



DUBLIN

IRELAND

34th ANNUAL FIRST CONFERENCE
JUNE 26 - JULY 1

2022

#FIRSTCON22

Cyber Resilience through Collaboration & Cluster Development

Dr Eoin Byrne, Cluster Manager, Cyber Ireland (Ireland)



@eoinbyrne @CyberIreland



Session Outline

- Ireland's Cyber Security Cluster & Opportunity
- Cyber security challenges we face
- Clustering approach to collaboration
- Cyber Ireland
- What have we achieved & What have we learned

Dr Eoin Byrne, Cluster Manager, Cyber Ireland (Ireland)

 @eoinbyrne @CyberIreland



Why Ireland for Cyber Security

+ 6 of the top 10

cyber security software companies are located in Ireland.¹

+ Ireland's Vibrant Start Up Scene

With over 60 Irish cyber security companies.²

+ Strong talent pool

3rd level attainment among ages 30-34 of 55.4% vs EU average 40.3%.³

+ Cyber Ireland

Ireland's cyber security cluster driving specialist talent pipeline and R&D.

+ Ireland is a neutral country

with high geopolitical stability.

+ **12.5%** corporate tax rate and **25%** R&D tax credit.

+ Dublin is now Europe's largest data hosting cluster,

25% of the European market.⁴

+ Ireland's National Cyber Security Centre

is responsible for Ireland's cyber security and National cyber security strategy.

+ The Office of the Data Protection Commissioner

is Ireland's regulator for any data issues - Ireland is an English speaking country in the EU.



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.

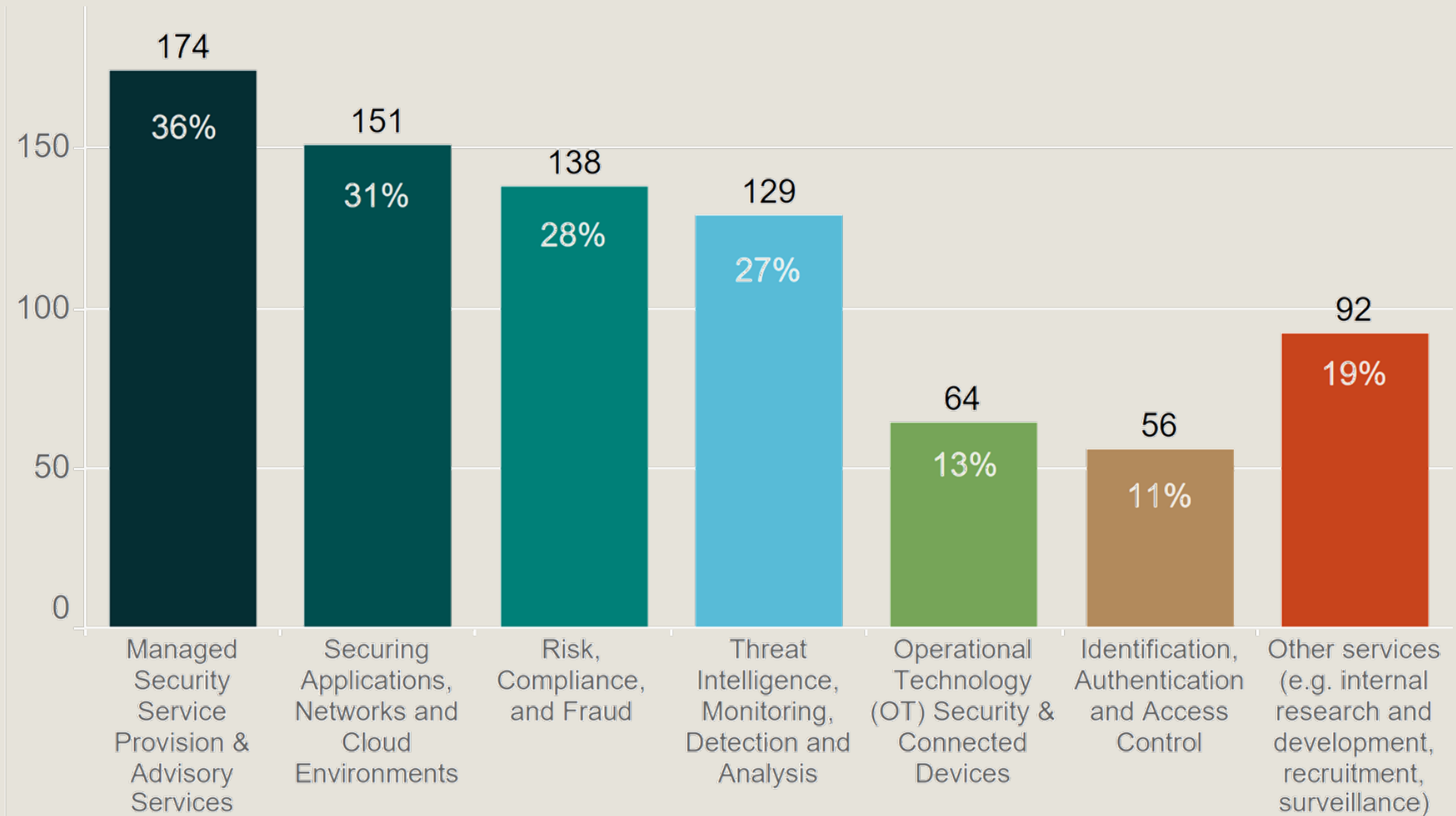


489 firms in Ireland employ staff in internal cyber security operations or offer cyber security products or services to the market.



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

Products and Services Offered



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



NUMBER OF OFFICES BY COUNTY / PER CAPITA

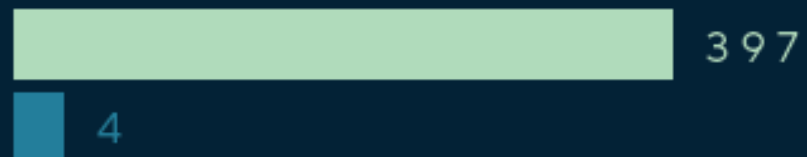


NUMBER OF CYBER SECURITY OFFICES

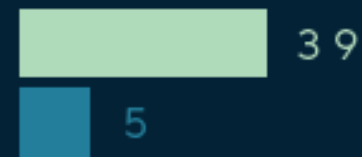


BUSINESSES PER 10K POPULATION

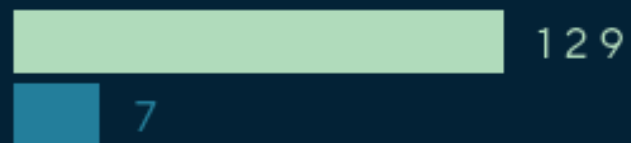
DUBLIN



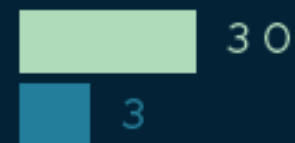
GALWAY



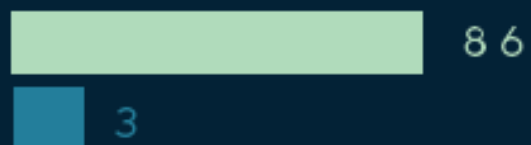
CORK



LIMERICK



BELFAST



TOTAL IN IRELAND

734 1.5

MCKESSON

QUALCOMM

IBM

Hewlett Packard
Enterprise

logitech

SecurityRisk
ADVISORS

pwc



ZURICH

McAfee

DELL

HID

Raytheon
Technologies

TREND
MICRO

vmware

accenture
High performance. Delivered.

CISCO

Johnson
Controls

stripe

VERITAS

VIGITRUST

Malwarebytes
Make malware, future useless.

FireEye

AT&T Cybersecurity

TransUnion

sift

CYLANCE

esentire

CIPHERTECHS

tenable

nuix

Microsoft

SOPHOS

keeper

RAPID7

verizon

solarwinds

skOUT
Global Risk & Threat

waratek

FORCEPOINT

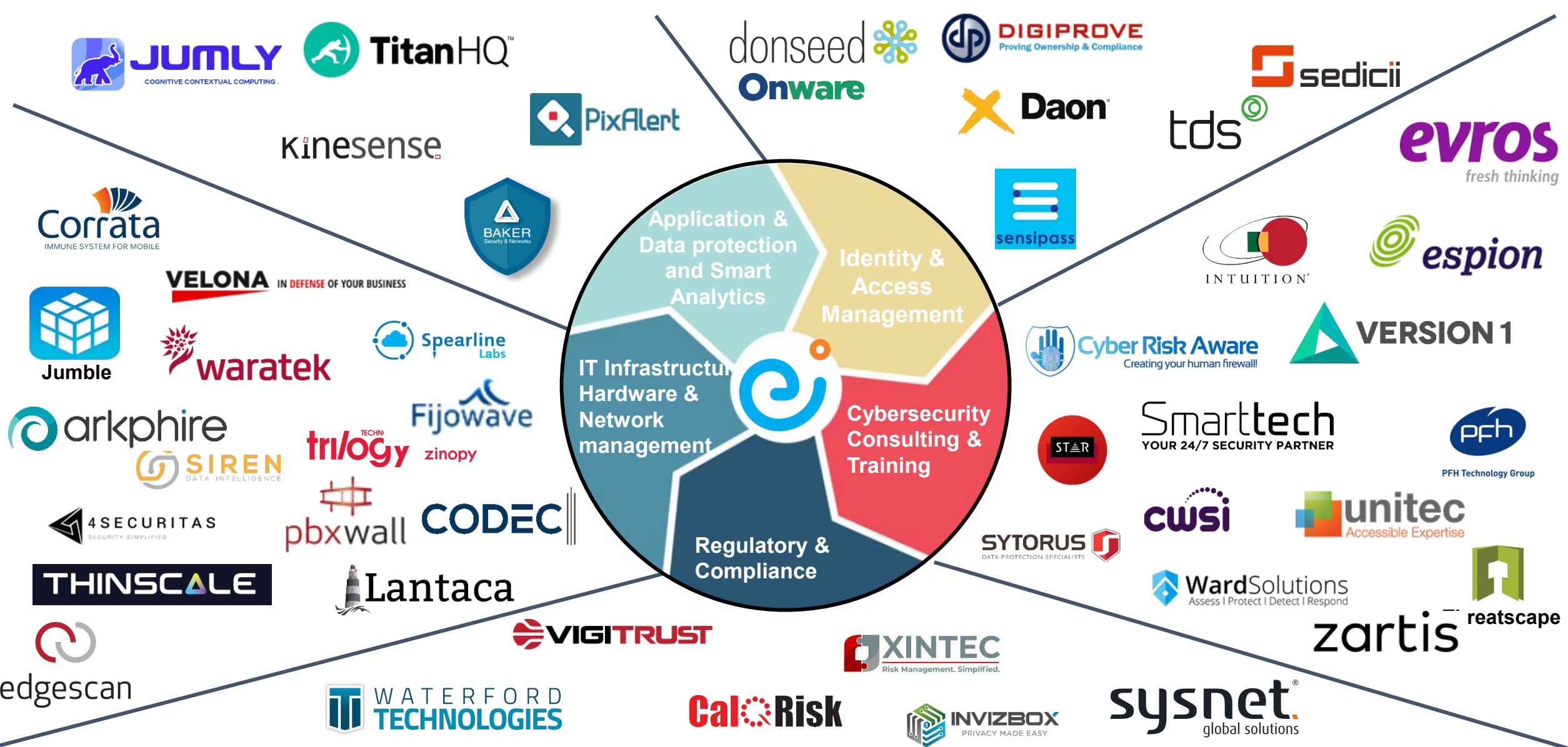
VARONIS

VECTRA

Deloitte

RSA

Cyber Security SMEs

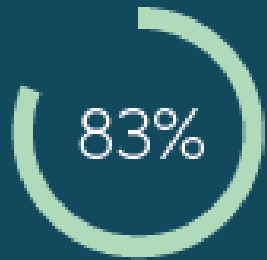


The Future

GROWTH PROJECTIONS BY 2030

 17,000 jobs

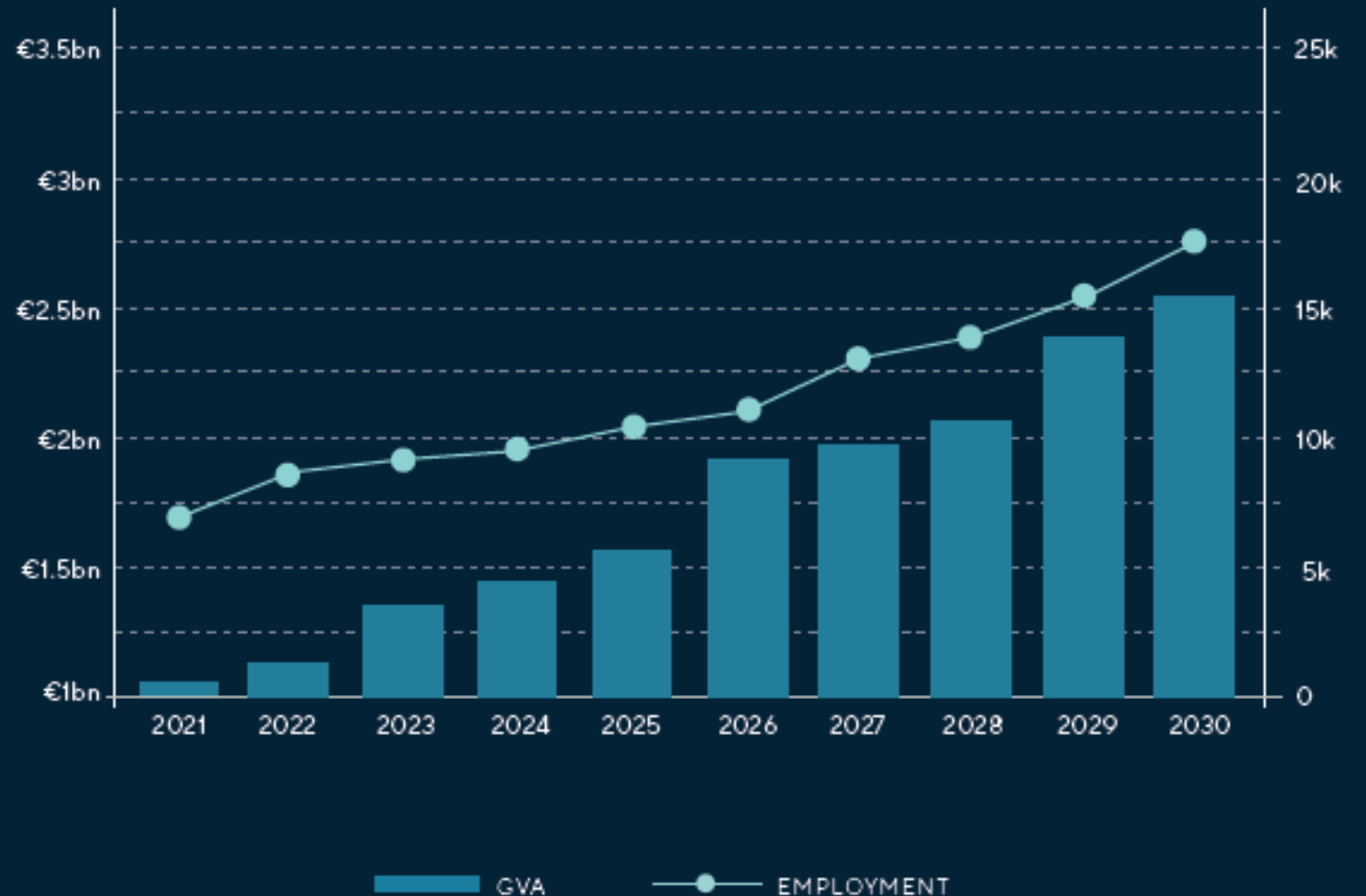
 €2.5bn GVA



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.



Barriers to Growth:

- **Skills Shortages:** 60% of firms surveyed have staff-related issues (suitable candidates, skills, salaries, retention), competing with MNCS, training & development.
- **Investment:** 26% of firms faced issues with raising or securing finance (expansion, scale, larger clients, cash flow)
- **Domestic No.s & Scale:** High number of micro-enterprise, lacking small & medium-size to deliver high value services...acquisitions
- **R&D:** Fragmented R&D, small scale projects, low-level of collaborative R&D



CYBER|IRELAND
IRELAND'S CYBER SECURITY CLUSTER

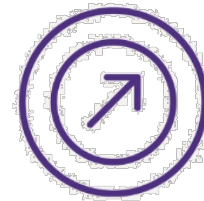
Position Paper:
Achieving Our Cyber Potential
2030

Ireland's Cyber Threats & Challenges

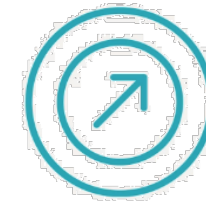
Grant Thornton (2021)
The Economic Cost of Cybercrime

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.

Cybercrime – a threat to Ireland’s international reputation as a location for digital enterprise’



Trust

Ireland's data centre's house **30% of EU data**

Ireland must be a "most trusted" location for data security & privacy.

Our cybercrime statistics do not support this.



Cybercrime

No of cybercrime attacks on Irish organisations: **double global average**

Cybercrime attacks costing more than €4M: **60% higher than global average**

69% of companies spend the same or more on cleanup: **50% higher than global average**



Economic Value

Ireland's digitally intensive sections account for over 13% of our GDP and 26% of exports and employ 210,000 people

9/10 global software, 9/10 US technology and all of the top 10 born-on-internet companies have their EU HQs in Ireland



Our economy is at risk

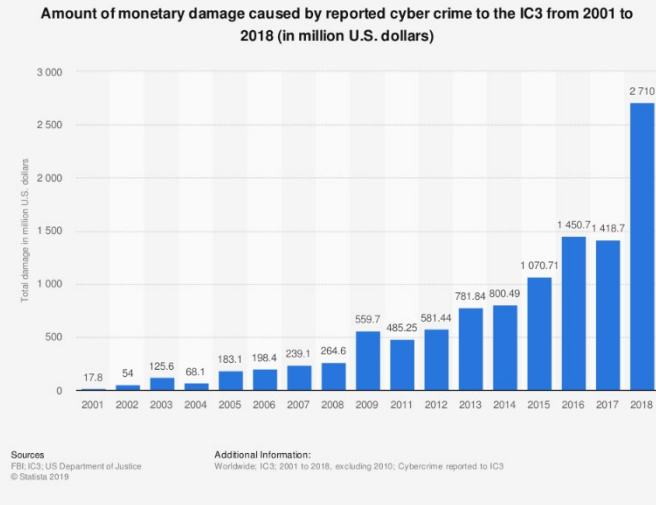
Digital Development Level (DDL): **30th Globally**

Cyber Security Preparedness: **73rd Globally**

Our digital developments are not in line with our cyber readiness: **our economy is at risk**



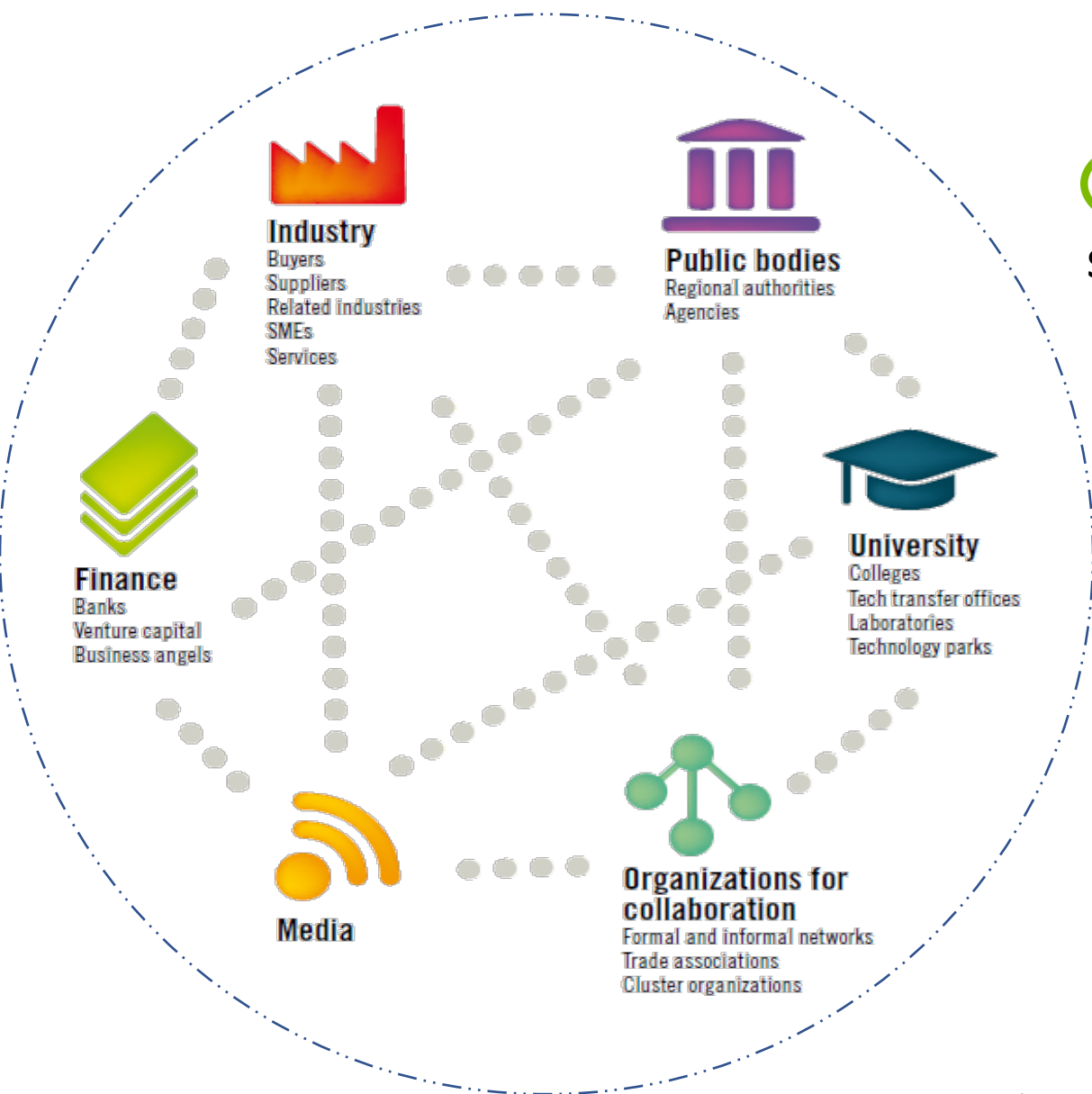
Cyber Security Challenges



Source: UK MoD / Institute for the Study of War (21:00 GMT, 13 April)

BBC





Society

Addressing Complex Challenges through Clusters



Identifying the Need – Challenges of Industry

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

siliconrepublic

CAREERS

Tweet

in

Share

Email

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

by Lisa Ardill

18 FEB 2020

504 VIEWS

seen cybersecurity positions from 2013 to 2021

THE IRISH TIMES

Mon, Nov 30, 2020

NEWS

SPORT

BUSINESS

OPINION

LIFE & STYLE

CULTURE

SPECIAL REPORT

Skills shortage of cybersecurity a major concern

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

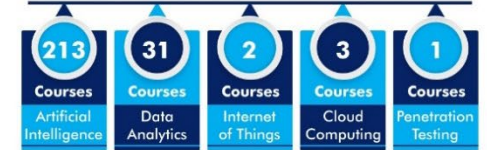


IN THE UK
3.5 MILLION
UNFILLED
CYBER SECURITY
JOBS BY 2021

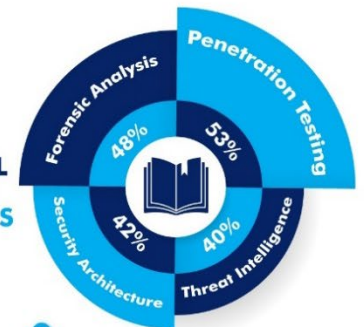


IN EUROPE
142,000
UNFILLED
SPECIALIST
JOBS

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



HIGH-LEVEL
TECHNICAL
SKILLS GAPS
IN THE UK



GENDER STATS

16%
Female Students in
Higher Education
for Cyber Security
2016 / 2017

17%
UK Tech
Workforce Are Women

25%
Women Are Paid
Less Than Their
Male Counterparts





13/04/2021



Eoin Byrne

Industry



Paul Walsh (Chair)

VP Engineering & Site Lead, McAfee



Jacky Fox (Vice-Chair)

Managing Director, Security Lead Ireland,



David Coffey

SVP of Engineering, Forcepoint



Pat Larkin

CEO, Ward Solutions



Carmel Somers

Cybersecurity Skills Initiative Chair &
Organisation



Joanne O'Connor

Cyber Security Training & Education Officer,
Hewlett Packard Enterprise



Shane Walsh

Ireland Country Head, JRI America



Paul Ryan

Senior Director Engineering
Operations, Qualcomm

Academia



Michael Loftus

VP of External Affairs, Cork Institute of
Technology



Cheryl Baker

Cybersecurity Director & Cybercrime
Investigation, UCD Centre



Dr. Thomas Newe

Senior Lecturer, University of Limerick

Government



Dr. Richard Browne

Director, The National Cyber Security Centre



Victoria MacKechnia

VP of Mid-West territory, US, Enterprise
Technology, IDA Ireland



Martin Corkery

Regional Director, Enterprise Ireland

13/04/2021

Eoin Byrne



CYBER|IRELAND

IRELAND'S CYBER SECURITY CLUSTER

Collective Voice of the Cyber Security Cluster in Ireland

Enhance the Innovation, Growth and Competitiveness

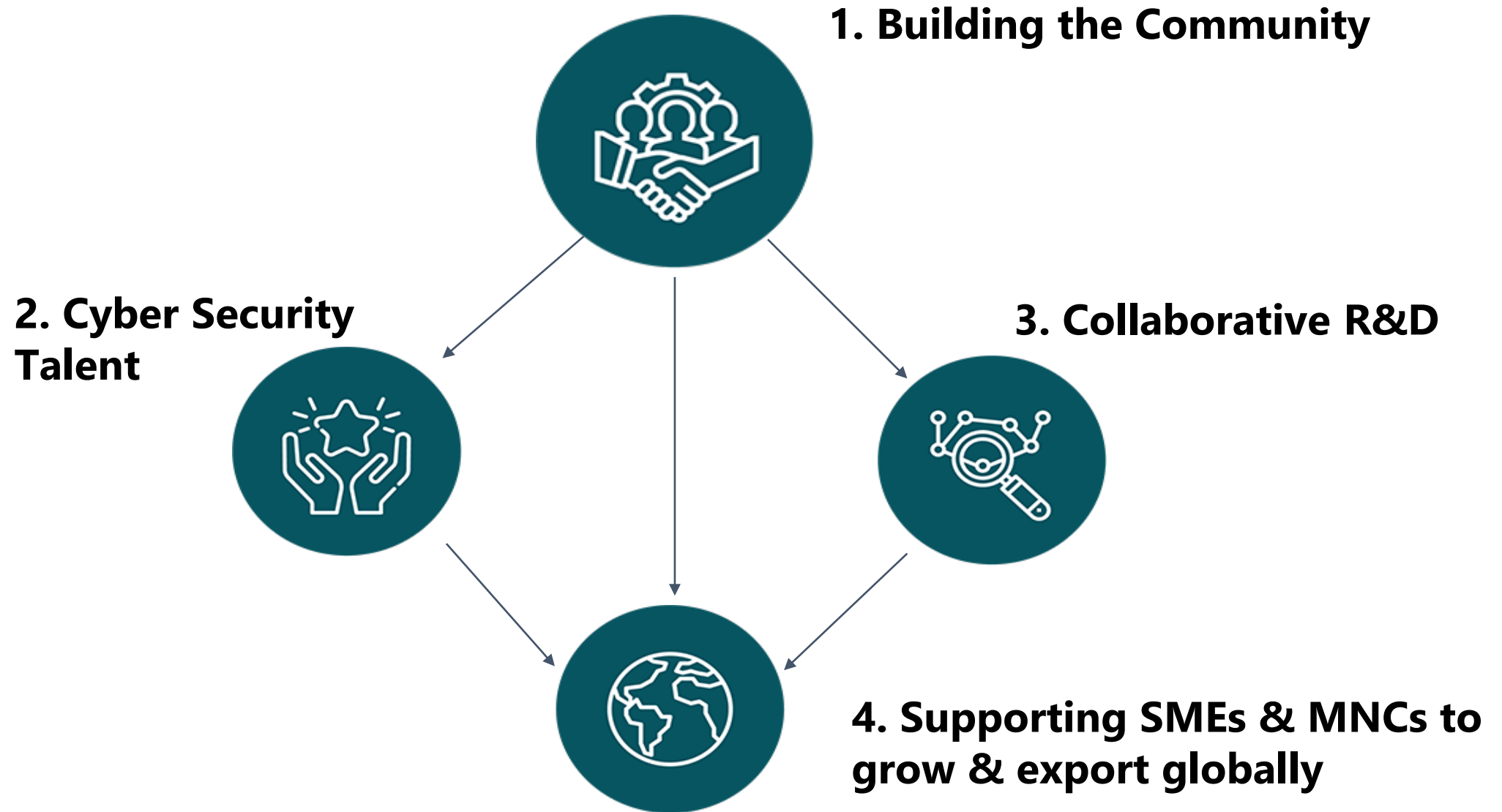
Supported by:



20/05/2021

Eoin Byrne, Cyber Ireland





Building the Community

1. National Events & Promotion
2. Regional Chapters, Special Interest Groups
3. Advocacy & Policy





Threat Intelligence Series

From Zero to Hero



06

WORKSHOP

How to build a threat intel program

28

APRIL
12:30 pm



Derek Buchanan
Strategical Threat
Advisor EMEA at
CrowdStrike



CYBER | IRELAND - South Chapter TI Series

<https://www.cyberireland.ie/events/ti-series-6-session-threat-intel-program/>



Talent & Skills Pipeline

Talent & Skills

1. Understanding current & future talent & skills needs of industry – Skills Survey
2. Working with Education & Training providers to align with industry needs
3. Promotion of Cyber Security Careers & pathways to Adults & Students



Official Launch Cyber Security Skills Report

Addressing Ireland's Cyber Security Skills Shortage

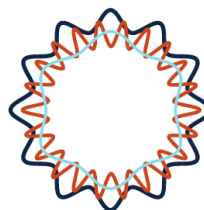
<https://www.cyberireland.ie/cyber-security-skills-report-2021/>





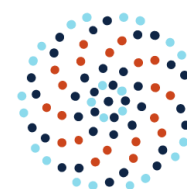
CYBERSKILLS

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.



Who are CWI

Where have I seen you before?

The Diver{Se}curity Project

The Diver{Se}curity Toolkit

Technical Toolkit (Coming Soon*)

Blog

Events

Members



Take The Diver{Se}curity Survey Now!

Take me to the survey

<https://www.cyberwomenireland.com/>

Diversity is Key. Diversity is Security.



CYBER SECURITY ACADEMY
Can you hack It?



<https://www.cyberireland.ie/ireland-cyber-security-academy-cyber-crime/>

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**



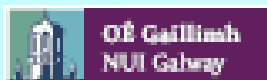
**Network Analysis
& Data Analytics**



**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**

Collaborative RD&I

1. Cyber Security R&D Mapping
2. Funding & Match Making
3. National Cyber Security Research Centre
4. EU R&D Opportunities



Grow & Export



1. Connecting Internationally
2. SME Internationalisation
3. Cyber Security Start-up Ecosystem
4. FDI Growth & Attraction



27-28 June | Dublin, Ireland

CYBER INVESTOR DAYS

#InvestCyber



CYBER|IRELAND
IRELAND'S CYBER SECURITY CLUSTER



ENTERPRISE
IRELAND

Cyber Assistance Scheme



Call for Volunteers - Subject Matter Experts



Learnings: *Neart Le Chéile*

- Cyber security is not just a technical challenge but a political, economic and societal challenge
 - Complex challenges require collaboration across boundaries
 - Industry-led, support of academia & government, for society
 - The role of passionate, dedicated leaders
 - Think Long-term not short-term wins (e.g. revenues, jobs)
 - COVID-19 - none of us are safe until everyone is protected
-

Dr Eoin Byrne, Cluster Manager, Cyber Ireland (Ireland)

 @eoinbyrne @CyberIreland