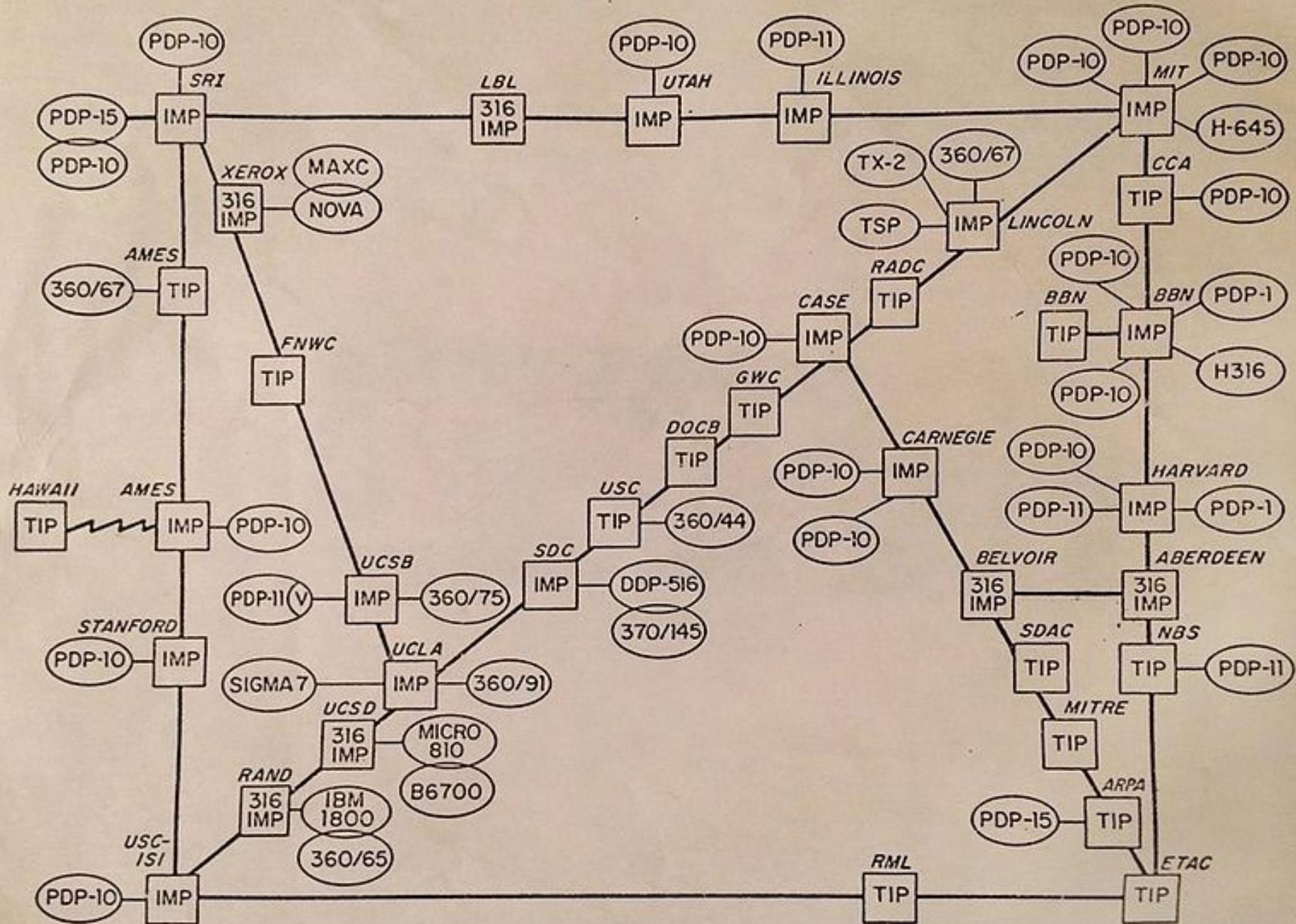


CYBER|IRELAND
IRELAND'S CYBER SECURITY CLUSTER

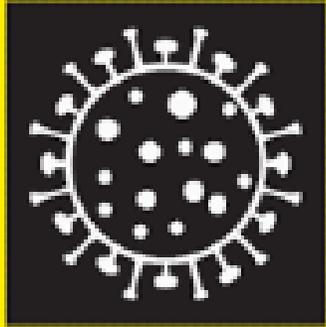
Cyber Resilience & Cluster Development

Dr Eoin Byrne, Cluster Manager, Cyber Ireland

ARPA NETWORK, LOGICAL MAP, MAY 1973

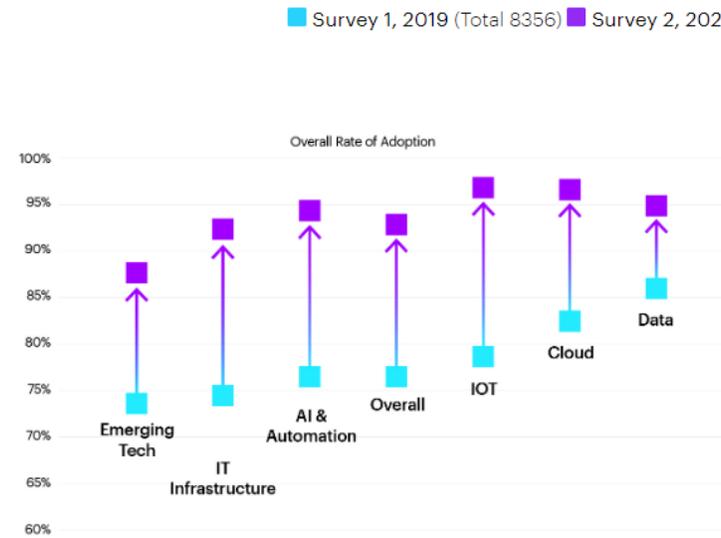






Coronavirus COVID-19

The pandemic has compressed digital transformation



Source: Accenture Research

Emerging Tech: blockchain, extended reality, open source, 3D printing, robotics

IT Infrastructure: DevSecOps, serverless computing, cloud native applications, containers, docker and kubernetes, microservice architectures, distributed logs/event hubs, react/event driven architectures, FaaS.

AI & Automation: deep learning, machine learning

IOT: Internet of Things, edge/fog computing

Cloud: SaaS, IaaS, PaaS, hybrid cloud

Data: Data lakes/repository, streaming/real-time data, big data analytics

OCT
2022

ESSENTIAL DIGITAL HEADLINES

OVERVIEW OF THE ADOPTION AND USE OF CONNECTED DEVICES AND SERVICES



GLOBAL OVERVIEW

TOTAL
POPULATION



we
are
social

7.99
BILLION

URBANISATION

57.1%

UNIQUE MOBILE
PHONE USERS



5.48
BILLION

vs. POPULATION

68.6%

INTERNET
USERS



5.07
BILLION

vs. POPULATION

63.5%

ACTIVE SOCIAL
MEDIA USERS



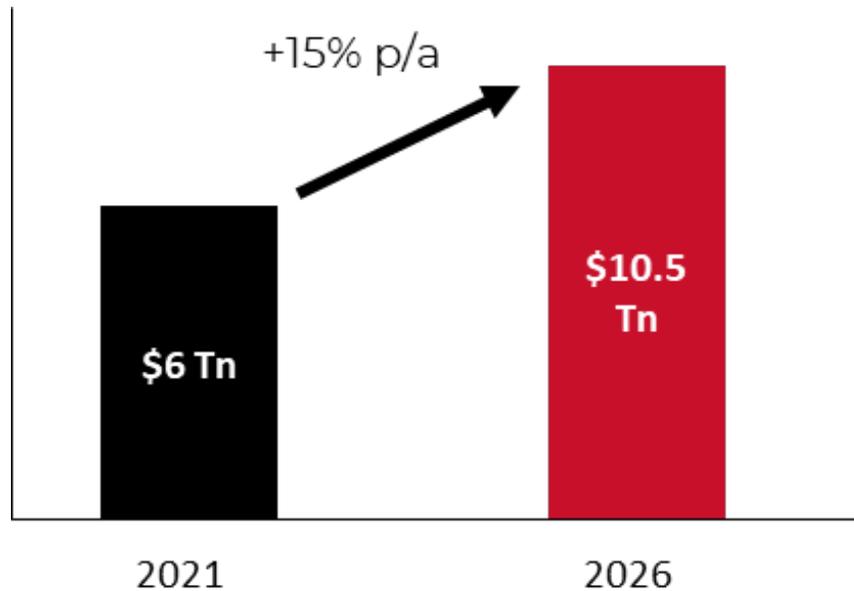
4.74
BILLION

vs. POPULATION

59.3%

Cybercrime as an Economy

Global cost of Cybercrime



Source: Cybersecurity Ventures

Top 3 Economies Globally



Future outlook of cybersecurity market



\$101.5

billion in projected
spending on
service providers¹
by 2025



15%

annual increase of
costs related
to cybercrime; will
reach **\$10.5 trillion** a
year in 2025



85%

of small and midsize
enterprises intend
to increase IT
security spending
until 2023



3.5

million
cybersecurity
positions now
open worldwide



+21%

forecast of com-
pound annual growth
for direct cyber
insurance
premiums until 2025

¹Service providers include consultants, hardware support, implementation, and outsourcing.

Source: Center for Strategic & International Studies; IBM; Identity Theft Resource Center; Kaspersky Lab; National Cyber Security Centre; press; PurpleSec data survey; Statista; McKinsey Cyber Market Map

EU Cyber Security & Strategic Autonomy

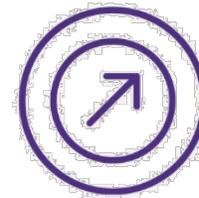


- **€1.6bn** from the Digital Europe Programme for cybersecurity (2021-2027) –
 - National SOCs, Cyber Emergency Planning, Strategies, legislation, Cyber Shield, Cyber Skills
- EU Cyber Competency Centre & National Coordination Centers
- Cyber Certification – CRA, Cloud, 5G
- Regulation – NIS2.0
- **€1.6bn** in Horizon Europe for the Civil Security for Society cluster (2021-2027)

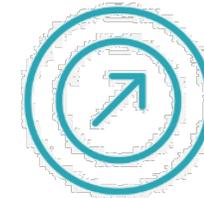
Ireland's Cyber Threats & Challenges

9.6 Billion

total economic cost of cybercrime in Ireland in 2020



55%
increase in
online fraud



45%
increase in
phishing complaints



While **95%** consider cyber security to be very important;

only **55%** have a formal cyber security strategy; and

only **45%** have cyber awareness training for employees.

Cybersecurity Talent Crunch To Create 3.5 Million Unfilled Jobs Globally By 2021



350 percent growth in open cybersecurity positions from 2013 to 2021

siliconrepublic

CAREERS

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Almost two-thirds of CISOs see cybersecurity skills gap getting worse

by Lisa Ardill

18 FEB 2020

504 VIEWS

May 20, 2020, 07:25am EDT | 802 views

Closing Cybersecurity's Gender Gap Can Aid The Skills Shortage And The Economy



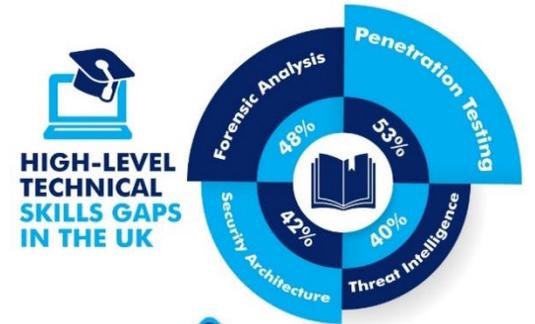
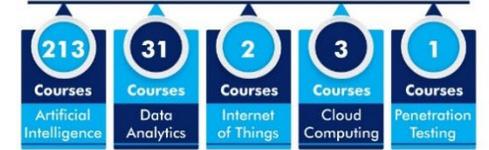
Edward Bishop Forbes Councils Member
Forbes Technology Council COUNCIL POST | Membership (fee-based)
Innovation

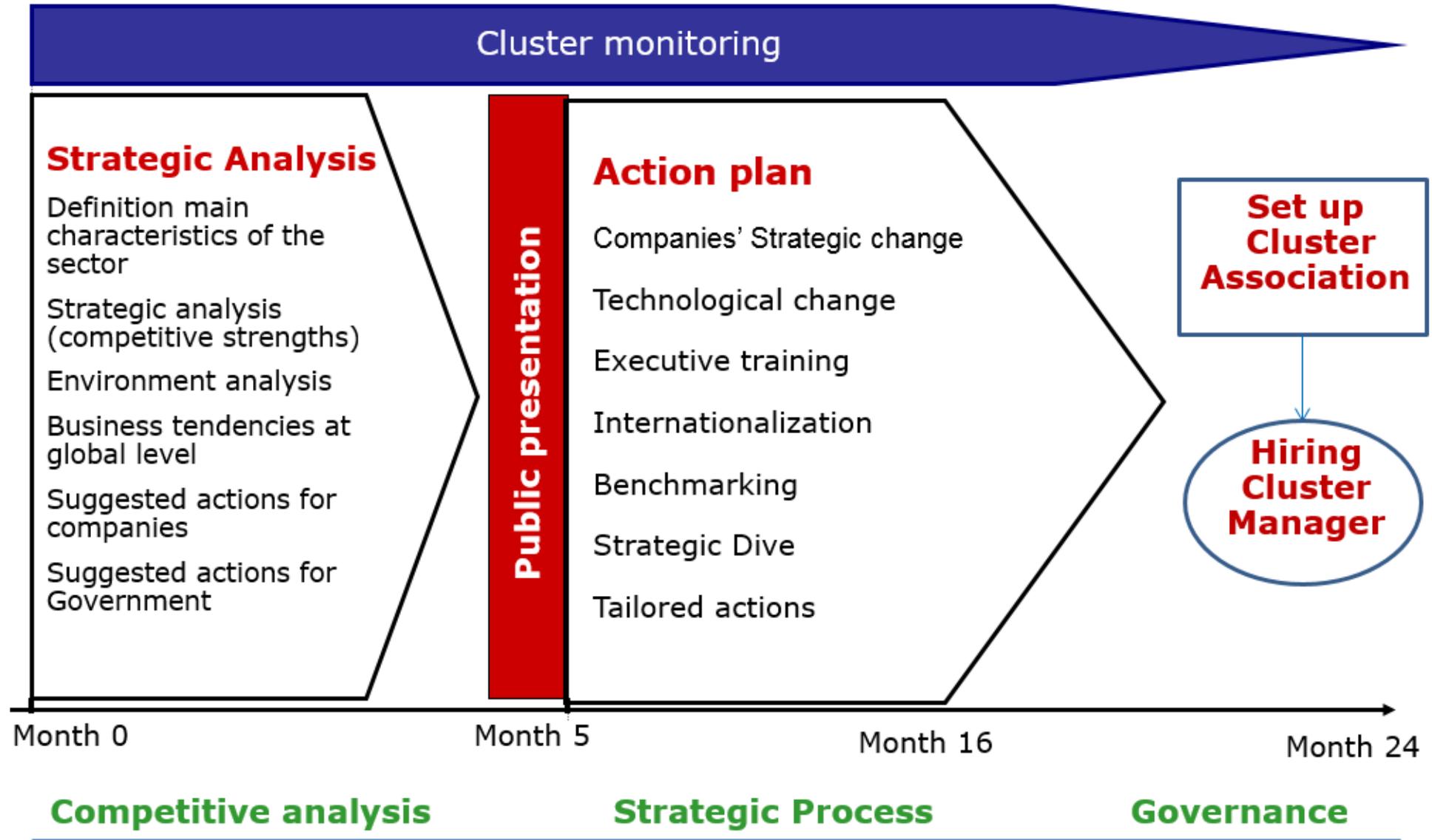
CYBER SECURITY SKILLS IN THE UNITED KINGDOM

UK CYBER SECURITY SKILLS GAP

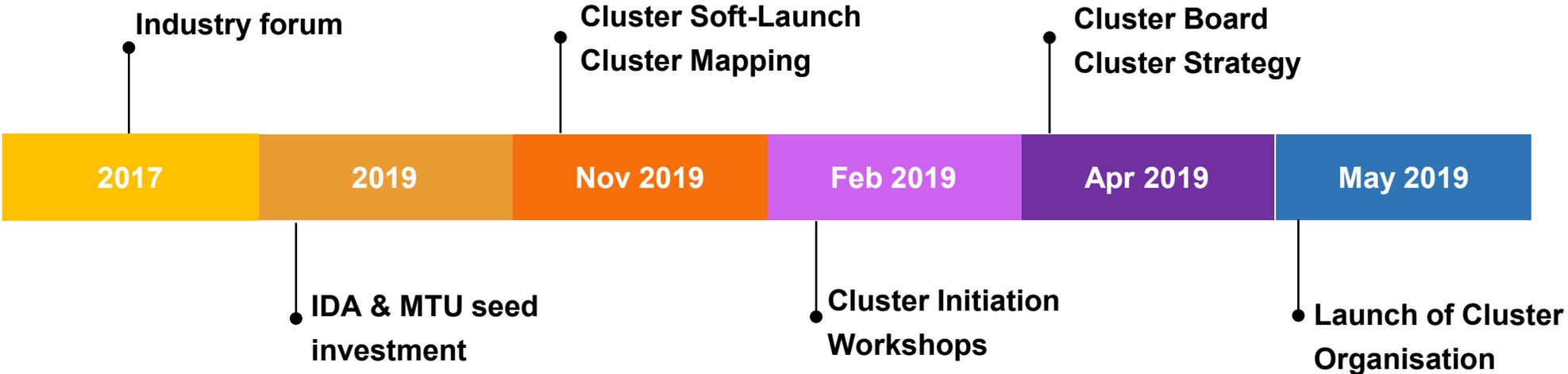


MOST IN-DEMAND SKILLS GLOBALLY (& Undergraduate Courses on UCAS with these Skills)





Cluster Development Model





CYBER|IRELAND

IRELAND'S CYBER SECURITY CLUSTER

Collective Voice of the Cyber Security Cluster in Ireland

Enhance the Innovation, Growth and Competitiveness

Supported by:





2022 EDITION

State of the Cyber Security Sector in Ireland



CYBER|IRELAND
IRELAND'S CYBER SECURITY CLUSTER

Position Paper: Achieving Our Cyber Potential 2030

KEY FINDINGS



The sector employs **7,351 cyber security professionals** in Ireland.



489 firms in Ireland employ staff in internal cyber security operations or offer cyber security products or services to the market.



It is estimated that in 2021 the Irish cyber sector generated approx. **€2.1bn in revenue & €1.1bn in GVA.**

Locations in Ireland

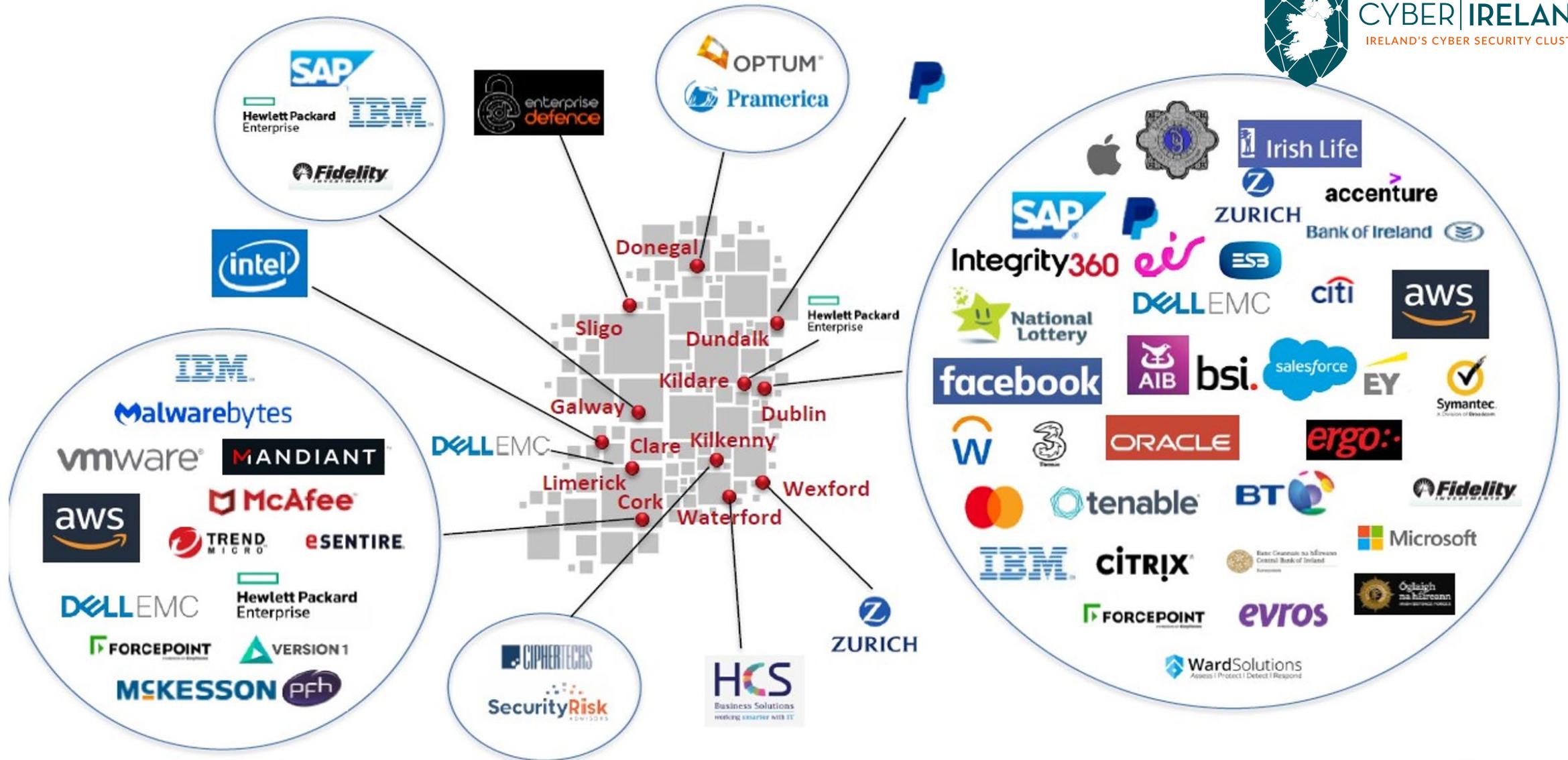
>730 offices across Ireland.

Substantial clusters in Dublin, Cork, Limerick and Galway

Strong links between academic & research institutions, and the cyber security sector



Ireland's Cyber Security base | International Operations



Cyber Security SMEs



The Future

GROWTH PROJECTIONS BY 2030

 17,000 jobs

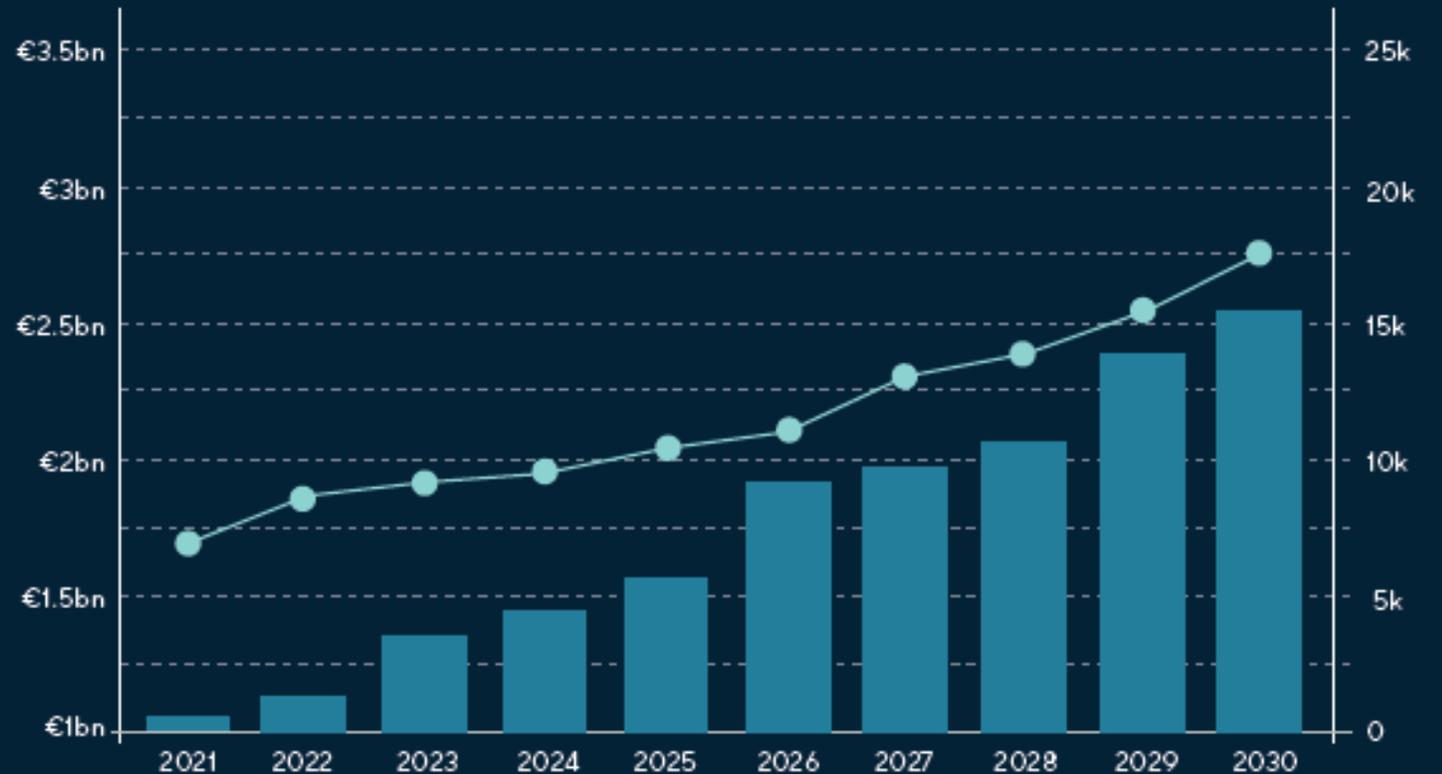
 €2.5bn GVA



Expect that their cyber security team will grow over the next 12 months.



Expect that this growth will occur at a rate of 25% or higher.

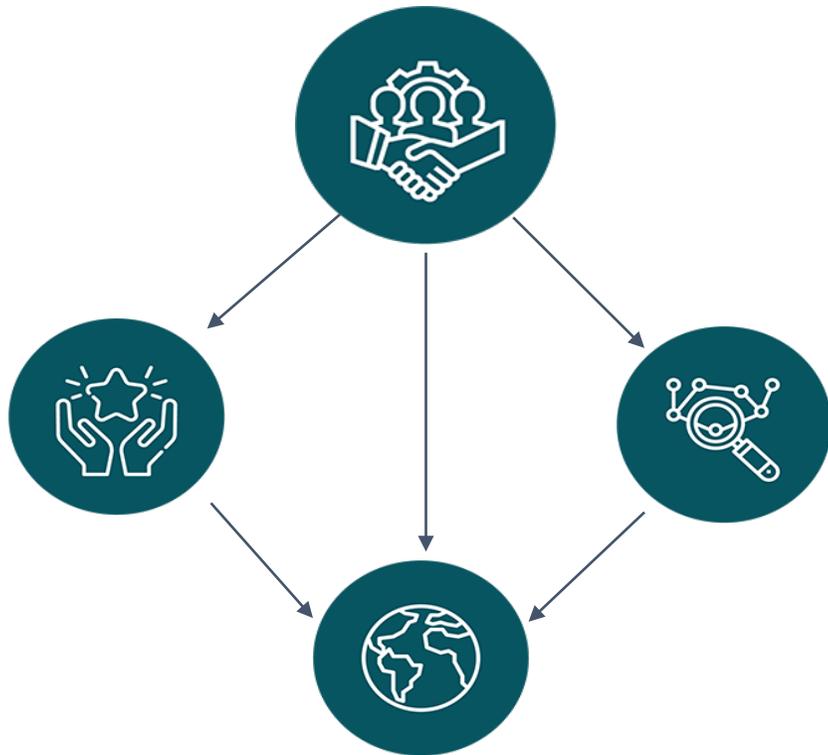


 GVA

 EMPLOYMENT



CYBER | IRELAND
IRELAND'S CYBER SECURITY CLUSTER



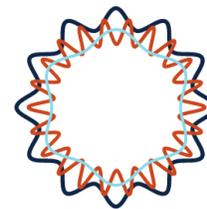
1. **Building the Community** – Bring the cyber security cluster (industry-academia- government) together to facilitate networking, sharing of knowledge and collaboration.
2. **Talent & Skills** – Support a sustainable pipeline of cyber security talent to meet current and future demand and needs of industry;
3. **Innovation** - Enhance cyber security research & innovation through collaboration of industry and knowledge providers;
4. **Grow & Export** – Increased competitiveness to support start-ups, SMEs & MNCs to launch, grow and scale internationally;
5. **Promotion** – Ensure strong national, and international, branding and promotion of the cluster;
6. **Advocacy** – Provide a collective voice to represent the cyber security cluster and advocate on its behalf, working with our partners in government.





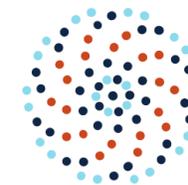
CYBERSKILLS

BUILDING IRELAND'S CYBER SECURITY SKILLS



Create

Create Innovative, Enterprise focused and Research informed cybersecurity courses through meaningful collaboration.



Empower

Empower Learner to design their own courses and take their own pathways with straightforward articulation and progression routes



Facilitate

Facilitate new learning pathways using micro credentials and by capturing learning through e-Portfolios.



CYBER SECURITY R&D PROVIDERS

Research Landscape

Involvement by leading academics and researchers in European research projects involved in threat intelligence and EU cyber security competency and standards.



Cyber Crime & Digital Forensics



Software for Analytics & Security



Network Analysis & Data Analytics



Networking Services & Security



Privacy & Cyber Security Market Opportunities



M2M Security



Risk & Safety



Threat detection & Prioritisation



National Cyber Security Cluster



Security in machine learning & AI applications

27-28 June | Dublin, Ireland

CYBER INVESTOR DAYS

#InvestCyber



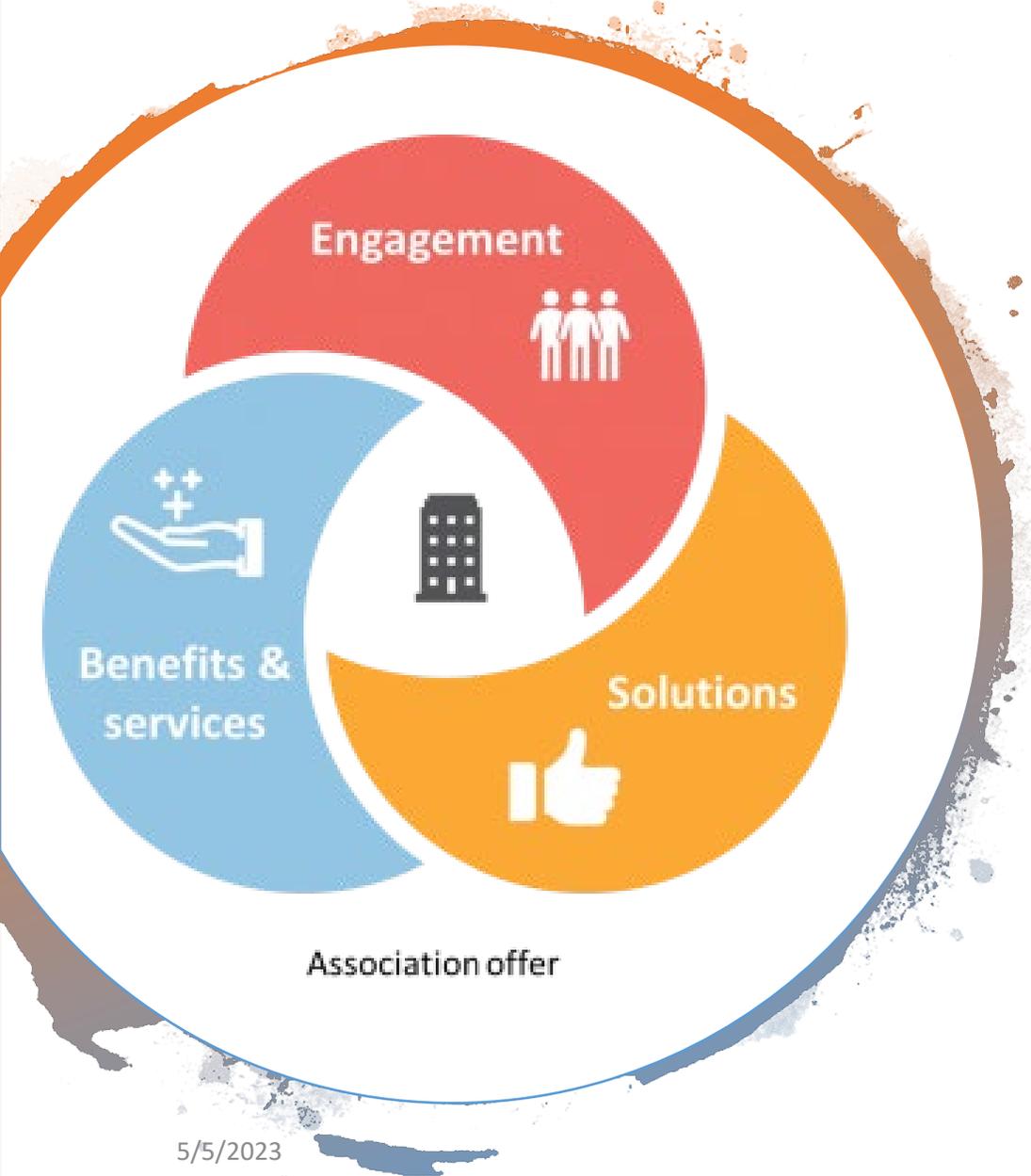
ANGOKA



CYBER INVESTOR DAYS

CYBER SOLUTIONS FOR A BETTER WORLD HACKATHON





Success Factors

1. Placing a collective (big) bet on a unique opportunity – **activate don't create**
2. **Industry-driven**, university-fuelled, government-supported
3. **Championed** by passionate, dedicated leaders
4. Focused on establishing a **robust ecosystem**, not quick job gains
5. Cluster Development Model & Cluster Expertise





A national cluster policy that aims to accelerate the European Union's Green and Digital Transition should have the following objectives:



1. **Promote collaboration and innovation:** The policy should encourage collaboration among businesses, research institutions, and government agencies to drive innovation in the green and digital sectors. This can be done through incentives and support for joint research and development, networking events, and other activities that facilitate knowledge sharing and collaboration.
2. **Increase investment in green and digital technologies:** The policy should encourage private and public investment in green and digital technologies. This can be done through tax incentives, grants, and other financial incentives that support the development and deployment of these technologies.
3. **Enhance skills and training:** The policy should promote the development of skills and expertise in the green and digital sectors. This can be done through education and training programs that equip workers with the skills needed to succeed in these fields.
4. **Foster entrepreneurship and SME growth:** The policy should encourage entrepreneurship and the growth of small and medium-sized enterprises (SMEs) in the green and digital sectors. This can be done through support for start-ups and SMEs, such as access to finance, mentoring, and networking opportunities.
5. **Foster regional development:** The policy should foster regional development by supporting the growth of green and digital clusters in different regions. This can be done through targeted investments, support for infrastructure development, and other measures that promote regional economic growth.
6. **Promote sustainability and environmental protection:** The policy should prioritize sustainability and environmental protection in all its objectives. This can be done through the promotion of eco-friendly practices, the reduction of greenhouse gas emissions, and the conservation of natural resources.

Overall, the national cluster policy should aim to create a supportive ecosystem for green and digital innovation and growth that is grounded in sustainability and environmental protection.