

Oxford's Global Innovation Consultancy





Bringing new ideas to life



From Closed to Open Innovation

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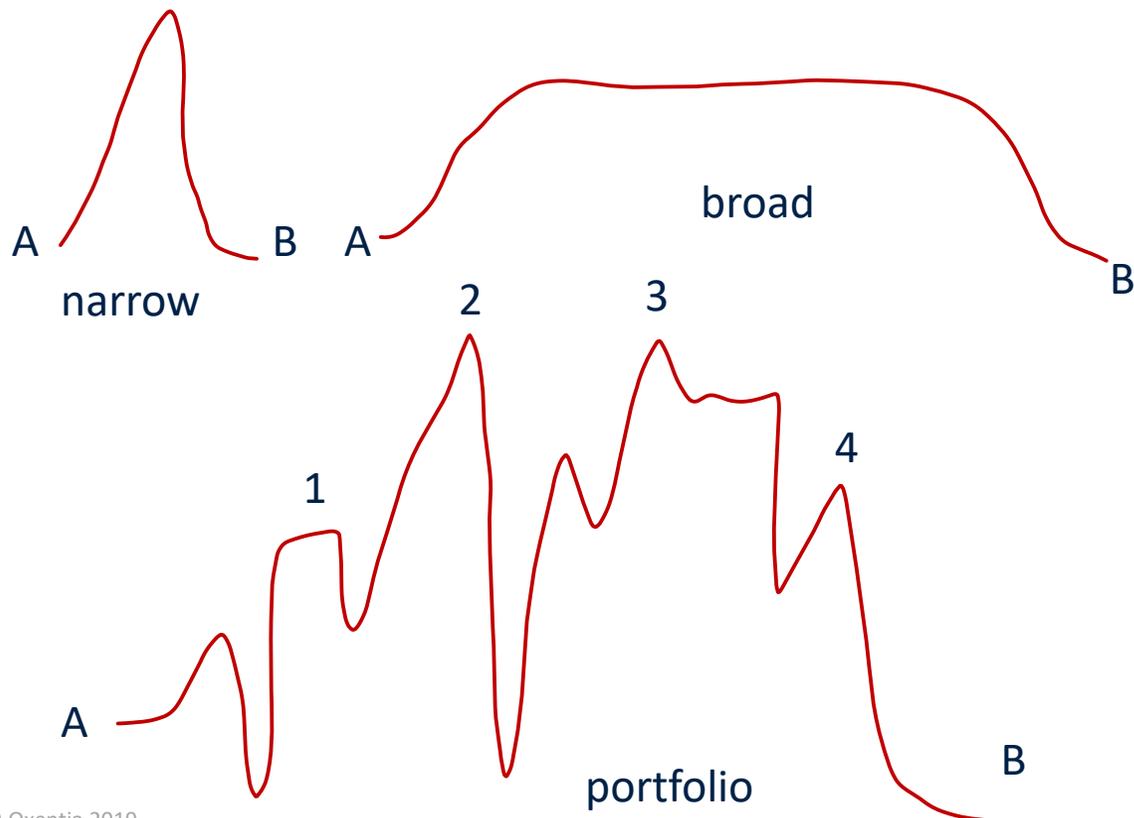
Traditional approach to innovation

- Huge R&D budgets
- All processes managed internally
 - Discover
 - Develop
 - Commercialise
- Limited ideas from outside
- Mainly optimising internal flows of knowledge & information



What was the motivation behind the closed model?

- Building significant barriers to entry
- Protect IP
- Maintain market share

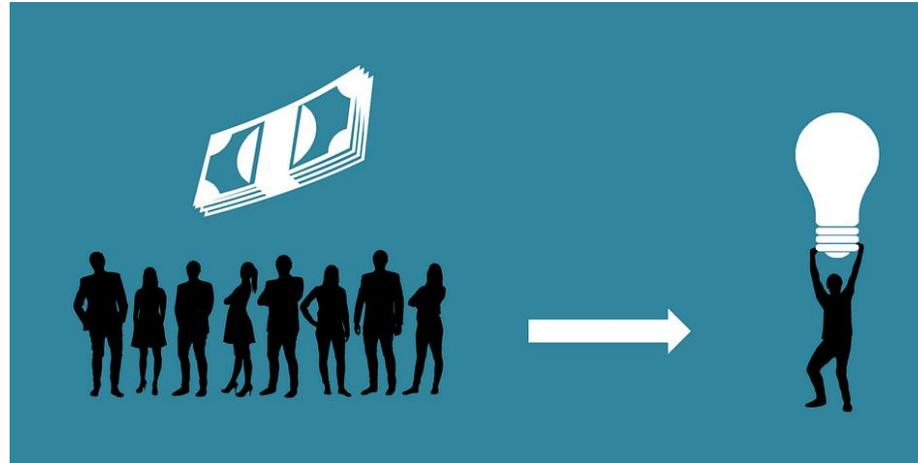


What changed?

The small, 'weak' ones can also now build mountains and moats



Labour mobility



More risk capital available



Democratisation of knowledge



Great ideas come from the most unlikely places



More support for start-ups and PyMES

What is Open Innovation?



A term promoted by Henry Chesbrough in his book Open Innovation...

*“Open innovation is a paradigm that assumes that firms can and should use **external ideas as well as internal ideas**, and internal and external paths to market, as the firms look to advance their technology.”*

*“The use of purposive **inflows and outflows** of knowledge to accelerate internal innovation, and expand the markets for external use of innovation, respectively.”*

Everyone these days talks about Innovation Values



“Innovation is a cornerstone of Siemens’ success. We closely align R&D activities with business strategy...have a strong position in both established and emerging technologies”

SIEMENS

“The process of developing new products – from initial research to reaching the market never ends at GE. Across the business we follow a long standing process for new product introductions ”



•“At Kodak, we’re smart enough to recognize that we don’t have all the technologies needed for success nor do we need to re-invent the wheel. Where there are gaps we’ll seek out the best – from universities, start-ups and the leaders in the field. You can see these partnerships and collaborations in action across our product portfolio today. And will continue to see additional collaboration announcements in the future, as an ongoing strategy.”



“The Innometer is a tool for Tata companies to spark and nurture innovation, and ultimately build and foster a culture that encourages new idea generation and implementation”.





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Features of open innovation models – case studies

Open innovation models – Technology Exploitation

- Venturing – creation of spinouts
- Out-ward licensing
- Crowd sourcing innovation ideas



>3800 patents

Created 21 new
companies in 2018

Portfolio of >200 IP
licences



UNIVERSITY OF
OXFORD

Open innovation models – Technology Exploration

Customer involvement

- Surveys, interviews
- Alpha, beta, gamma testing
- Agile product development

Outsourcing

- Contract research
- Knowledge transfer partnerships
- Equity investments
- R&D consortia

External networking

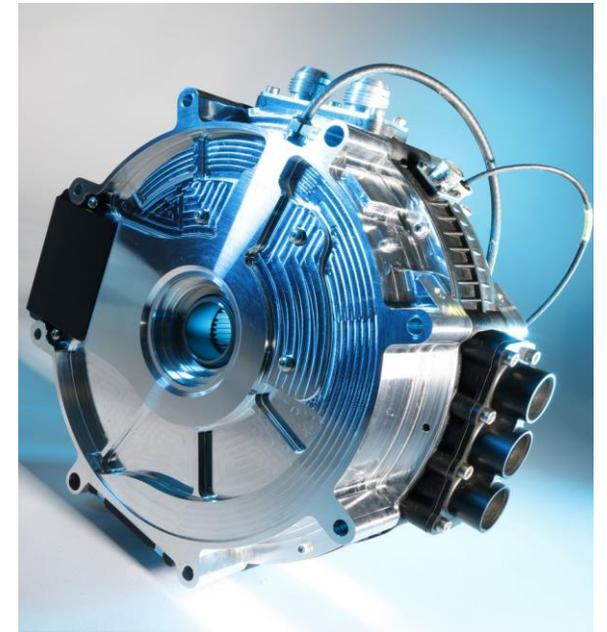
- Hackathons
- Chambers of commerce
- Supply chain

In-licensing

- Patents
- Knowhow
- Copyright
- Trademarks



Open innovation model – a case study



YASA 

R&D consortium example

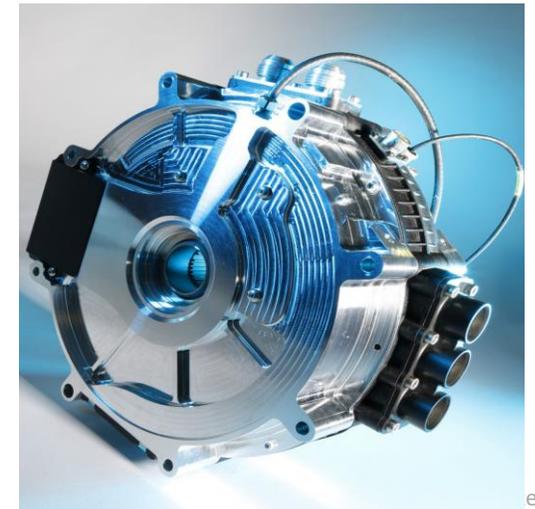
Funding for Ultra-Efficient Systems for the Market Advancement of Electric and Hybrid Vehicles



Handmade supercar manufacturer



Strong Electric Power
research group



R&D consortium example



Funding for Ultra-Efficient Systems for the Market Advancement of Electric and Hybrid Vehicles



Handmade supercar manufacturer



Strong Electric Power research group



Semiconductor manufacturer



engineering consultancy and product validation

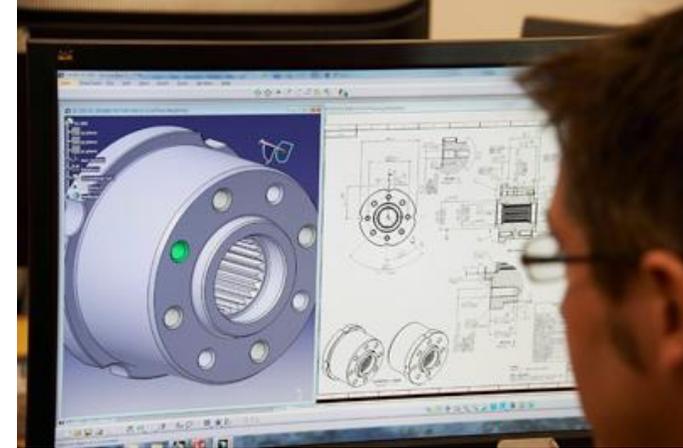


Government funder

Where is Yasa Motors now?



Wide range of motors



Bespoke
Motors
solutions



Working with OEMs

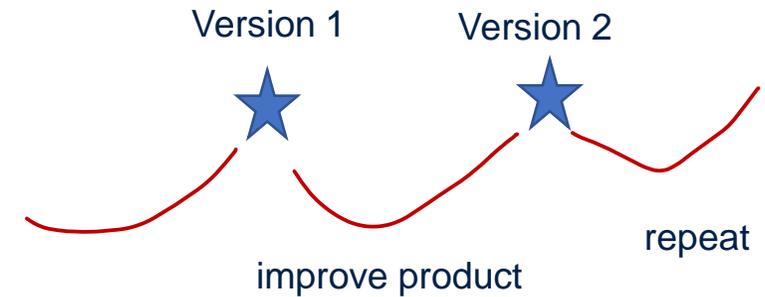
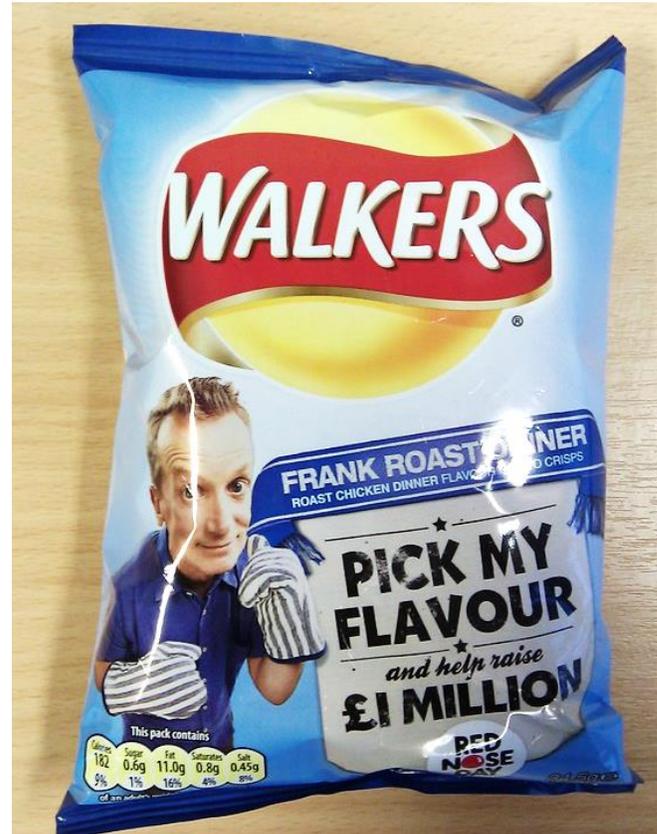


Solutions for heavy
duty operations



New hydraulic solutions

Open innovation models – Technology Exploration



What does a good open innovation model look like? - the P&G story

P&G



What does a good open innovation model look like? - the P&G story



P&G used to be a very closed organization

- “We invented **‘Not Invented Here’**; now we don’t care where good ideas come from”
- Jeff Weedman VP External Business Development

P&G financial crisis, in 2000

- Missed a series of quarterly financial estimates;
- Stock market lost confidence in the company;
- Stock price fell by **more than 50% in 4 months** - CEO was fired



Searching for the root cause:

- “...Our current brands were performing well. But **we weren’t developing many new brands.**” – C. Wynett

What does a good open innovation model look like? - the P&G story



Concept

- Identify what's not working within your organization
 - Culture
 - Marketing
 - Product development
 - Etc.
- Conduct research on what Open Innovation infrastructure you will need in place

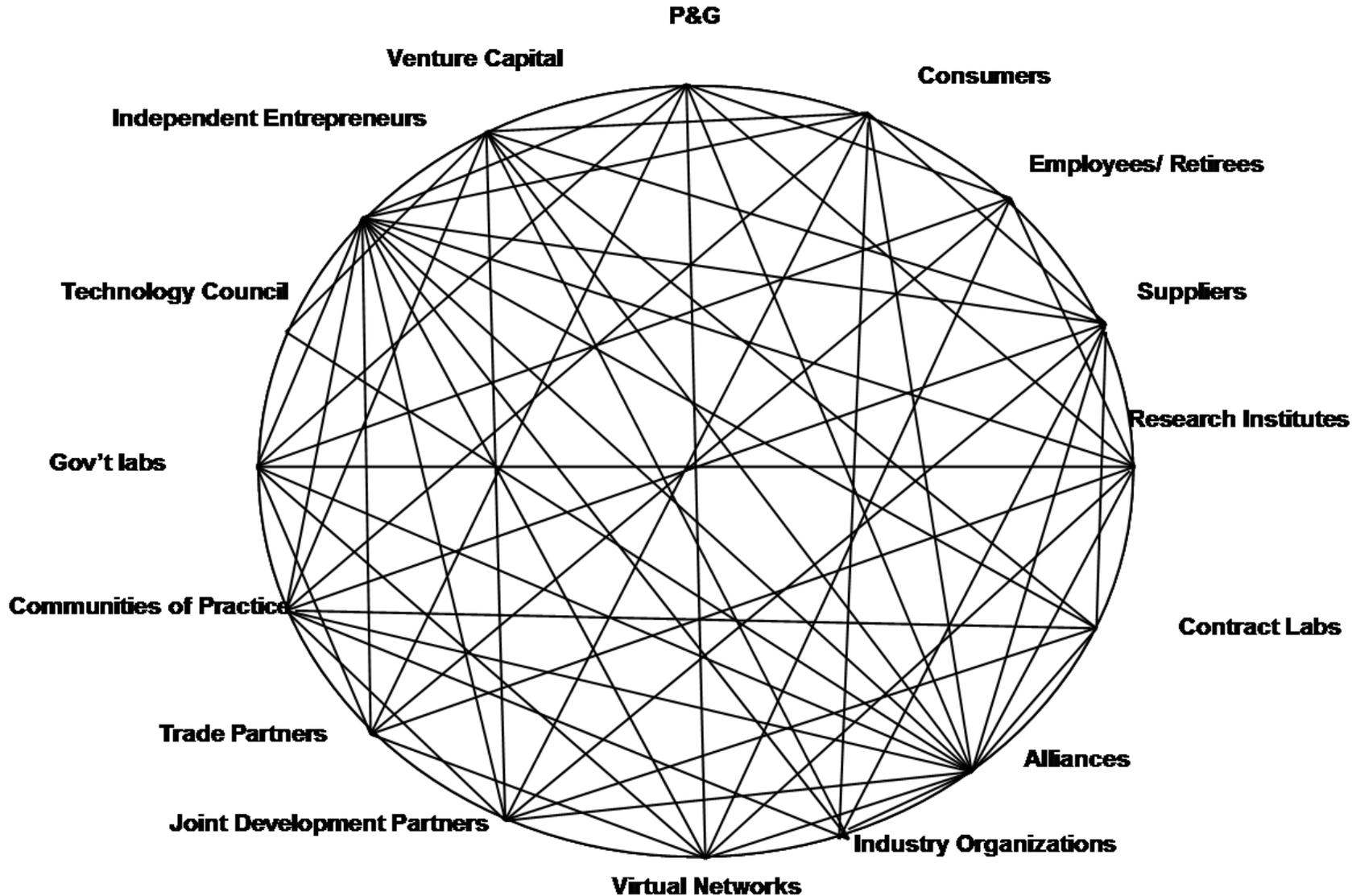
Development

- Identify:
 - Resources
 - Competencies
 - Strategic projects
- Develop internal mechanisms to scout for new ideas
- Build the infrastructure
 - Platform for ideas submission
 - Monitoring and evaluation process

Implementation

- Start doing it
- Revise, refine, improve, adapt
- Identify gaps, malfunctioning parts
- Improve communication channels
- Attract and filter new ideas via:
 - Competitions
 - Collaborations
 - In-out licensing
 - Consortia

What does a good open innovation model look like? - the P&G story



P&G is asking for new ideas in the following areas



- Business architecture modelling and simulation
- Digital skills – improve digital skills of organisation
- Next generation visualisation – mapping of networks
- Projection and simulation capability
- A service to simply and reliably select, recruit, train, educate, manage, assess performance, execute payroll processes for a distributed non P&G workforce that interacts with shoppers in-store on P&G behalf.





Bringing new ideas to life



What about PyMES?

What does Open innovation mean to you if you're a small business that is not technology based (no IP?)

Open Innovation challenges faced by PyMES

Lack of resources

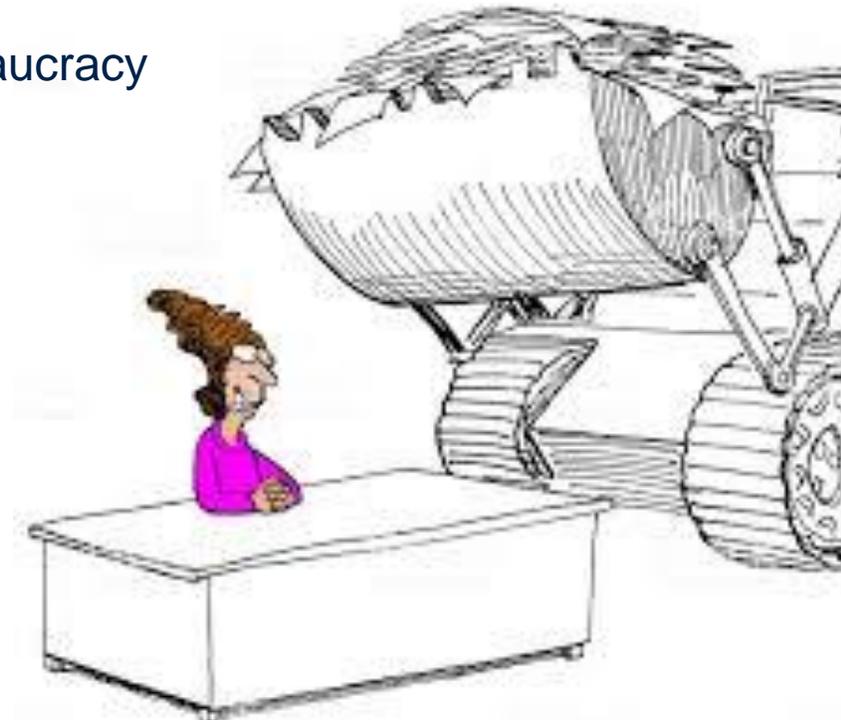
- Financial
- Human
- Infrastructure
- Support
- Time
- Expertise/competency
- Capacity to:
 - Translate
 - Adopt
 - Share

Organizational culture

- Individuals often perform multiple roles
- Resistance to change, lack of commitment
- Communication issues
- Administrative bottlenecks - bureaucracy
- Evolving rules and policies
- Lack of flexibility

Others

- Intellectual property rights
- Limited market intelligence
- Challenging partners
- Operate in a niche area
- Less attractive as partners



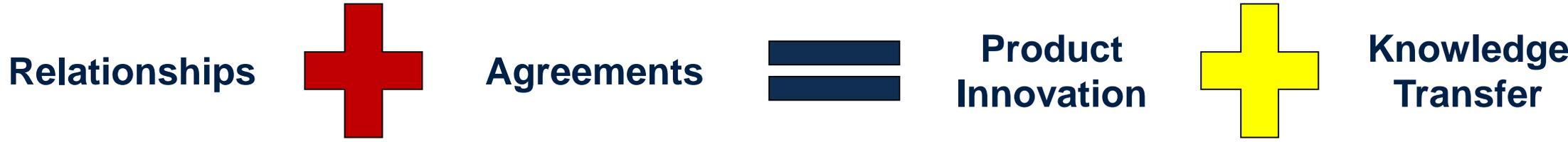
Time for more paperwork.

What is the point of engaging with Open Innovation?

- **Complementarity** – identifying resources (information, technologies, equipment, networks, etc.) that can plug your knowledge gaps (Google and Samsung)
- **Knowledge** – bring in new expertise to the company (KTPs)
- **Costs** – reduce costs, grow revenues, improve efficiencies, share costs and risks
- **Market** – gain relevant market intelligence, grow market share
- **Morale** – enthuse employees to contribute to company development, give them purpose
- **Innovation process** – improve idea generation and product development, integrate new ideas into process
- **Systemic links** – develop relationships with other participants in your value chain and your local innovation ecosystem



Ultimate goal



Organizational Bridges



University tech transfer offices:

- University research connection to commercial world
- Focus for commercialization and corporate collaboration; models vary across University / Research organisation sector

Science Parks and Applied Research Centres:

- Providing cross-discipline resources for companies
- Nurturing resources for university spin-outs



Some structural advantages of PyMES

- Exploit new trends sooner, greater **agility and focus**
- Focus on expertise technology. offering **narrow field knowledge** to a wider range of markets.
- Entrepreneurial spirit...finds new business models for new technologies, **adaptable**
- Speed of decision making and committing to action.
- Respond to the innovation **needs of Multi nationals**, e.g. providing sub-system innovation within the supply chain
- Provide **specialised low volume** product & services
- Provide **vehicles for assessing technology** & market potential (sharing risk)
- Provide acquisition **targets**
- Act as '**early adopters**' of larger firm technologies

The six deadly sins of Open Innovation

- **Not Building Enough Flexibility into Timetables and Deliverables -** Managing outside schedules and deliverables requires a higher level of risk management and contingency planning
- **Not Looking Far and Wide Enough for What you Need –** Utilizing outside global networks for scouting and evaluating innovations is essential to find what you need
- **Not Exploiting the Value of Internal IP to the Outside World –** Out licensing of technology can be a significant source of revenue for companies
- **Not Getting Buy-In -** Open innovation initiatives require senior management commitment and guidance, but also, real buy-in from everyone involved is essential for success
- **Not Understanding Both Sides –** A keen understanding of how R&D is conducted in universities, research labs, and start-ups is as important as knowing your own internal innovation programs and processes
- **Not Involving Outsiders as a Part of Your Internal Team -** Looking to the outside world for innovation requires bringing outsiders into your R&D planning and management



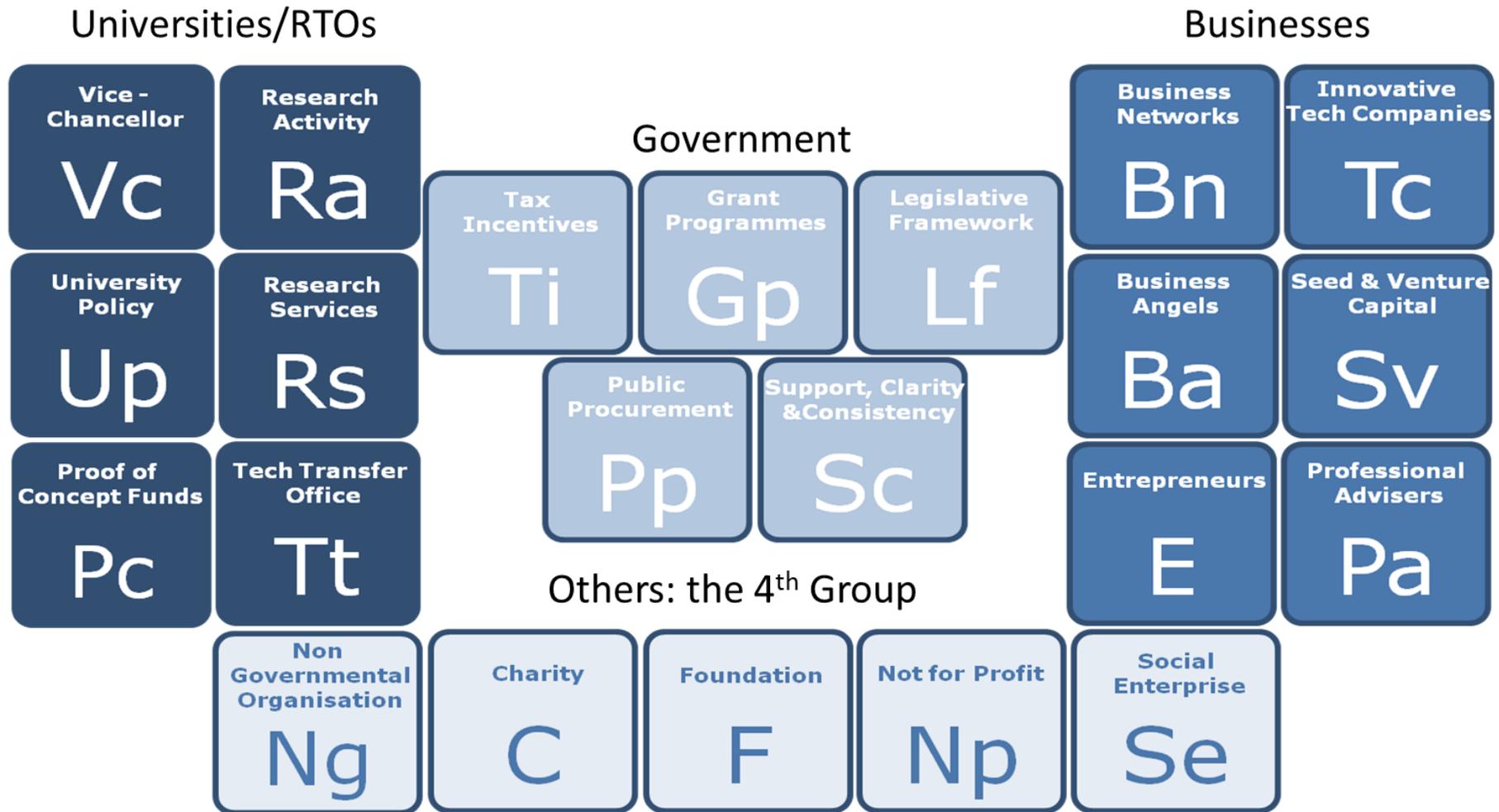
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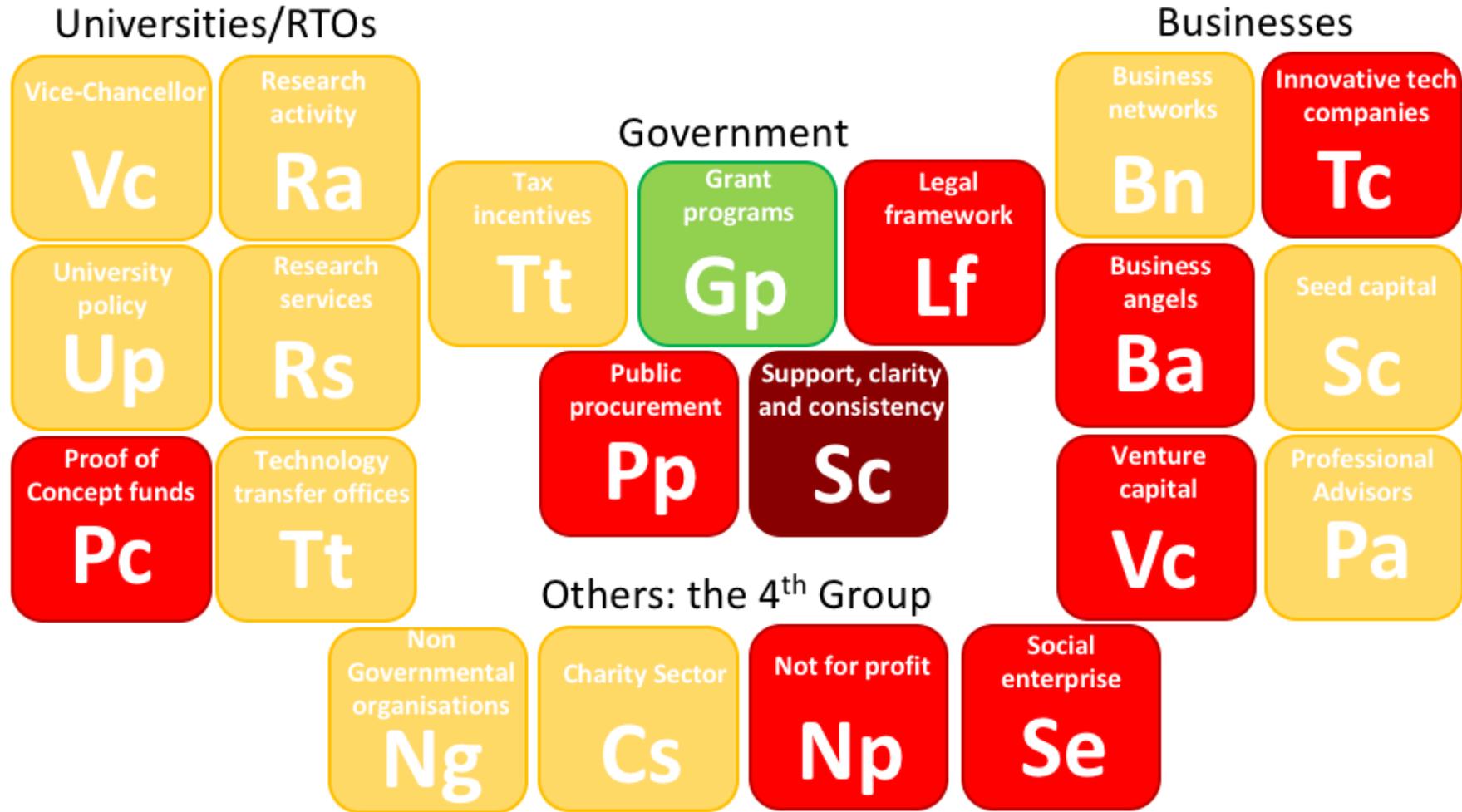
Peruvian innovation ecosystem

How does the local innovation ecosystem support open innovation models

Elements' that make up a typical innovation ecosystem



Current state of the Peruvian innovation ecosystem



What is the role of government? – Example from UK

- Part of implementing an ambitious industrial strategy is to engage with industry to ensure alignment.
- **Sector Deals:** Partnerships between the government and industry on sector specific issues that can create significant opportunities to boost productivity, employment, innovation and skills.



Government is an enabler of open innovation

What is the role of government?

Thus far, sector deals have been agreed with the following industries.

- Automotive sector
- Construction sector
- Life sciences sector
- Creative Industries sector
- Nuclear sector
- Aerospace Sector
- Artificial intelligence sector
- Aerospace sector
- Rail sector



How do the sector deals work?

Strategic context and ambition

- What do you as a sector want to achieve?
- Why should Government care?

Offer

- What are you as an industry offering the Government aligned with the national industrial strategy?
 - Raising investment in R&D and STI
 - Develop **xx** amount of new jobs in the sector
 - Increase productivity by **xx**%

Define needs

What you want from government?

Examples:

- Removing regulatory barriers
- Supporting technology uptake
- Tax benefits
- Training vouchers for staff
- Support technology valorization
- Access to finance

Governance

- Who will be responsible for delivering on the outcomes?
- How will the work be implemented?
- Can you co-designing solutions?
- How do you access to support infrastructure and resources?

Sector deal example – construction sector

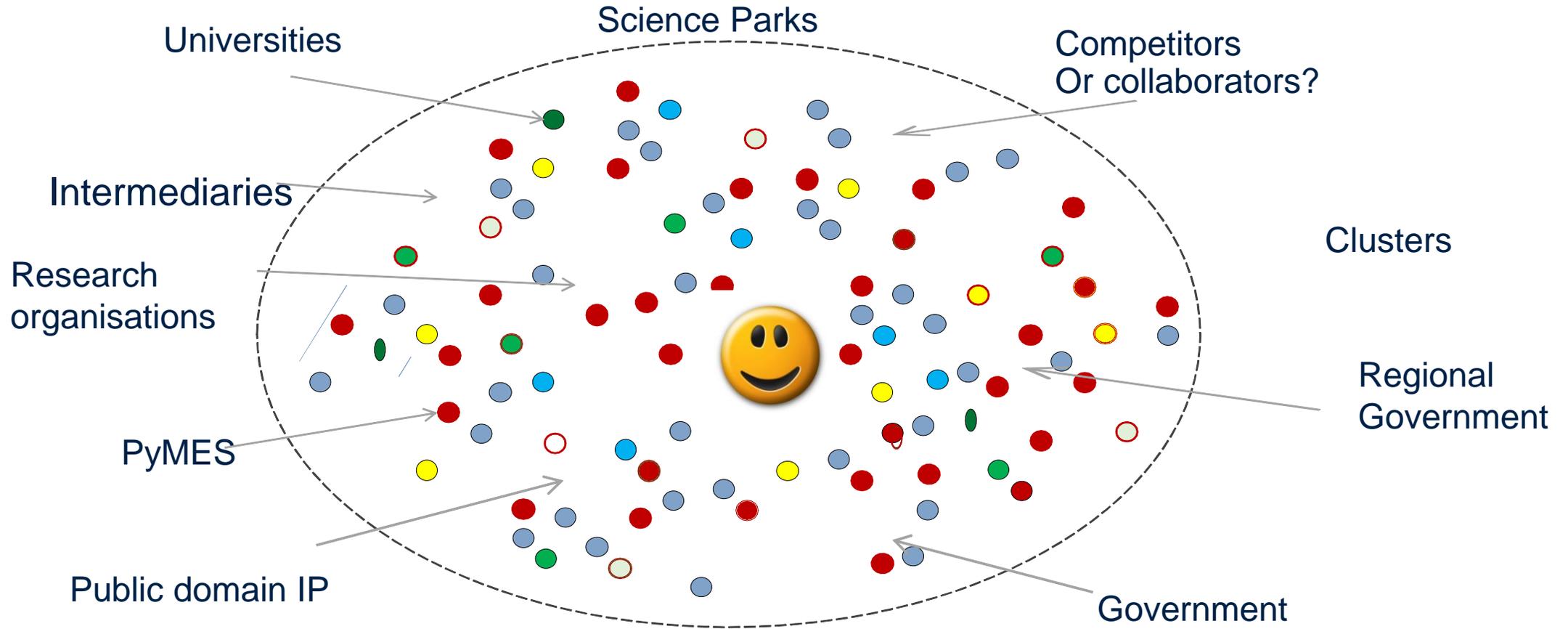


Industrial Strategy Pillar	Industry Commitments	Government Commitment
Ideas	Invest £250 million in R&D , adopt new technologies and techniques in sector	Invest £170 million in infrastructure (sensors, smart analytics, manufacturing tech, ease procurement)
People	Increase number of apprenticeships to 25,000 by 2020, develop single industry platform to support construction based careers, increase diversity (age, gender, race, creed) in sector	Invest £34 million in skills training in areas of shortage, support new technical skills training qualifications
Infrastructure	Commit to delivering £460 billion of planned infrastructure development	Establish governance team to oversee project costs and performance, use digital tech and innovation to deliver value for public money
Places	Strengthen and streamline supply chain across UK	Ensure high quality training available in all UK
Business environment	Simplify procurement practices, create demonstrator facility for UK tech	Develop industry wide quality standards

What is the role of government?



Conclusion - Open Innovation as Utopia



...‘universe’ of potential technology and IP opportunities.

Oxentia – Bringing new ideas to life

Our mission and services



Knowledge Exchange
& Commercialisation

Innovation Research
& Strategy

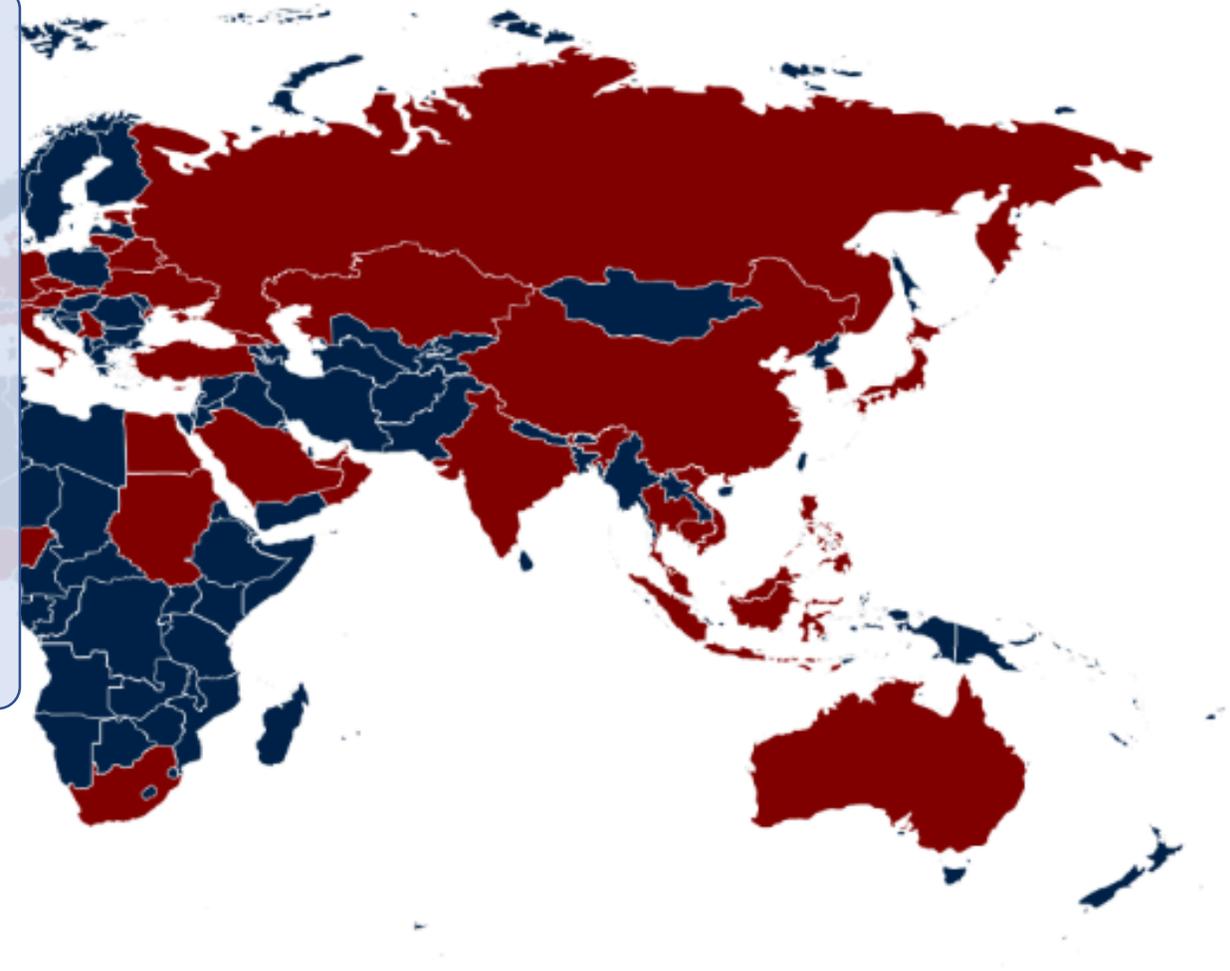
Technology
Commercialisation

Training &
Professional
Development

Entrepreneurship
& Accelerators

We work in partnership with our global clients to build capacity, develop capability and enable innovation for the benefit of economies and societies.

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