Avancier Methods (AM)

Processes and Techniques

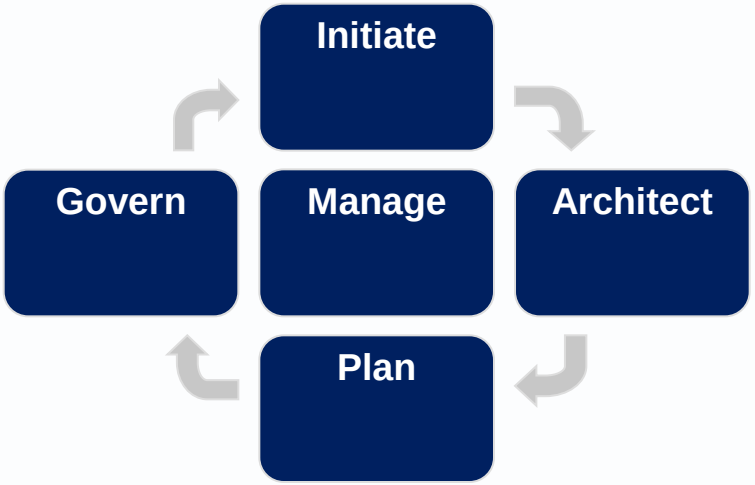
Noting those in Avancier Architect training

Certification aims

- Certification to the BCS Professional Certificates in Enterprise and Solution Architecture demonstrates
  - you know a wide range of architecture terms and concepts
  - including many used in architecture frameworks like TOGAF
  - and in modelling languages like ArchiMate
- The BCS certification is generic and *framework neutral*, meaning it is not tied to any one architecture framework, process, technique or modelling language

Training aims

- Training providers are free to go beyond the BCS syllabus
- Avancier's training includes many
  - processes and techniques for analysis and design
  - examples of modelling languages
- Within a generic management framework compatible with TOGAF

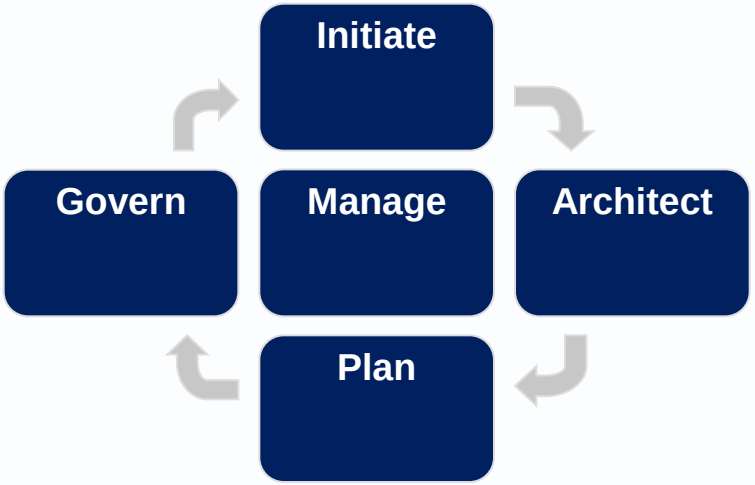


What is an architecture framework?

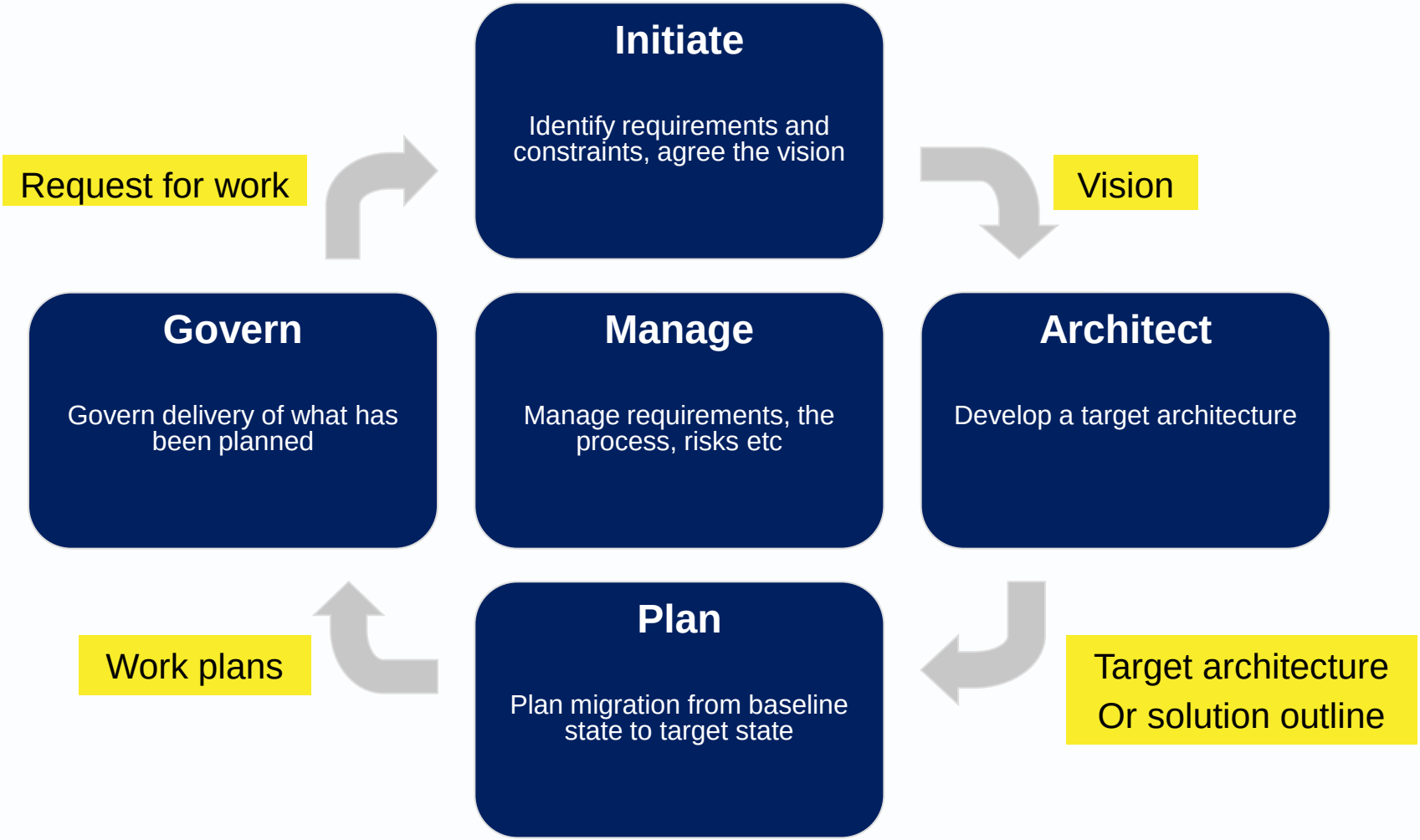
Avancier

Its provides structures and guidance on

- Process: an architecture development process (this presentation)
- Products: a documentation framework
- People: advice on architect roles and organisation.

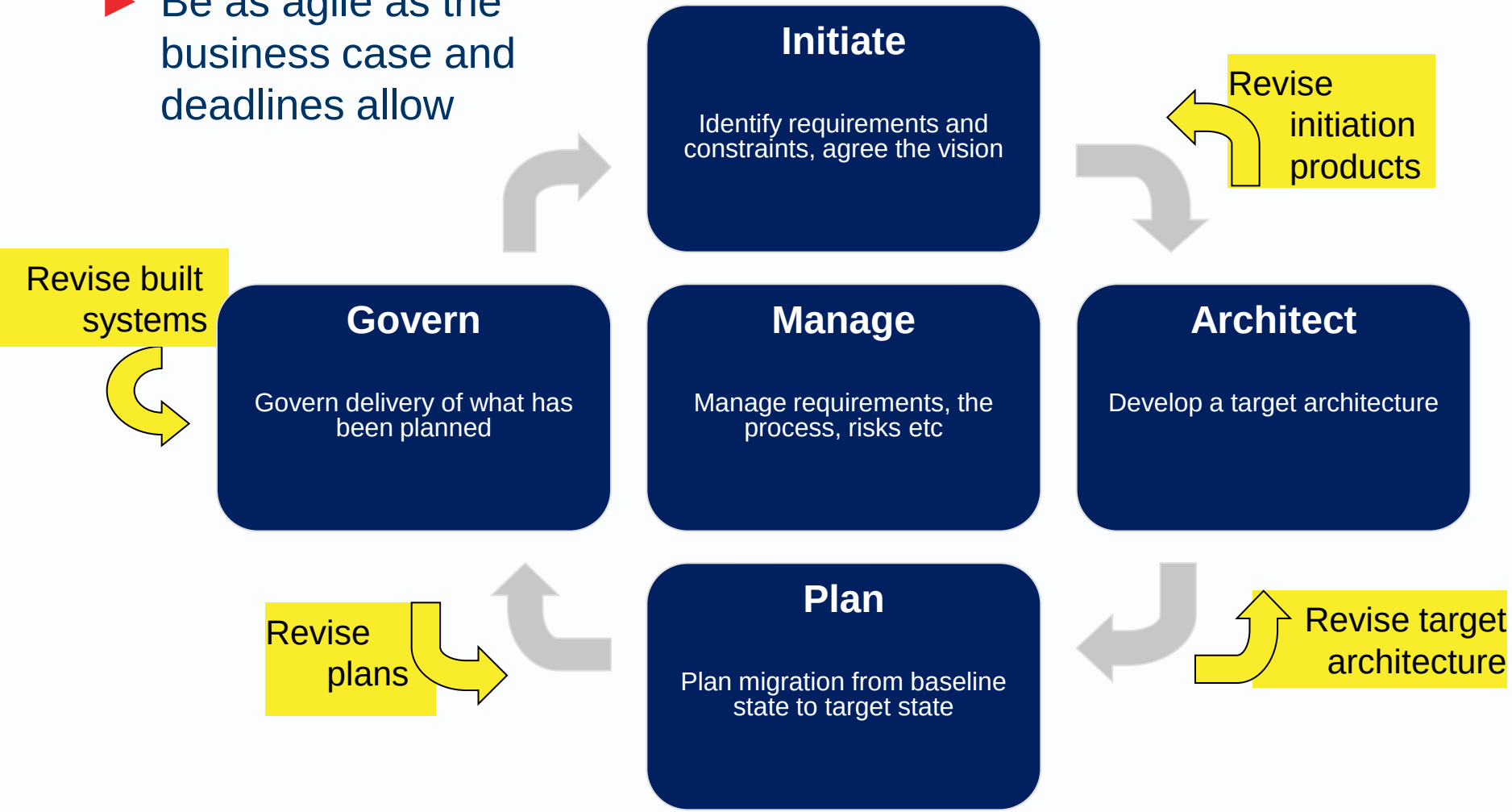


AM follows this general problem solving pattern

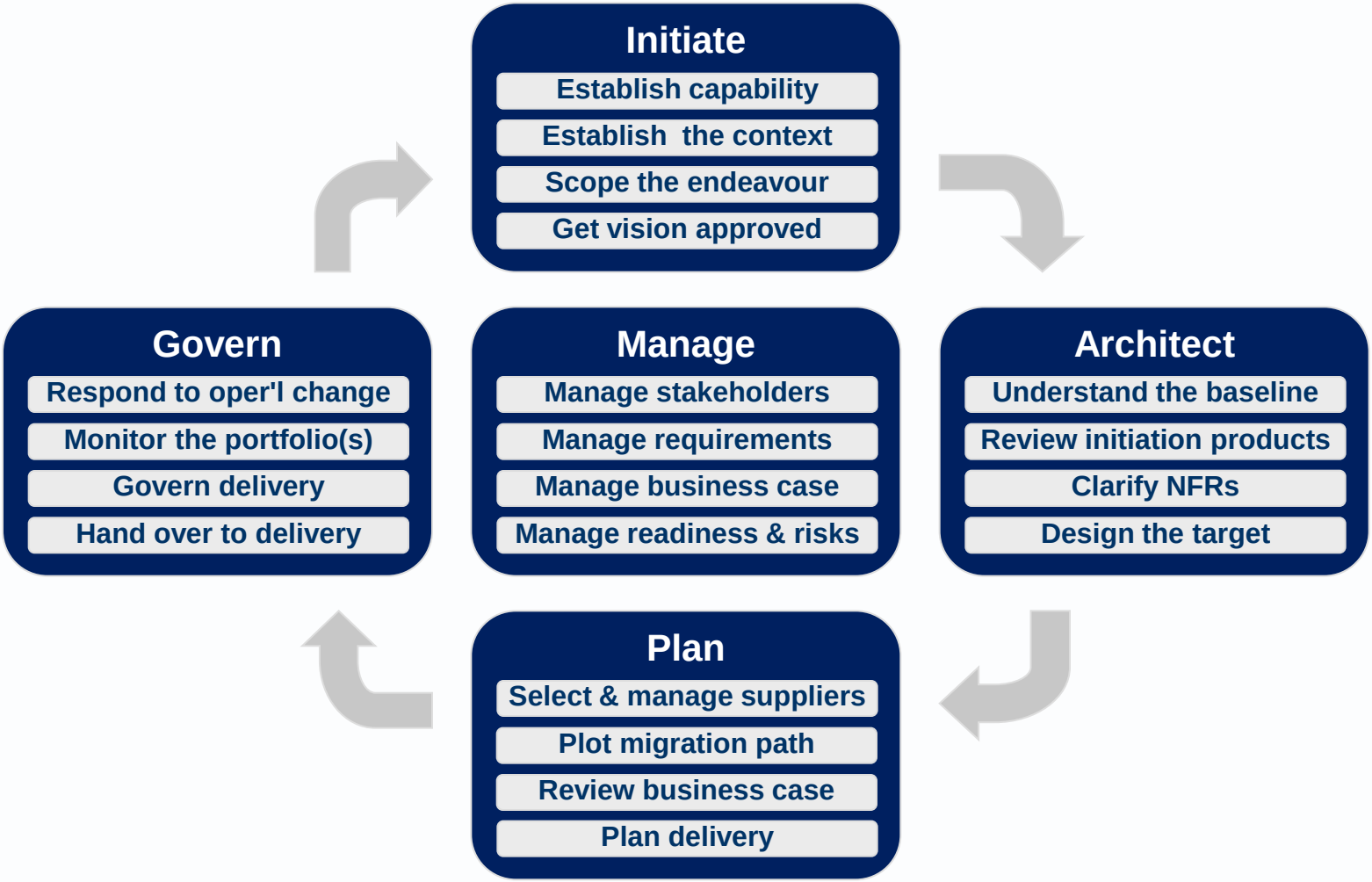


Iterate where necessary to correct or improve

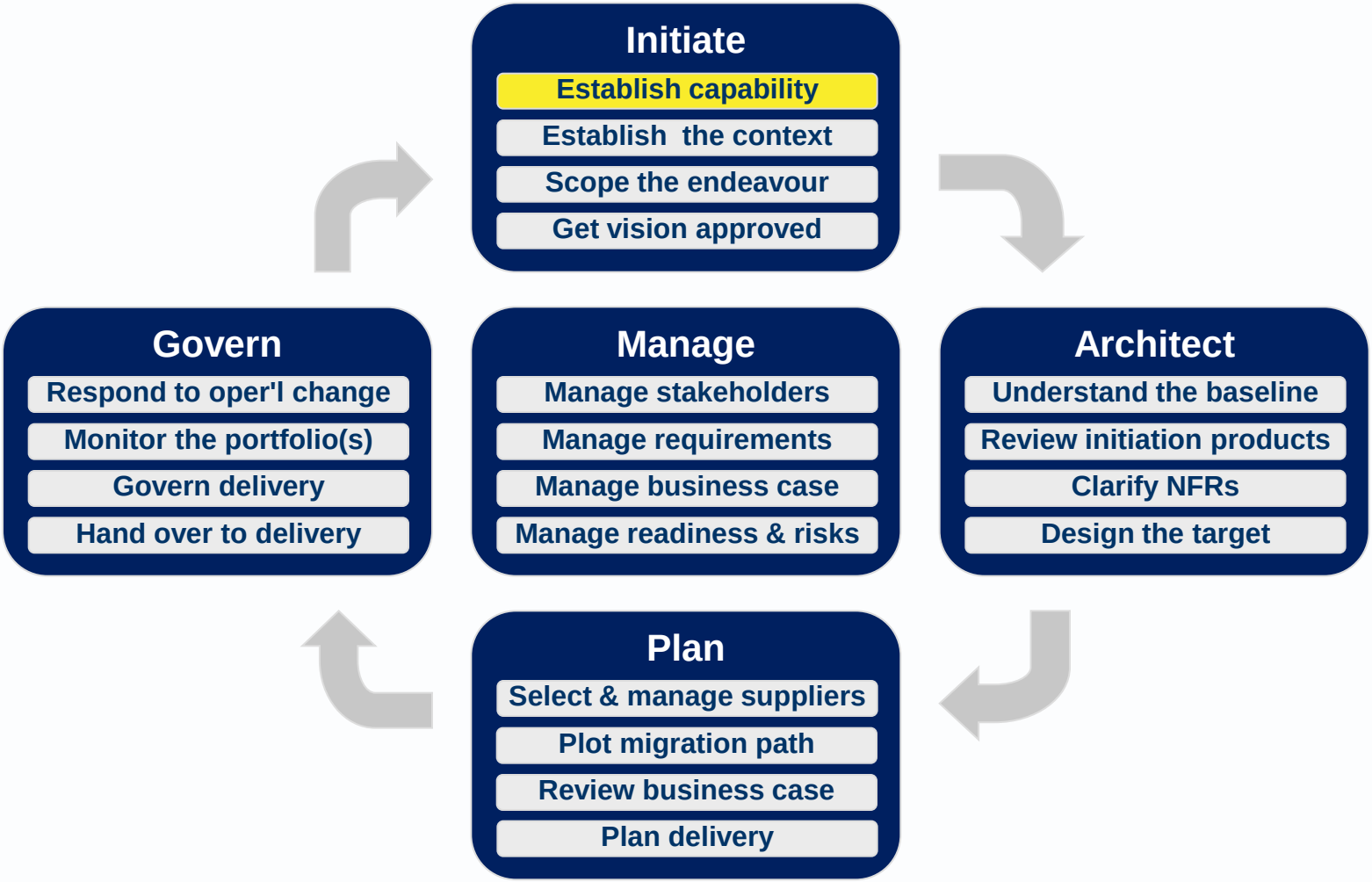
- Be as agile as the business case and deadlines allow



Architecture framework: 2nd level processes



Establish capability (AM level 2)



Establish capability (AM level 3)

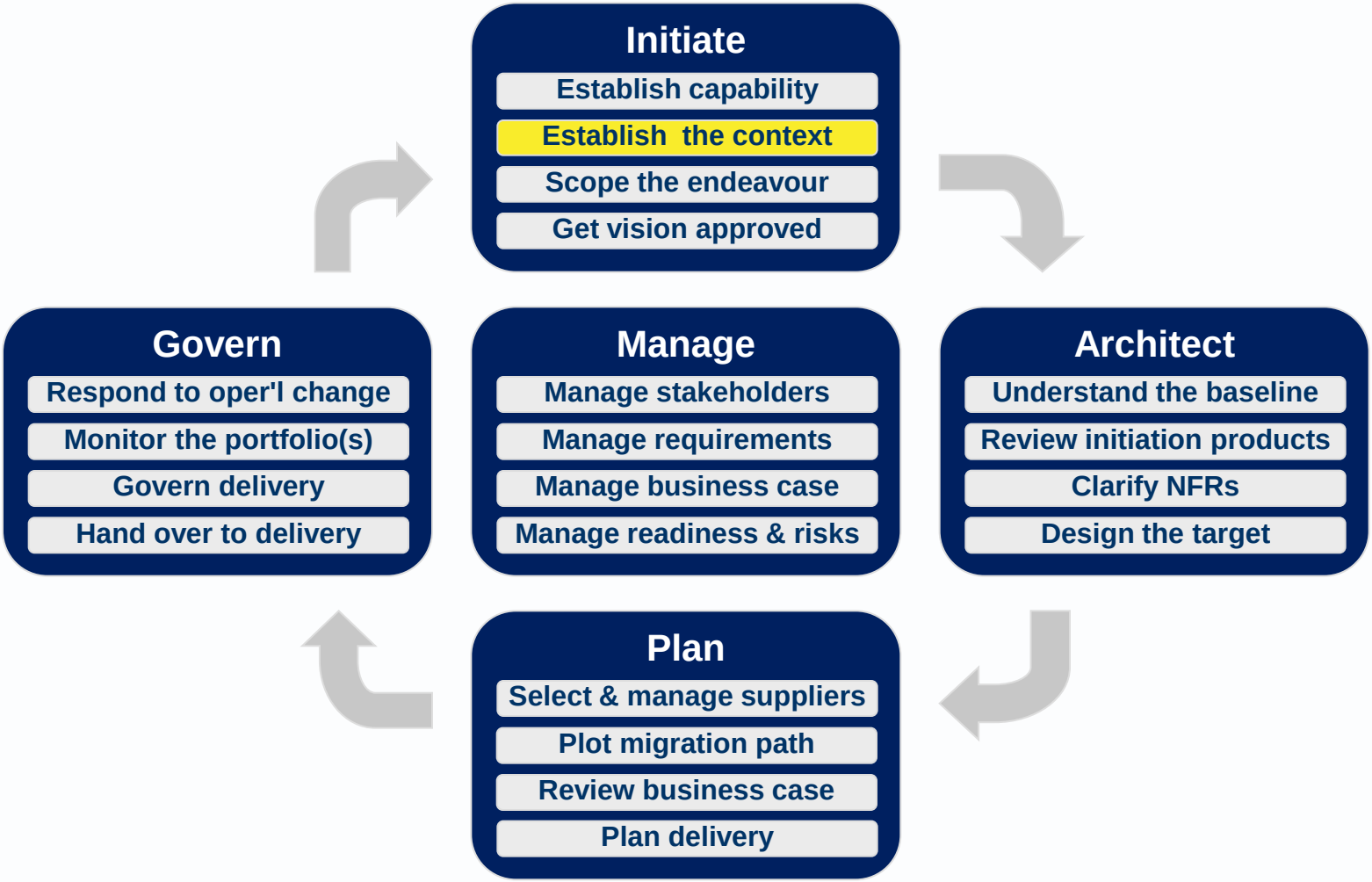
1. Establish authority for architecture
2. Define the architecting organisation
3. Define the architecture processes
4. Define the architecture resources

Adapt what follows, noting the footnotes

Detailed in methods and training

Note, an architecture process is generic, you must select the processes, techniques and views relevant to the specific "architecture project" you are assigned to

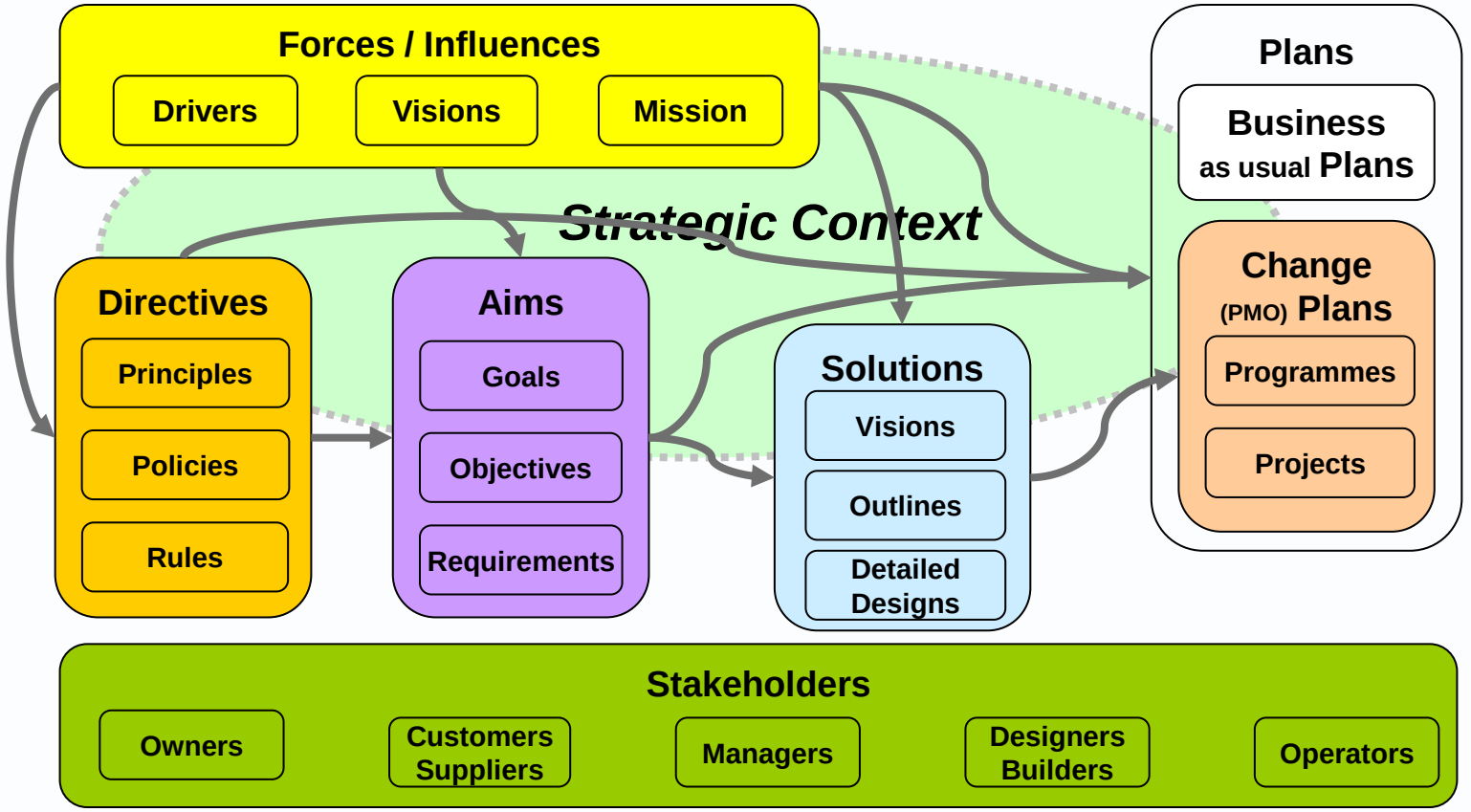
Establish the context (AM level 2)



Establish the context (AM level 3)

1. Study the strategic context
2. Establish strategic directives and goals

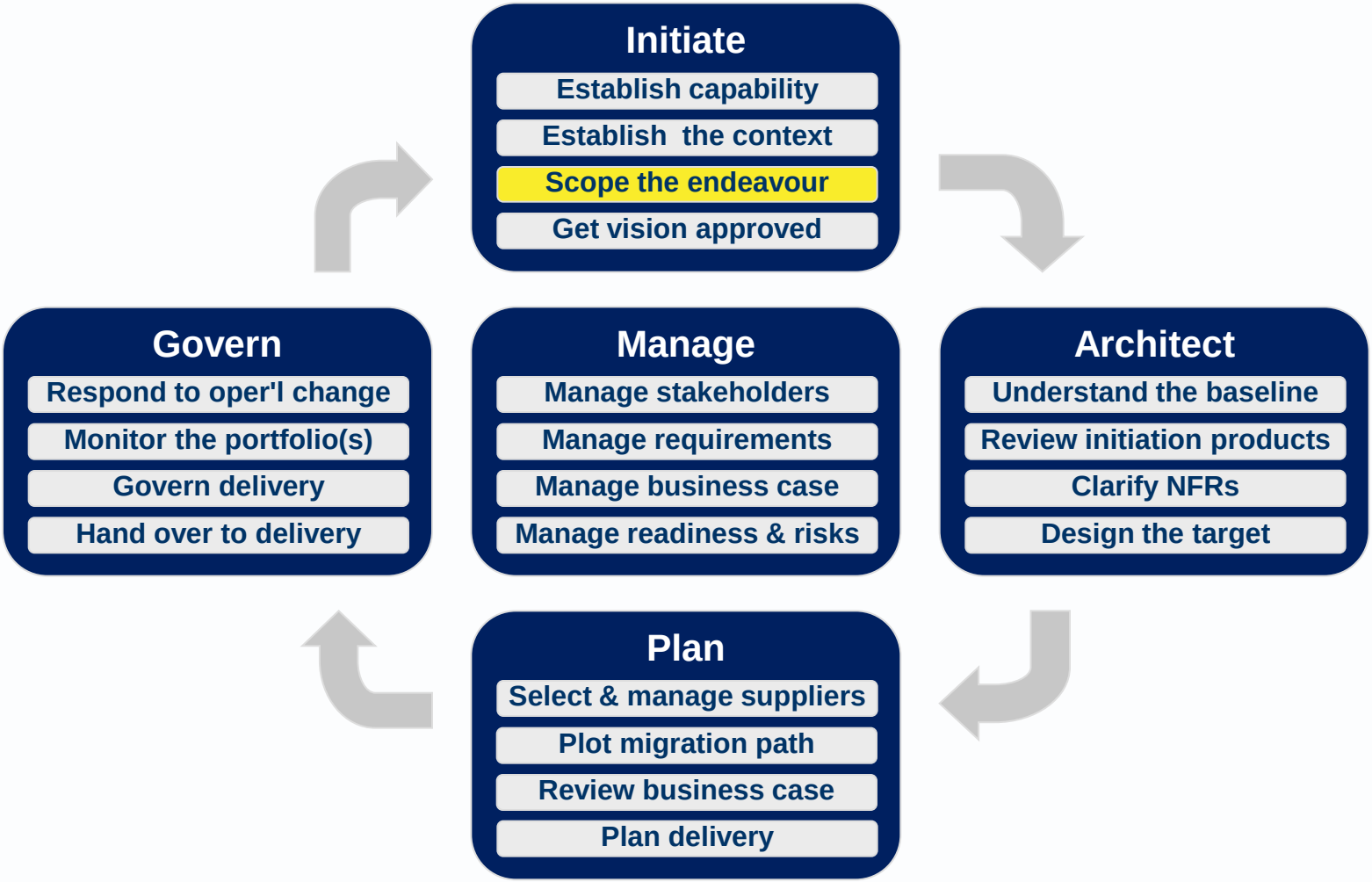
4th level process definition In detailed methods and training



Study the strategic context

- Look for forces that drive strategic thinking
  - Look for drivers
  - Look for directives and aims
- Look for what strategies exist
- Look for the business strategy
- Look for the desired “operating model”
- Look at IT strategy in the broad
  - Look for the information strategy
  - Look for the applications strategy
  - Look for the data quality strategy
  - Look for the technical infrastructure strategy

Scope the Endeavour (AM level 2)



Scope the Endeavour (AM level 3)

Avancier

1. Identify stakeholders
2. Identify aims
3. Identify constraints
4. Agree a solution vision
5. Scope in several ways
6. Plan the “architecture project”

Detailed in methods & training

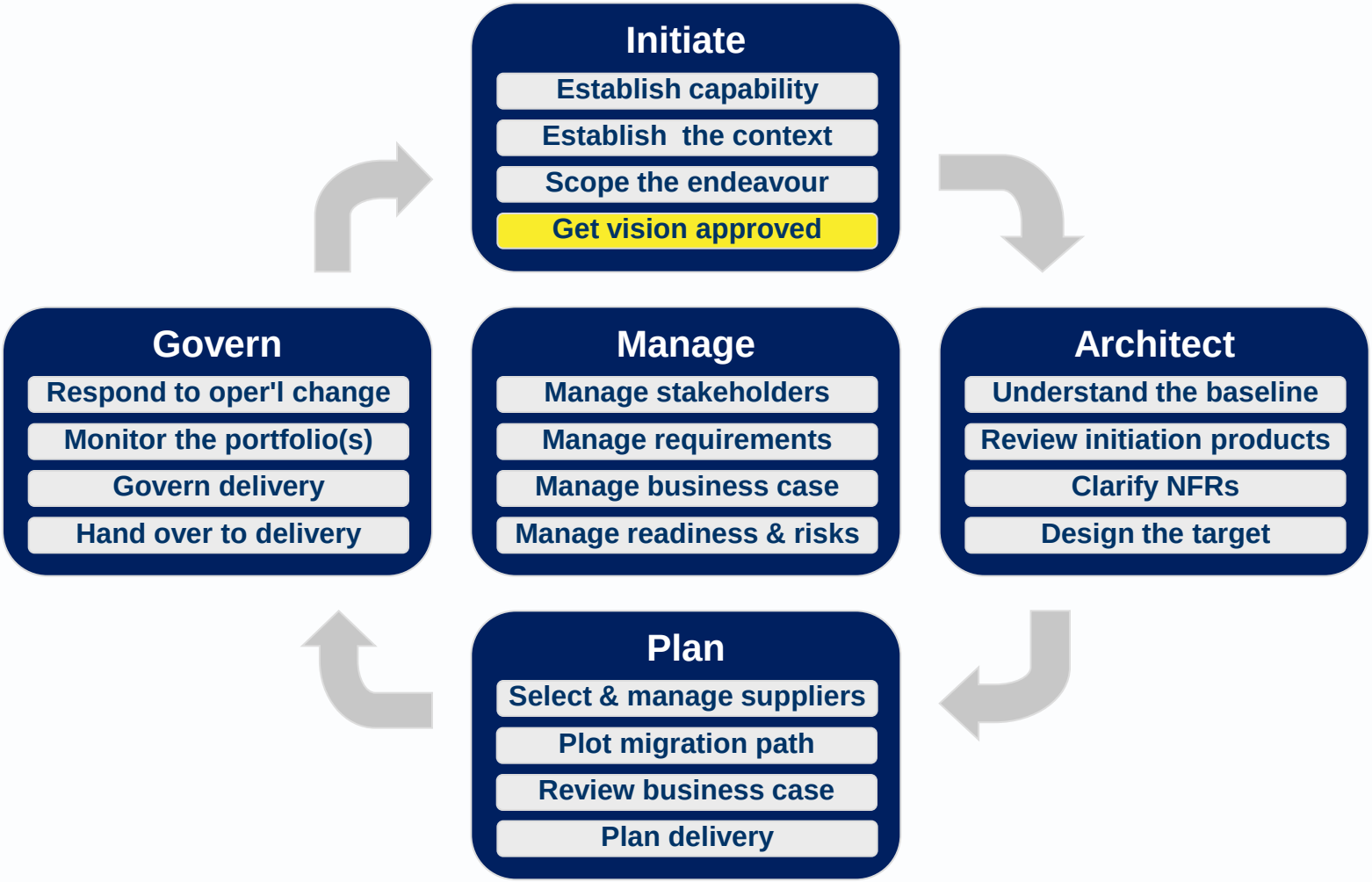
Scope the Endeavour

Avancier

- Define three dimensions

Breadth	Constraints	Depth
Size & complexity of System/project Large / Medium / Small	**Time/resources to describe the system/project** Little / Moderate / Lots	**Level of detail reachable in descriptions/plans**
Large	**Little**	**Vacuous**
Medium	**Little**	**Sketchy**
Large	**Moderate**	**Sketchy**
Medium	**Moderate**	**Elaborate**
Small	**Little**	**Elaborate**
Large	**Lots**	**Elaborate**
Small	**Moderate**	**Fulsome**
Medium	**Lots**	**Fulsome**
Small	**Lots**	**Complete**

Get vision approved (AM level 2)



Get vision approved (AM level 3)

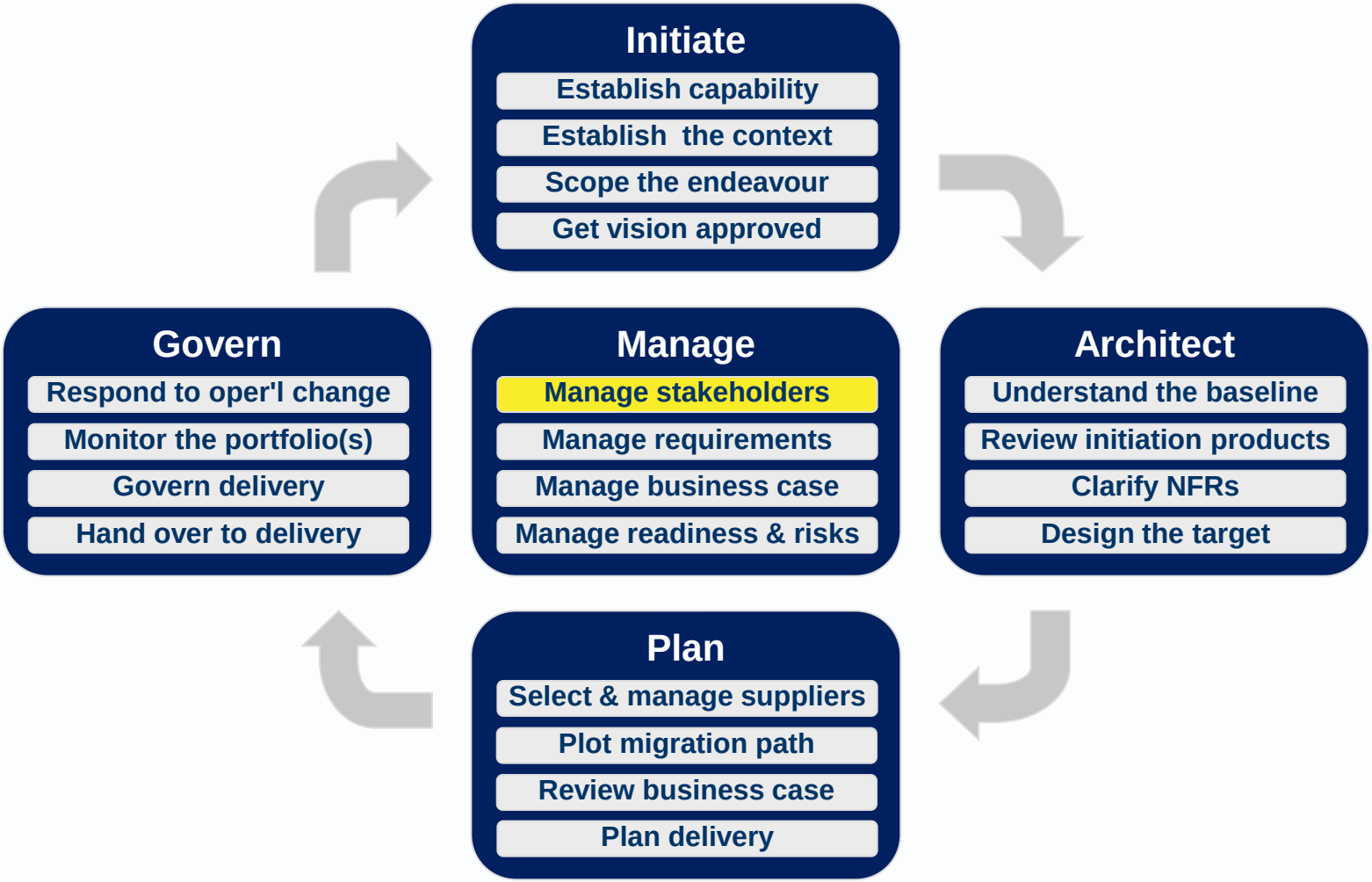
Avancier

1. Clarify or build the initial business case
2. Document and present solution vision(s)
3. Get sponsor and other stakeholder approval for further work

Detailed in methods

Manage Stakeholders (AM level 2)

Avancier



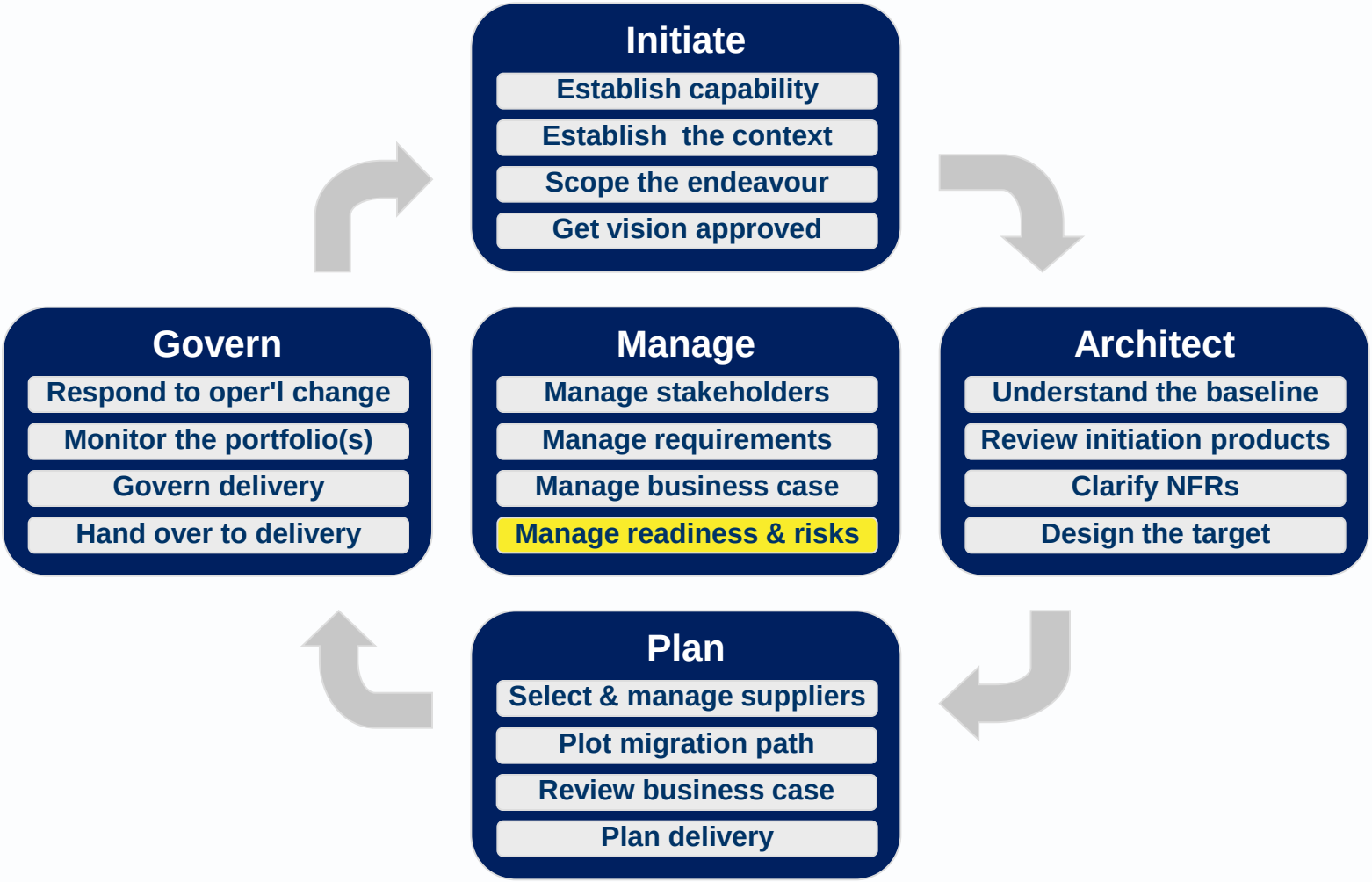
Manage stakeholders (AM level 3)

Avancier

1. Identify Your Stakeholders
2. Prioritize Your Stakeholders:
3. Understand your key stakeholders
4. Classify by attitude
5. Consider how to manage blockers
6. Document your analysis
7. Communicate with stakeholders

Detailed in methods & training

Manage readiness & risks (AM level 2)



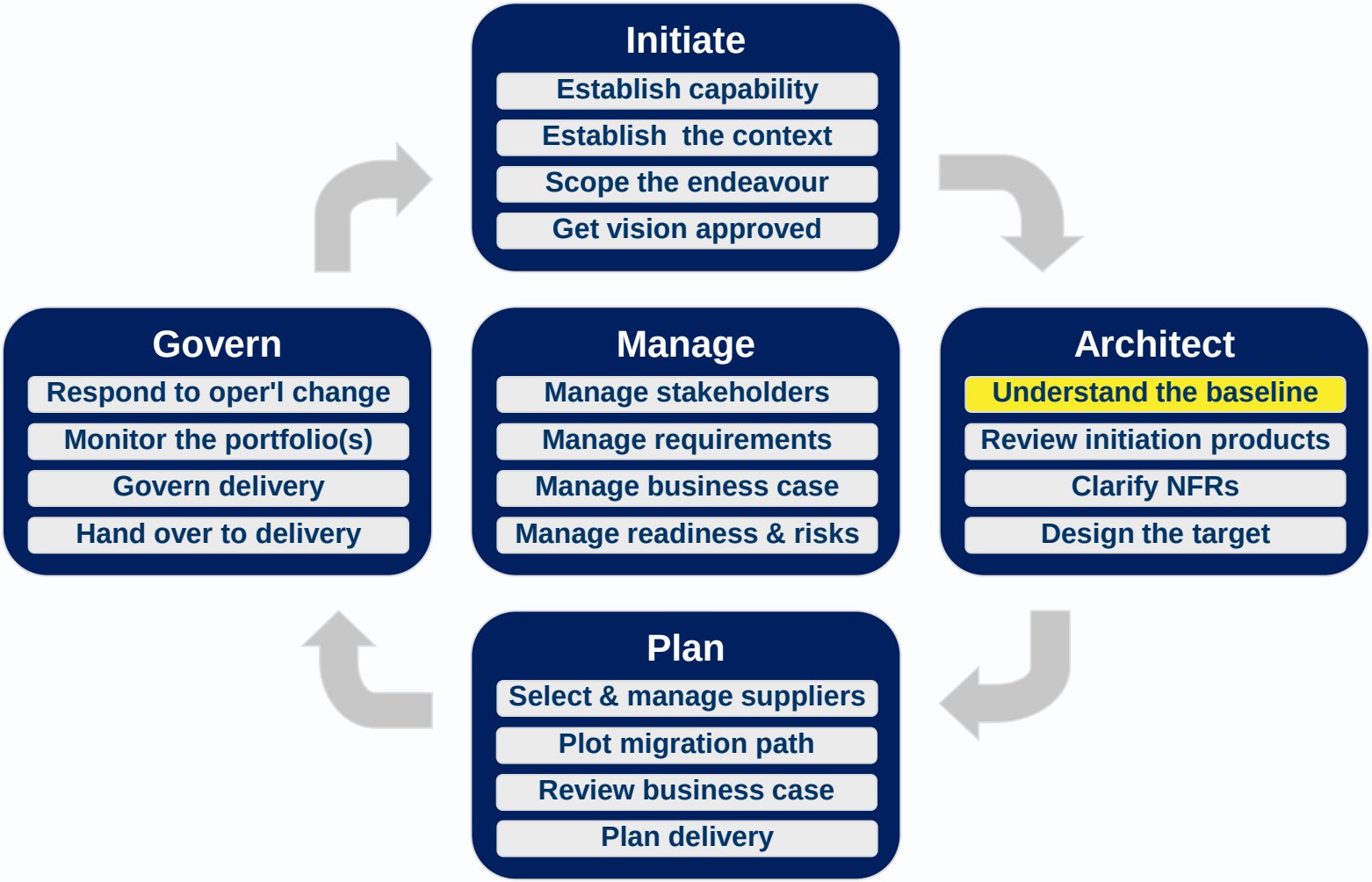
Manage readiness & risks (AM level 3)

Avancier

1. Identify risks
2. Record risks
3. Assess risks
4. Manage risks

Detailed in methods and training

Understand the baseline (AM level 2)



Understand the baseline (AM for EA level 3)

Avancier

1. Understand the baseline business architecture
2. Understand the baseline data architecture
3. Understand the baseline applications architecture
4. Understand the baseline infrastructure architecture
5. Look for reuse
6. Assess constraints and opportunities

- The aim is not to analyse the entire estate
- Describe only relevant baseline system(s)
- Describe only what is needed to enable achievement of goals.
- Describe baseline and target the same way as far a possible.
- (So the output might take the form of a baseline Solution Outline.)

Understand the baseline: architecture domains

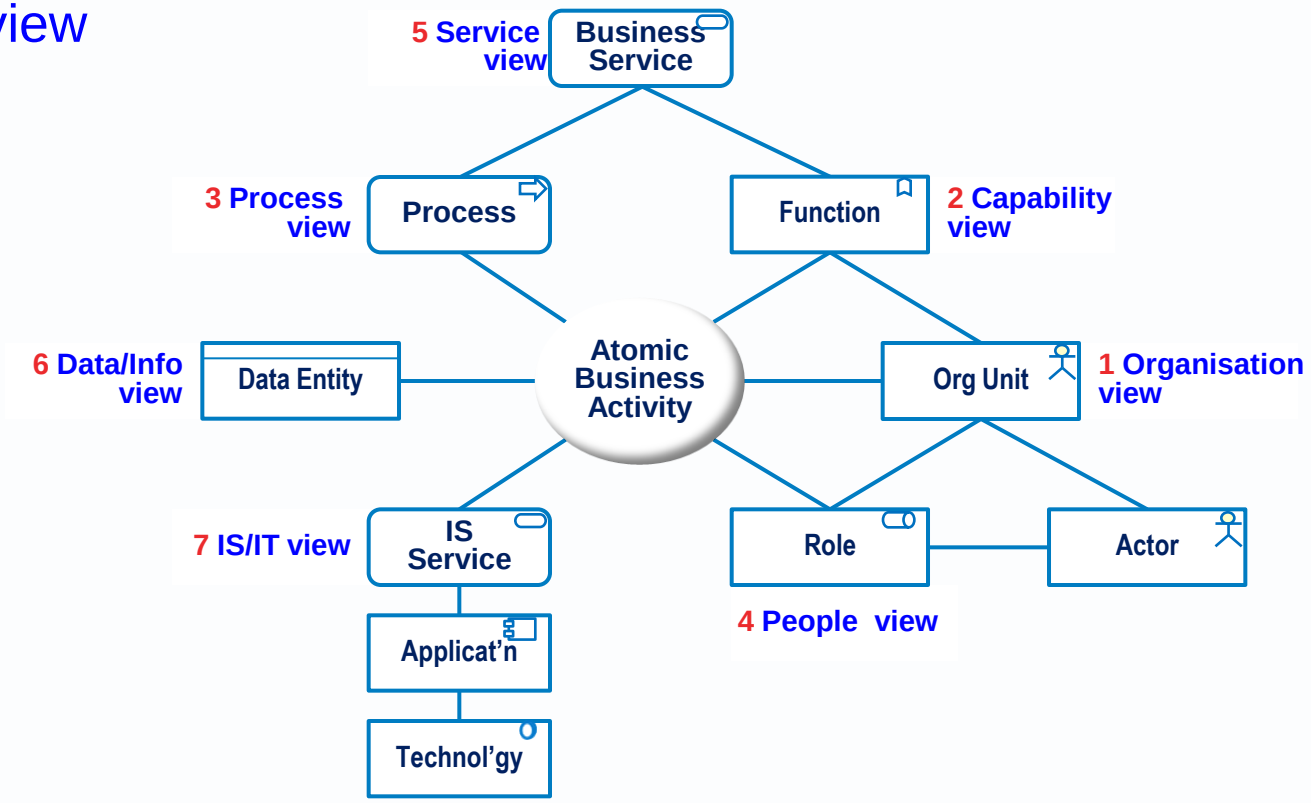
- EA optimises and extends business activities that create and use data.
- This requires attention to the baseline architecture domains below.

Business architecture	This describes the structural and behavioral elements of a business - the services they provide and their inter-relationships. EA maps business elements to business motivations (drivers, strategies, goals etc.) and to elements of other domains.
Information systems architecture	This describes information systems that support & enable business activities by capturing & providing data.
	Data Architecture describes business data stores and data flows, the data structures they contain and the qualities of that data.
	Application Architecture describes business applications - the services they provide to business activities, and their inter-relationships.
	EA maps data stores, data flows, data entities, applications and application services to each other and to elements of other domains.
Technology (infrastructure) architecture	This describes platform technologies - the services they provide to business applications and their inter-relationships. EA maps technology components and platform services to elements of other domains.

Understand the business architecture (AM for EA level 3)

Avancier

1. Form an organisation view
2. Form a capability view
3. Form a process view
4. Form a people view
5. Form a service view
6. For a data/info view
7. Form an apps view



Detailed in methods & training

Understand the applications portfolio (AM for EA level 3)

Avancier

1. Form an organisation/capability view of the applications
2. Form a people (roles) view of the applications
3. Form a data flow view of the applications
4. Form a data store view of the applications
5. Populate EA repository
6. Classify and rank applications

Detailed in methods & training

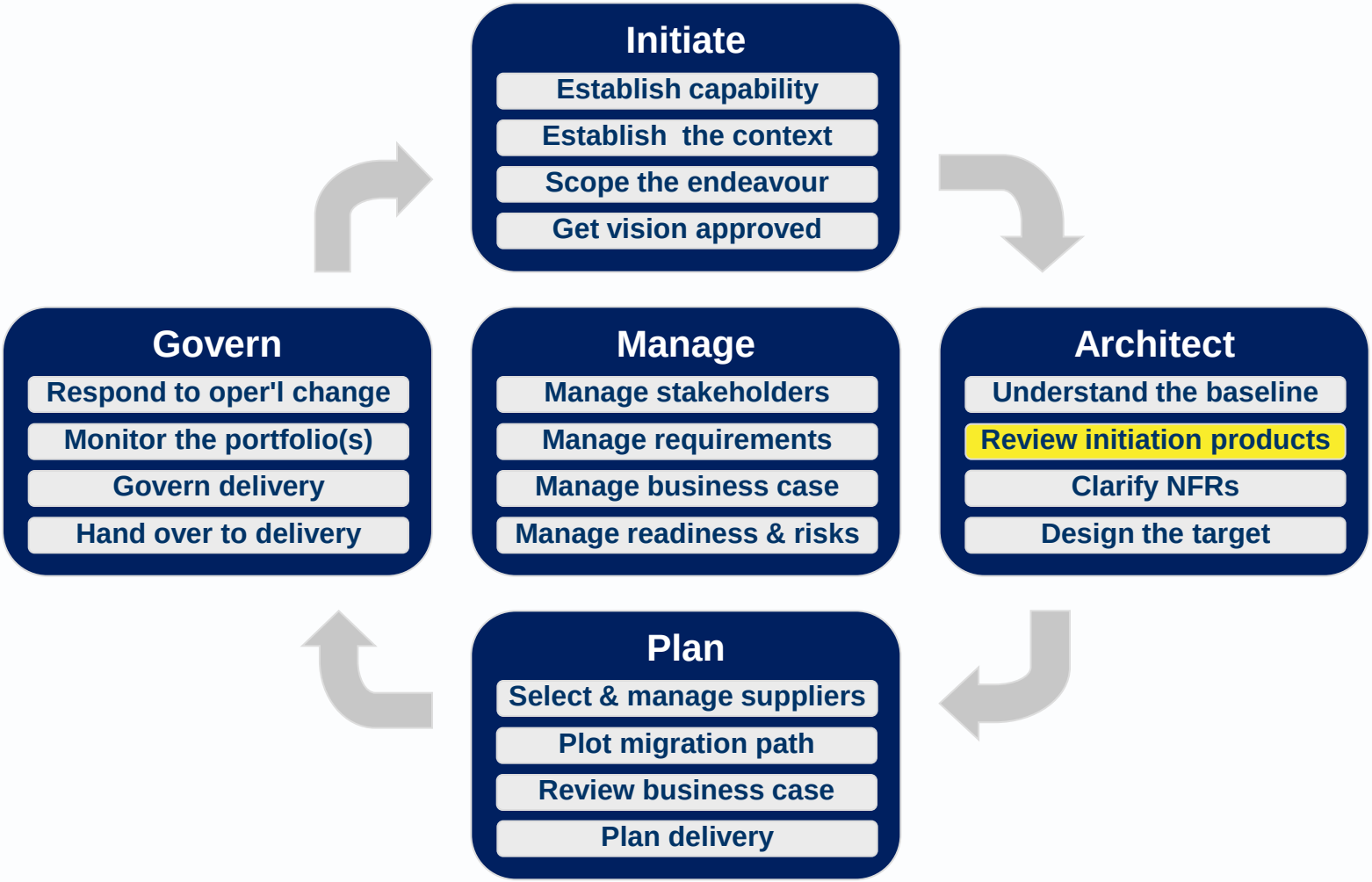
Understand the technology portfolio (AM for EA level 3)

Avancier

1. Classify baseline platform technologies
2. Catalogue baseline technologies
3. Classify baseline platform services
4. Catalogue baseline platform services (define TRM)

Detailed in methods & training

Review initiation products (AM level 2)

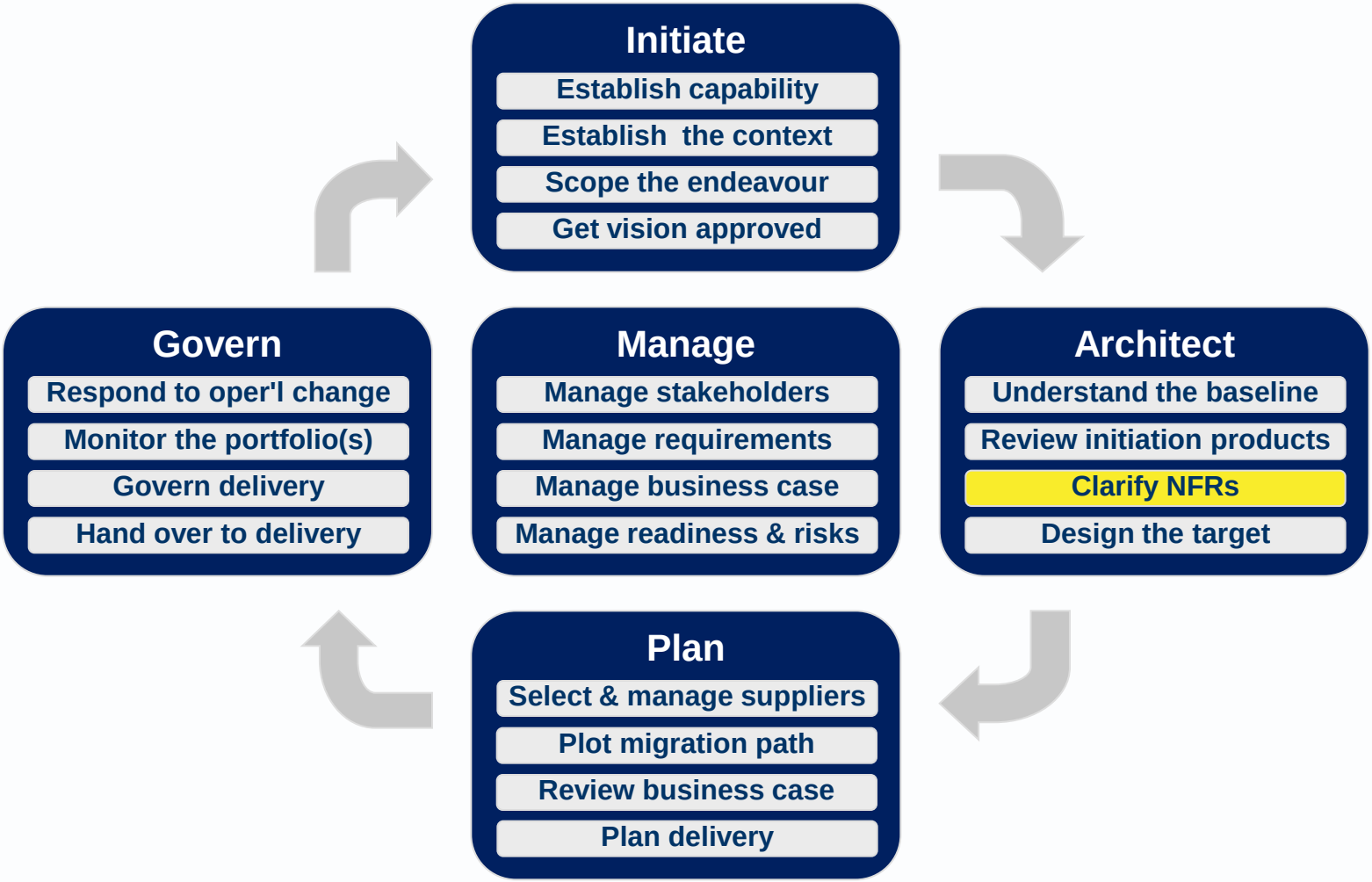


Review initiation products (AM level 3)

1. Review results of initiation
   - Strategies
   - Business motivations: drivers, directives and aims
   - Business change visions
   - Target IT versions
   - Constraints on target architecture efforts: time, costs, resources, standards and regulations
2. Build requirements
3. Baseline requirements

Detailed in methods

Clarify the NFRs (AM level 2)



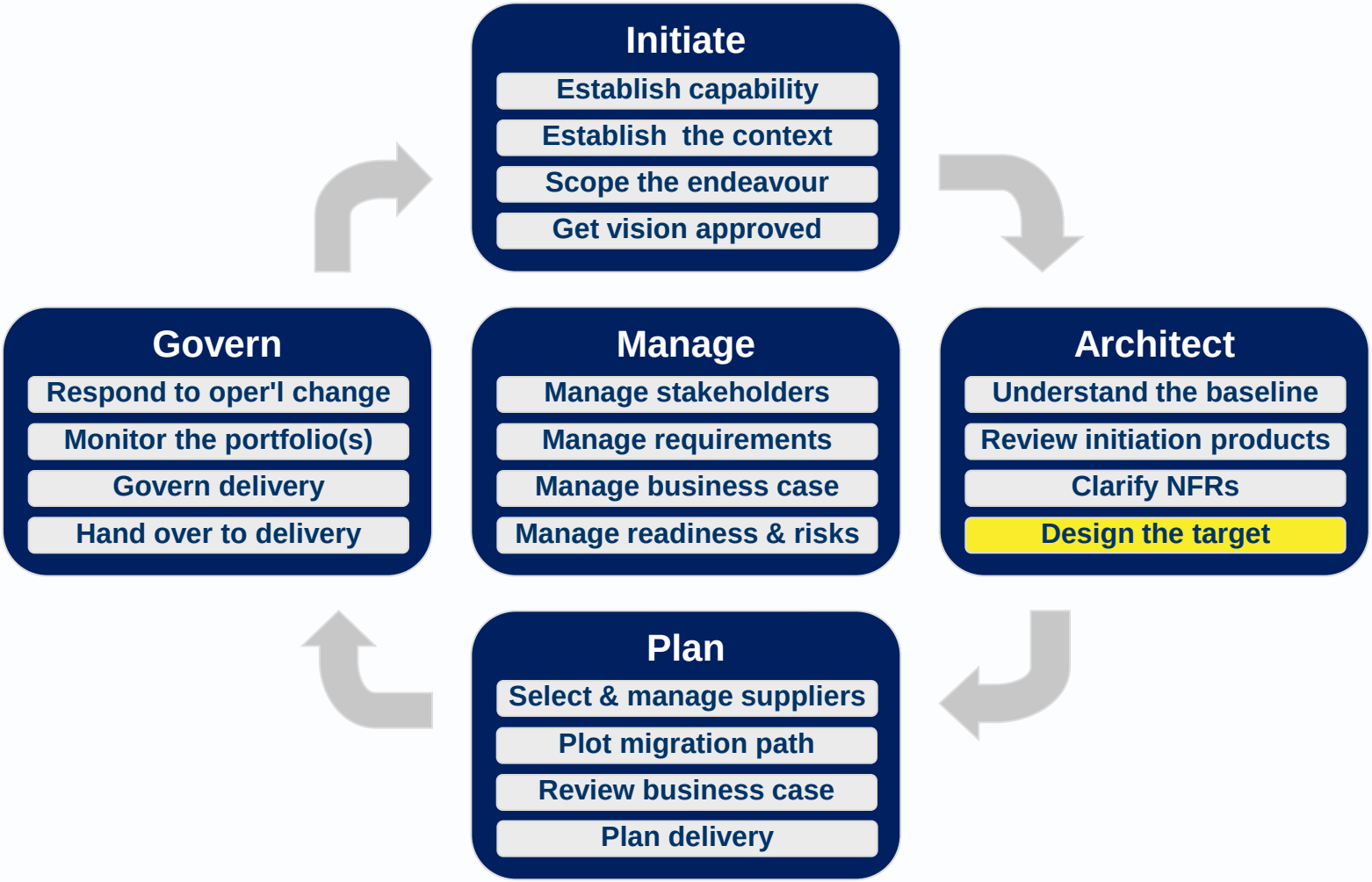
Clarify the NFRS (AM level 3)

Avancier

1. Set target measures with flexibility
   - Performance (timings and volumes of business done)
   - Availability (derived from Reliability and Recoverability)
   - Integrity
   - Security
   - Scalability
   - Serviceability
   - Usability
   - Maintainability
   - Portability
   - Interoperability
   - Extensibility
2. Assess business & IT readiness
3. Assess non-functional risks

Detailed in methods & training

Design the target (AM level 2)



Design the target: architecture domains

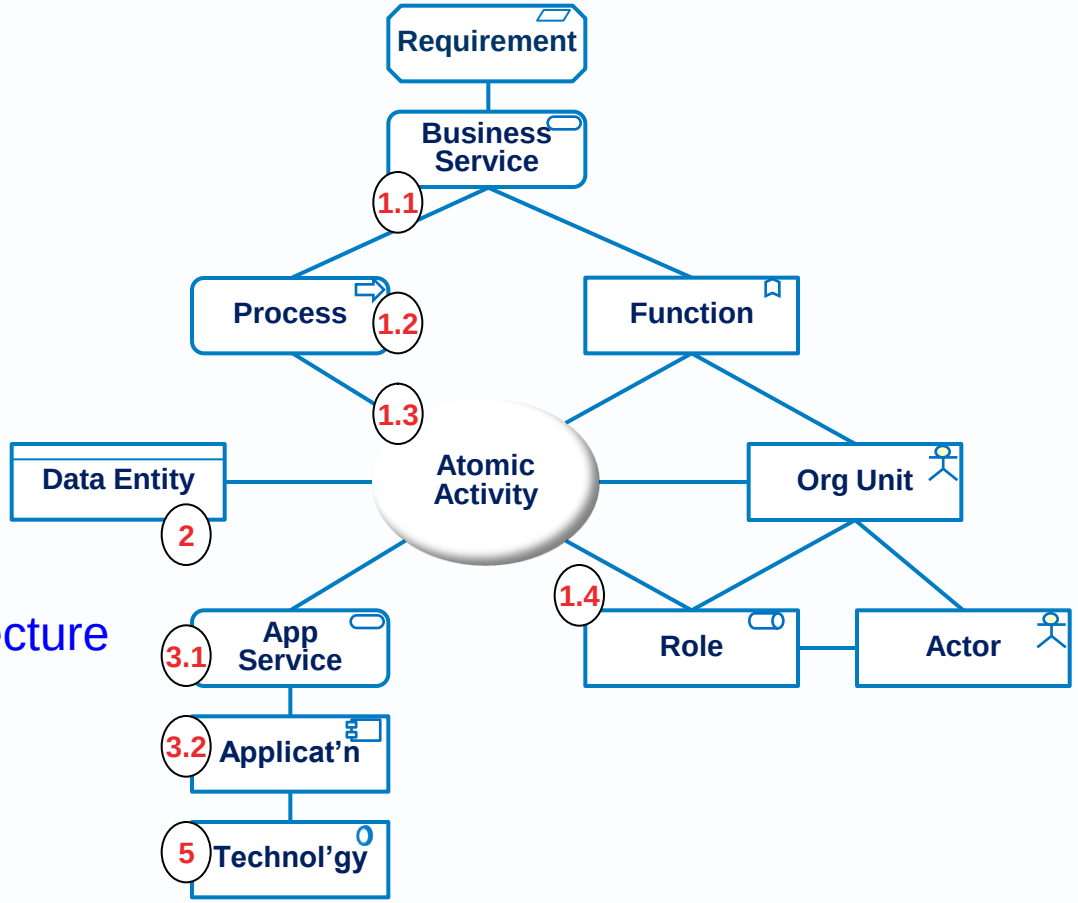
- EA optimises and extends business activities that create and use data.
- This involves designing and planning changes to the architecture domains below.

Business architecture	This describes the structural and behavioral elements of a business - the services they provide and their inter-relationships. EA maps business elements to business motivations (drivers, strategies, goals etc.) and to elements of other domains.
Information systems architecture	This describes information systems that support & enable business activities by capturing & providing data.
	Data Architecture describes business data stores and data flows, the data structures they contain and the qualities of that data.
	Application Architecture describes business applications - the services they provide to business activities, and their inter-relationships.
	EA maps data stores, data flows, data entities, applications and application services to each other and to elements of other domains.
Technology (infrastructure) architecture	This describes platform technologies - the services they provide to business applications and their inter-relationships. EA maps technology components and platform services to elements of other domains.

Design the target (AM level 3)

1. Design business architecture
   - Define service view
   - Define process view
   - Define atomic activities
   - Define role view
2. Design data/information view
3. Design applications architecture
   - Define application use cases
   - Define applications view
4. Design to meet NFRs
5. Design platform technology architecture
6. Report the target architecture
7. Review the target architecture

Detailed in methods & training



Design target data architecture (AM level 4)

Avancier

1. Define the business context for data creation and use
2. Define data flows (I/O messages, displays, forms and reports)
3. Define data dictionary or canonical data model
4. Define data store(s): relational and document stores
5. Address data quality issues

Detailed in methods & training

Design target application(s) architecture (AM level 4)

Avancier

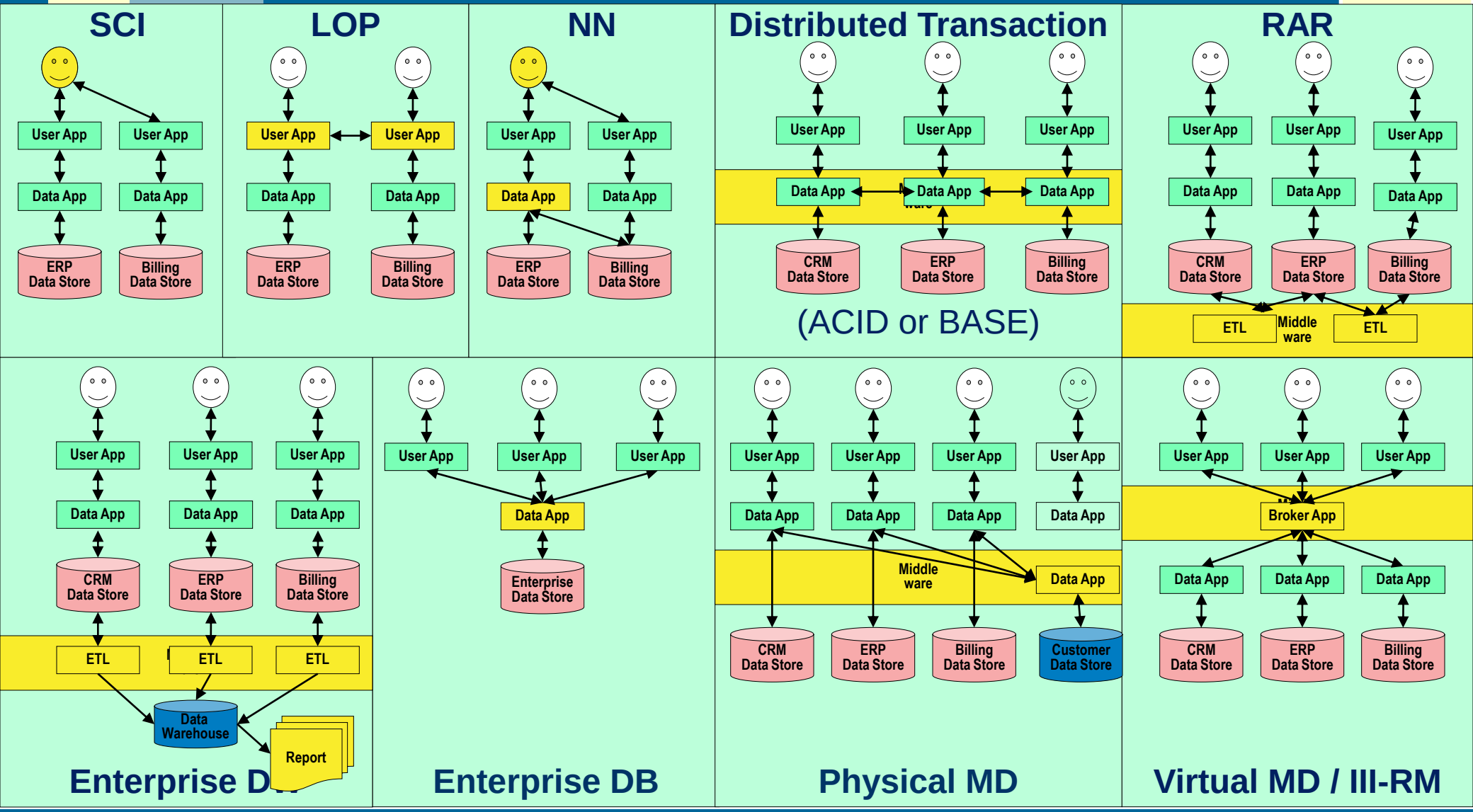
1. Design application uses cases (solution level)
    1. Identify use cases
    2. Draw use case diagram
    3. Describe use cases
    4. Identify automated services

2. Design target applications architecture (enterprise level)
    1. Identify data flows, data stores and applications in scope
    2. Select best-fitting Application Integration Pattern
    3. Draw application communication diagram (aka DFD)
    4. Draw sequence diagrams for key processes

Detailed in methods & training

Select best-fitting Application Integration Patterns (AM level 4)

Avancier



Design the Technology Platform for a Solution (AM level 4)

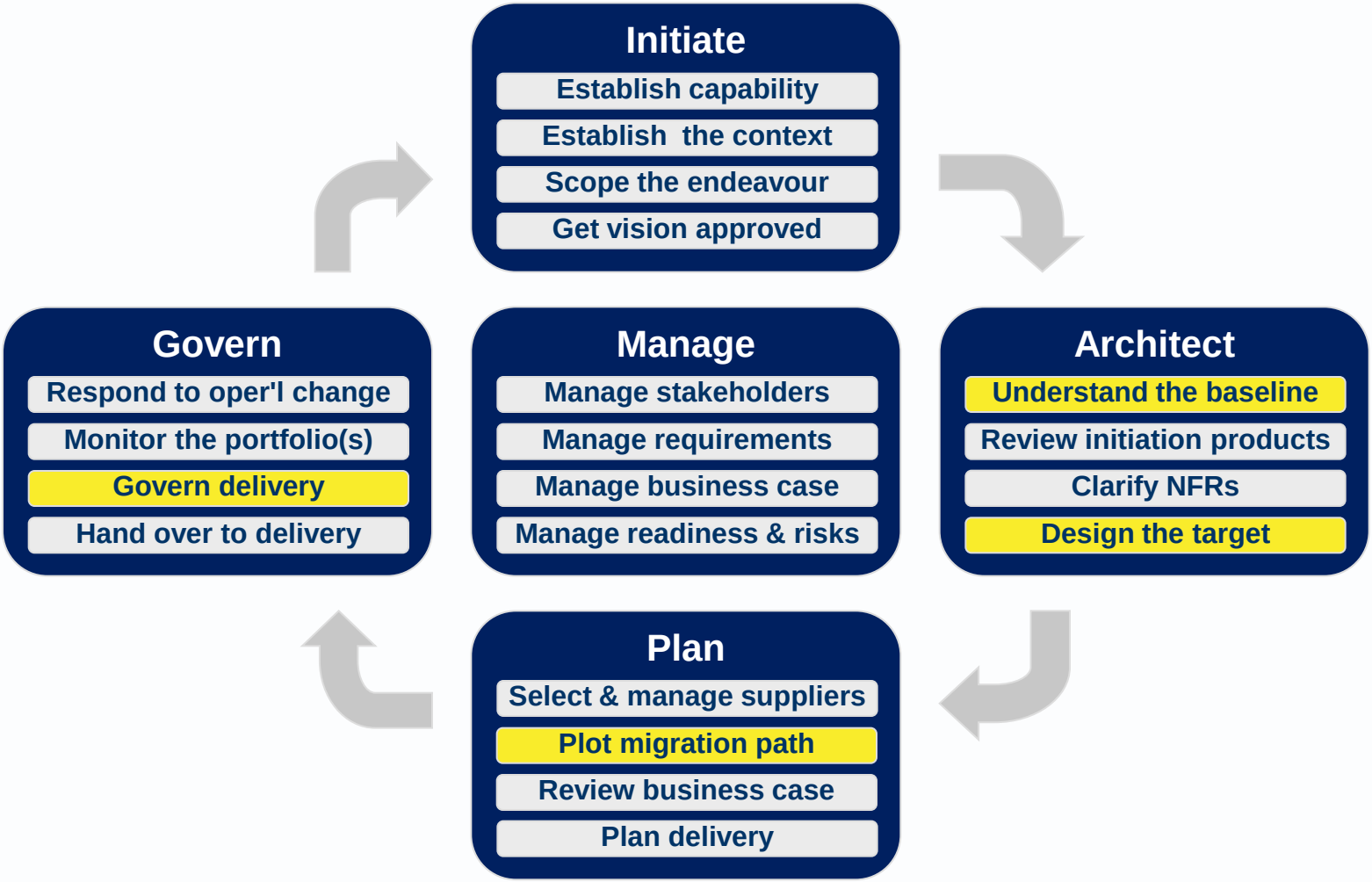
Avancier

1. Identify requirements and context
2. Establish baseline opportunities and constraints
3. Define platform nodes
   - Client nodes
   - Data source nodes
   - Other nodes
4. Map software to platform nodes
5. Map logical nodes to physical nodes
6. Define the network
7. Refine to handle NFRs
8. Define non-production environments
9. Govern deployment and transition into operations

Detailed in methods & training

Rationalise platform technologies (AM for EA level 2)

Avancier



Rationalise platform technologies (AM for EA levels 3 and 4)

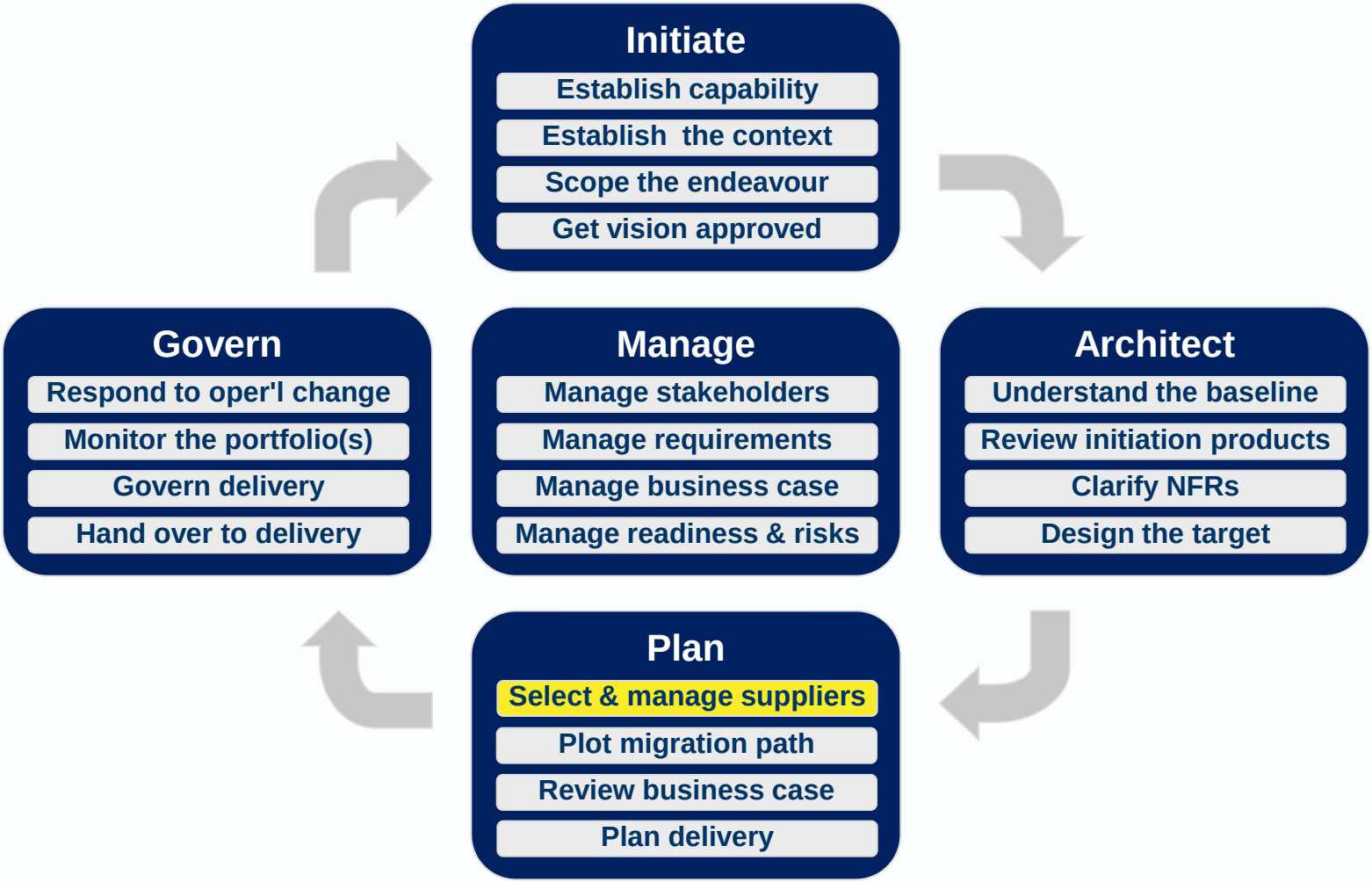
Avancier

1. Understand the baselines
   - Classify baseline platform technologies
   - Catalogue baseline technologies
   - Classify baseline platform services
   - Catalogue baseline platform services
2. Design the Target
   - Define target platform services
   - Define target technology components
3. Plan baseline-to-target migration
4. Govern delivery of the change.

Detailed in methods & training

A process (after TOGAF) for studying the services provided by baseline technologies and de-duplicating the target architecture

Select and manage suppliers (AM level 2)



Select and manage suppliers (AM level 3)

Avancier

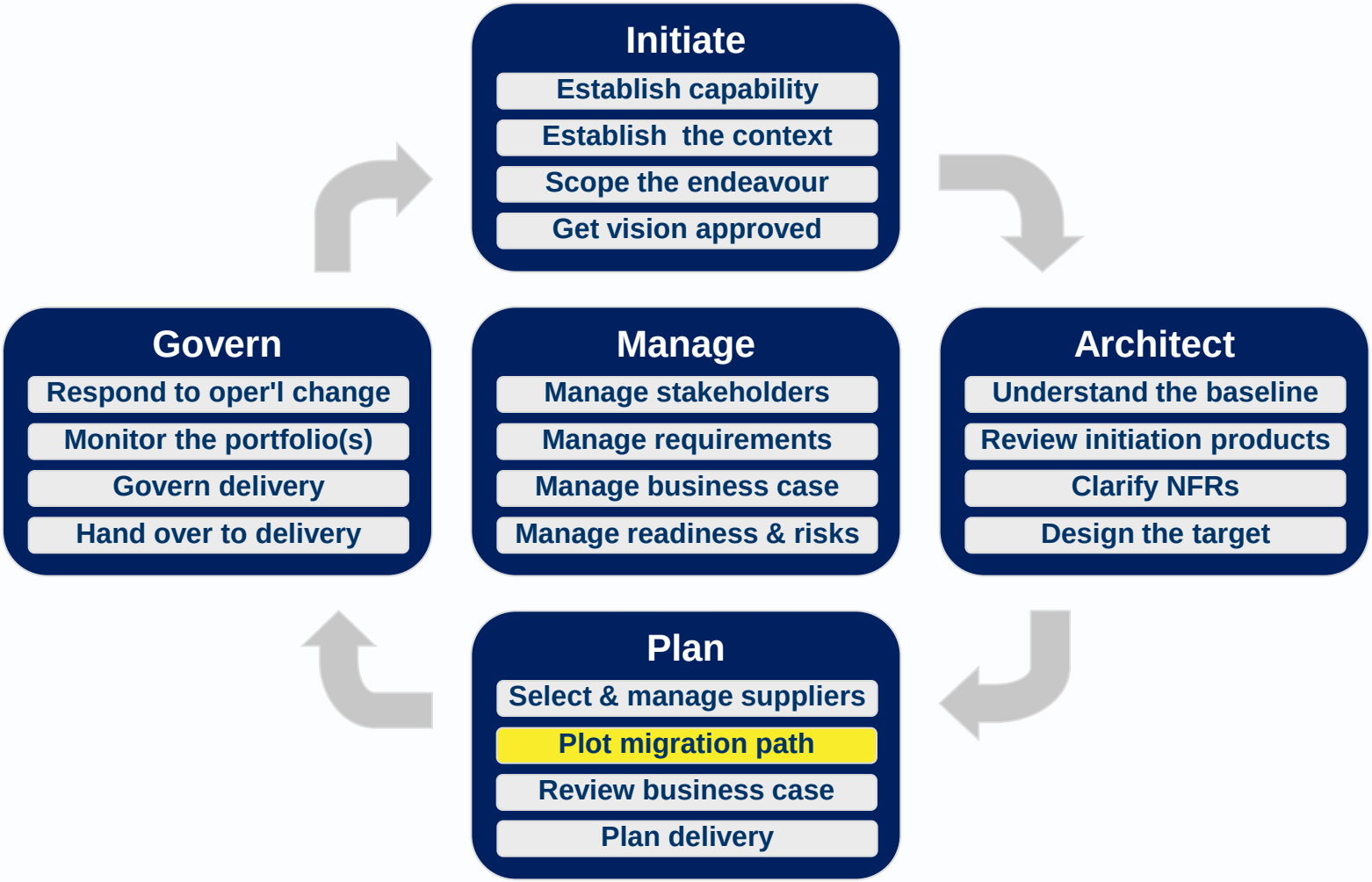
1. Select suppliers
    1. Establish Criteria for Suppliers
    2. Establish Criteria for Proposals
    3. Informed Short Listing
    4. Write your objectives in the RFP
    5. Distribute RFP
    6. Allow Enough Time for Proposal
    7. Maintain a Level Playing Field
    8. Receive and Score Proposals
    9. Review criteria
    10. Iterate if need be
    11. Receive Final Presentations
    12. Update Scoring
    13. Final Selection
    14. Due Diligence
2. Manage suppliers
3. Assess supplier dependency risks

Detailed in methods

Adapted from the 10 Step Approach to Selecting the Right SAP Systems Integrator by Michael Doane

A generic process that can be used a various points in the architecting and planning of a work programme.

Plot migration path (AM level 2)



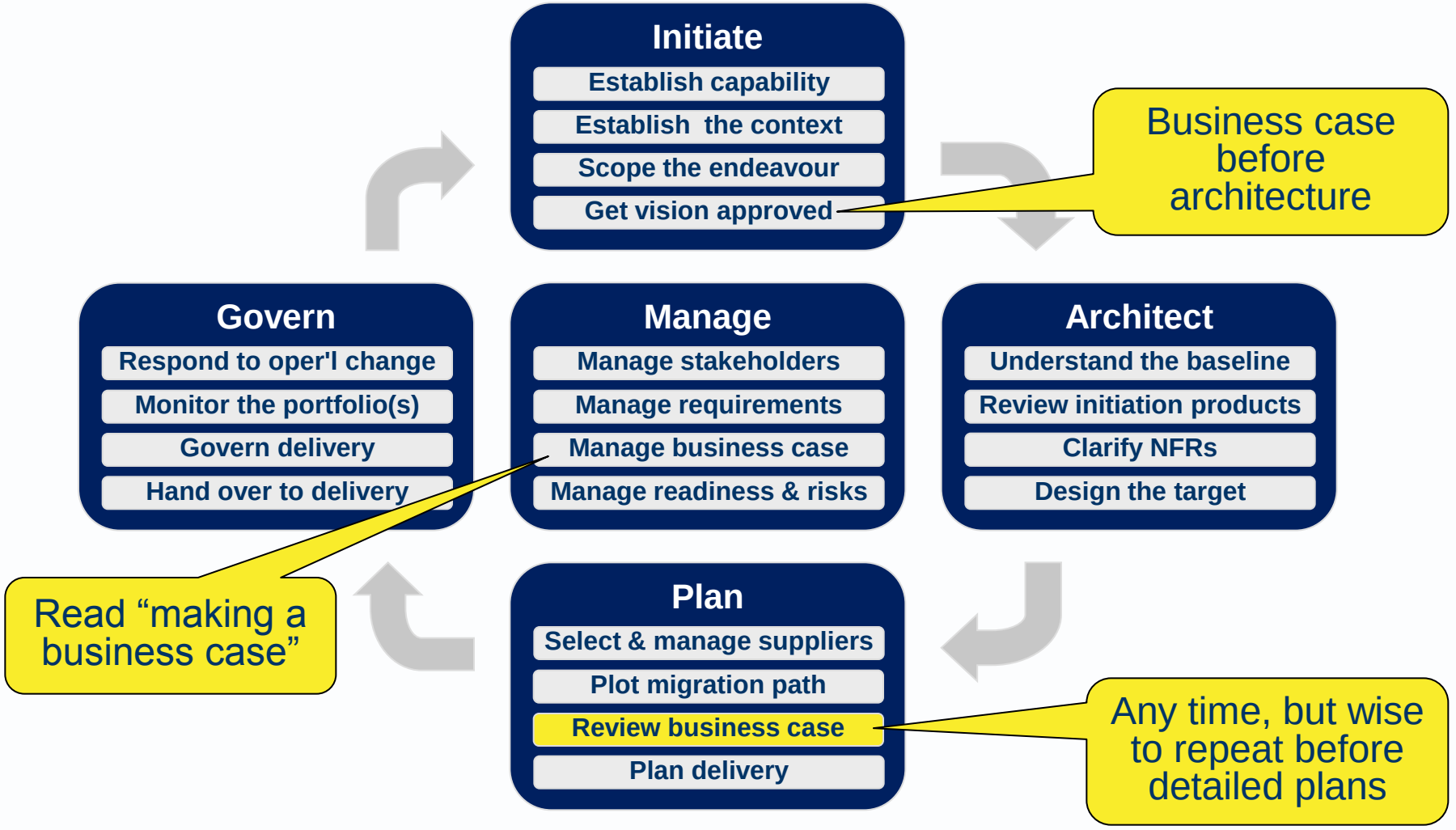
Plot migration path (AM level 3)

Avancier

1. List changes
2. Identify risks, costs and values
3. Prioritise changes
4. Plot migration path

Detailed in methods & training

Review business case (AM level 2)



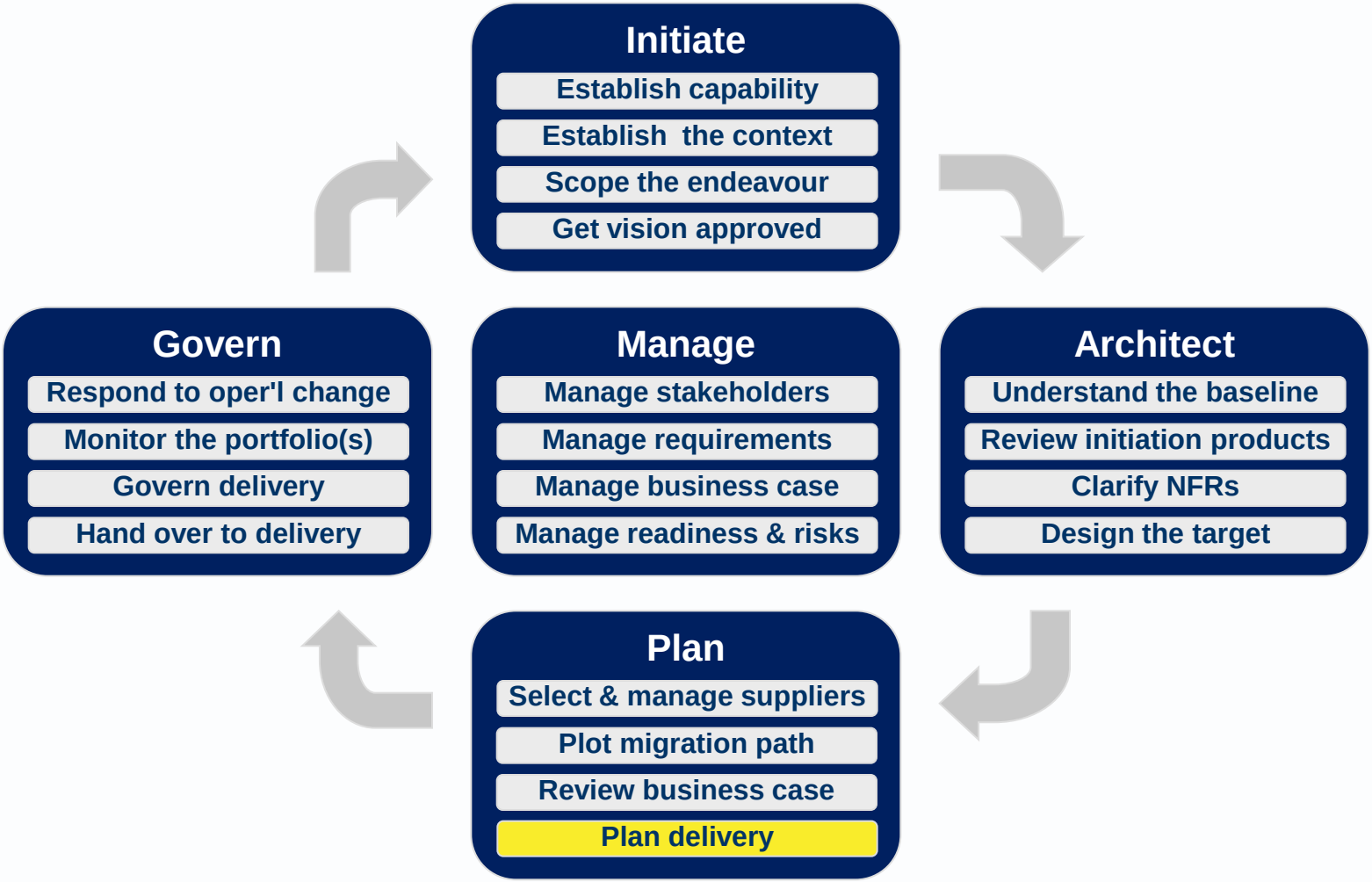
Review business case (AM level 3)

Avancier

1. Analyse solution or solution options
   - costs and benefits
   - risks
   - gaps between options
   - trade offs between option qualities
2. Confirm chosen option

Detailed in methods and training

Plan delivery (AM level 2)



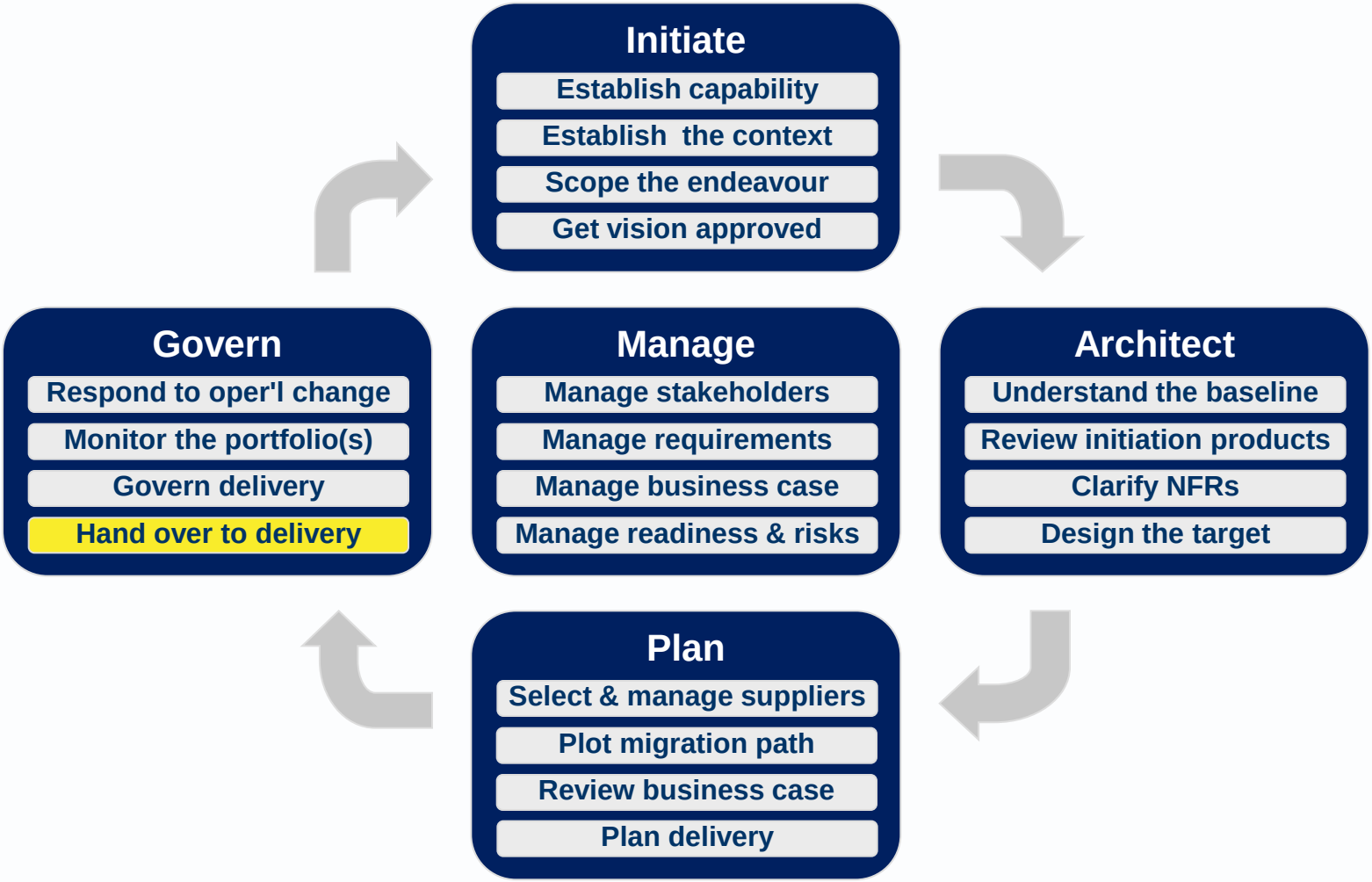
Plan delivery (AM level 3)

Avancier

1. Chart initial roadmap
2. Help managers complete detailed plans
3. Plan implementation governance

Detailed in methods and training

Hand over to delivery (AM level 2)



Hand over to delivery (AM level 2)

Avancier

1. Collect all relevant documentation
2. Assess project suitability for agile development methods
3. Agree subsequent engagement

Detailed in methods and training

Assess project suitability for agile development methods

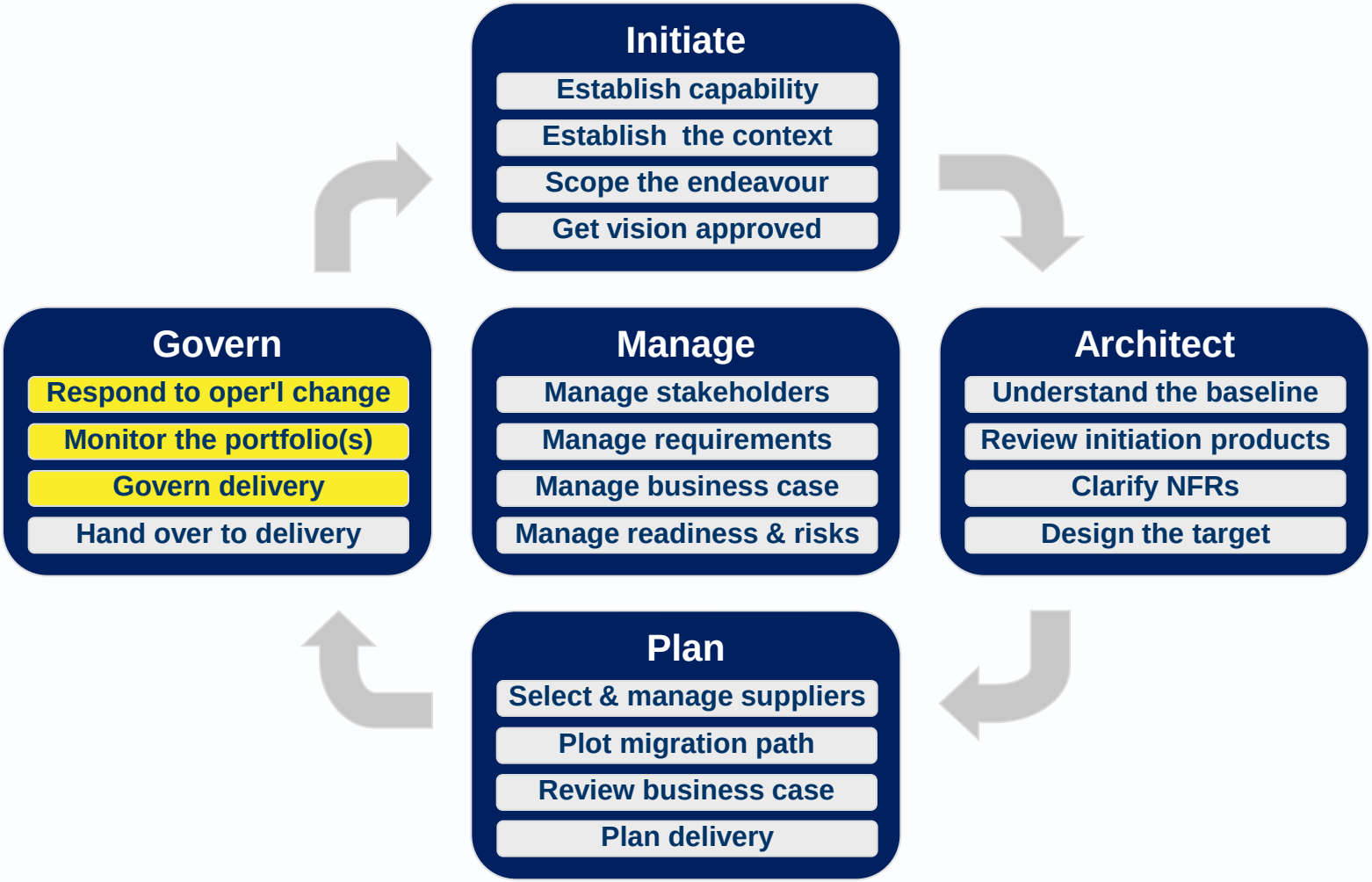
- High scores make agile methods difficult (but not a bad thing)

What kind of project?		
Time/cost-driven	0, 1, 2, 3	Mandatory requirements-driven
Users available for Joint App Dvlpmnt	0, 1, 2, 3	Users not available
Developers empowered	0, 1, 2, 3	Developers not empowered
What kind of system and work?		
Divisible into usable releases	0, 1, 2, 3	Indivisible
Client/user interface dominated	0, 1, 2, 3	Server/database dominated
Output/enquiry dominated	0, 1, 2, 3	Input/update dominated
Simple data processing (row-level CRUD)	0, 1, 2, 3	Complex data processing
On-line	0, 1, 2, 3	Batch
Stand-alone	0, 1, 2, 3	Highly integrated w other systems
Add up the scores for your agile potential quotient		

Agilists favour

Difficult projects

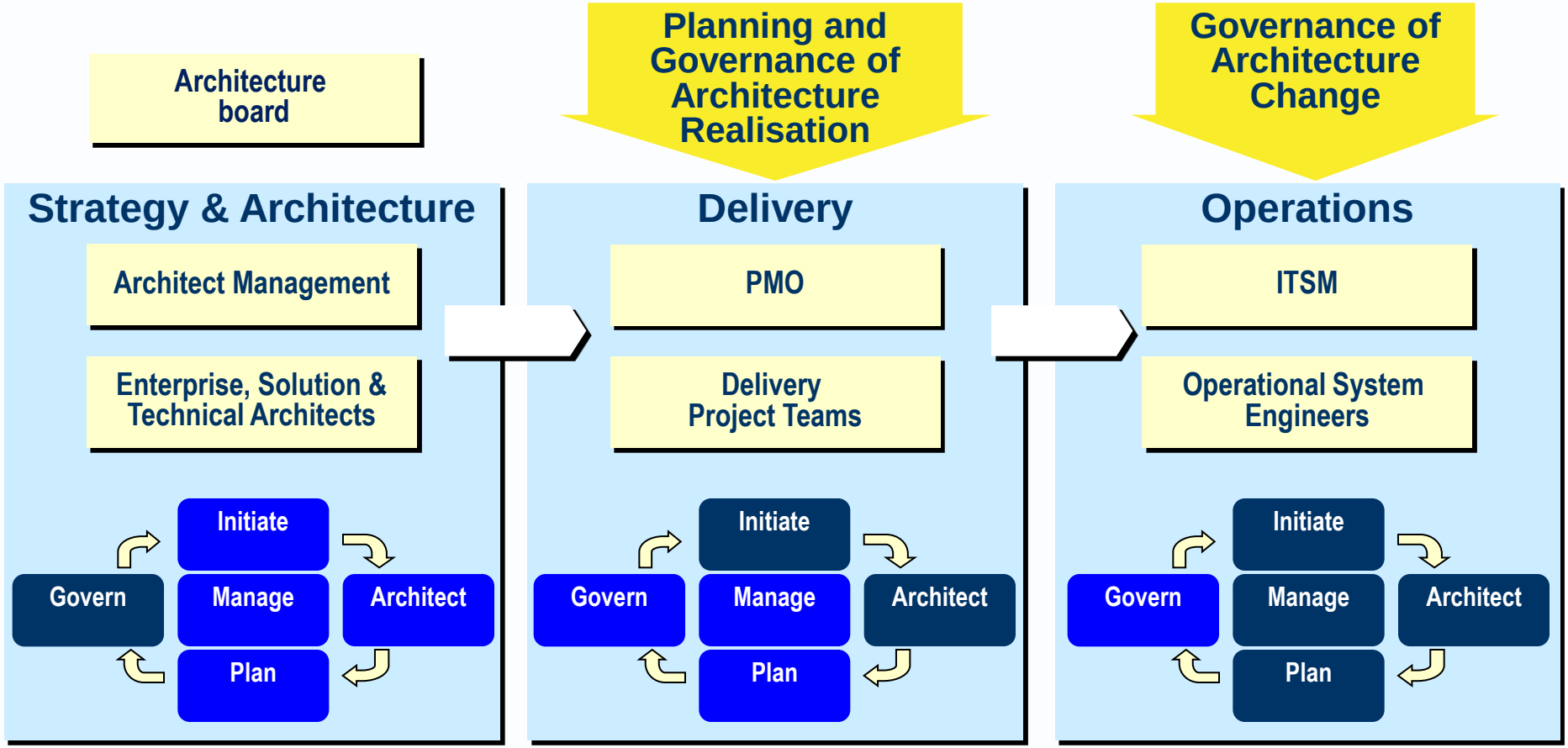
Govern delivery and change (AM level 2)



The role of Strategy and Architecture in Delivery and Operations

Avancier

- Engaged with PMO and ITSM



Govern delivery (AM levels 2 and 3)

Avancier

1. Share governance expectations
2. Schedule a review
3. Prepare for review
4. Carry out review
5. Report results

Detailed in methods and training

Footnotes

Map the architecture process to established process milestones

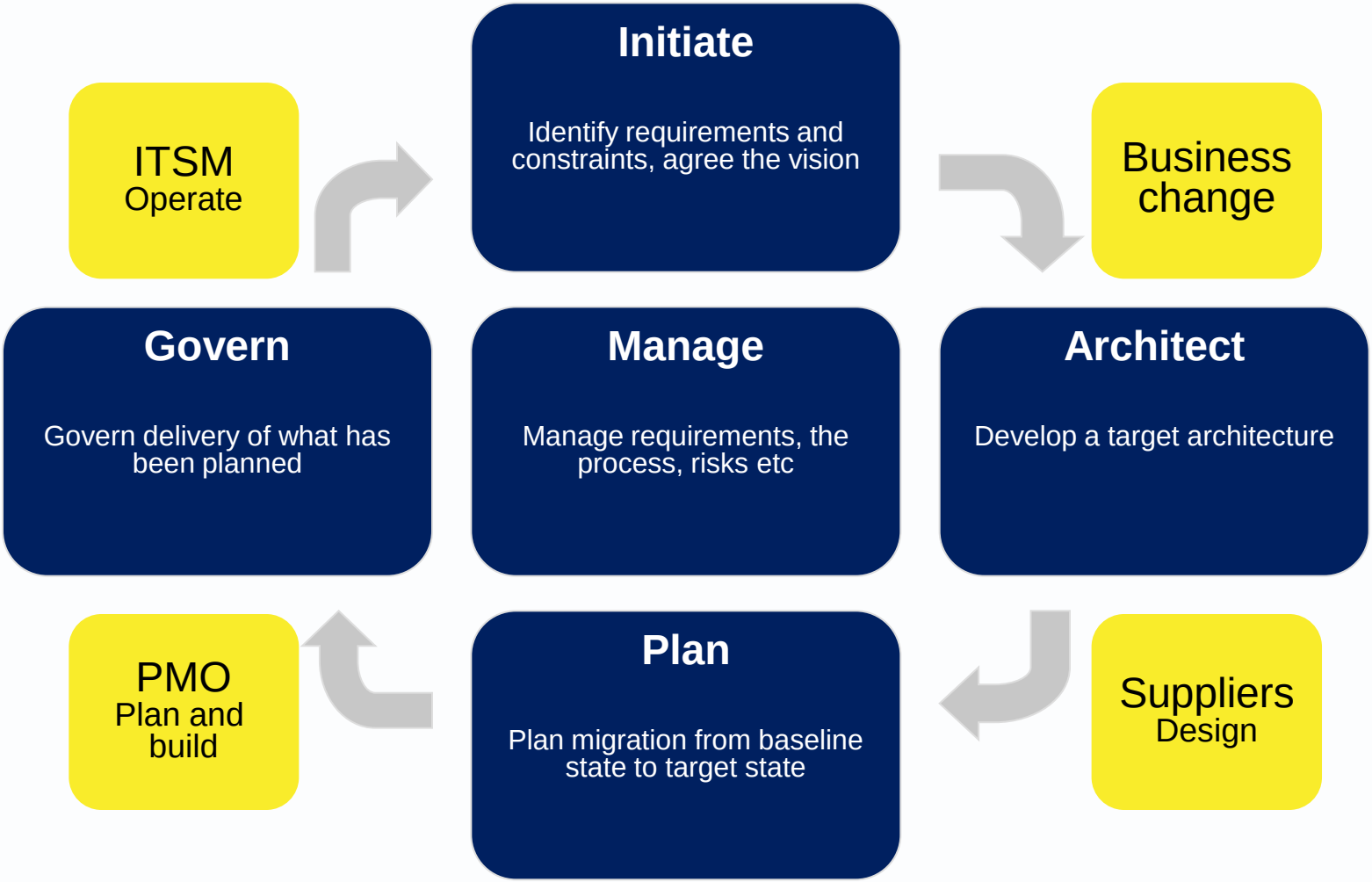
Avancier

A milestone is a stop/go point at which

1. Progress is tested against defined criteria
2. Impacts from and on other parallel activities are considered
3. Stakeholders are invited to review deliverables and approve further

INITIATE	Example PMO milestones
Establish capability Establish the context	Discover
Scope the endeavour Get vision approved	Vision
ARCHITECT	
Understand the baseline Review results of initiation Clarify NFRs Design the target	Outline
PLAN	
Select suppliers Plot migration path Review the business case Plan delivery	Commit
GOVERN	
Hand over to delivery Govern delivery	Deliver
Monitor portfolios Respond to operational change	Monitor

Adapt the framework to work with other functions/processes



Enhance TOGAF with Avancier Methods

Avancier

TOGAF's ADM is a management framework that promotes the role of architects

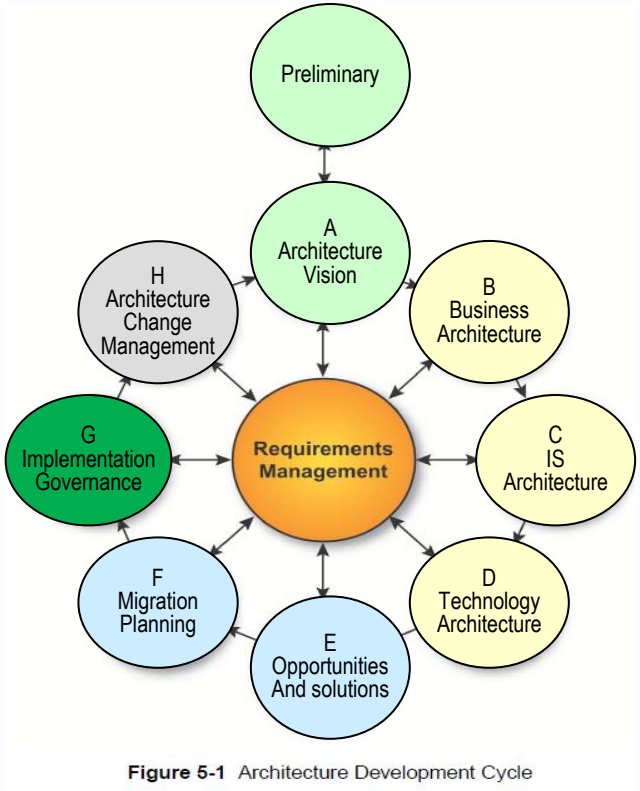
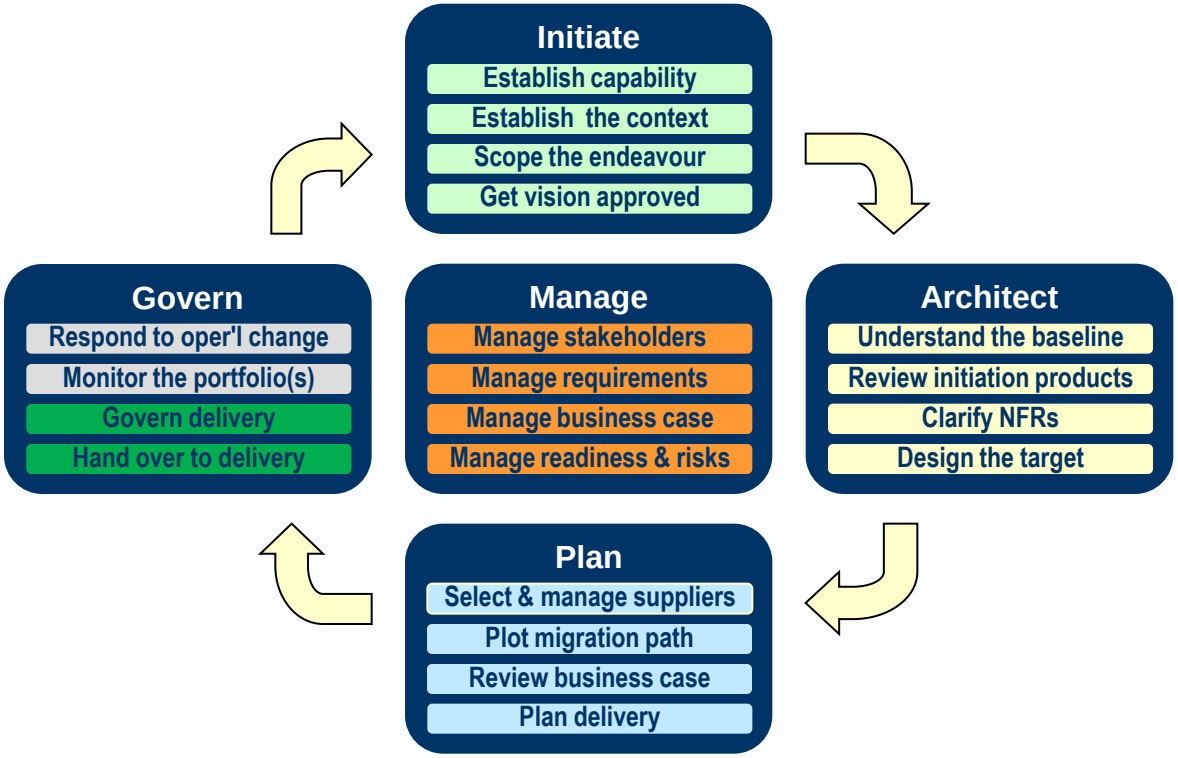


Figure 5-1 Architecture Development Cycle

AM gives architects more specific processes, techniques and documentation guidance



How Avancier Methods complement TOGAF

- AM focuses more architecture work itself – while still remaining technology independent.
- AM suits those working software development, systems integration and infrastructure who find TOGAF too abstract or removed from their day job

> - Hi Graham, in trying to find a methodology to use at my new company for solutions architecture, I came across Avancier Methods. It looks more aligned to what I need than TOGAF, so thank you!
> - Service Architect & ITIL Expert, London, United Kingdom

- AM helps people to better understand and appreciate what TOGAF offers by way of management framework
- Like TOGAF, it is assumed the people have some experience of business, data, apps or infrastructure architecture before they attend training, it is not for beginners in IT.

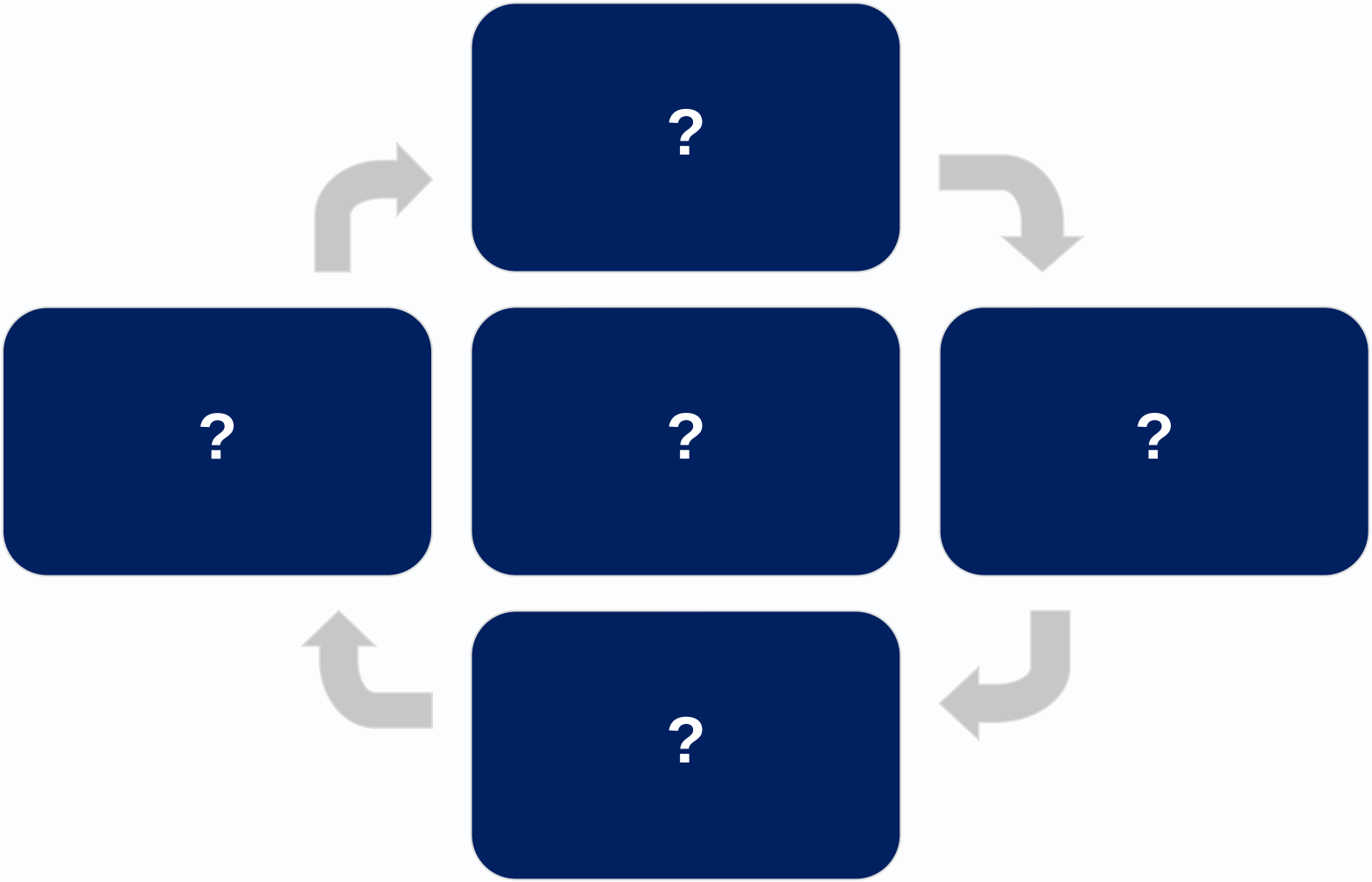
More value added to the training

- The web site (avancier.website) includes
  - c100 papers and presentations that make up “Avancier Methods”
  - c200 additional papers and presentations

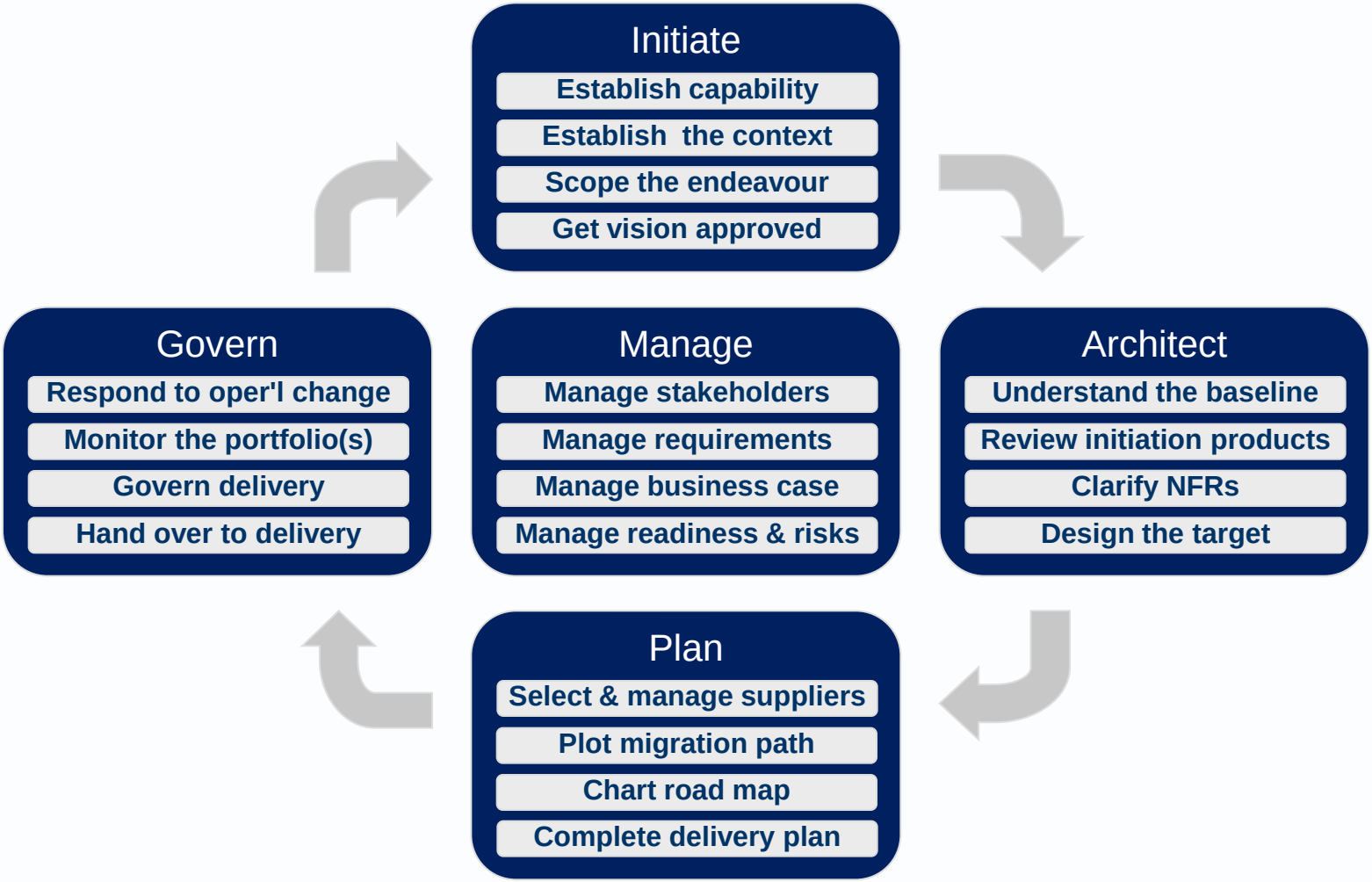
- The training materials include substantial additional chapters on
  - Design for NFRs
  - 80 Architecture Principles
  - Solution Outline documentation

Q) Name the 5 “phases” of AM (and any content you remember)

Avancier



A) Answer



Q) Which is true?

Avancier

1. AM is technology dependent?

2. The primary training course aim is to explain AM?

3. The primary training course aim is to teach general architect terms, concepts and techniques?

4. TOGAF or BCS certification proves you are an architect?

A) Answer

1. AM is technology dependent? No

2. The primary training course aim is to explain AM? No

3. The primary training course aim is to teach general architecture terms, concepts and techniques? Yes

4. TOGAF or BCS certification proves you are an architect? No