

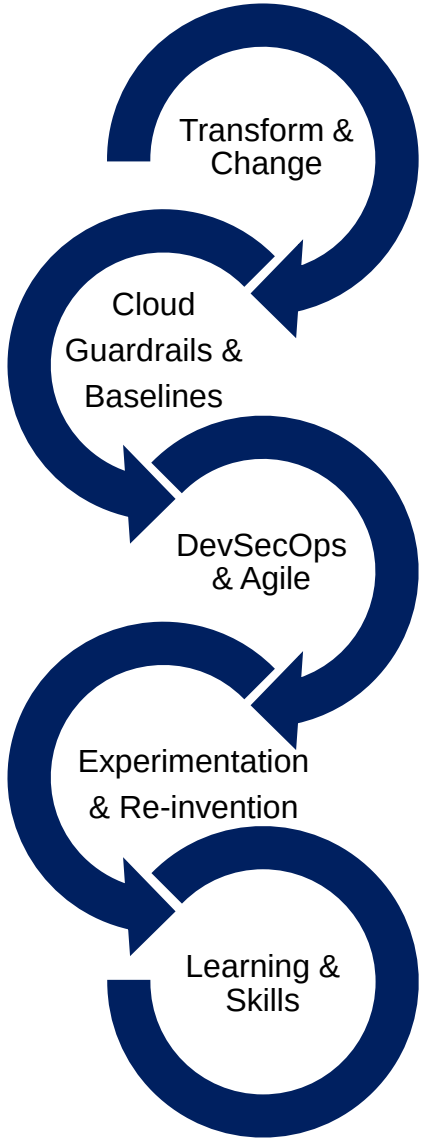
Creating an energising a Cloud Centre of Excellence (CCoE)

David Frith (Associate Director – Cloud Security)

nccgroup

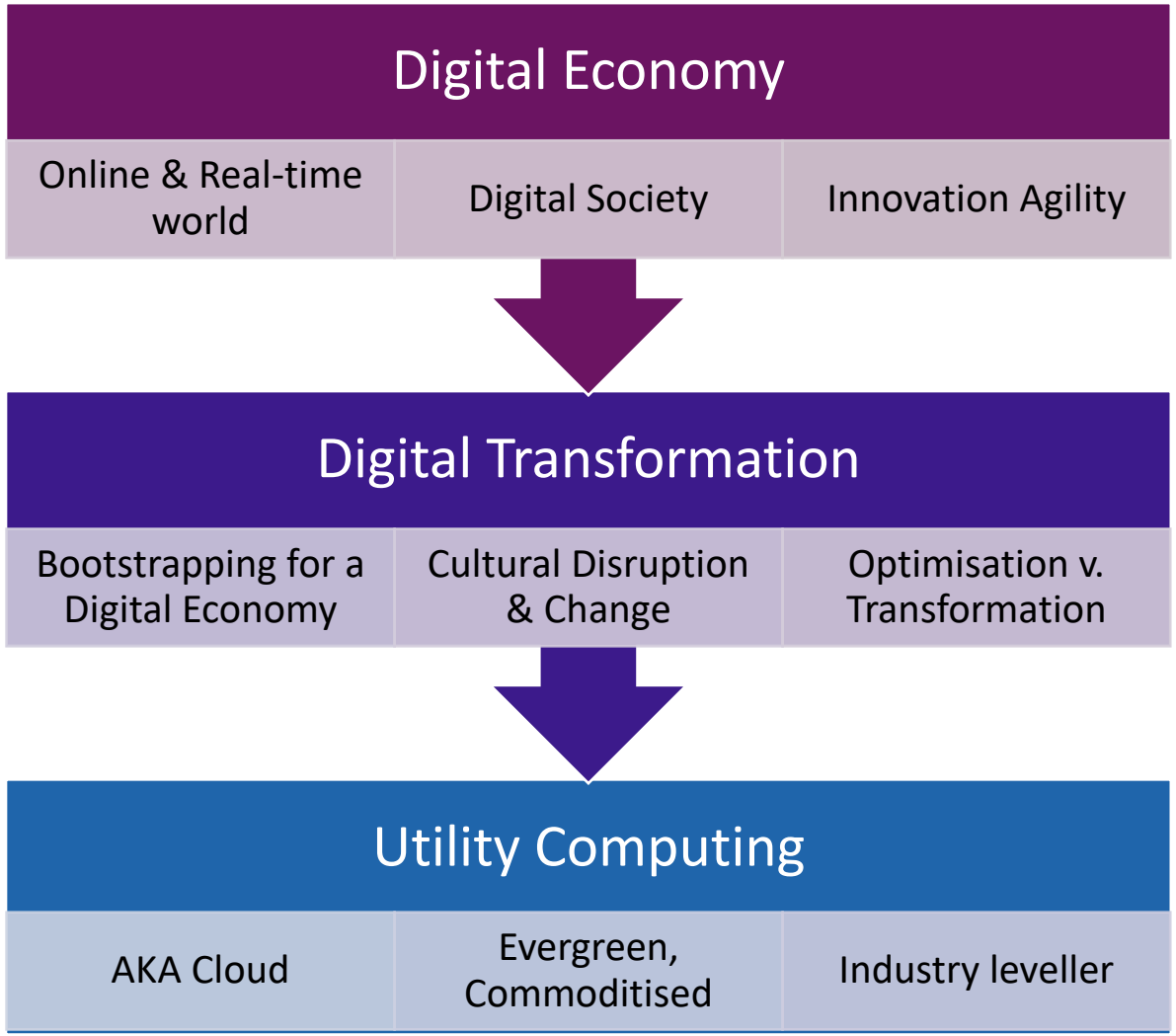
2. What this talk will cover

- What Cloud Centric means?
- Why a Cloud Center of Excellence?
- Obtaining executive support
- Choosing your team
- Talent transformation - the people prong
- A culture of experimentation
- DevSecOps and more
- Cloud Migration and more
- Partner, Partner, Partner
- A Cloud by default strategy
- Clarity of purpose



3. What Cloud Centric means?

- Technological change in an organisation is rarely just about the technology its about people, leadership and education
- Getting to cloud means having to embrace DevOps and therefore a ReOrg that grows ever wider and deeper
- Creating a culture that encourages experimentation and risk taking
- Involves the building and execution of best practices
- Spinning up (and down) infrastructure on demand
- Using DevSecOps and lean IT processes to create a 'Run what you Build' culture
- The use of already created Cloud building blocks – with no depreciation cycles or keeping on aging systems that break
- The ability to meter APIs to know what data is going where, when and is consumed by whom



4. Why a Cloud Center of Excellence?

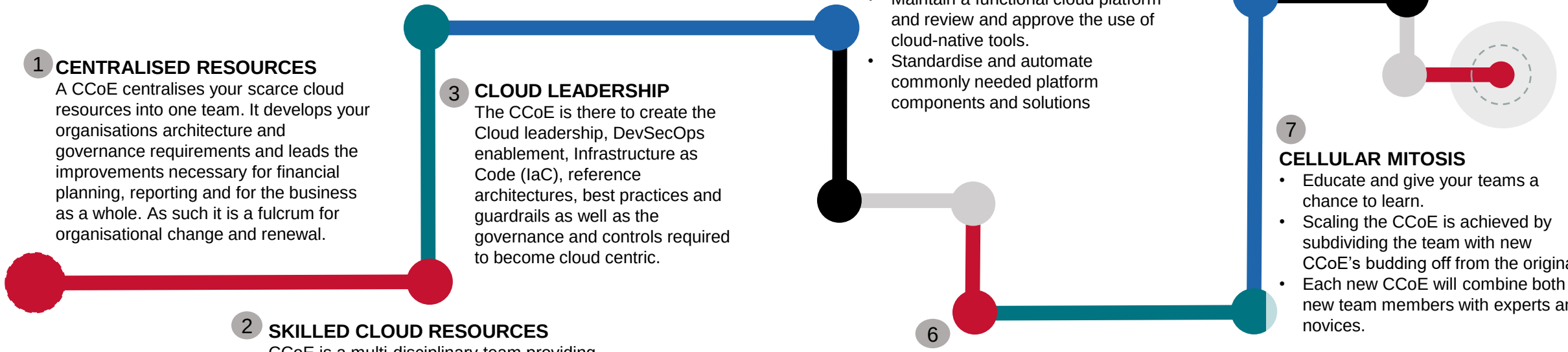
4 **CLOUD BY DEFAULT**
To enable a balance between speed and stability = a significant cultural shift in IT with the objectives to:
- Accelerate innovation whilst reducing overall cost & increasing business agility & lower time for GTM
- Build a self-service model for BU's to make their own decisions whilst adhering guidelines and repeatable controls
- Accelerate cloud adoption and cloud-native solutions

8 **GUARDRAILS AND BENCHMARKS**
- Use the CCoE providing the Guardrails for consistency and use best practices (i.e. AWS Well Architected Framework) to benchmark it
- Create re-usable deployment packages that align with security, compliance and service management needs

5 **RE-USE AND AUTOMATION**
- Develop agile approaches to capture & implement business requirements
- Maintain a functional cloud platform and review and approve the use of cloud-native tools.
- Standardise and automate commonly needed platform components and solutions

1 **CENTRALISED RESOURCES**
A CCoE centralises your scarce cloud resources into one team. It develops your organisations architecture and governance requirements and leads the improvements necessary for financial planning, reporting and for the business as a whole. As such it is a fulcrum for organisational change and renewal.

3 **CLOUD LEADERSHIP**
The CCoE is there to create the Cloud leadership, DevSecOps enablement, Infrastructure as Code (IaC), reference architectures, best practices and guardrails as well as the governance and controls required to become cloud centric.



7 **CELLULAR MITOSIS**
- Educate and give your teams a chance to learn.
- Scaling the CCoE is achieved by subdividing the team with new CCoE's budding off from the original.
- Each new CCoE will combine both new team members with experts and novices.

2 **SKILLED CLOUD RESOURCES**
CCoE is a multi-disciplinary team providing Cloud based knowledge and acts a point of contact to the organisation as a whole. It is a consistent company wide resource to maximise the effectiveness of scarce cloud skills.

6 **ACTION POINTS**
- Define the impact of current ops models their existing pain points and impacts as well as the value of potential improvements
- Give the CCoE visibility across your entire application portfolio - to make it easier to find and scale reference architectures
- Establish a set of business outcomes and goals
- Focus on long-term improvements to business agility and speed and establish timelines and metrics related to the opportunities

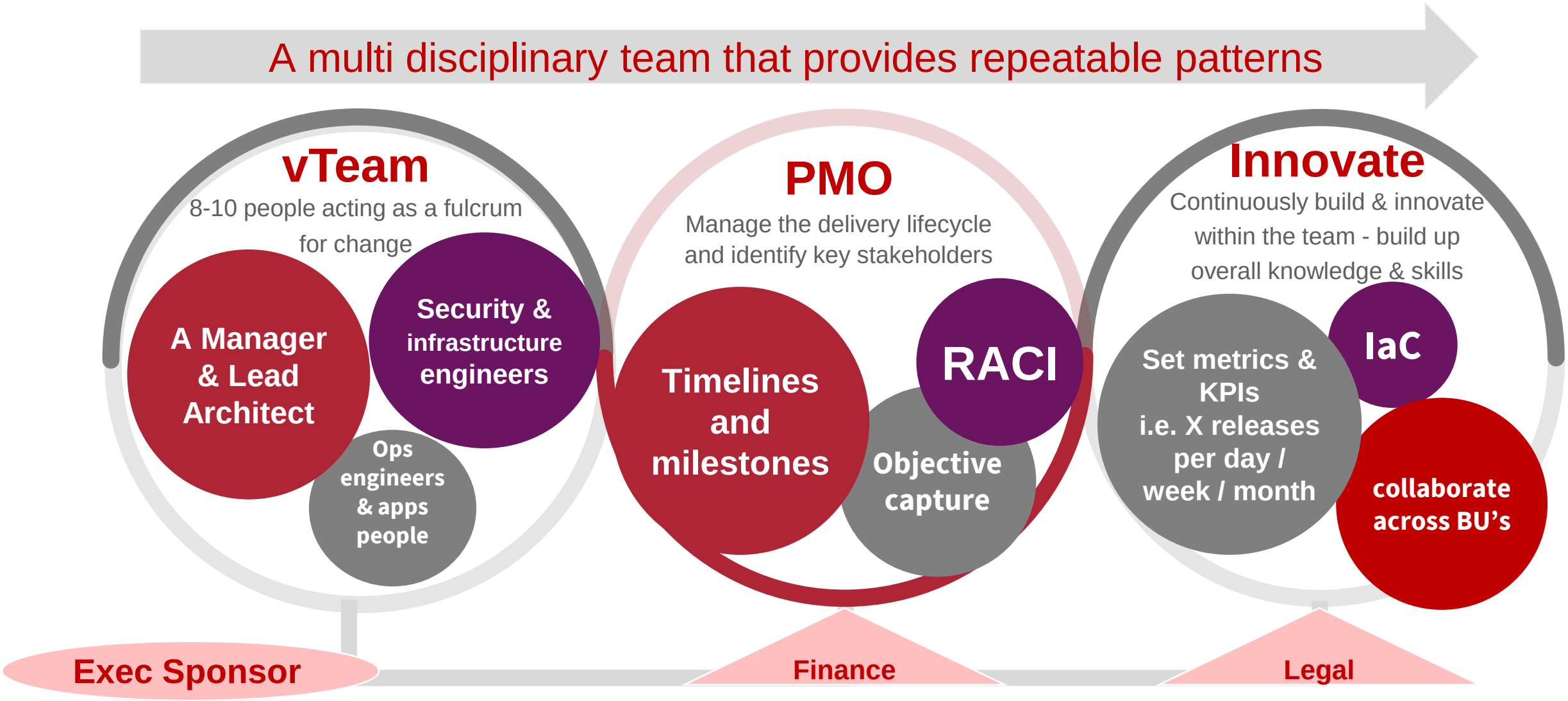
5. Obtaining executive support

Executive support is vital for developing a CCoE

- Large scale change management needs support from the top
- Provide a clarity of purpose with the message repeatedly communicated - people follow what they understand otherwise its easy to revert to the status quo
- Clearly articulate long term motivations and the strategy. Make them measureable & update everyone with quarterly town halls / sprint planning / internal blogs etc.
- Executives are to allocate time to meet (at least) monthly with the CCoE. They need to stay informed of progress and any blockers so the team do not loose steam / become distracted by other priorities etc.
- Define the impact of current operations models and any existing pain points as well as their impacts and the value of improvements
- Treat bumps in the road as learning opportunities
- Collaborate with auditors, governance and security and legal - early & often particularly around the use of automation
- Use Finance as partners in optimising your budgets i.e. staggering your RI (Reserved Instance) purchases and tools to keep track of spend

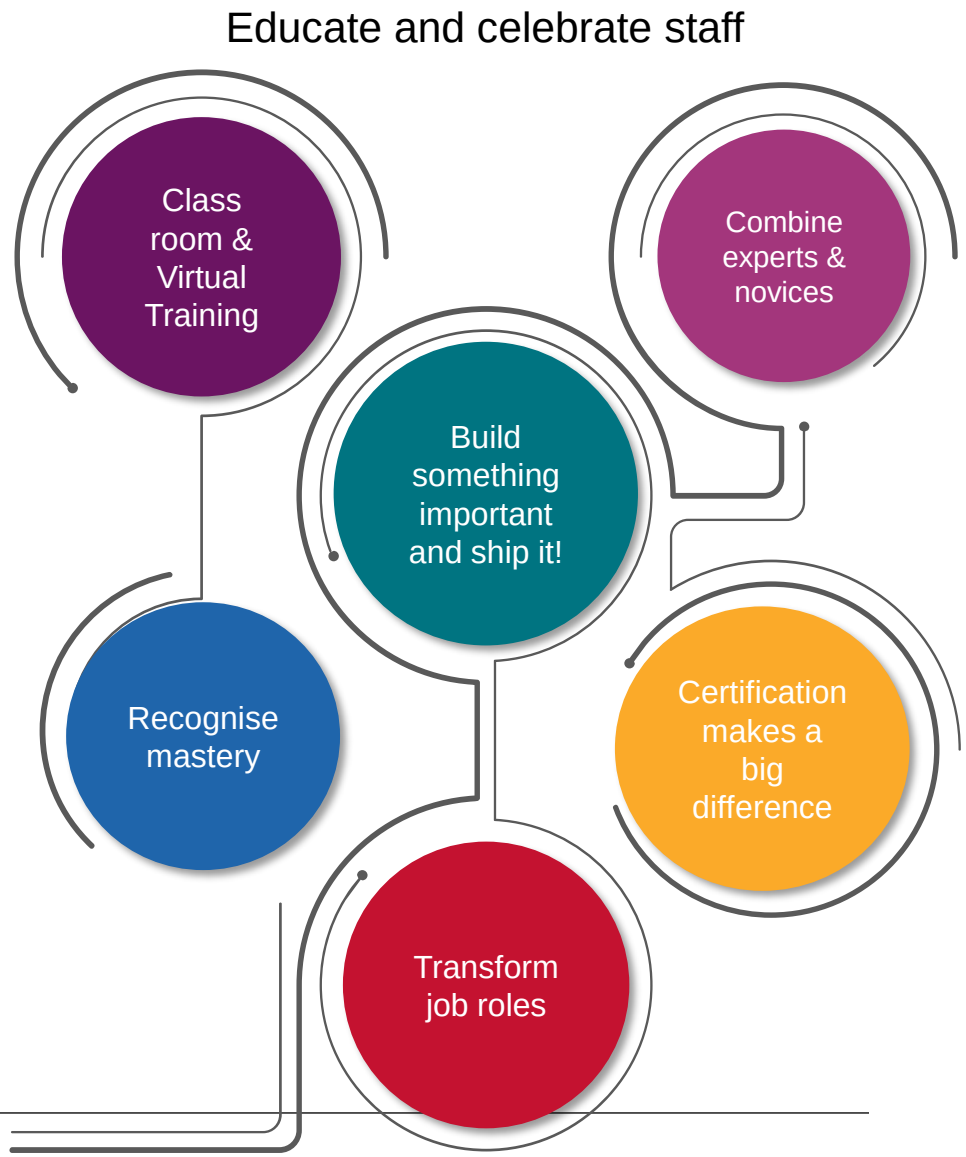


6. Choosing your team



7. Talent transformation - the people prong

- Educate staff - people can be afraid of what they don't know and fear of the unknown as change feels uncomfortable
- You already have the people you need to succeed in the cloud! Ensure that you use the institutional knowledge that you already have
- Everyone to be trained in the fundamentals of cloud awareness, essentials courseware and on-line fundamentals training
- Use Intermediate/Associate level certifications for most staff with advanced & speciality/technical training for eligible staff
- Allocate Safe hands on time – for all to learn where everyone has there own safe and experimental environment
- Provide a path and set of incentives - recognise and reward certifications and shout about and promote expertise very loudly
- Create an excellence incentive of meals / vouchers / drinks / novelty awards etc.
- All leaders to take the challenge themselves
- Give your staff a common language - share experiences - from your expert level engineers & use third parties where necessary to spread the knowledge



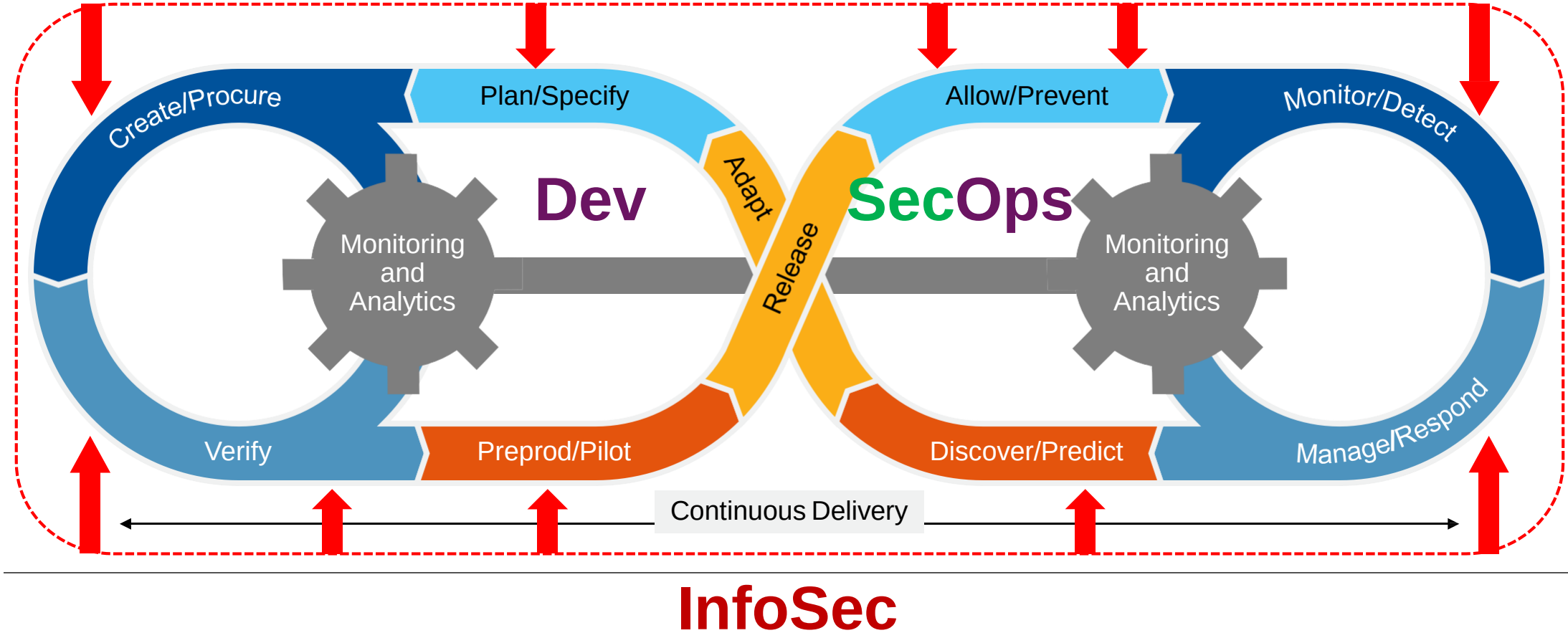
8. A culture of experimentation

- Available with access to almost infinite amounts of IT resources = experiments are no longer just for start-ups - they are for keeping your business competitive
- Be relentless in challenging the status-quo & in creating a culture of change. Cloud makes this easier - with little cost to absorb for projects that don't work out. You just spin it down!
- Inculcate a culture of constant re-invention to survive
- Become experimentation-driven: Be able to learn from failures and iterate quickly
- Be Bold and not afraid to challenge the status quo
- Become Results-oriented: Take an idea from its start to a successful implementation
- Be Customer focused: Appreciate the impact of development productivity & operational excellence
- Manage expectations and be clear about the purpose of any experiment



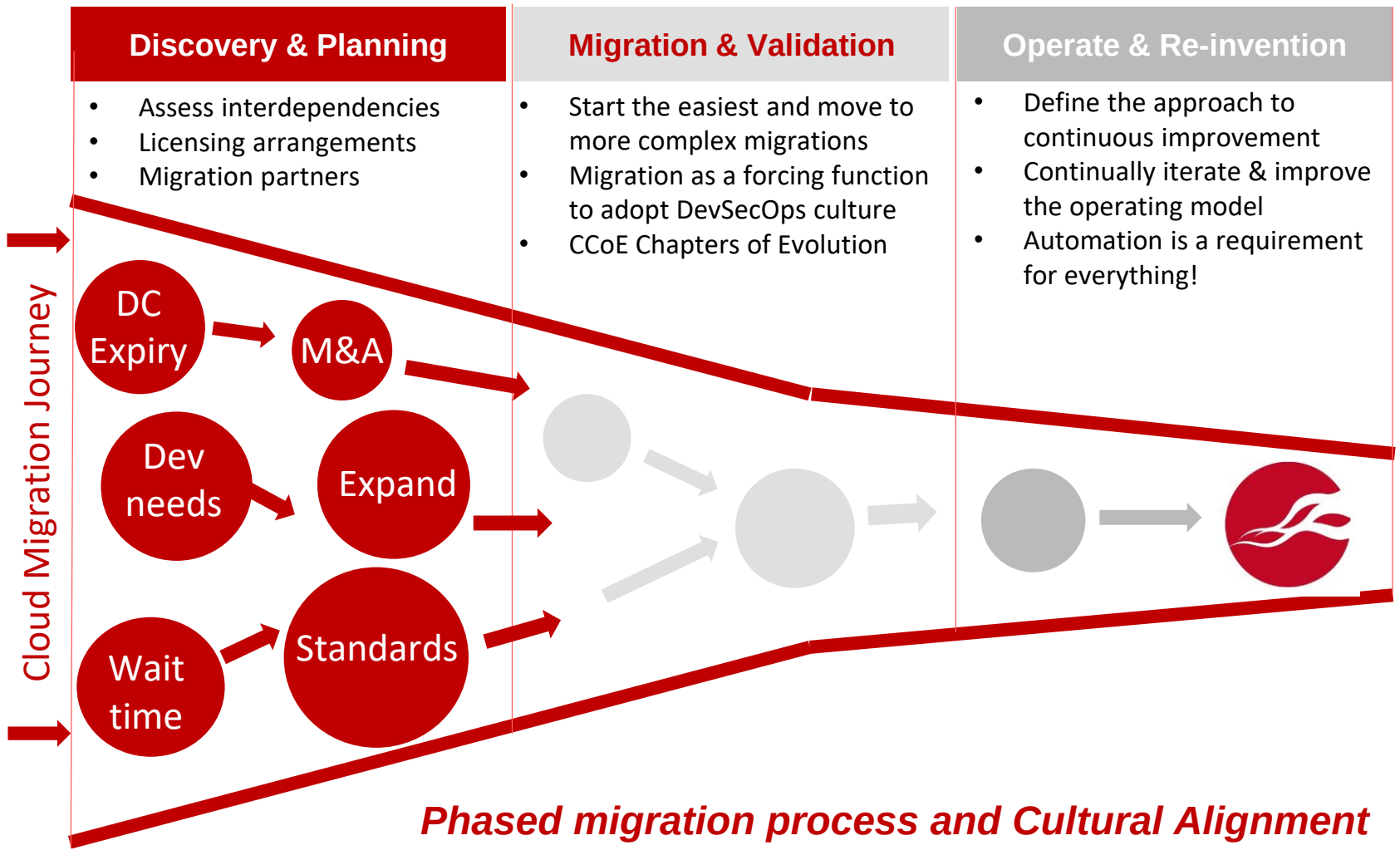
9. DevSecOps and more

- Use DevSecOps and lean IT processes - a 'Run what you Build' culture (i.e. accountable for ongoing operations & change) with the aim being to eliminate waste, reduce cycle times and to continually optimise your products based on customer feedback
- Use the DevSecOps culture to codify / automate / reduce deployment times / rollback changes / develop A:B testing frameworks etc.
- Own what you build! Combined with the enforcement of consistent security policies for compliance across your cloud environments…



10. Cloud Migration and more

- Demand for legacy and transformative migrations to the cloud grows / along with the opportunity to retire technical debt
- Rehosting (lift n' shift) i.e. a large legacy migration & one that needs to be scaled up quickly
- Re-platforming (lift-tinker n' shift) – by optimising & updating components
- Re-factoring (re-architect to cloud-native & optimise your workload) driven by a business need to add features, scale etc.
- Re-purchasing (migrate to a different platform - i.e. SaaS)
- Retire (get rid of) i.e. 10-20% of apps are no longer useful & can simply be turned off!
- Retain (do nothing & revisit later) i.e. riding out the hardware depreciation



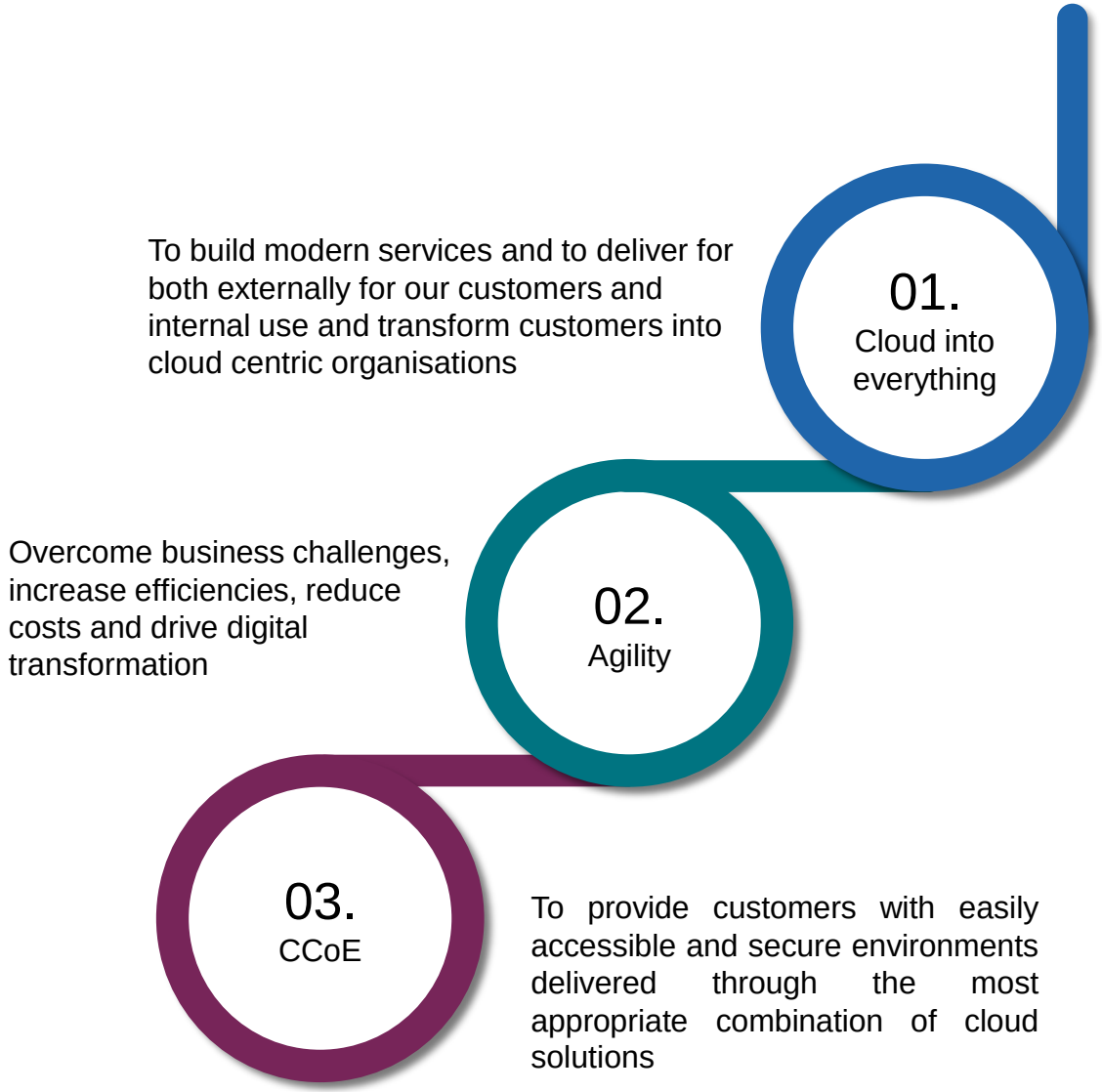
11. Partner, Partner, Partner

- Bring in external experts to augment the CCoE as necessary i.e. consultants, a CloudMSP, security input
- Make sense of the fast growing ecosystem & be open minded to partnering with small companies but ensure partner quality
- Choose the right partners - your partners of yesterday may not be your partners of tomorrow
- Use these partners such as CloudSI's & CloudMSPs with a proven track record within the target industry & who can quantify expected costs & savings
- Ensure partner quality i.e. through using programs such as the Microsoft, AWS, of Google Cloud Platform Competency Program / Managed Services Program / DevOps Competency etc.
- Using Partners with specialisms and who have highest partner statuses i.e. an Advanced or Premier partner or with a useful specialism i.e. they are - Familiar with DevSecOps pipelines, IaC, automation & cloud native development or have Data Science capabilities etc.
- Use developers to transfer knowledge and to build the necessary skills i.e. by doing pair programming to help spread the skills to get workloads into production



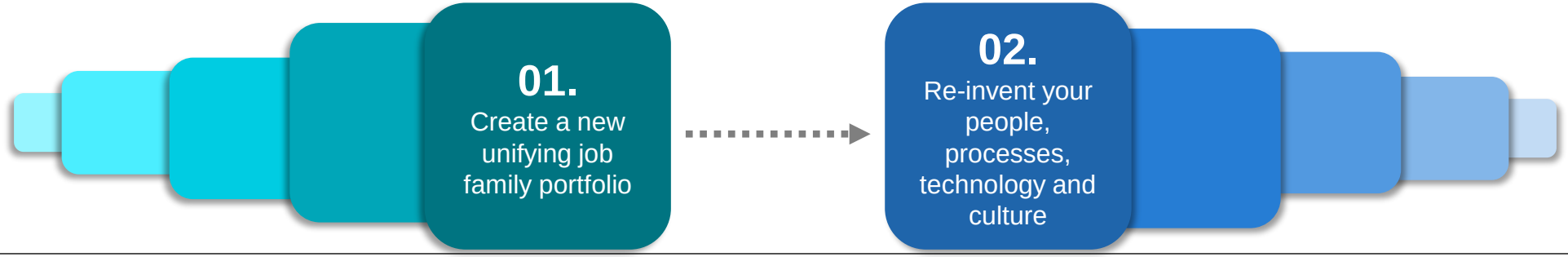
12. A cloud by default strategy

- The larger & more complex an organisation grows = it gets used to doing things a certain way, then the harder change becomes
- Implement a cloud first strategy - cloud is here & the benefits to your customers are transformational & we can help them reinvent themselves
- IT / Procurement / Legal / Finance / Business Development / Product Functions etc. need to all contribute to make cloud first a reality - they need to ask questions with regard all purchases – such as why is this not using a cloud platform?
- Whilst top down policies can be used - actions need to be embedded locally to create the change in behaviour
- Use Cloud to simplify the infrastructure & provide savings back into the business
- As the Cloud footprint grows - continually look at ways to optimise cost and improve speed i.e. by automating recurring activities / gradual reductions in VM instance sizes / refactoring to Serverless etc.
- Use Hybrid architectures (Cloud and on-prem) as necessary - remembering that cloud is not an all of nothing proposition

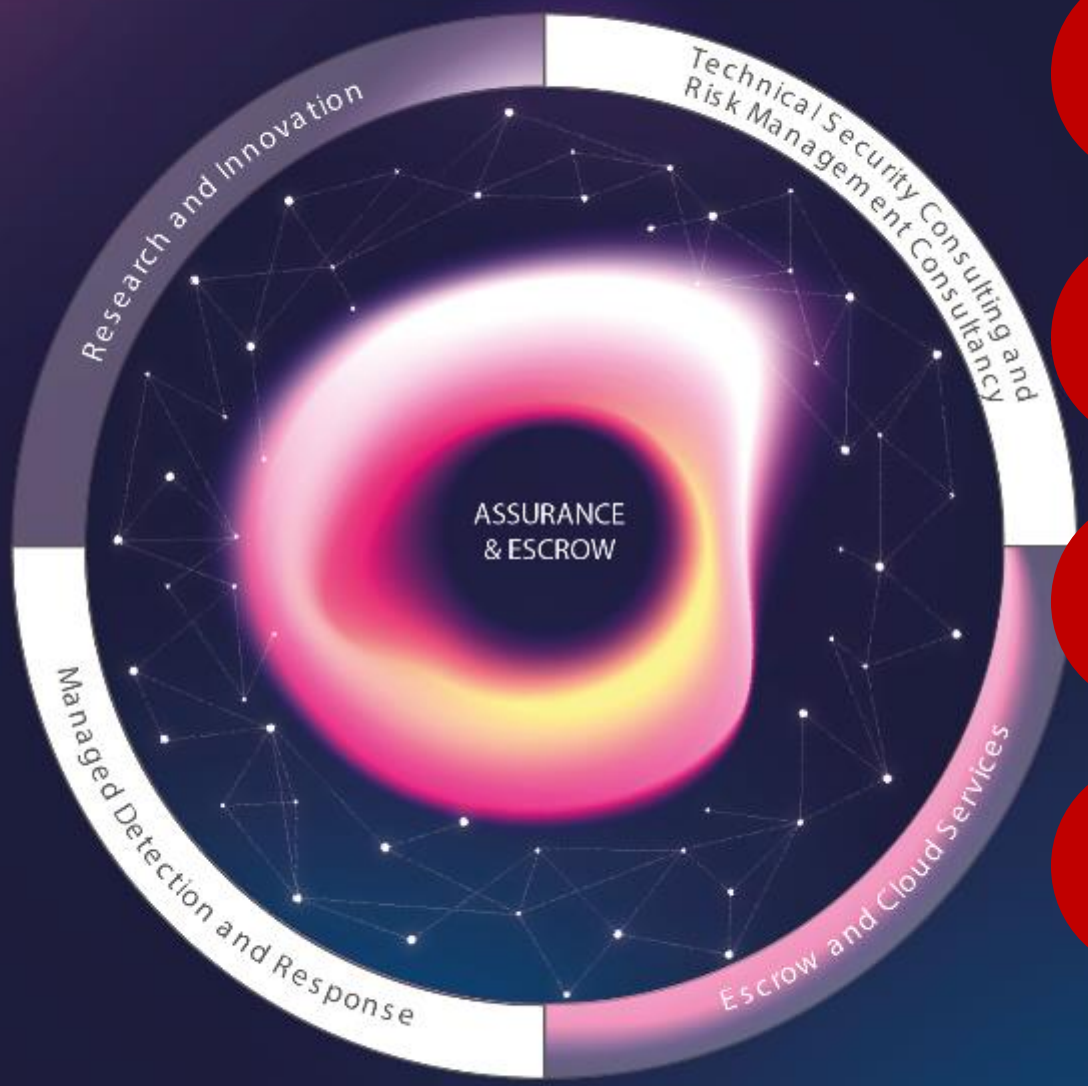


13. A Clarity of purpose

- Start with basic meaningful task - i.e. build / enhanced a customer application
- Use Cloud training - to re-skill employees rather than just new hires - evaluate the roles you have against the ones you need
- Give your teams time to experiment - innovation comes from experimentation
- Set goals that encourage learning & individual development
- Set time constrains and pace yourselves - setting the time needed for each project
- Deal with change resistance and provide clarity of purpose regarding the challenge
- Give people new roles as necessary - as there's a cultural shift and keeps employees engaged & aids staff retention
- Show your staff how they fit into the bigger picture - communicate each role and why its matters to the team and the overall strategy
- Go to industry events & learn from the successes and failures of others



14. In Summary



1. A cloud centric approach
2. Re-invent and re-develop
3. Change organisational culture
4. Q&A / Discussion