INFO5992 Understanding IT Innovations

Week 10:

Organisational Culture and Structures Supporting Innovation

Judging IT Innovation

Semester 2, 2024

THE UNIVERSITY OF SYDNEY

Acknowledgement of Country

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UoS Semester Outline

Week	Learning Outcomes	Lectures
Module 1: Innovation Framework		
Week 01	L01, LO2, LO3	Unit of Study Introduction, Administrivia, Definition of IT Innovation, Importance of Innovation to a Country, General Purpose Technologies, Overview of Emerging Technologies
Week 02	LO4, LO5	Innovation Frameworks I: Dynamics of IT Innovation, Dominant Design
Week 03	LO6	Innovation Frameworks II: Disruptive Innovation, Innovator's Dilemma, Value Chain & Value Network
Module 2: Development of Key Intellectual Property in the Modern Age		
Week 04	LO7	Introduction to Open Innovation and Closed Innovation Distributed Innovation I: Product Platforms, Web APIs
Week 05		Distributed Innovation II: Crowdsourcing, Free and Open- Source Software, Open Data
Week 06		Distributed Innovation III: Platform Ecosystems, User Innovation
Mid semester break		
Module 3: Commercialisation Process and Business Strategies for Emerging Technologies		
Week 07	LO8	Commercialisation I: Startup vs Traditional Companies, Lean Startup Methodology and Agile Development
Week 08		Commercialisation II: Customer Development Process, Value Proposition Canvas
Week 09	LO8, LO9	Commercialisation III: Innovation Management, Business Model Canvas Commercialisation IV: Capital & Fundraising for IT Innovation
Week 10	LO11, LO12	Organisational Cultures and Structures Supporting Innovation, Judging IT Innovation
Module 4: Innovation At-Scale		
Week 11	LO10	Innovation Ecosystem: Silicon Valley and Australia
Week 12	N/A	Course Review | Innovation Pitch Presentation
Week 13	N/A	Innovation Pitch Presentation
Final Exam		

Organisational Culture that Supports Innovation

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Agenda

- Lecture:
  - Organisational culture and Structures Supporting Innovation
  - Judging IT Innovations
- Tutorial
  - J-curve

Organisational culture: "Scientific Management" (Taylorism)

Frederick Winslow Taylor
Mechanical engineer
Efficiency expert
Management consultant
1856-1915

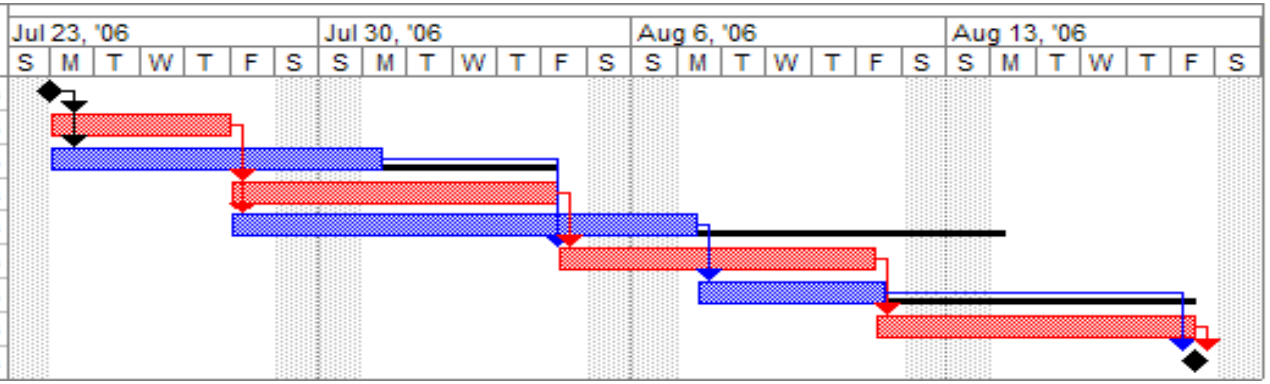
"In the past, the man was first.
In the future, the system will be first." (1911)

- **Standardise** work into separate tasks
- Scientifically study each task
- Continually measure performance of task
- Compensate workers based on performance

Influence of Taylorism in organisations

- Scientific management used not just in factories, but in most organisations
- Gantt charts (by Henry Gantt who worked with Taylor)

ID	Task Name	Predecessors	Duration
1	Start		0 days
2	a	1	4 days
3	b	1	5.33 days
4	c	2	5.17 days
5	d	2	6.33 days
6	e	3,4	5.17 days
7	f	5	4.5 days
8	g	6	5.17 days
9	Finish	7,8	0 days



- **Using budgets for accountability and performance measurement**
- **Key performance indicators, linked to Incentives**

Taylorism and Innovation

- But Taylorism was designed for repetitive work with known functions
  - e.g., the production of known items in the factory

- Not suitable for creative work with many unknowns
  - e.g., technological innovation
  - Taylorism does not promote new ideas/thinking

- **Not for startups**

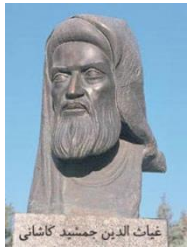
Creating a culture for generation of new ideas

- Steven Johnson (popular science author)
- "Where good ideas come from" (TED Talk), 2010

Steven Johnson: Where good ideas come from | TED Talk Starting from 7:00

Creating a culture for generation of new ideas

- **Liquid Networks –** having a diversity of expertise and it's ideas bouncing between different expertise that can trigger the big breakthrough



Ulugh Beg
Timurid Sultan, astronomer and mathematician

Creating a culture for generation of new ideas

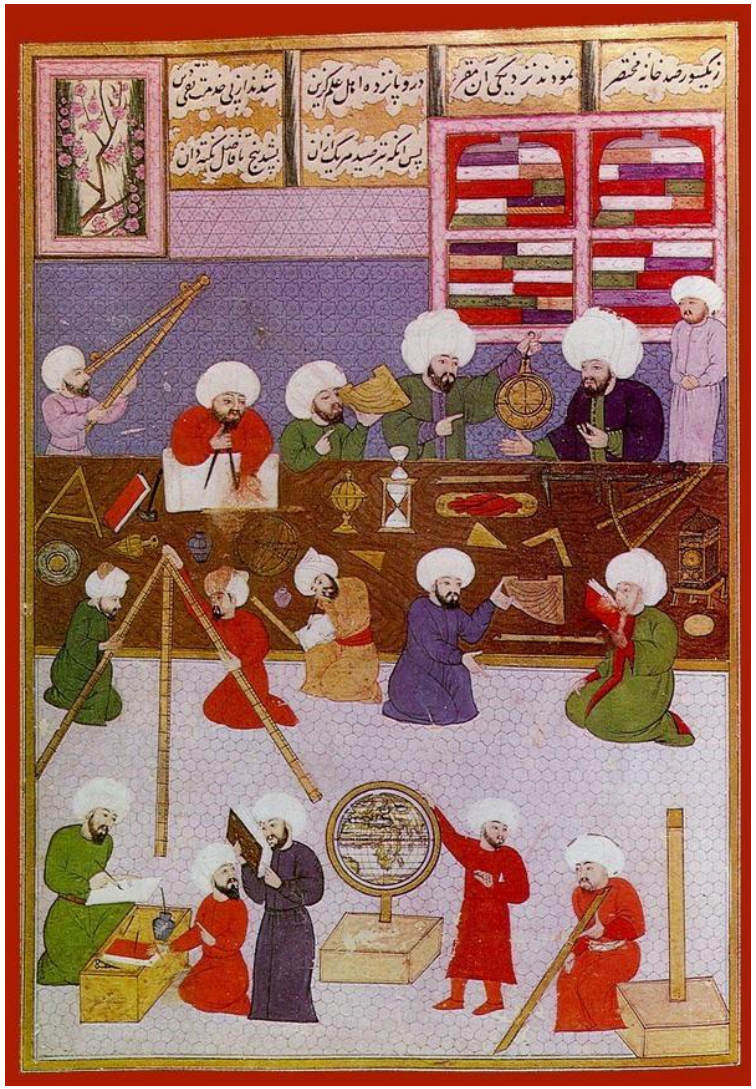
- **Slow Hunch** – a great idea **slowly** fades into view over a long period of time

Innovation does not happen like this ⬆️

It happens like this ⬆️

Creating a culture for generation of new ideas

- **Connecting vs Protecting –** interaction leads to the overall best result… keeping an idea to oneself leads to thought stagnation because our experiences and genetic makeup usually take us down the same thought path repeatedly



Creating a culture for generation of new ideas

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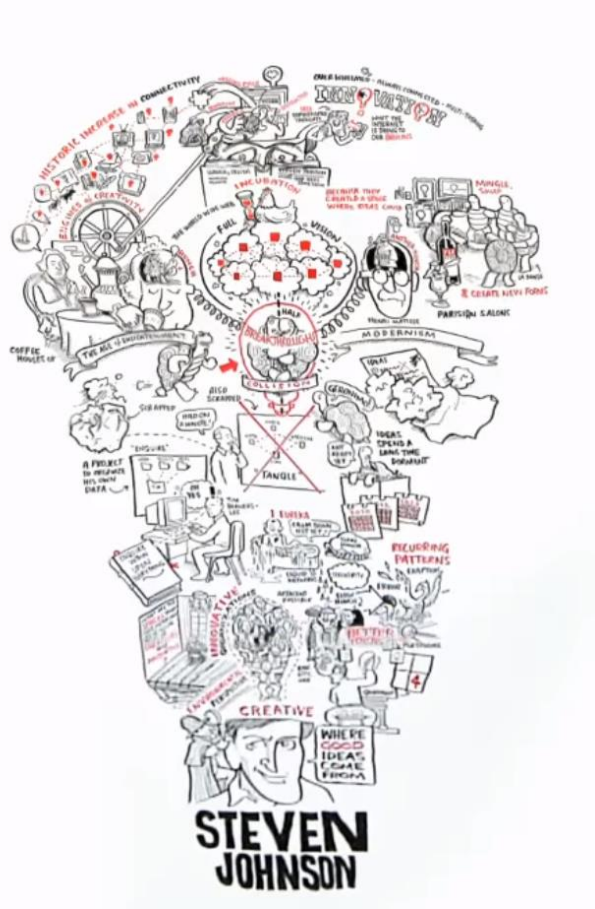
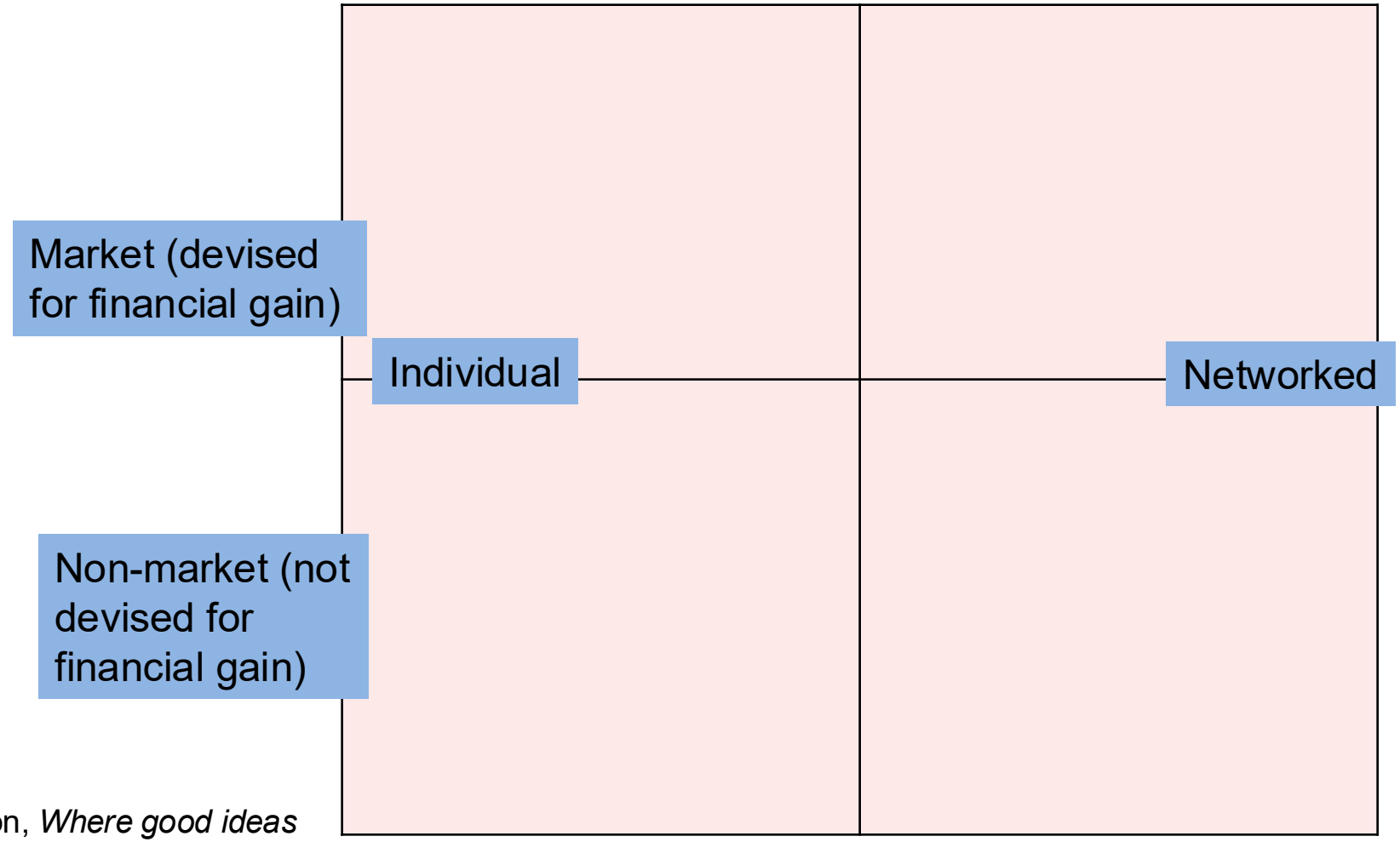


https://www.youtube.com/watch?v=NugRZGDbPFU

Innovations: 1800 – now
Where good ideas come from?



Steven Johnson, *Where good ideas come from: The natural history of innovation*. ePenguin, 2010.

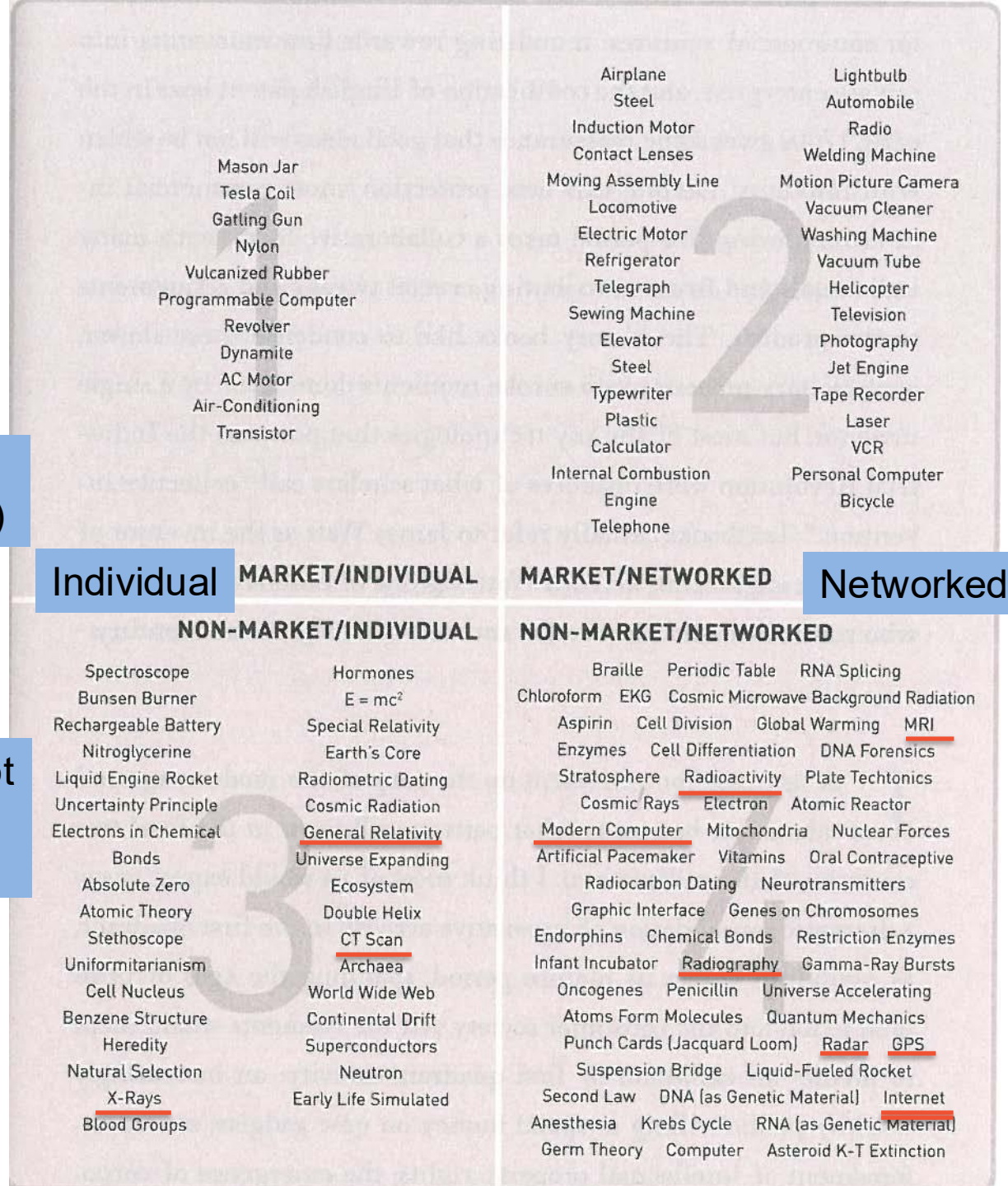
Innovations: 1800 – now

Market (devised for financial gain)

Non-market (not devised for financial gain)

Individual

Networked



Steven Johnson, *Where good ideas come from: The natural history of innovation*. ePenguin, 2010.

Innovations: 1800 – now

- Non-market focused approaches (not devised for financial gain) produce much more innovation than market-focused approaches
- Non-market focused approaches can lead to many new market opportunities
- Network is much more valuable than individual. This is consistent with the open innovation concept
- Quadrant 4 supports 'liquid network', 'slow hunch' as it is not driven by markets, and 'connected'

- **So when designing a culture for innovation, we need to be:**
  - **flexible (liquid networks, i.e.,** diversity of expertise),
  - **allocate time (slow hunch), and**
  - **be connected**

Company Structure Supporting Innovation (and Organisational culture)

Size and structural dimensions of companies

- Large companies might be disadvantaged in innovation because…
  - R&D efficiency may decrease due to loss of managerial control
  - Large companies can have more bureaucratic inertia
  - More commitments tie companies to current technologies, e.g., Learning effects (see Week 3)

- Small firms are often more flexible and entrepreneurial
  - Can change direction quickly based on changing circumstances or new observations

Source: Schilling (2013)

Size and structural dimensions of companies

- Many big companies have found ways of "feeling small"
  - Break the overall company into several subunits
  - Can utilise different cultures and controls in different units
  - E.g. "skunk works" teams for doing new product development

- Ambidexterity strategy (week 3 recap): The ability of a firm to simultaneously explore and exploit, enabling the firm to adapt over time

Examples of Ambidexterity strategy

- Social Networking
- Invested in exploring new technologies and business models:
  - Oculus VR - virtual reality technology
  - WhatsApp - a messaging app

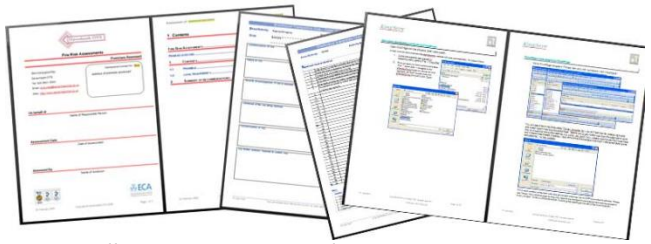
- PC operating system market
- Invested in exploring new technologies and business models:
  - Xbox – video game platform
  - LinkedIn – social network for professional network
  - GitHub – source code repo
  - OpenAI

Structural dimensions which influence innovation

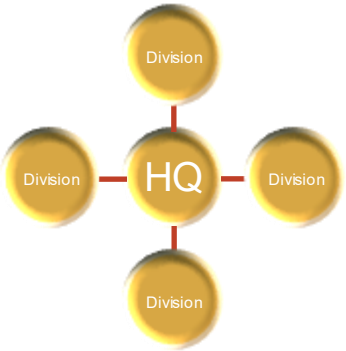
1. **Formalisation:** The degree to which the company uses rules and procedures to structure the behaviour of employees

2. **Standardisation:** The degree to which company activities are performed uniformly

3. **Centralisation:**
   - Centralised authority: The degree to which decision-making authority is kept at top levels of the company
   - Centralised activities: The degree to which activities are performed at a central location



http://www.kingserv.org/design_examples.htm



Source: Schilling (2013)

Mechanistic vs Organic Structures

- **Mechanistic Structures** have high formalisation and standardisation
  - Suitable for operational efficiency, reliability
  - Minimises variation → may stifle creativity

- **Organic structures** have low formalisation and standardisation; they are described as "free-flowing"
  - It may encourage creativity and experimentation
  - It may yield low consistency and reliability

Combining the best of small and large companies

- Some divisions (e.g., R&D, new product lines) may be small and organic
- Other divisions (e.g., manufacturing, mature product lines) may be larger and more mechanistic
- Some organisations try to do both in different divisions:
  - Tushman and O'Reilly (1996) called this the "ambidextrous organisation"

- It can also alternate through different structures over time
- Sometimes, new product development can be quite independent of even the main R&D division (e.g., "skunk works" – explained later)

Case Studies

Successful Culture and Structure for Innovation

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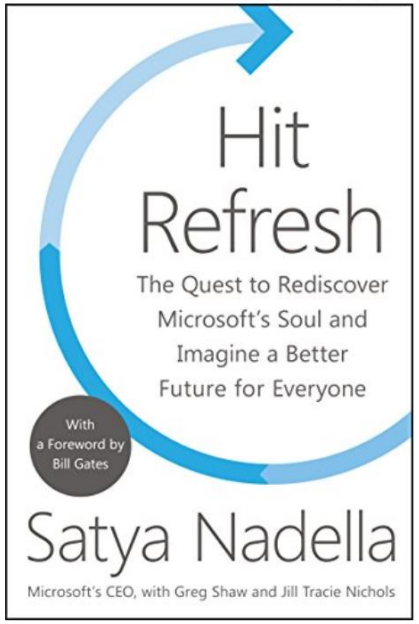
Case Study: Culture and innovation in a Digital Age

- "At some point, the concept or the idea that made you successful is going to run out of gas. So, you need new capability to go after new concepts". (**"Creative Destruction"**)
- ***The only thing that's going to enable you to keep building new capabilities and trying out new concepts long before they are conventional wisdom is culture.*** Culture so that you can continue to cultivate new capabilities and new concepts.
- When I became CEO, we were already a 40-year-old company, and I felt that it was very important for us to make culture a first-class, explicit conversation so that we could then reinvent ourselves and invent new things."



Cultural change in Microsoft

- **Annual Microsoft Hackathon** – which the company calls the "largest private hackathon in the world" – encouraged employees from different business areas to work together on projects
  - Before the hackathon, separate Windows offices were siloed and in constant competition. The hackathon helped create the fast-moving, collaborative organisation needed to compete in today's digital-first world.
- **Fewer, bigger bets** – doubled down on future technologies by investing in cloud and AI
- **Partner-positive thinking** – understanding that fast-moving and specialist partners can deliver expertise and innovation to specific challenges that a larger, legacy organisation might struggle to produce

Case Study: Lockheed Martin Skunk works

- SKUNK WORKS APPROACH (1940s)
- No mission is impossible. Lockheed Martin Skunk Works is committed to quickly **developing disruptive solutions** to ensure our nation has an absolute advantage.
- What sets Skunk Works apart is its unique approach, which founder Kelly Johnson created. This approach is still evidenced today by the **small empowered teams, streamlined processes and the culture that values the lessons learned when you are bold enough to attempt something that hasn't been done before.**

https://www.lockheedmartin.com/en-us/who-we-are/business-areas/aeronautics/skunkworks.html (May'25)

Kelly Johnson, Engineer
https://www.lockheedmartin.com/content/dam/lockheed-martin/aero/photo/skunkworks/kellys-14-rules.pdf (May'25

Skunk works – Kelly's 14 rules & practices

- **1.** The Skunk Works® manager must be delegated practically complete control of his program in all aspects. He should report to a division president or higher.
- **3.** The number of people having any connection with the project must be restricted in an almost vicious manner. Use a small number of good people (10% to 25% compared to the so-called normal systems).
- **4.** A very simple drawing and drawing release system with great flexibility for making changes must be provided.
- **11.** Funding a program must be timely so that the contractor doesn't have to keep running to the bank to support government projects.
- **14.** Because only a few people will be used in engineering and most other areas, ways must be provided to reward good performance and not based on the number of personnel supervised.

With our enduring legacy, unique culture and way of operating, Skunks move quickly to develop disruptive solutions in core capability areas needed for our nation's future success. Discover how our team is defining the future by clicking the capability icons below.

Intelligence, Surveillance & Reconnaissance

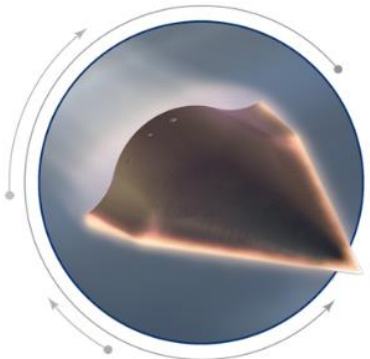
As the threat evolves to a highly contested environment, a survivable and persistent ISR system is needed to provide lifesaving intelligence for the warfigher. We're working on solutions that combine stealth technology, speed and improved sensors to penetrate and operate in hostile environments.

Learn More >

Multi-Domain Operations

We are evolving technologies that connect, share and learn to create a holistic network across the battlespace. From the depths of sea to the far reaches of space, our engineers' extensive expertise in advanced technology solutions will power the multi-domain battlespace.

Learn More >



Hypersonics

We are proud to support the DoD and warfighters in developing rapid and costeffective hypersonic solutions. Our robust experience in high-speed flight is the foundation on which we are developing cutting edge technologies to enable hypersonic solutions.

Learn More >

Digital Thread

Our team embraces an integrated digital approach to design that reduces cost and accelerates development. From artificial intelligence and networked factories to data analytics and augmented reality, the digital thread helps our team connect, collaborate and innovate with agility.

https://www.lockheedmartin.com/en-us/who-we-are/business-areas/aeronautics/skunkworks.html# (May'25)

Case Study – Apple – One organisation, different cultures

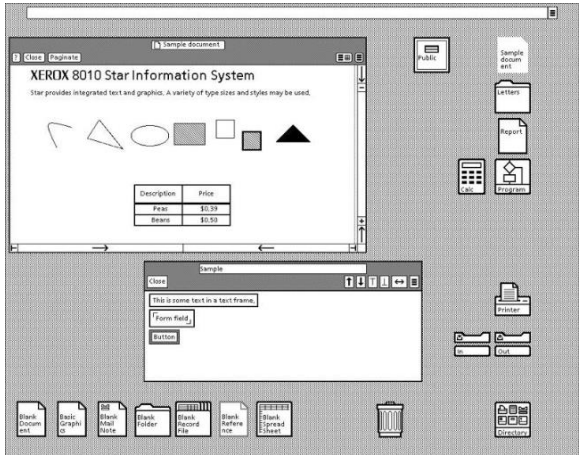
- 1980: Apple was producing the Apple II personal computer at reasonably high volumes for technical users
- Steve Jobs (CEO) wanted a new type of computer to be:
  - Very intuitive to use
  - Self-contained
  - Usable by everyone, not just technical people
- The corporate structure wasn't appropriate for the new product:
  - Apple's corporate environment had been structured for sound and efficient manufacturing
  - Wanted new group to have different culture and more flexibility

Photo: Apple

https://www.quora.com/Apple-co-founder-Steve-Wozniak-once-said-in-an-interview-that-Steve-jobs-was-exaggerated-in-the-movie-Jobs-What-did-Steve-Jobs-actually-mean-to-Apple-and-what-products-could-his-name-take-credit-for (May'25)

Apple's Renegade Team

- Jobs started a new product development group specifically to develop Macintosh with ***renegade culture*** *(being consciously and intentionally different from the mainstream and its practices (and products, in this case)*
- After seeing a prototype of a mouse and desktop icons during a visit to Xerox PARC, Jobs was convinced that all computers would one day operate on such a model.
- Couldn't get the top management at Apple to agree
- H**ijacked a team working on another project,** took the best ideas from Xerox and elsewhere, and added some of his own.
- The result was a renegade team at Apple, hidden away in a building off the main campus, that was tasked with creating the first Macintosh.



https://www.rollingstone.com/culture/news/the-steve-jobs-nobody-knew-20111027 (May'25)

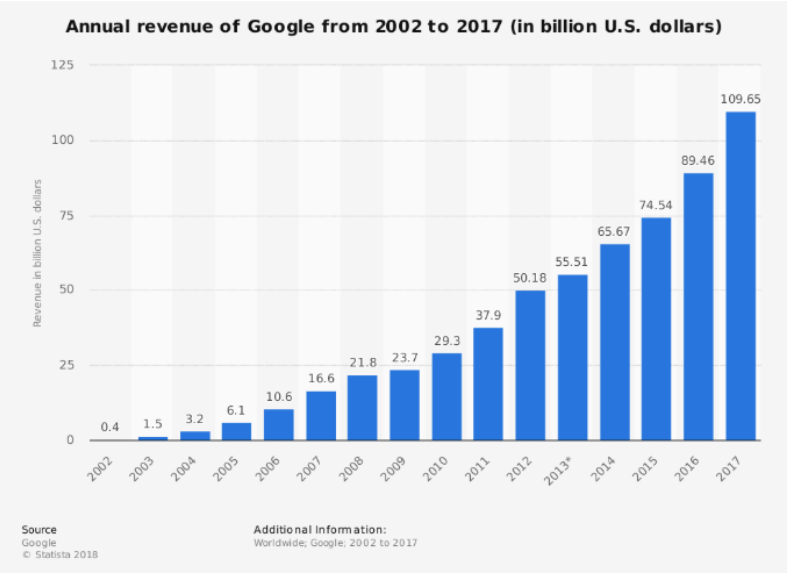
Apple – change in culture – are they still innovative?

https://www.forbes.com/sites/gregpetro/2019/06/07/at-its-core-apple-is-no-longer-innovative/#1fef24f1196d (May'25)

- Apple is **no longer innovative across any category.**
- Apple fails to bring anything new in smartphones, apps, smart devices, or even their retail stores. And until they find a way to do so, we will continue to watch this company unravel.
- Are they leading in:
  - The Folding Phone?
  - AI and Smart Technology?
  - Retail Stores
  - Apple Watch
  - Apple as a service

Keeping benefits of a small company in a large company – Example: Google

Sergey Brin and Larry Page



Google Australia

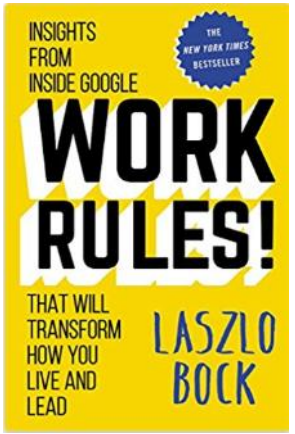
Case Study: Google – Keeping benefits of a small company in a large company

Eric Schmidt, Google CEO (until April 2011)

- "One of the things that we've tried very hard to avoid at Google is the sort of divisional structure and the business unit structure that prevents collaboration across units. It's difficult. So, I understand why people want to build business units and have their presidents.
- But by doing that, you cut down the informal ties that drive so much collaboration in an open culture. If people in the organisation understand the company's values, they should be able to self-organise to work on the most interesting problems.
- And if they haven't, or are unable to do that, you haven't talked to them about what's important. You haven't built a shared value culture."

Google's "20% time"

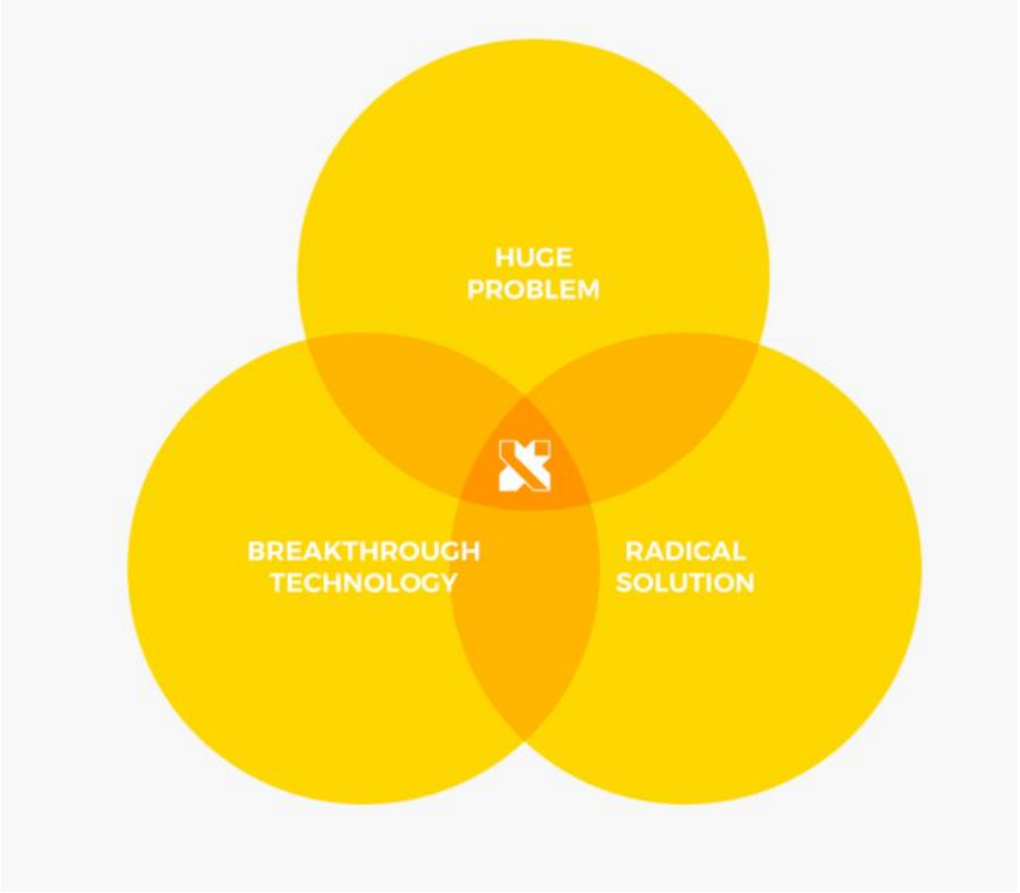
- "We encourage our employees, in addition to their regular projects, to spend 20% of their time working on what they think will most benefit Google. This empowers them to be more creative and innovative. Many of our significant advances have happened in this manner."
- Huge 20% of products include the development of Google News, Gmail, and AdSense.
- Only about 10% of Googlers are using it, last time the company checked, but it doesn't matter, as long as *the idea* of it exists, according to Google HR boss Laszlo Bock in his new book, "Work Rules!" (2015)
- "In some ways, the idea of 20 per cent time is more important than the reality of it," he writes. "It operates somewhat outside the lines of formal management oversight and always will because the most talented and creative people can't be forced to work."



Google's Solve for X

- One of our most important principles is to run as fast as we can at all the hardest parts of a problem, and try to prove that something can't be done.
- We want to force ourselves to learn.
- We actively embrace failure: by making mistakes, we make progress. In this way, our ideas get stronger faster, or we discard them and move on to new ones.

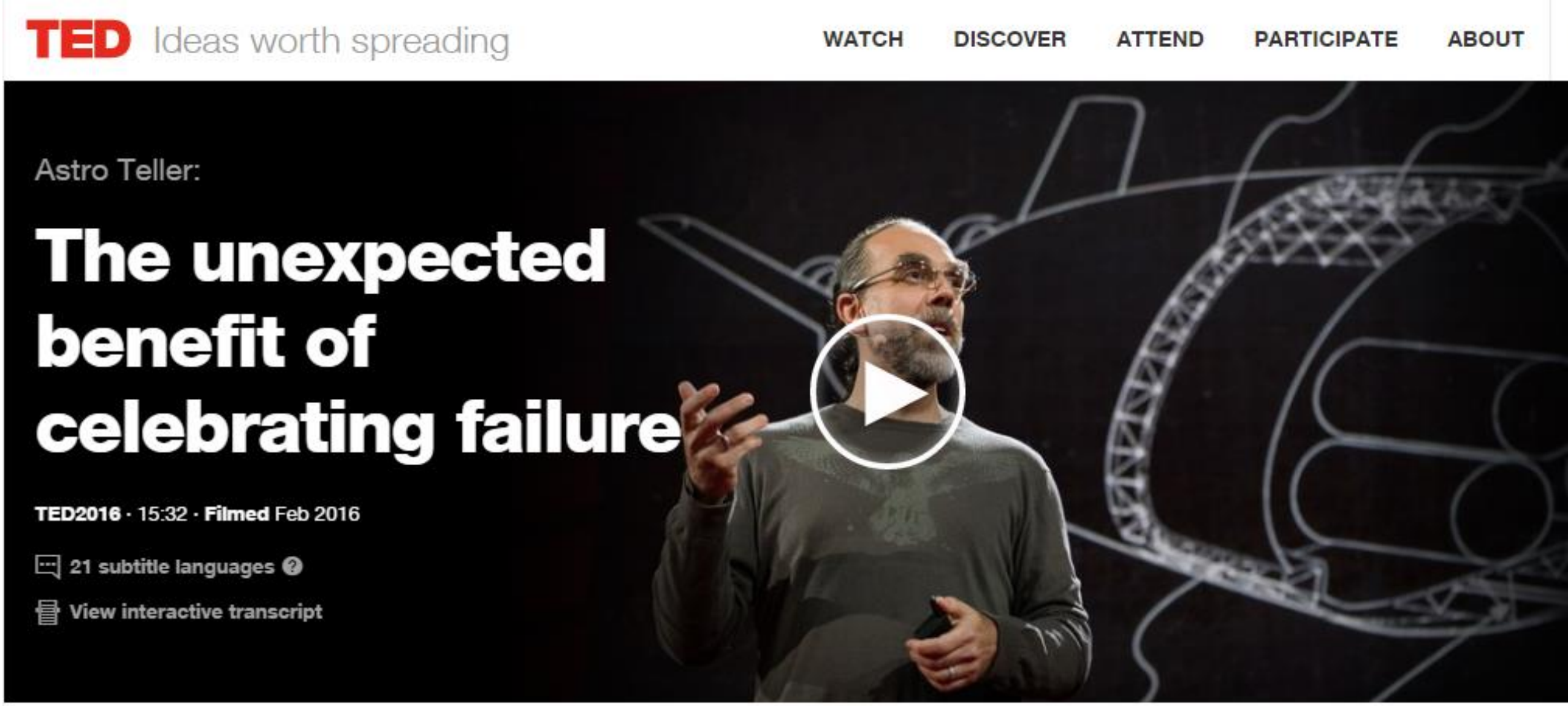
https://x.company/ (May'25)



Solve for X – a Moonshot factory

- **We look for the intersection of a big problem, a radical solution, and breakthrough technology**. We start with a large problem in the world that if solved could improve the lives of millions or even billions of people. Then we propose a radical solution that sounds impossible today, almost like science fiction. Lastly, we look for a technology breakthrough that exists today; this gives us the necessary hope that the solution we're looking for is possible, even if its final form is five to ten years away and obscured over the horizon.
- **We tackle ideas that have the riskiness and ambition of early-stage research and approach them with the focus and speed of a startup**. Our goal is to develop and de-risk these early-stage ideas and turn them into proven technologies that make a real impact in the world.
- **X is a team of inventors and entrepreneurs from a wide variety of backgrounds.** We're makers, engineers, and scientists with deep technical expertise who've come to X to bring our creations out of the lab and into the real world.

https://x.company/ (May'25)


TED Ideas worth spreading
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TED2016 · 15:32 · Filmed Feb 2016
21 subtitle languages
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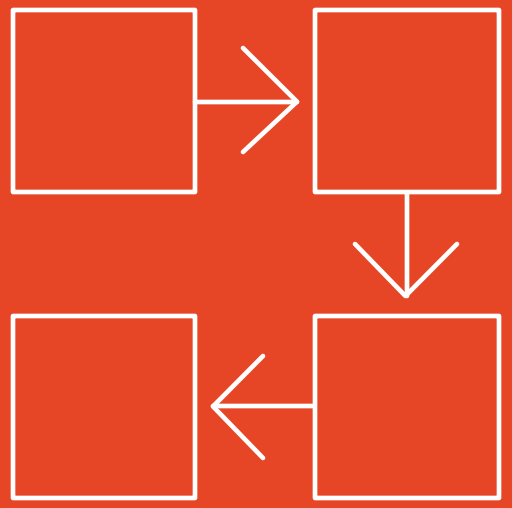
In Summary, Organisational culture….

- Culture and innovation in a Digital Age - Virtuous Cycle of success from ideas/concepts
- An appetite for risk - Building a culture where people feel comfortable trying things that might fail
- Making bold bets – driving bold, decisive actions that enable the business to pivot rapidly, sometimes at a very large scale. Such moves require risk-taking, including aggressive goal-setting and nimble resource reallocation

Summary cont.

- Culture for innovation
  - The importance of networked individuals for generating new ideas
  - The importance of innovation openness

- Structure for innovation
  - The structure of an organisation influences the ability to innovate
  - Some large companies find ways to have the advantages of small companies



Judging IT Innovations….

How To Judge IT Innovations ?

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Learning outcomes - Judging IT Innovations

- Understanding how to 'judge' projects – why this is important
- What are the standard selection/judging criteria
- Who are the judges/panels?
- Examples of IT innovation competitions – can we pick the winner?
  - University students
  - Research community
  - Industry

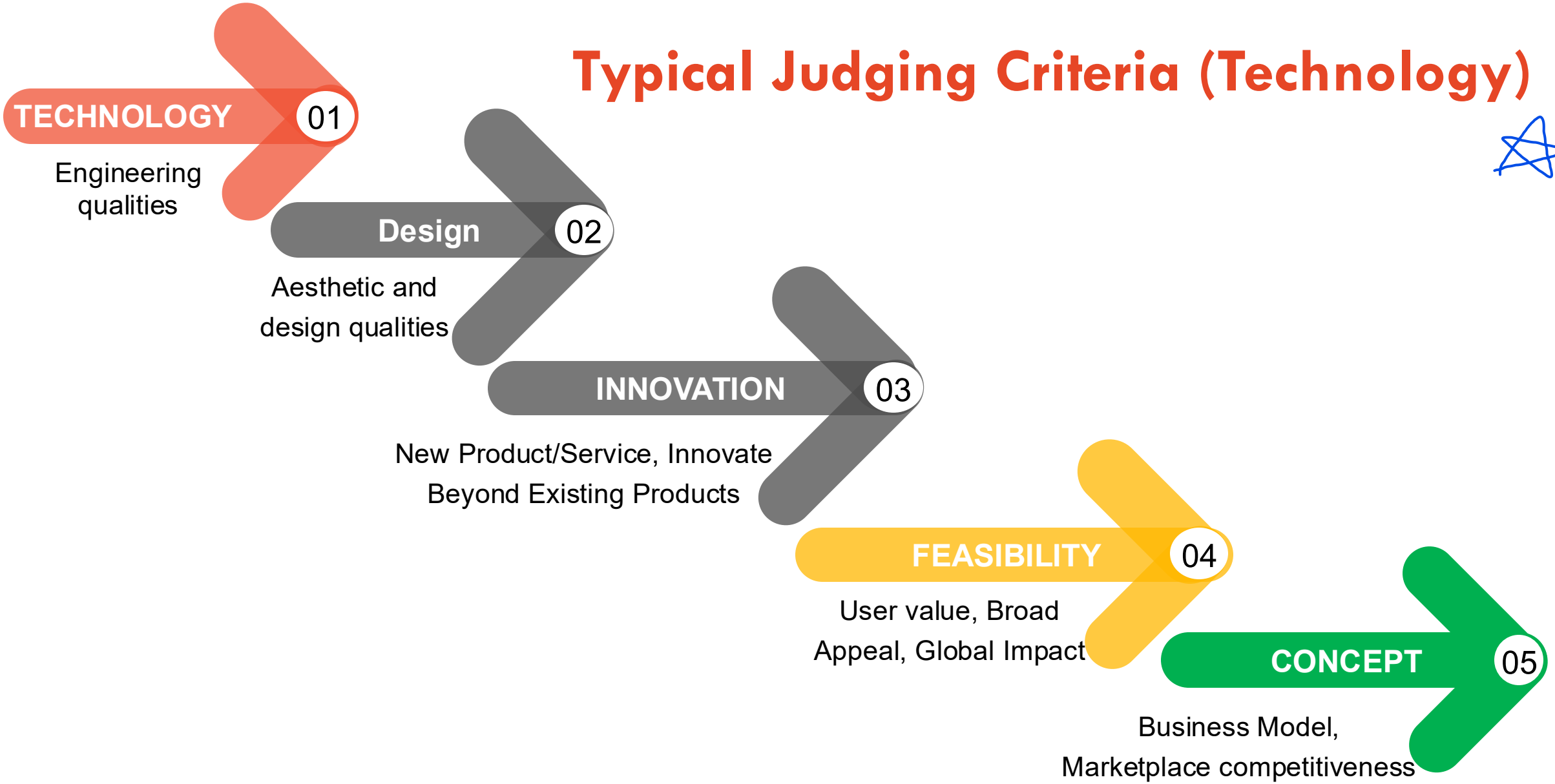
- How do I join Innovation competitions??

Judging IT Innovations

- There are many new innovative ideas/products/services released every day!
- With these innovations, often, they do not yet have evidence of their success or how great they will/could be…

- It is important to understand how we can judge these innovations
  - Can help us understand how to evaluate the value of innovations
  - **Can help us understand our innovations**

Typical Judging Criteria (Technology)

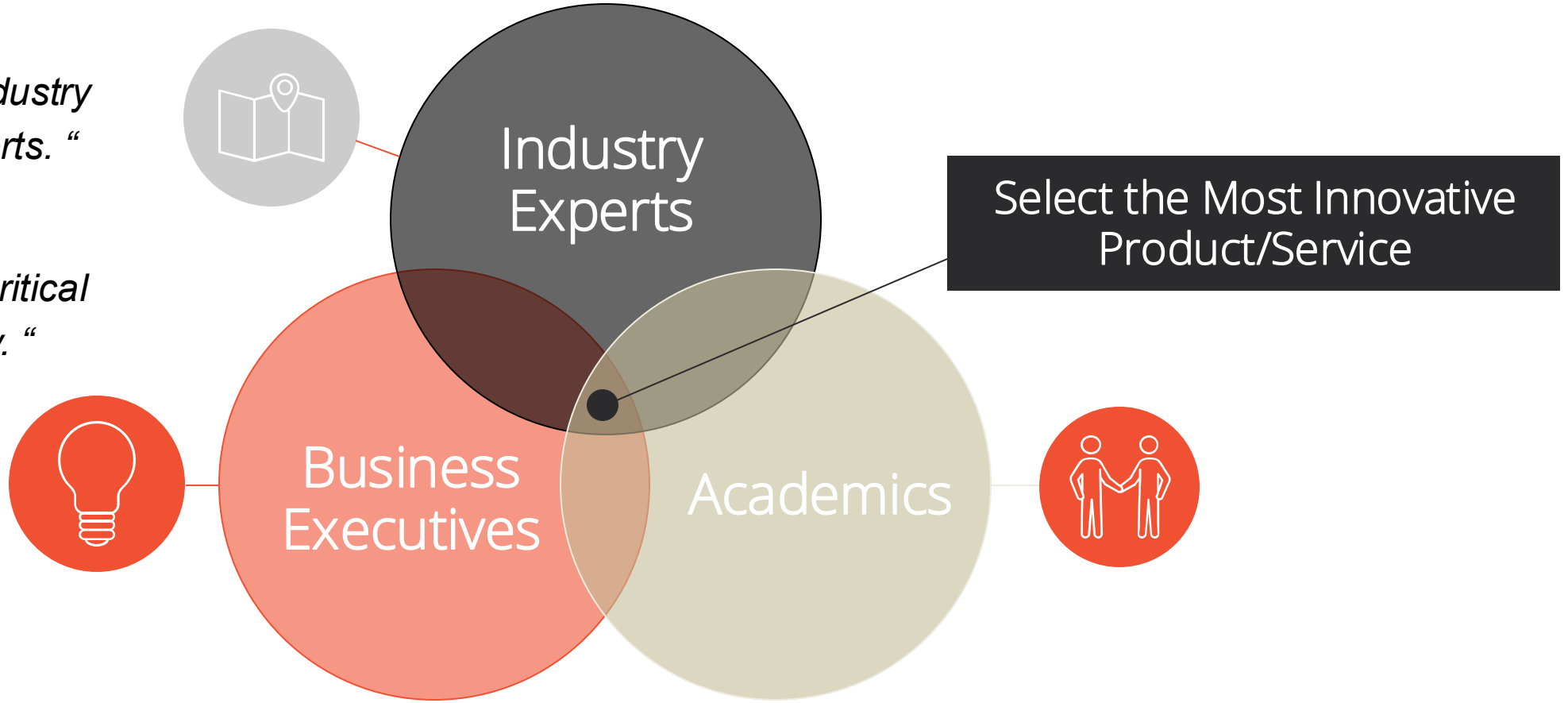


https://imaginecup.microsoft.com/en-us/support/faq (May'25)

Judging Panel

" Diverse pool of industry and academic experts. "

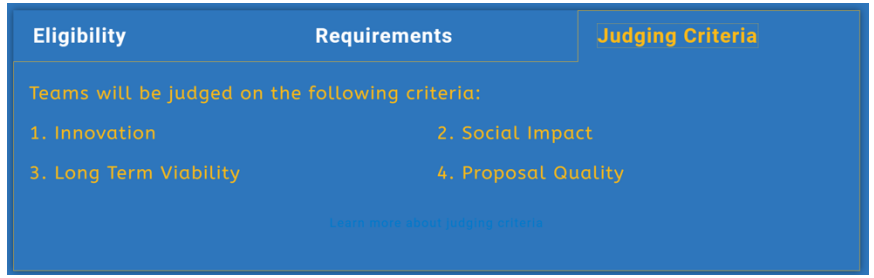
" Judge training is critical to ensure uniformity. "



http://www.edisonawards.com/criteria.php (May'25)

Examples: Berkeley's Big Ideas

- **Two-stage judging criteria:**
  - **The pre-proposal** round focuses on the extent to which the teams propose a creative solution to a social problem and the project's intended social impact,
  - **Full Proposals** are judged primarily on the project's potential social impact and the viability of the project plans.

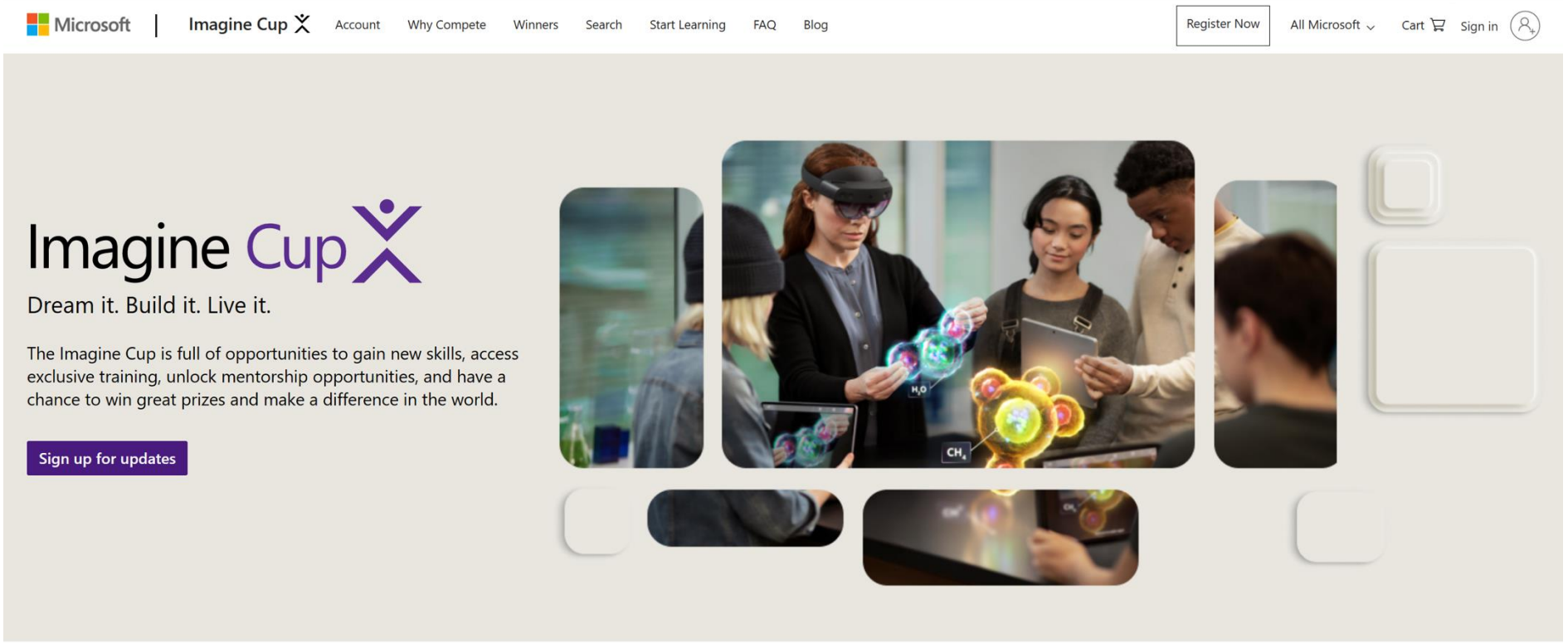


https://bigideascontest.org/toolkit/contest-requirements/ (May'25)

Berkeley's Big Ideas

- **Incentives for Judges –** The incentive for judges to participate varies, but many choose to participate for one of three reasons:
  1. The opportunity to give back while also getting a first-hand look at some of the most innovative student ideas as they are being developed,
  2. The opportunity to build their professional networks by attending Big Ideas events and mixers where they can meet other judges, professional mentors, faculty and students or
  3. A professional courtesy to the category sponsor. It is worth noting that, generally speaking, judges who are incentivised by "giving back" and "professional development/networking" tend to be more committed and reliable judges

Microsoft Imagine Cup



https://imaginecup.microsoft.com/en-us (May'25)

Microsoft ImagineCup

- For over 20 years, the Imagine Cup has been the world's **premier student technology competition**.
- Students from across the globe build amazing teams to bring their biggest, boldest ideas to life. Working with mentors and industry leaders, they get feedback to hone further and develop their projects.
- Imagine Cup National Finals competitions happen in dozens of countries worldwide.
- All World Finalist teams win an all-expenses paid trip to the World Finals, where they will compete with the best and brightest teams from across the globe for the title of World Champion, a $100,000 cash prize and the chance to take home the Imagine Cup!

https://imaginecup.microsoft.com/en-us (May'25)

Imagine Cup Judging Criteria

Criteria	Description	Weighting
Technology	-Does the project make effective and appropriate use of the Azure technology features of its chosen platform(s)? -Does the project include innovations in user experience? -Does the project include innovations in technical design and/or implementation?	**50%**
Innovation	-Does the project create a new category of product or service? -Does the project clearly and meaningfully innovate beyond existing products or services?	20%
Concept	-Does the project address a clear need, problem, or opportunity and is the solution clearly explained? -Does the project have broad appeal and global impact?	15%
Feasibility	-Does the team have a credible plan for getting their project to market in terms of business model, any required partnerships, or other factors?	15%

Imagine Cup Judging Criteria

- Judging Criteria can be designed to suit the needs of the ‘competition’
  - Encourage the use of MS technologies
  - Think blue sky – young students are best at making big claims and also in achieving them
  - Maximise student engagement – this is their core aim

Harvard invent-imagine-impact (i3) Innovation

Technology & Entrepreneurship Center at Harvard

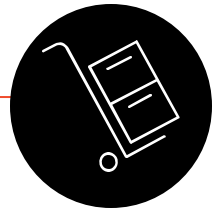
- Harvard's premier student startup competition
- Students compete for project grants and incubator space to help them realise their innovative visions.
- i3 is a year-long program that cultivates, coaches and showcases Harvard's rapidly growing group of student entrepreneurs. Every year, they receive innovative applications from students in all 12 houses, 4 class years, and almost every concentration.

- Technology and Entrepreneurship Centre at Harvard
  - *Renegade—Regulation—Resource—Requirement*

https://seas.harvard.edu/news/2013/04/imagining-impact-and-believing-it (May'25)

i3 Judging Criteria

Innovative Approach, Substantial & Measurable Impact



Skills, Commitment, Complementary Talent, & Resources

Realistic, Financially Sustainable

i3 Winners 2020

GLOBAL ALLIANCE FOR MEDICAL INNOVATION - SOCIAL TRACK - GOLD WINNER

"Now more than ever, we see that there are inequities that persist in regards to access to healthcare around the world. Our business, the Global Alliance for Medical Innovation, aims to bridge that gap by providing physicians in low-resource areas with low-cost, portable technological solutions. More specifically, our team designed a low-cost corneal endothelial tissue imaging software system combining both smartphone-based technologies and novel deep learning techniques to make high-quality ophthalmological care a reality for all. Winning i3 is not only such an immense honor, but it is also a major stepping stone in helping our business advance forward to achieve our mission of addressing the most pressing health issues in low-resource settings. With the opportunity that I3 has given us, we are now able to clinically validate our software system with the goal of deploying our device in the near future to those in need." ~Annie Miall

CES - Consumer Electronic Show

- CES Innovation Award is the world's gathering place for all consumer technologies. It has served as the proving ground for innovators and breakthrough technologies.
- The annual CES Innovation Awards program celebrates outstanding product design and engineering in brand-new consumer technology products.
- Each product category has a three-member judging team composed of an independent industrial designer, an independent engineer and a member of the trade press.
- Best of Innovation Awards honorees are invited to the CES exhibition, take home the Innovation Awards trophy and are entitled to display the CES Innovation Awards logo on the product packaging & marketing materials.

https://www.ces.tech/ (May'25)

Defining tech Innovations at CES

1970-71: Sony unveiled Video Cassette + Recorder
1975-79: Atari's home gaming revolution
1982: Commodore 64
1985: Nintendo Entertainment System (NES)
1991: Sony Playstation
1996: DVDs
1998: HDTV
2004: Blu-ray
2007: OLED TVs
2015: Electric vehicles
2017: Smart homes
2018: Self-Driving Technology

Sony's video cassette recorder (VCR)

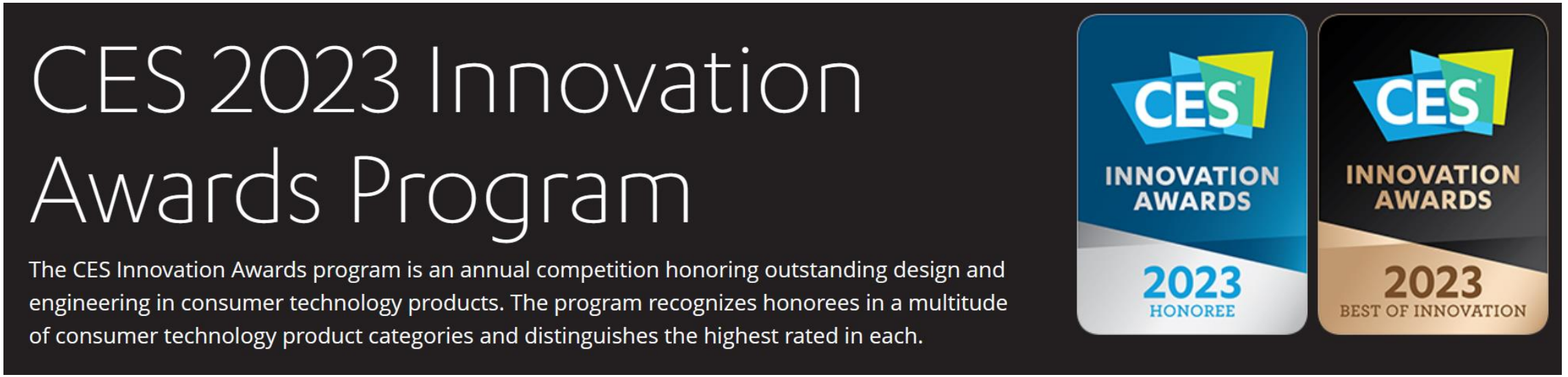
The Commodore 64

Nintendo NES

https://www.theverge.com/2013/1/4/3828848/ces-photo-history
https://www.engadget.com/2018/01/05/new-tech-at-ces-history/ (May'25)

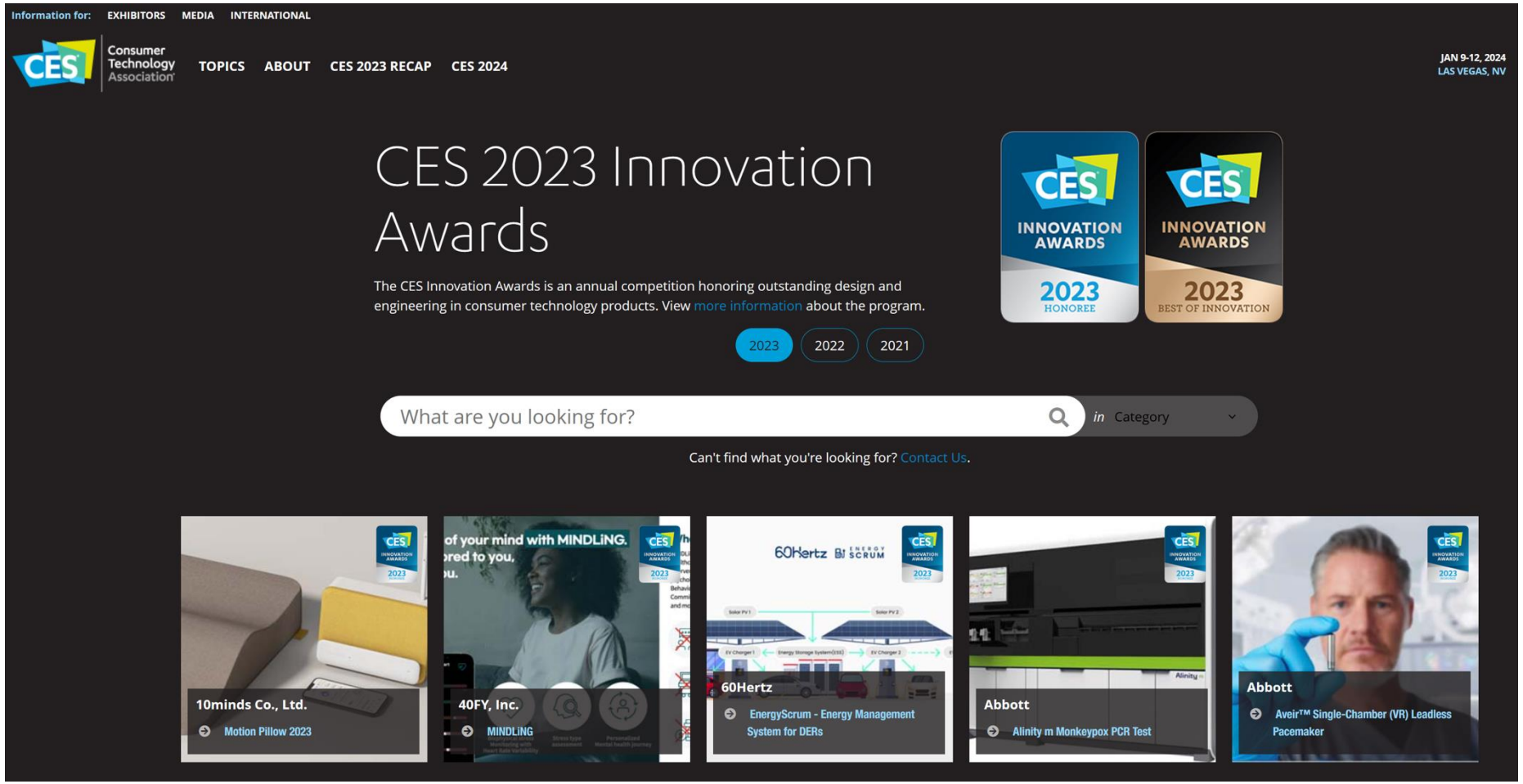
Best of Innovation in Accessible Technologies

- Part of the Consumer Technology Association (CES) Innovation Awards
- Products and services with innovative features enable ease of use by disabled persons to improve accessibility for seniors and persons with disabilities, regardless of cognitive, mobile, hearing, or visual abilities.



https://www.ces.tech/innovation-awards/ (May'25)

CES 2023 Innovation Awards Program



https://www.ces.tech/innovation-awards/innovation-awards/ (May'25)

CES Judging Criteria (from 2019)

- Criteria 1: **Engineering qualities**
  - The product should be crafted to address the quality attributes of availability, security, safety, reliability and performance.
- Criteria 2: **Aesthetic and design qualities**
  - The design attributes and user experience, including vision, hearing and perceptual design (e.g. touch)
- Criteria 3: **Product use/function and user value**
  - The design attributes and user experience, including vision, hearing and perceptual design (e.g. touch)
- Criteria 4: **Innovation**
  - How products demonstrate a new or adaptive way of solving a problem or introduce a completely new approach to solving the problem. Also, regarding the product's unique/novel features and features that consumers would find attractive
- Criteria 5: **Market Potential**
  - Understanding of competitors and existing solutions. Also, how the design and innovation of this product directly compare to other products in the marketplace.

Digital Health Honoree and Winners

CES 2023 INNOVATION AWARD PRODUCT

Otus Premium

By EDENLUX Corp.

Honoree

Digital Health

IoT based digital wearable head mount device which provide programe to increase eyesight

CES 2023 INNOVATION AWARD PRODUCT

ViraWarn

By Opteev Technologies, Inc.

Honoree

Digital Health

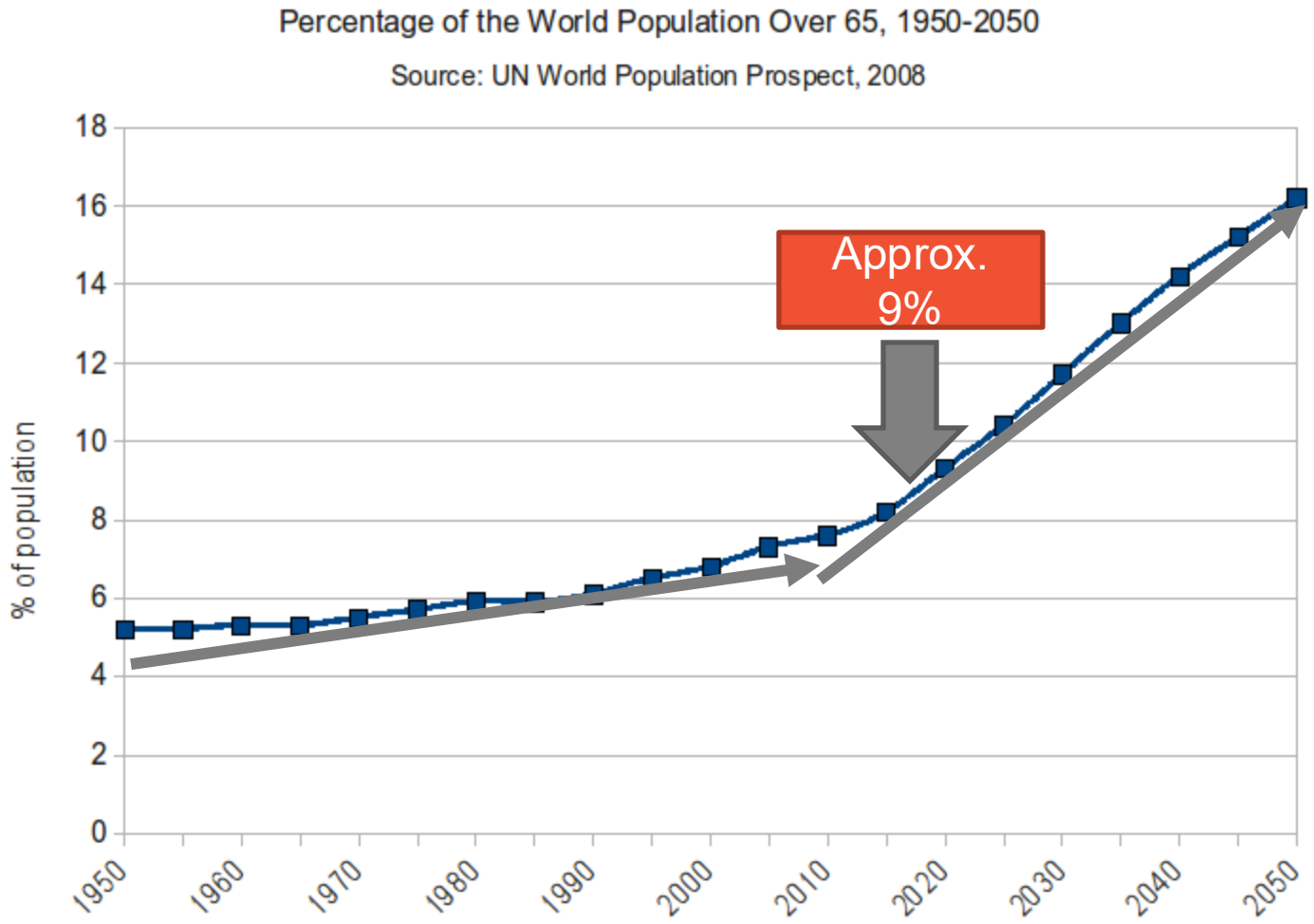
ViraWarn is the world's first affordable COVID-19 breath analyzer and is a new way to instantly screen for Coronavirus through breath analysis. ViraWarn fits in the palm of your hand and is incredibly easy to use: simply blow into the device and receive a positive or negative result in under 60 seconds! Multiple-use and rechargeable, with replaceable sensor cartridges. ViraWarn is extremely sensitive (>95% sensitivity) and works with all COVID variants, including future variants. Instantly screen for COVID-19 anywhere and anytime! Easily screen before work/school, attending an indoor event, or visiting a high-risk loved one...and find out instantly.

CES 2019
Case Study:
Innovative Technological Approach

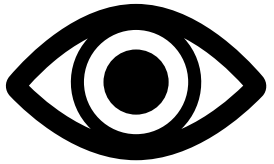
- Technologies to empower the older adults to:
  - Maintain good living standards
  - Play an active role in society

- Whether that be at home, work, education, or in their community

Ageing population



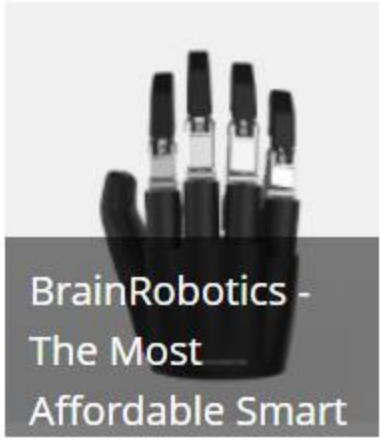
Physical

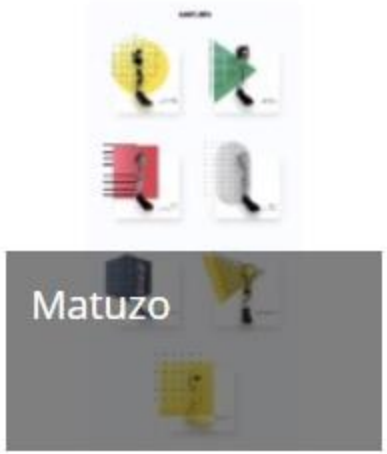


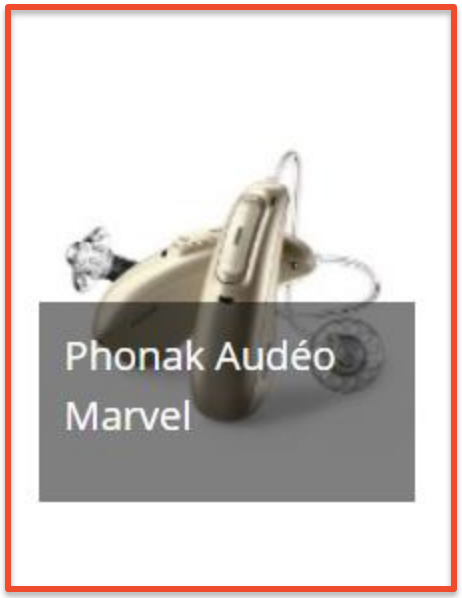
Vision

Hearing

The honourees







https://www.ces.tech/innovation-awards/?year=2024 (May'25)

Summary

- It is important to know the judging criteria in order to judge IT Innovation
- Although judgment is subjective, the criteria can be used to make a fair and comparative assessments
- The judgement criteria is dependent on the user / product category / event
- The judging panel should comprise of (i) Industry Experts; Business Executives; and Academics, each having complimentary expertise and knowledge