



TechWorks

Launch Event
10th May 2017



Welcome!

&

Thank You



Agenda





TechWorks

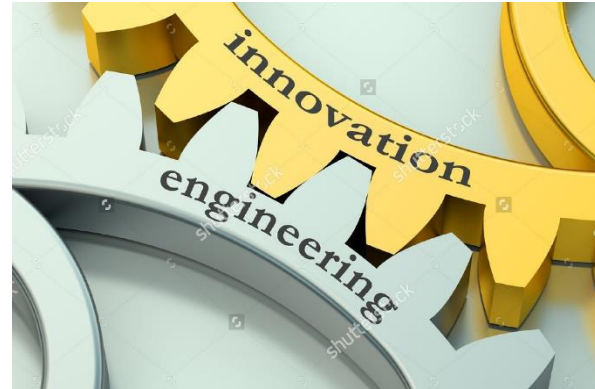
Why TechWorks? Why now?

Sir Hossein Yassaie (Chairman)

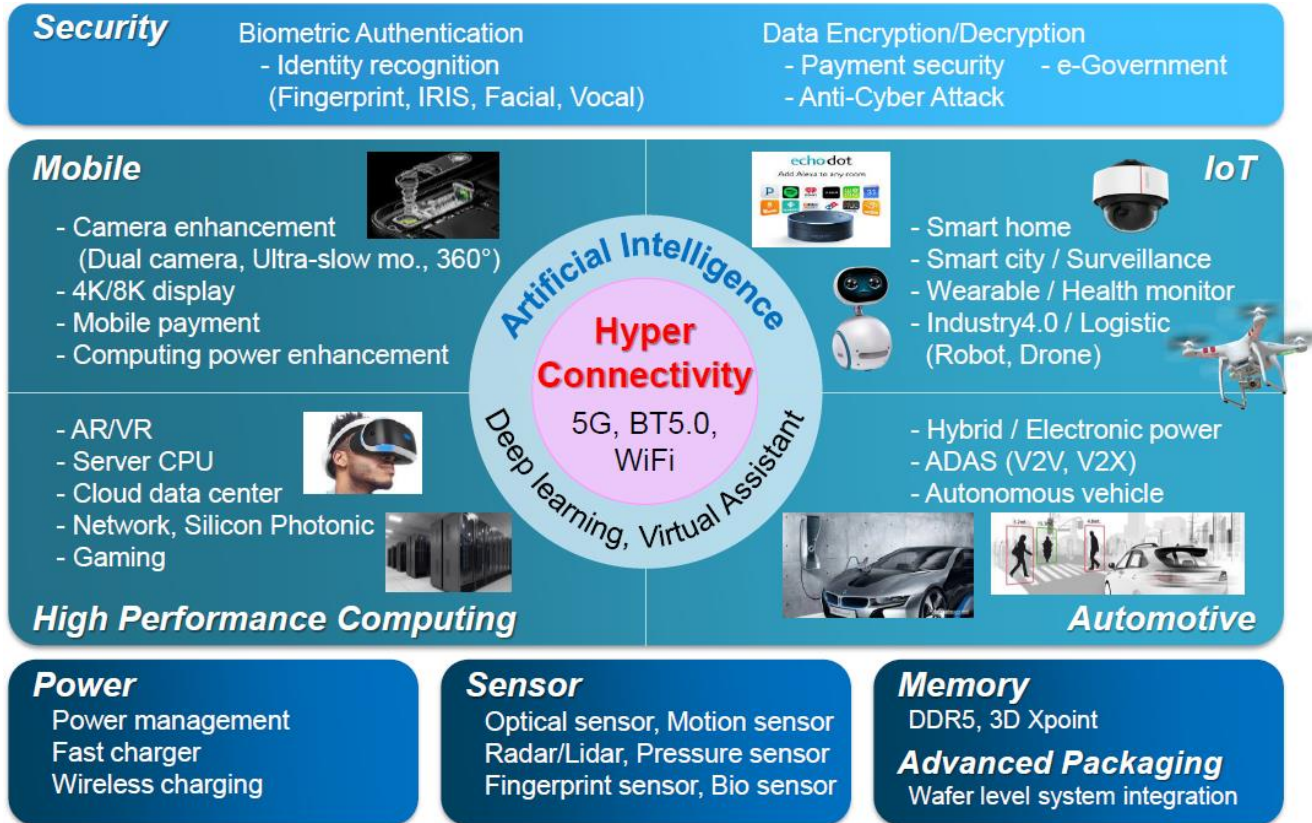


Deep Tech – TechWorks Definition

- Technology based on tangible **engineering innovation** or **scientific advances** & discoveries
- Set apart by profound **enabling power**, the **differentiation** it can create, and potential to catalyse **change**
- Deep Tech companies often possess **fundamental and defensible** engineering innovations
- Can span across **many technological** areas and can **impact diverse applications**:
 - **Technological** area examples: computing architecture innovations, advances in semiconductors and electronic systems, power electronics, vision and speech algorithms and techniques, artificial intelligence and machine learning, haptics and more...
 - **Market segment** examples: autonomous systems, robotics, smart home/cities, medical devices, clean tech, energy efficiency and many more developing or emerging application areas



Deep Tech Drives the Future



Global University Ratings

On QS World Ranking 6 of top 25 computer science are European and 4 are British!



5



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12



21



24

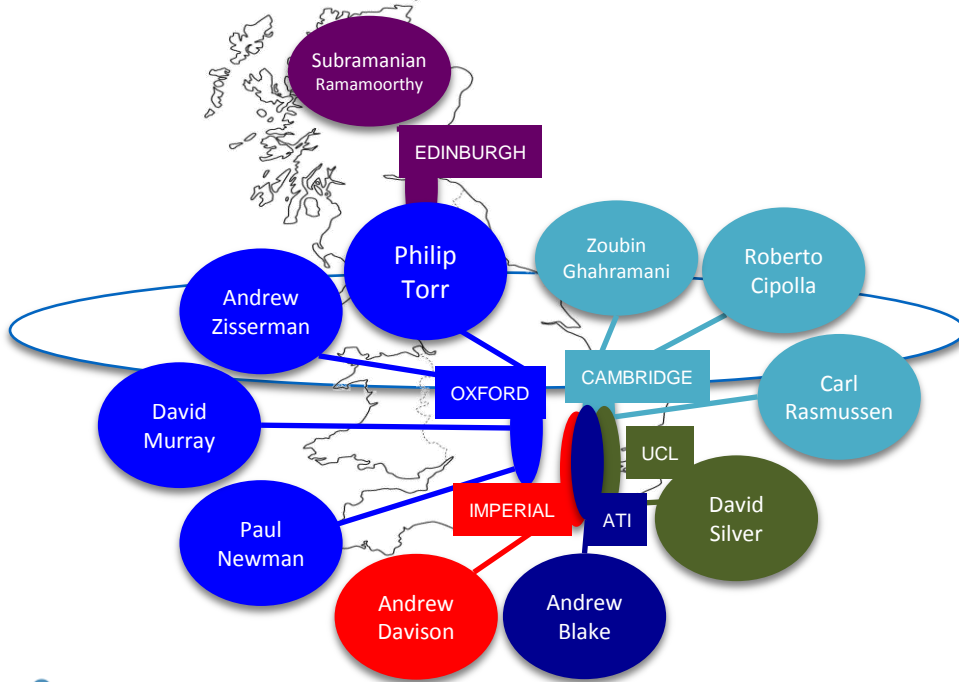
On Reuter's "Innovation rankings"

- Stanford, MIT, Harvard, Texas, Washington #1-#5
- KIAST, Pohang (S.Korea) #6, #11
- KU Leuven (Belgium) #9
- Imperial College #12
- Cambridge #18
- Oxford #28
- London #71
- Top 25 dominated by US
- <http://www.reuters.com/article/amers-reuters-ranking-innovative-univers-idUSL2N1C406D>

UK talent exists



ComputerArtificial
vision intelligence



Development in
UK, 11%

CEO or CTO, 9%

Fin Services, 7%

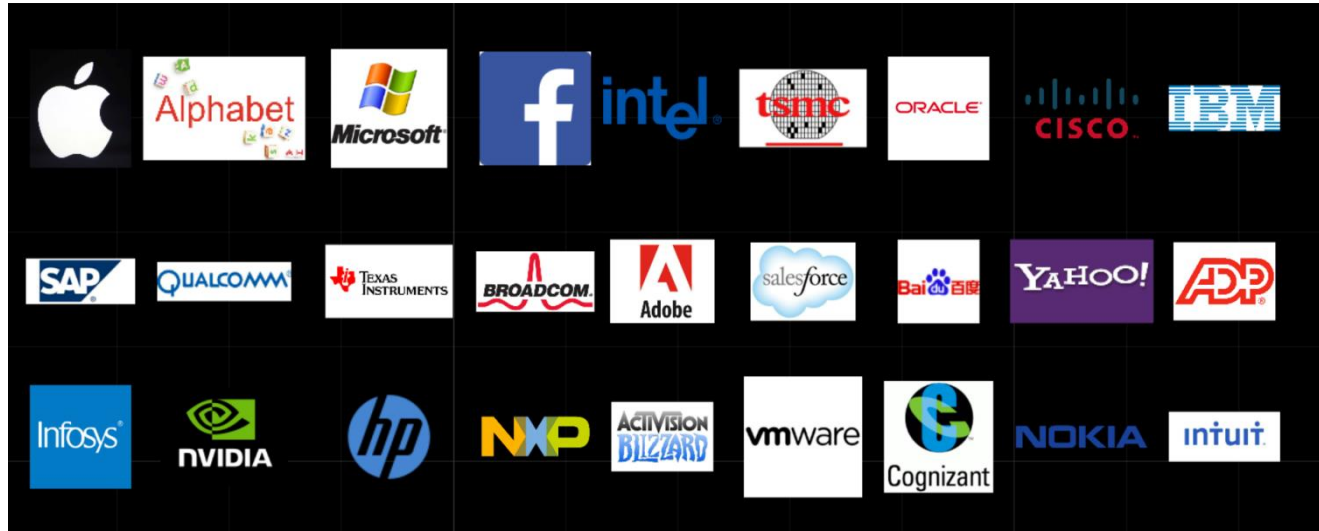
US tech, 40%



Academia, 33%

Andrew Zisserman
OU Visual Geometry Group
Alumni as at 31 Aug 2016
(sample of 55)

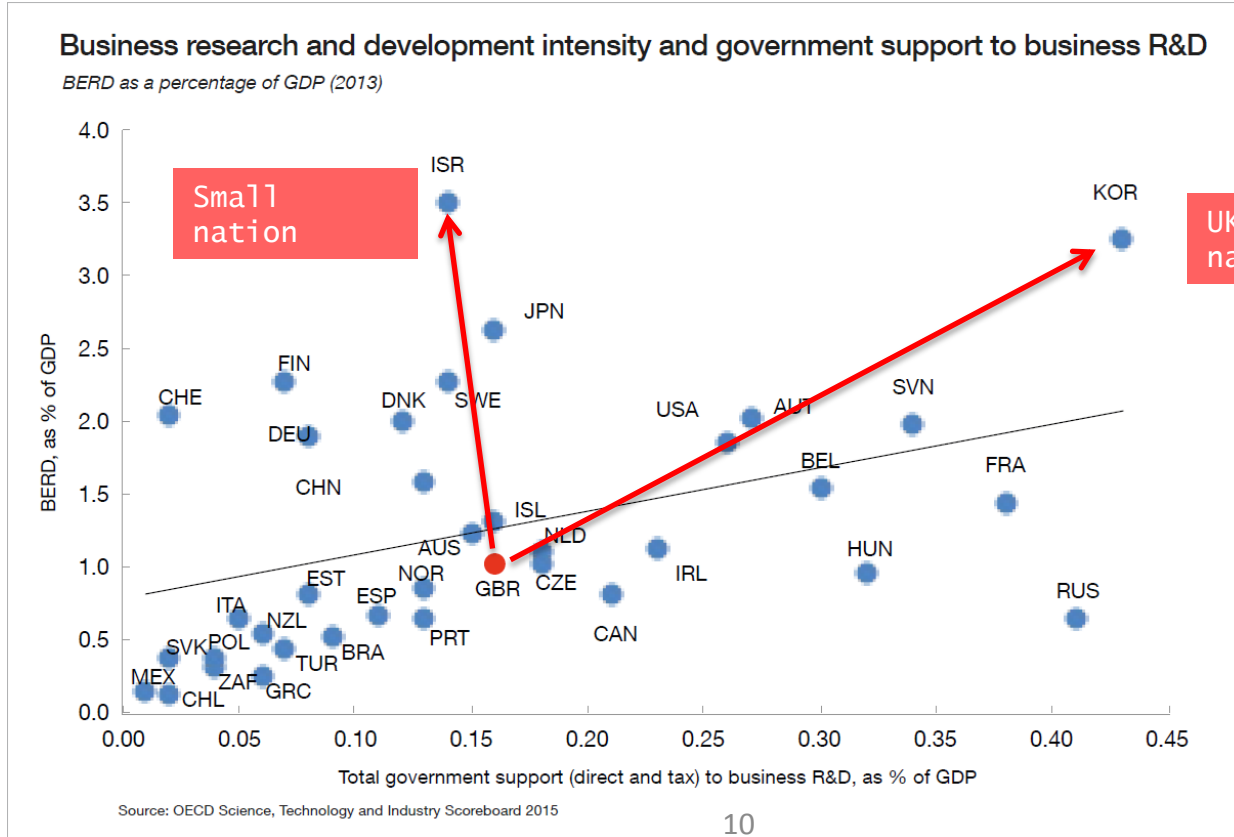
Not surprisingly: world's top tech market cap



\$3.7 trillion



R&D investment move

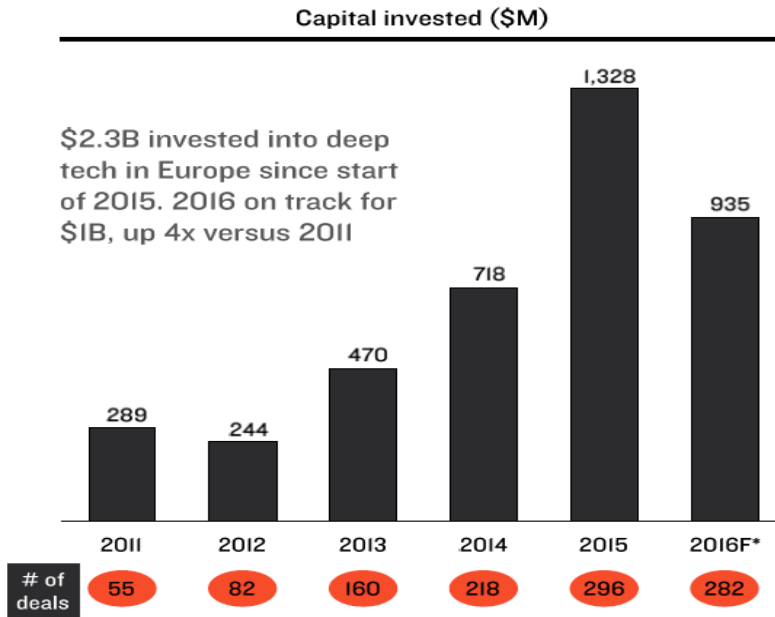


Challenges exist,
but there are some encouraging signs ...

Europe-wide venture R&D

DEEP TECH STARTUPS ARE ATTRACTING SIGNIFICANT INVESTMENT

Capital invested (\$M) and # of deals in deep tech companies



\$2.3B invested into deep tech in Europe since start of 2015. 2016 on track for \$1B, up 4x versus 2011

Note: *2016F based on 9 months to September 2015 and projection for Q4 based on Q3.

Source: dealroom.co

Deep tech categories included in analysis

Artificial Intelligence

- AI
- Machine learning
- Speech recognition
- Data mining
- Big data
- Deep learning
- NLP
- Computer vision
- Etc

Internet of things

- Wearables
- Smart home
- Smart city

VR & AR

- Virtual reality
- Augmented reality
- 3D technology

Frontier hardware

- Drones
- Robotics
- Radar
- 3D printing
- Nanosatellites
- New space

“Europe clearly possesses a vibrant deep tech ecosystem with almost 1,000 startups founded in this space here since 2014. What is really interesting to me is the breadth as well as depth of the progress being made. **The UK may well be the biggest draw attracting the most deep tech investment, but I know from personal experience that there is healthy deep tech growth in Central & Eastern Europe too**, whether it is Estimate developing their IoT technology from Krakow or Aeromobil building their flying cars out of Slovakia.

Andrus Ansip, Vice-President for the Digital Single Market, European Commission

UK Collaborative R&D



Centre for Connected
& Autonomous Vehicles

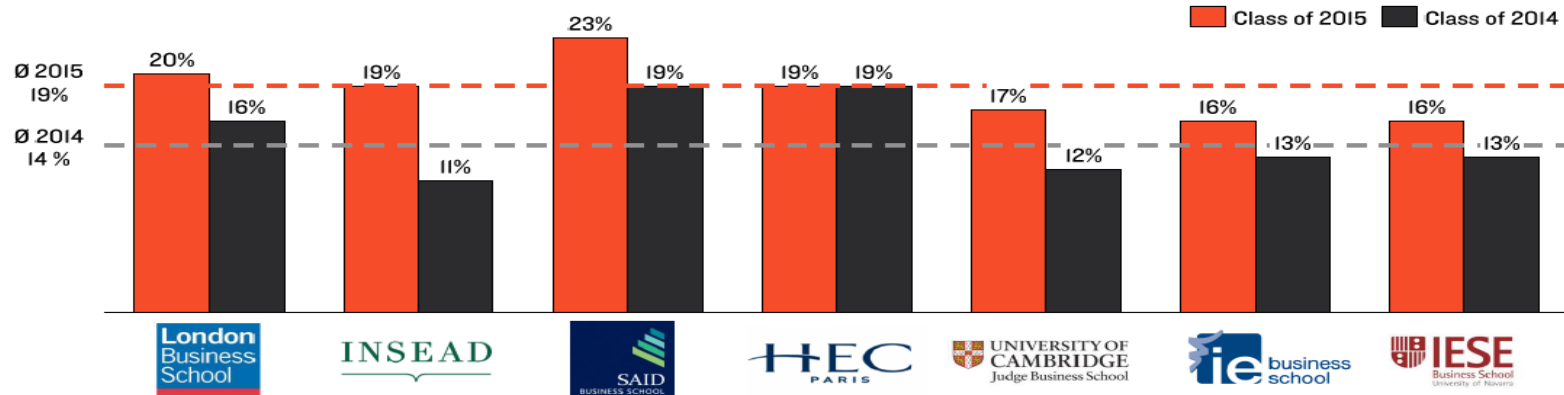
- Some of these are £1B 50-50 matched collaborative R&D programmes over long-term

20% of MBAs now focused on Technology

BUSINESS-MINDED TALENT IS ENTERING TECH TO HELP SCALE COMPANIES

One in five MBA graduates from top-ranked business schools are now entering tech

% of MBA graduates entering tech industry from selected leading European business schools



“Not only is capital growing across Europe but so is the talent. **The only major blot in this area is the fact that only 30% of the ICT sector are women. This is why the Commission encourages girls to start coding at school, helps develop their ICT skills whilst they are in the workforce and encourages female entrepreneurship.** And from my experience, travelling across Europe’s hubs, women are the startup force of the future.”

Andrus Ansip, Vice-President for the Digital Single Market, European Commission

TechWorks Will...

- Champion the Deep Tech Community in the UK
 - Nationally
 - Globally
- Create the environment that promotes, supports & respond to the needs of deep technology businesses
- Link startup, established deep tech organisations with government agencies & departments
- Provide a unified home for deep tech collaboration, networking & events
- Better connect companies with investment and potential business partners
- Develop awareness of and connections to adjacent and supporting technologies to enhance product development and accelerate business growth
- Develop Codes-of-Practice & guidelines for engineering development aligned with and influencing global standards



HM Government

Tonight We Announce

- Initial Board of volunteers representing UK Tech taking this organisation and the industry forward
- Future Leaders Network to nurture our outstanding talent to create global deep companies of the future and help us change that map
- 100-Day Action Plan
- New Membership model



TechWorks Leadership Board



Sir Hossein Yassaie,
Technology Entrepreneur
Chairman



Dr Derek Boyd
Chief Executive



Simon Segars,
CEO, ARM



Hermann Hauser,
Founder & Partner,
Amadeus Capital



Stan Boland,
Founder & CEO
Five.AI



Luke Ibbetson,
Head of Group R&D
Vodafone



Tim Luke,
Chairman – Tech & Media
Barclays



Mike Risman,
Founder & Partner,
Vitruvian Partners



Derek Boyd
CEO

The TechWorks Starting Point in Electronic Systems

FUTURETECH

ami
Electronics
Manufacturing

ami
Electronic Systems
Design

 TechWorks

IOT
Security Foundation

AESIN
DRIVING PROGRESS

POWER
ELECTRONICSUK

 TechWorks

NMI Manufacturing



Manufacturing & Supplier Steering Boards



Utilities & Climate Change

Health & Safety

Continuous Improvement

Equipment Engineering

Supplier Development





NMI Electronic System Design



Microelectronics & Electronic System Design



Semiconductor, Systems & Software Networks

UK Electronics Skills Foundation

Apprenticeships

R&D Support

- Technical Networks
- FPGA
 - Systems & Software
 - Q&R
 - IC Design



Innovate UK



Academia



Venture Cap & Start-Up Support



Balderton
capital



Amadeus Capital Partners



ipgroup

Organisation & Work Streams



AESIN Steering Board

Workstreams

Connected
Corridor

More Electric
Powertrain

ADAS & AV

Automotive
Security

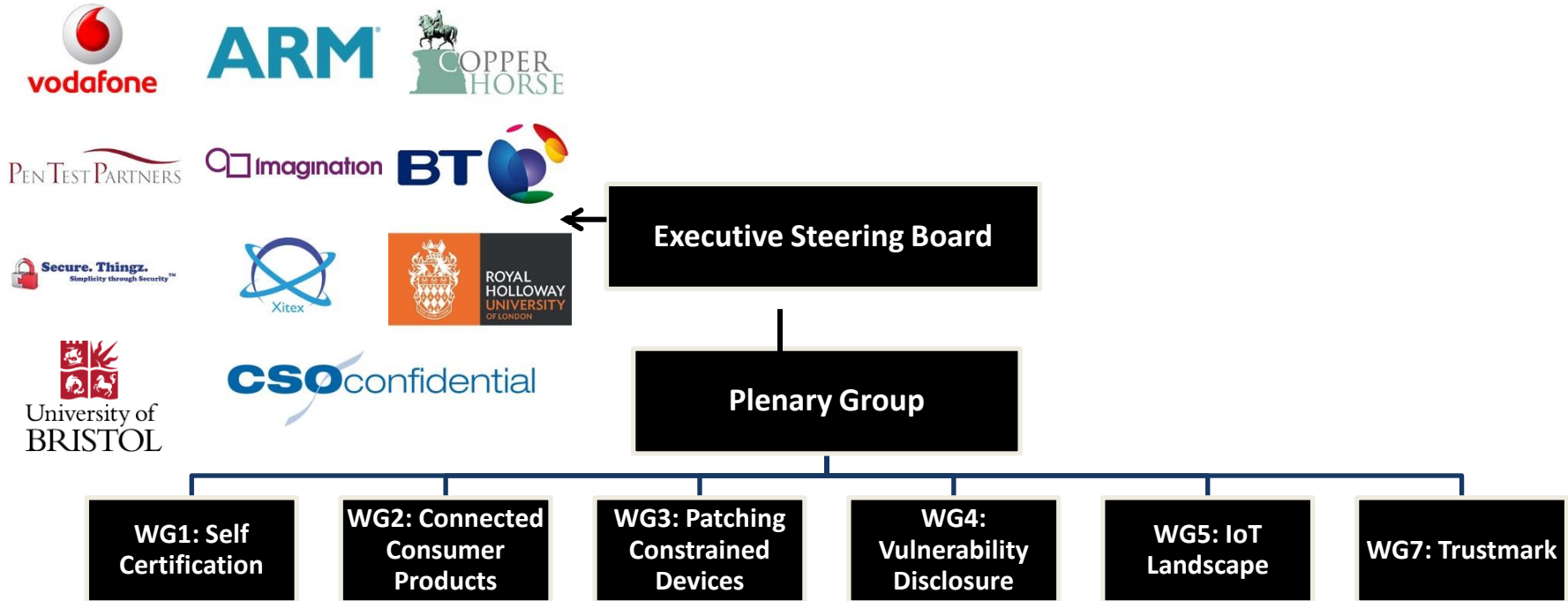
Software



THALES

ALTRAN

Organisation & Working Groups



Working Group 1 Members

dyson

NEXOR



RED ALERT LABS
IoT Security



ARM



CERBERUS
Security Laboratories



Roke

Part of the
Chemring Group

MathEmbedded

CATAPULT
Digital

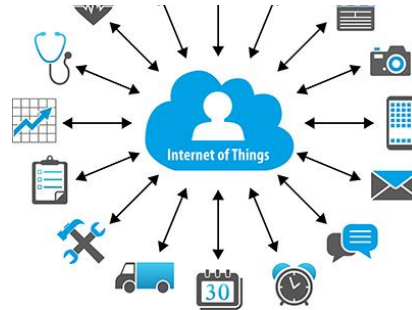


PEN TEST PARTNERS

FUTURETECH



Collaboration >> Networking



Our initial plans

- Launch a Marketing/Awareness Campaign to the Community & Government on UK Deep Tech
- Meet with representatives of the new government
 - Input to Industrial Strategy
 - Input to Future Strategy for AI
- Formalise the approach for better connection of funds and companies
- Hold FutureTech workshops & establish Leadership Groups
- Drive the Tech skills agenda by
 - Supporting the start of the Future Leaders Group
 - Develop Working Groups on new Masters-level Apprenticeship standards
- Hold plenary meetings in the TechWorks Communities: Powerelectronics, IoT SF, AESIN & NMI
- Hold an 'audience with the OEM' event in AESIN
- Begin compiling UK industrial capability directories in Power Electronics and Machine Learning to complement existing directories
- Deliver our first IoT Security Training



In Summary

- TechWorks is an exciting initiative to improve the UK Deep Tech ecosystem, accelerate our leading deep tech companies and teams
- Lend your support
 - Sign-up to membership tonight
 - Complimentary for first six months
- Get involved and help us make a bigger impact



**GET
INVOLVED**



Rt Hon Matt Hancock
Minister of State for Digital and Culture



Keno Mario-Ghae

Imagination Technologies & NMI Young Engineer of They Year 2016



Derek Boyd
CEO



TechWorks



Stimulates economic activity

Develops world class talent

Supports & attracts adjacent business

Stimulates cross-sector activity & transfer

Produces world class business & technical innovation

Attracts funding

Attracts world class talent

Attracts global industry players

Nurture new entrepreneurs

Attracts investments

Connects regions

Connects Enabling Technologies for Applications

Stimulates cross-sector collaboration



