

**Higher Education Facility Management
Association of Southern Africa**

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Infrastructure Procurement and Delivery Management – principles and practices

- **Philosophy behind the IPDM model**
- **Separation of the supply for chain for IPDM from that for general goods and service**
- **Practices of the IPDM model**
- **Role of the client including the assigning and delegation of responsibilities**
- **Guidance on how to apply the control frameworks**
- **Range of procurement options and approaches that are available**
- **High level guidance on satisfying most aspects of the IPDM to improve project outcomes.**

Narrow definition of procurement – basic/ administrative buying function

Narrow definition

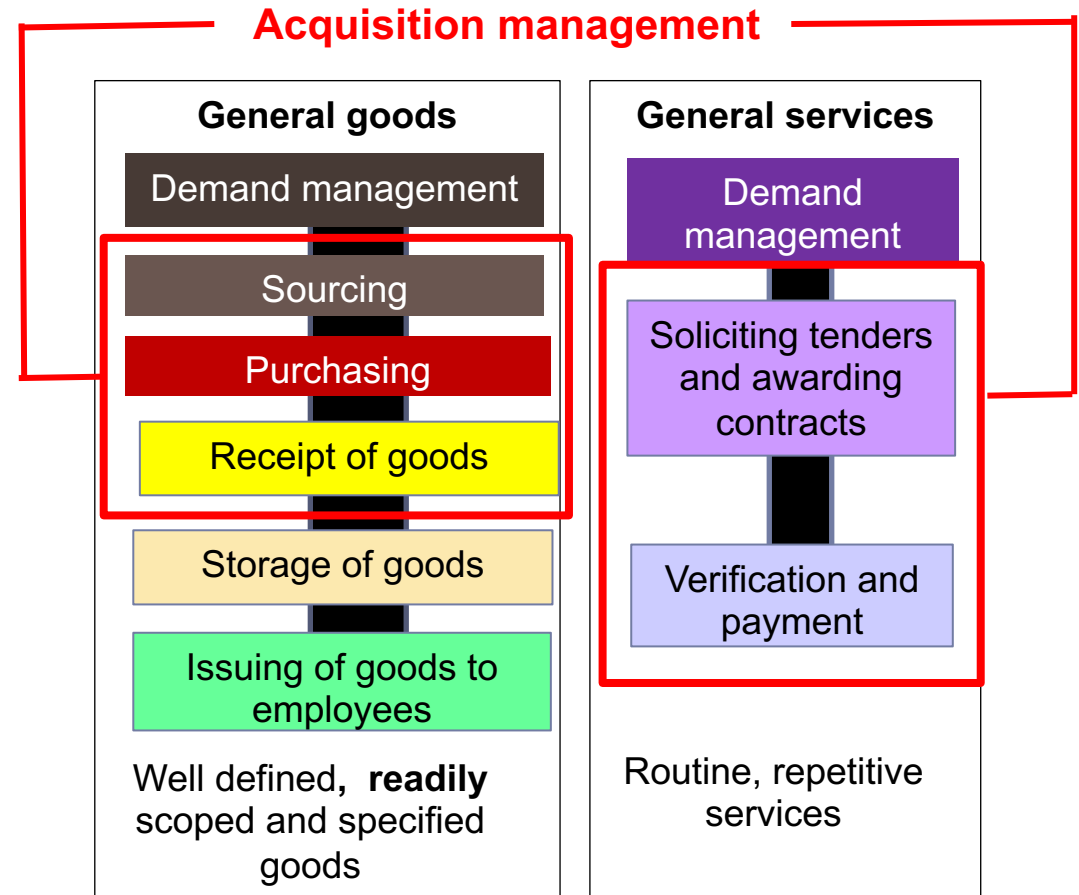
Business dictionary defined procurement as *the act of obtaining or buying goods or services*

- ISO 20400:2017: *Sustainable procurement — Guidance* defines procurement as *the activity of acquiring goods or services from suppliers*

Administrative – financial function

Back-office function characterised by:

- goods which are **well-defined and readily scoped and specified**
- services which most often involve **routine, repetitive services**
- **well understood interim and final deliverables** which require **little or no strategic inputs** following the conclusion of a contract
- relatively **low levels of procurement strategy and tactics** in engaging and contracting with the market.
- **little or no risk management** following the award of a contract
- **focus on initial price** for satisfying specified requirements



Broad definition

- ISO 10845-1 2020: *Construction procurement – part 1: processes, procedures and methods* defines procurement as **the process which creates, manages and fulfils contracts relating to the provision of goods, services and construction works or disposals, or any combination thereof**

Strategic – operational function

Front office function characterised by:

- goods and services are linked to projects where:
 - **the project is delivered through a network of suppliers bound together through contracts**
 - **the project outcome is commonly only realised when the last contract is complete**
- **strategic inputs need to be made** following the conclusion of a contract
- relatively **high levels of procurement strategy and tactics** in engaging and contracting with the market
- **both parties to the contract need to actively manage and mitigate risks** following the award of a contract
- focus on **project outcomes including outturn (final) price**

Construction works projects are necessary to **support the strategic and business objectives of client organisations according to their purpose and values.**

International Organisation for Standardization (ISO 21502:2020, Guidance on project management)

Planning procurement

Define a procurement strategy, taking into account:

- the project’s “make or buy” decisions;
- the delivery practices;
- the type of legally binding agreements;
- the procurement process to be used

Evaluating and selecting suppliers

Select suppliers. based on selection activities in accordance with stated evaluation criteria.

Administering contracts

Administer contracts by monitoring contract performance, managing contract changes and corrections, dealing with claims and ending contracts thereby enabling the contracted parties’ performance to meet the project’s requirements according to the terms of the legal agreement.

Closing contracts

Close out contracts when:

- the contract obligations of the parties have been met; or
- the contract is closed early, in accordance with the contract’s termination clauses.

National Treasury's Supply Chain Management Concept under a CFO

The Policy Strategy to Guide Uniformity in Procurement Reform Processes in Government (2003) which informed the SCM regulations issued in terms of the PFMA and MFMA states that “*Supply chain management is an integral part of financial management. . . .*”

SCM Regulations required a SCM Unit under a Chief Financial Officer

The term SCM no longer appears in the Public Procurement Bill

Element	Outline of function associated with the element
Demand management	Determining a needs assessment
Acquisitioning Management	<p>This is the stage where:</p> <ul style="list-style-type: none"> • The preferential procurement policy objectives are identified that could be met through the specific contract; • The strategy of how the market is to be approached is determined; • The bid evaluation criteria is determined; • Bids would be evaluated and recommendations tabled; • Contract documents would be compiled and signed; • Contract administration is done
Logistics Management	<p>For stock or inventory items - coding of items, setting of inventory levels, placing of orders, receiving and distribution of material, stores/warehouse management etc</p> <p>For fixed capital items (construction and road projects, immovable property) a similar process - appropriate classification, additions to asset and property register, valuation, main use, etc.</p>
Disposal Management	<p>At this stage:</p> <ul style="list-style-type: none"> • Obsolescence planning or depreciation rates per item required to be calculated; • A data base of all redundant material is kept; • Material is inspected for potential re-use; • Again a similar set of procedures is applicable to fixed capital stock, i.e. depreciation, maintenance and replacement planning and costing, etc.
Supply Chain Performance	Monitoring process takes place, undertaking a retrospective analysis to determine whether the proper process is being followed and whether the desired objectives are achieved

The sources of risk associated with the delivery of infrastructure include those relating to:

- client / owner behaviour,
- human behaviour,
- community opposition / unrest,
- design (omissions/ interfaces / changes),
- economic circumstances,
- finances,
- force majeure,
- political and regulatory frameworks,
- project governance,
- technical aspects,
- technology,
- third parties (subcontractors / suppliers),
- environmental safeguards,
- natural events,
- weather and inherent site conditions.

Risk taking is necessary in infrastructure delivery.

Risk - exposure to the chance of loss, harm or failure to achieve objectives

ISO 31000 Risk – effect of uncertainty on objectives

An effect is a deviation from the expected. It can be positive, negative or both, and can address, create or result in **opportunities and threats**.

- Risk can be **retained or transferred**
- The focus in the distribution of risk is on the **payment and responsibility for the cost of the event, should it materialize**.
 - The contractor tries to **limit liability** in contracts to a foreseeable figure.
 - If the client **retains risk** (and uncertainty), it only pays for risks that materialize.

The more risk that is transferred through contracts the fewer the firms that are willing to submit tenders ie it reduces competition.

The **higher the uncertainty, the higher the risk pricing**.

Project complexity is a function of :

- **Scope complexity** which occurs where the **individual pieces in a single project have no value without every other piece being successfully completed** or where **new technology** is central to a project
- **Organisational complexity** which grows as the number of organizations and individuals involved in a project increases and **line-of-sight management to individual teams becomes impracticable**
- **Shaping complexity** which relates to the array of challenges emanating for **internal and external stakeholders**

Administrative procurement driven by finance department

Procurement conceptualised as an acquisition function within a financial management system

Administrative in nature (**back office**) under a Chief Financial Officer

- driven by a General Conditions of Contract which excludes change management and a specification inserted into a pack of forms
- clerical function

Typically applies to general goods and services for **consumption** where risk is negligible



PFMA requirements - bid documentation and the general conditions of a contract are in accordance with –
(i) the **instructions** of the National Treasury; or
(ii) the **prescripts** of the Construction Industry Development Board, in the case of a bid relating to the **construction industry**;

National Treasury's Office of the Chief Financial Officer over time forced an administrative **one size fits all regime onto infrastructure procurement** which **crippled infrastructure delivery**

Strategic procurement driven by an operations department

Procurement conceptualised as the process which creates, manages and fulfils contracts within a project delivery system

Strategic in nature (**front office**)

- driven by procurement strategy and tactics with:
- proactive risk management and change management embedded in procedures

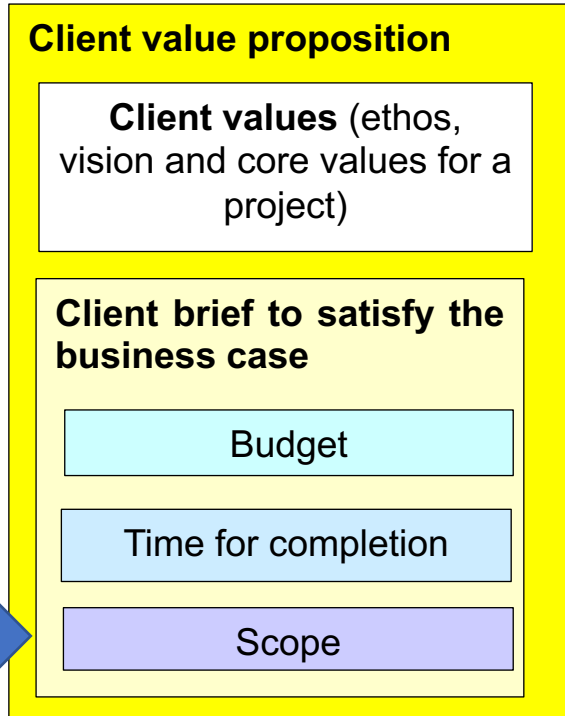
Typically applies to **infrastructure** where material risks can exist

Fundamentals of infrastructure delivery

The **client value proposition** is the promise of measurable benefits / impacts resulting from the project

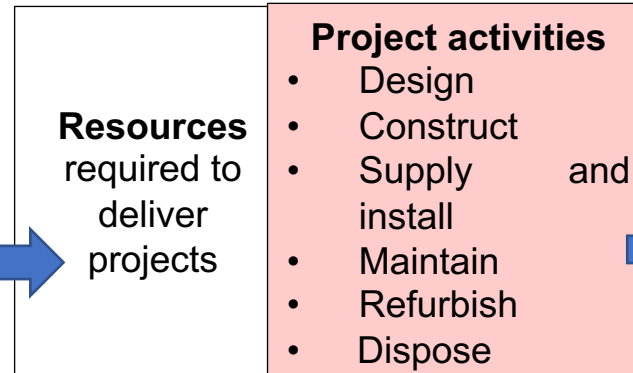


Strategic planning
(prepare a detailed proposal / business case for a project)



Supply function

Project management
(controlling practices)



Project outcomes and impacts

Infrastructure (works with functionality, performance and quality delivered for a cost and ready for use)

Sustainability impacts (any change that may be beneficial or adverse) on economic, social and environmental aspects

Public value i.e. the value that an organization or activity contributes to society.

Client delivery management (influencing practices)
(client leadership, governance and procurement practices, strategy and tactics)



Delivery management includes **knowledgeable leadership, consistent governance and systematic administration of procurement, contracts and project finances**

Project value is the outcome of **client decision making** to achieve an optimal balance of the project benefits, risks and costs

Infrastructure delivery – focus of role players

Client - organization initiating and financing a project and approving the brief i.e. the **requirements for a project**

Deliverable - unique and verifiable element that is required to be produced by a project

Project manager - the person assigned by the performing organization to lead the team that is responsible for achieving the **project objectives (deliverables)**

Client brief to satisfy the business case

Project management (controlling practices)



Resources Project activities



Project outcomes and impacts

Client delivery management (influencing practices)



Client delivery manager - named individual held accountable for **project outcomes**



Outcome - change resulting from the use of the output from a project

Client's role and responsibilities

Strategic planning commences with the **identification by the client organisation of strategic objectives.**

A client organisation thereafter needs to establish a **vision**, conduct a needs assessment and use this to build an **organisational strategy** which reflects the infrastructure challenges it has inherited and its aspirations for the future

The **organisation's business case, vision, values and project priorities** collectively make up the **client's value proposition for a project** i.e. the promise of measurable benefits resulting from the project.

Clients in order to achieve project value (outcome of client decision making to achieve an optimal balance of the project benefits, risks and costs) need to:

- **plan** – decide on what needs to be done, how it is to be resourced and achieved and in what time frames, and set a budget
- **specify** – define the client's functional and other requirements for the project clearly and precisely
- **procure** – obtain project resources (internal and external) to execute project activities with care and effort
- **oversee delivery** – observe and define the execution of the project to realise the client's value proposition associated with a business case

Client leadership is vital to the success of a project as it establishes the culture within which the delivery team functions.

The principal role of the client is to ensure that a **solution to the business case for a project is achieved.**

The client as such **owns the business case** of the project and needs to provide effective leadership of the project throughout the project life cycle, **commencing at a strategic level and ending at the close out of a project** after the beneficiary of the project has accepted and operates the ensuing infrastructure.

Clients remain accountable for project outcomes

Organisational governance (accountability practices) (ISO 37000)

Each organisation has its own functions with responsibilities, authorities and relationships **to achieve its objectives and a governing body which has ultimate accountability for the whole organisation.**

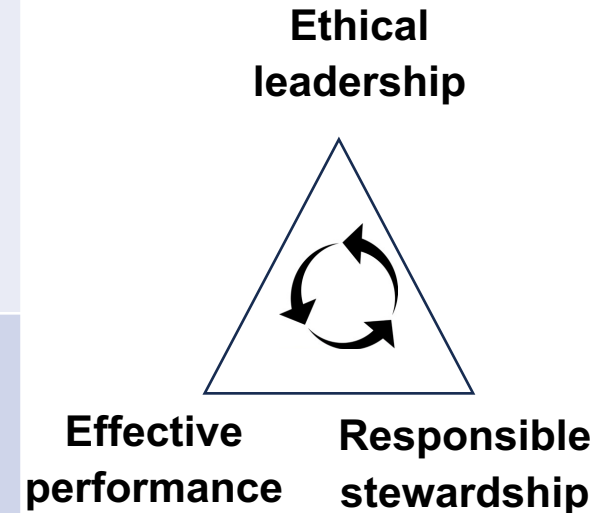
Organisations are guided by governance frameworks which ensure that the organisation remains true to its purpose. **Such frameworks are generally framed** around the following principles:

Category	Descriptor
Primary	Purpose
Foundational	Value generation
	Strategy
	Oversight
	Accountability
Enabling	Stakeholder engagement
	Leadership
	Data and decisions
	Risk governance
	Social responsibility
	Viability and performance over time



Key governance outcomes	Description of targeted governance outcomes
Effective performance	The organisation is true to its purpose , performs as required, realises value for stakeholders and remains in compliance with its policies and stakeholder expectations
Responsible stewardship	The organisation utilises resources in a responsible manner , effectively balances negative and positive impacts , considers the global context , ensures its contribution to sustainable development and engenders the trust and confidence of the communities within which it operates, and beyond.
Ethical behaviour	The organisation behaves in accordance with accepted principles of right or good conduct in the context of a particular situation and in a manner consistent with international norms of behaviour ,

An organization behaves in a socially responsible way when it acts consistently and transparently in line with its **organizational values, and stakeholder and societal expectations**

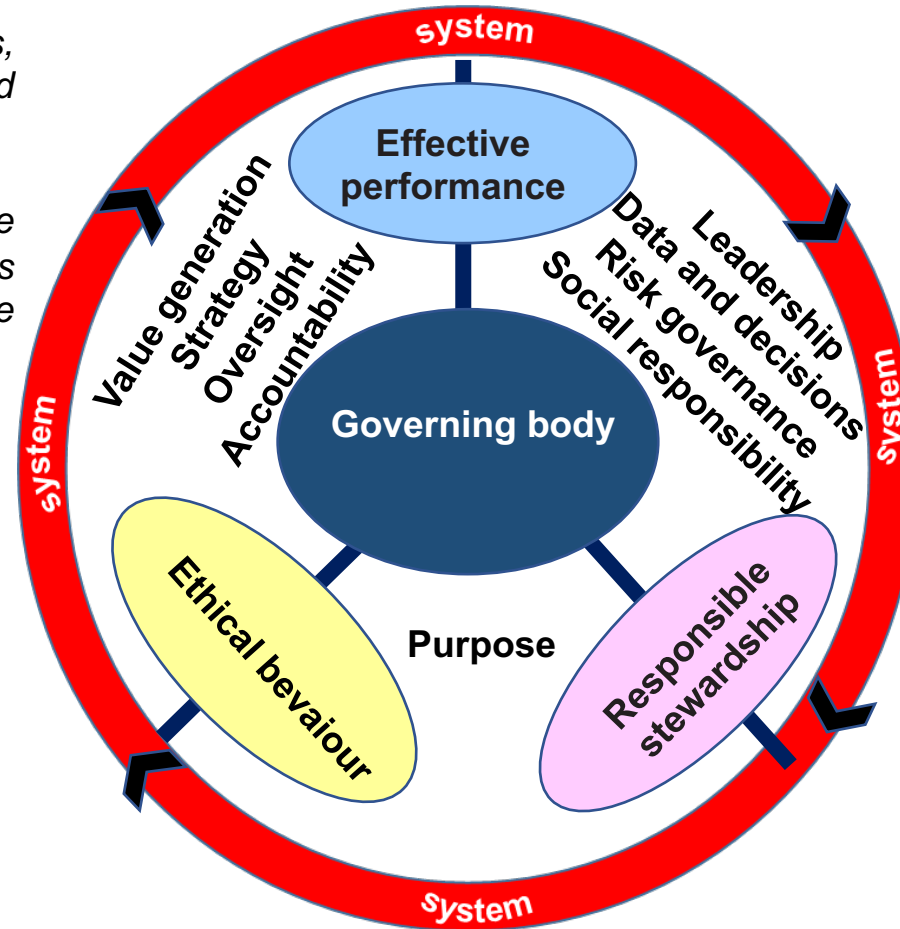


Governance authorises, directs, empowers, provides oversight and limits the action of management

Management should work within the constraints set by the organisation's governance to achieve the organisation's objectives

Management is about getting the work done whereas governance **is about ensuring that the right purpose is pursued in the right way.**

Governance at the highest body within an organisation, which is ultimately responsible and accountable for the long term direction and control of the organisation, **focuses on the attainment of the organisation's core purpose over the long term.**



Governing bodies need to hold management to account and to ensure that the culture, norms and practices in the organisation align with its purpose
Governing bodies need to **monitor and evaluate the performance and behaviours** of executive managers and the senior management team

Project governance

Project governance describes the way in which projects are authorised, conducted and overseen.

It:

- comprises those **areas of governance that are specifically related to project activities**
- provides a **comprehensive, consistent method of controlling the project** and ensuring its success; and
- includes the establishment of appropriate and **effective delegations of responsibility.**

Project governance is the framework within which project decisions are made.

Governance at a programme and project level provides a way for senior management and notable stakeholders to exercise oversight and ensure the strategic outcomes are realised. The focus is accordingly on **ensuring the progressive realization of objectives in the right way**

Doing the right thing in the right way

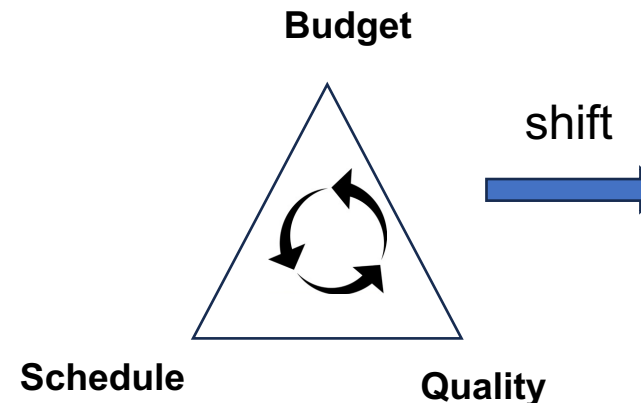


Project Management Institute (PMBOK®):2017	The application of knowledge, skills, tools, and techniques to project activities to meet the project requirements . Project management includes the integration of the various phases of the project life cycle
Association of Project Managers (UK) :2019	The application of processes, methods, skills, knowledge and experience to achieve specific project objectives according to the project acceptance criteria within agreed parameters . Project management has final deliverables that are constrained to a finite timescale and budget
ISO 21502:2020 Project, programme and portfolio management – Guidance on project management	Coordinated activities to direct and control the accomplishment of agreed objectives
Project Management Institute (PMBOK®):2021	Project management: The application of knowledge, skills, tools, and techniques to project activities to meet project requirements. Project management refers to guiding the project work to deliver the intended outcomes.

ISO 21502

control - comparison of actual performance with planned performance, analysing variances and **taking appropriate corrective and preventative action as needed**

outcome – change resulting from the use of the output of a project



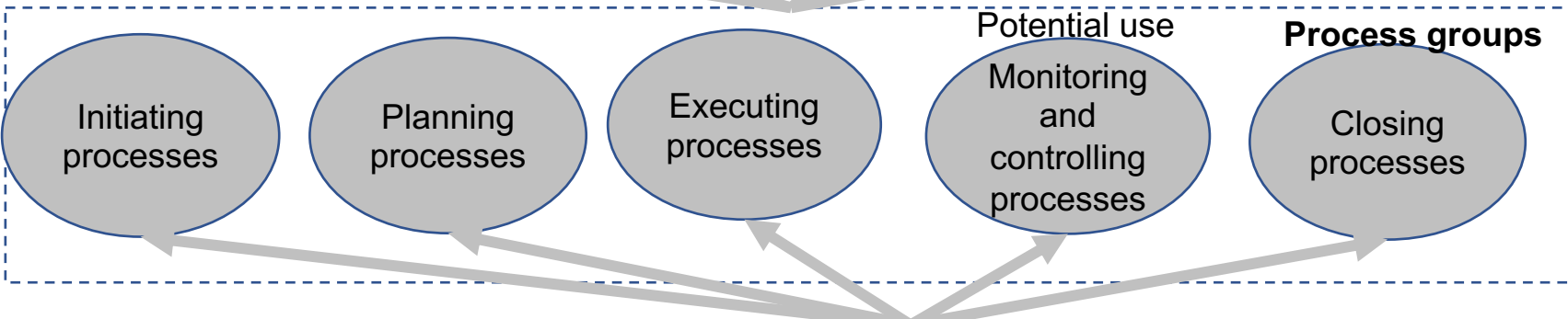
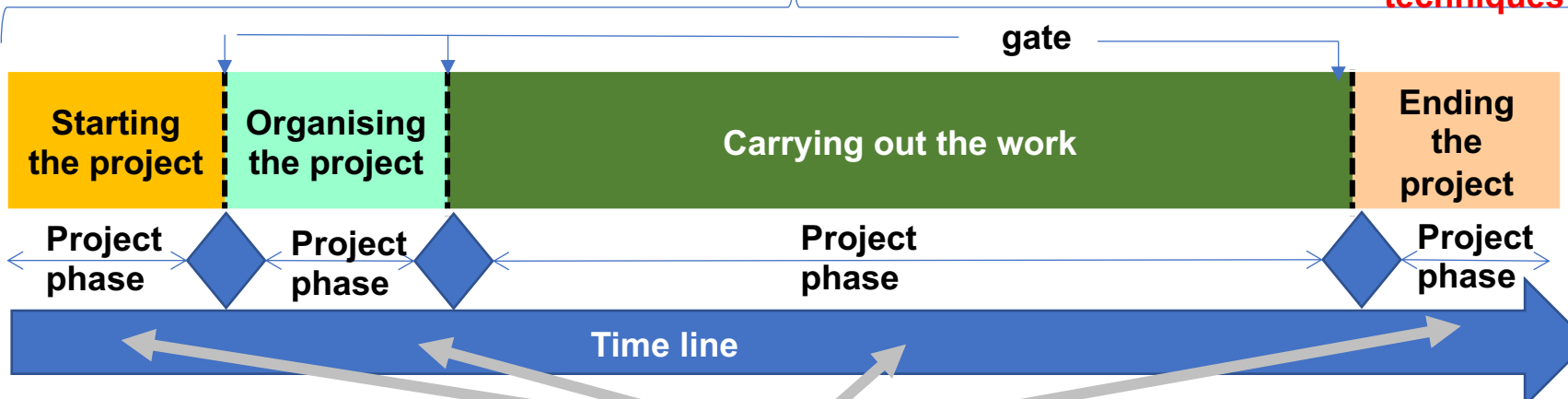
A project's objective can be fulfilled by a **combination of deliverables, outputs, outcomes and benefits**, depending on the project's context

Project management changes

PMBOK (up to 6th ed)

Project life cycle

Focus on tools and techniques



Potential use **10 Knowledge areas**

Project integration management	Project quality management	Project procurement management
Project scope management	Project resource management	
Project schedule management	Project communication management	Project stakeholder management
Project cost management	Project risk management	

The project management processes are linked by specific **inputs and outputs**

ISO 21502: Guidance on project management

Individual project management practices that should be considered throughout a project

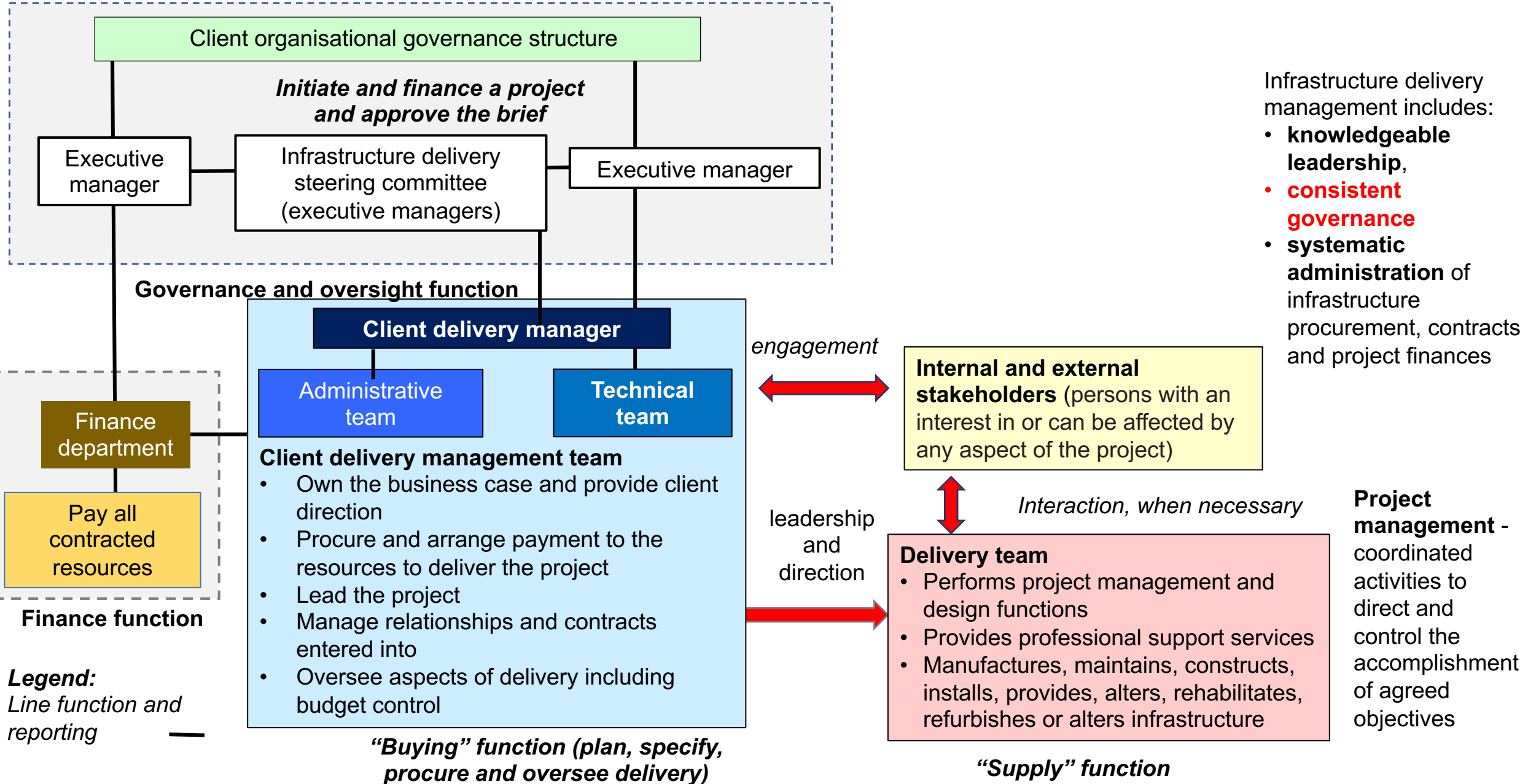
- Planning
- Benefit management
- Scope management
- Resources management
- Schedule management
- Cost management
- Risk management
- Issues management
- Change control
- Quality management
- Stakeholder engagement
- Communication management
- Managing organizational and societal change
- Reporting
- Information and documentation management
- Procurement
- Lessons learn

Focus on objective / outcome

Clients who put in place procurement and delivery management which embrace the following systems are likely to **consistently produce successful project outcomes** :

- 1) provides **effective governance processes** which ensure that:
 - there is **proper management and control of infrastructure delivery** including demand management;
 - all the various parts of the organisation which play a role in infrastructure delivery work together in a **coordinated**, efficient and effective manner; and
 - infrastructure delivery is, wherever possible, **managed as a long term and strategic system of individual yet interlinked projects aimed at meeting the organisation's objectives**;
- 2) establishes **clear delegations of authority** to enable **timeous decision-making and individual and organisational accountability** for infrastructure delivery;
- 3) provides for the **assignment of single point accountability** to a suitably qualified and experienced built environment practitioner (client delivery manager) to provide executive level leadership in the planning, specifying, procuring and overseeing of infrastructure delivery;
- 4) provides **control frameworks which include decision gates** to enable risks to be appropriately and proactively managed and render the system capable of being audited;
- 5) put in place a procurement system which supports a strategic and tactical approach to procurement
- 6) recognises that infrastructure procurement is a **central competency of those responsible for delivering infrastructure**;

Functions of the principal role players in infrastructure delivery



Structure of the client delivery management team (buying function)

The client delivery manager

- leads the client delivery management team **with single point accountability with a chief executive officer level leadership**
- has **direct access to senior client management** when decisions regarding a significant departure from the plan or budget need to be taken
- reports to the governing body
- sets priorities
- leads engagements with internal and external stakeholders

The technical support team

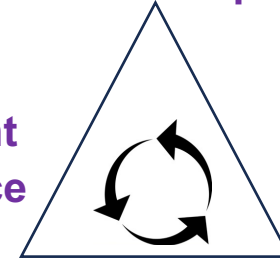
- provides **advice** on a range of matters
- **manages activities** associated with the **initiation of projects**
- **formulates, shapes and documents** the client's specific requirements during the initial stages of the project
- **monitors and evaluates the outputs** of the project delivery team
- **establishes financial and cost controls** and reporting systems
- **procures the resources** necessary to deliver the project

The administrative support team:

- prepares the necessary **documents for payment** by the client's finance department
- **develops, maintains and keeps up to date for project governance purposes** a planned procurement and commitment register, a contracts register, a payment register and a purchase order register
- ensures that documents associated with project delivery are accessible to the client delivery management team in a **suitable document management system** for record and audit purposes

Knowledgeable leadership

Consistent governance

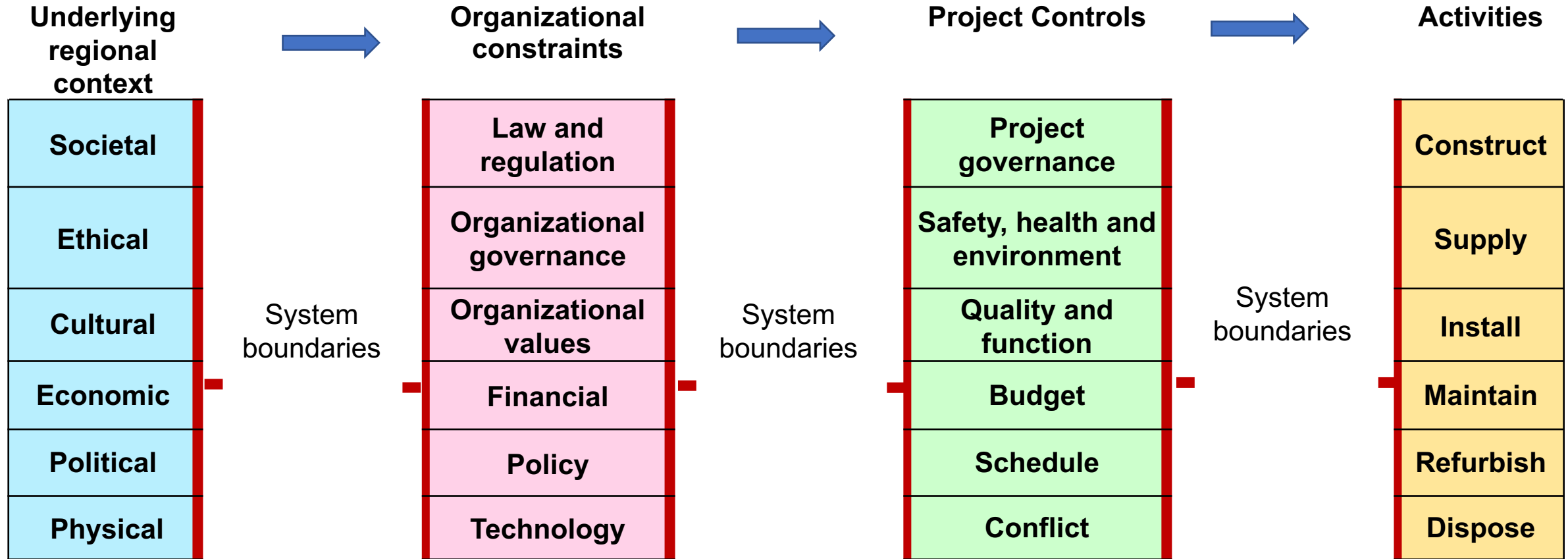


Systematic administration of procurement and finances

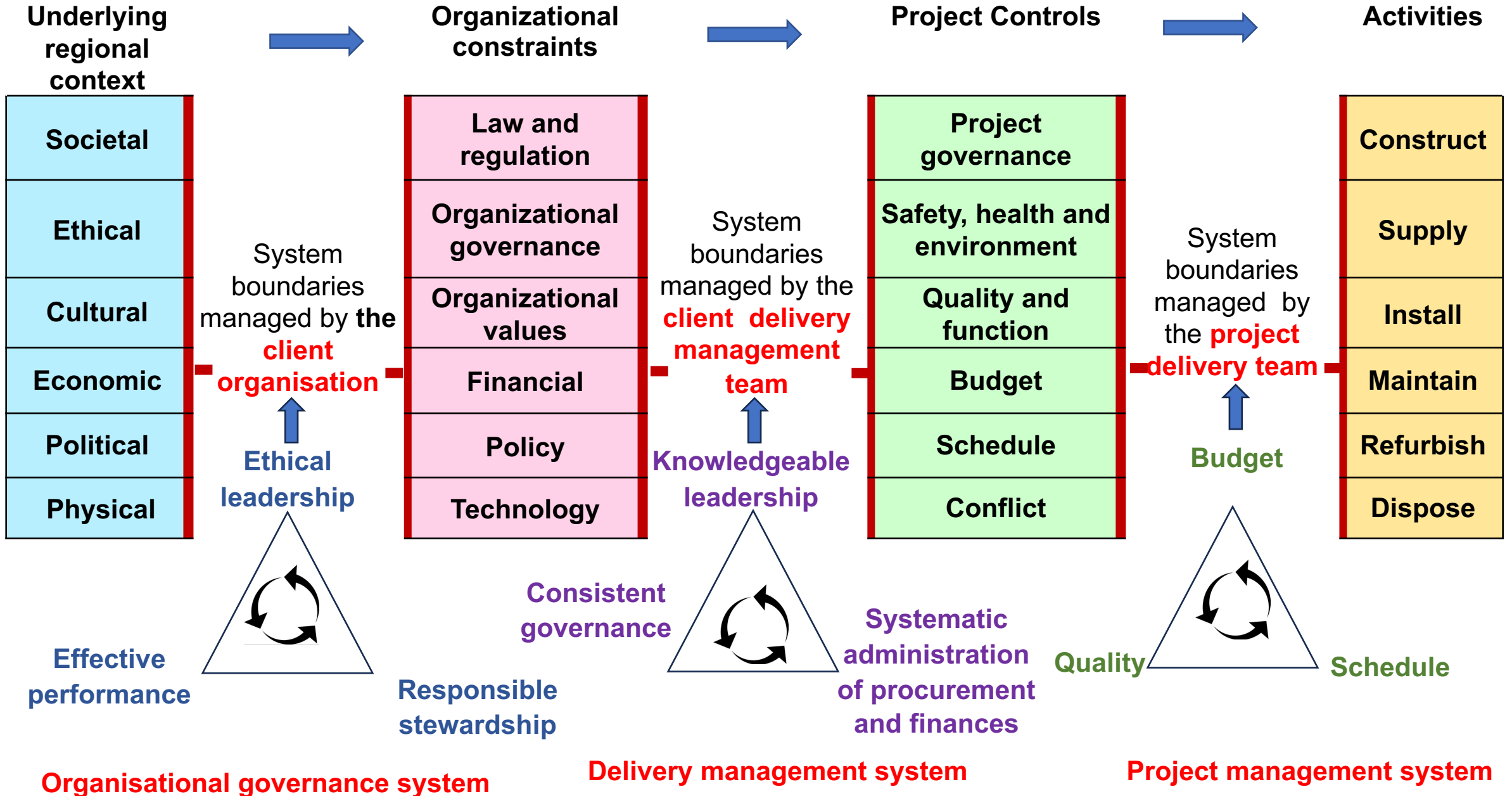
Delivery management system

The context of project delivery

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The context of project delivery

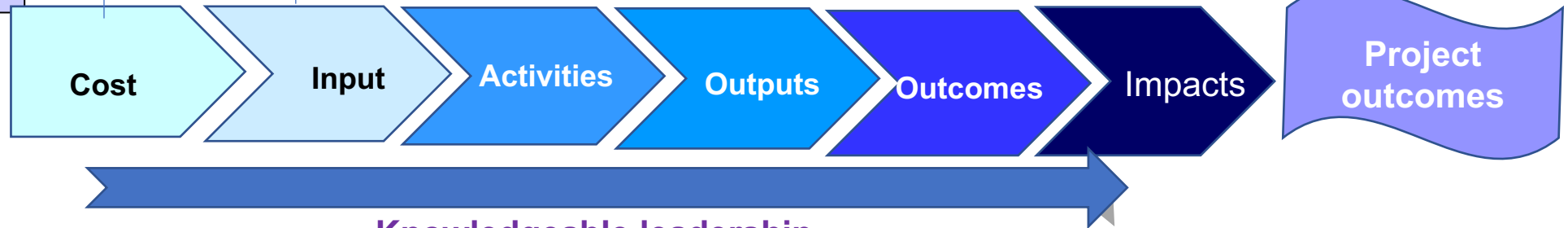
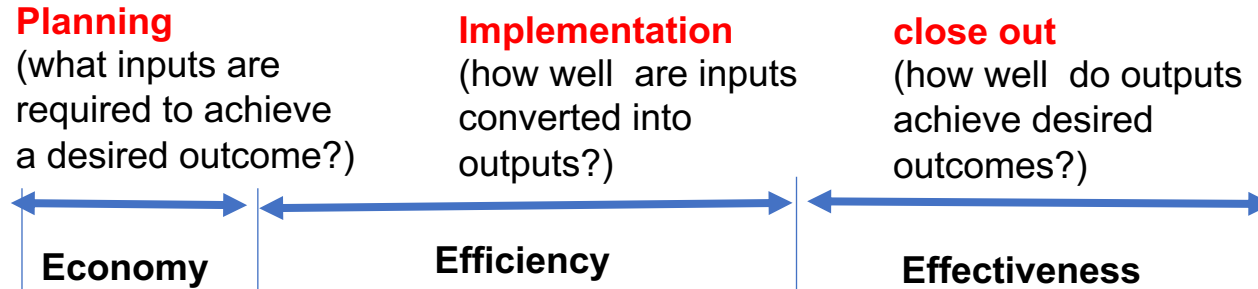


Converting the value proposition for a project into project outcomes

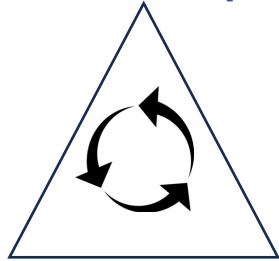
Institution of Civil Engineers (2009) “the role of the client is the single most important factor in determining the success of construction projects and capital works programmes, regardless of their size, complexity and location.”

The organization’s business case, vision, values and project priorities collectively make up the organization’s **value proposition** for a project i.e. the promise of measurable benefits

Project value is the outcome of **client decision making** to achieve an optimal balance of the project benefits, risks and costs



Ethical leadership

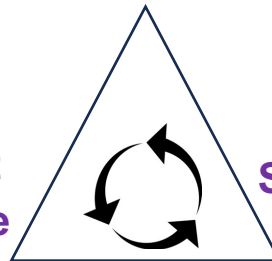


Effective performance

Responsible stewardship

Organisational governance system

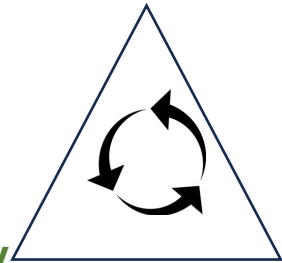
Consistent governance



Systematic administration of procurement and finances

Delivery management system

Budget



Quality

Schedule

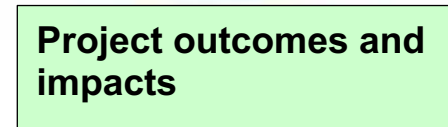
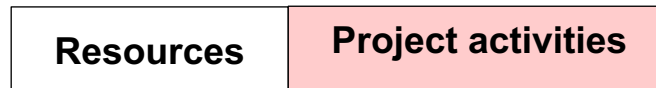
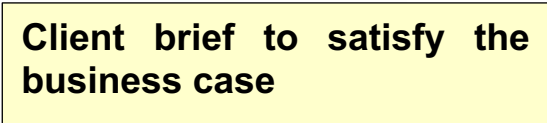
Project management system

Infrastructure delivery – summary of functions

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The **project management function** coordinates activities to direct, integrate and control the accomplishment of agreed objectives in support of the supply function.



Client **organisational governing bodies** need to:

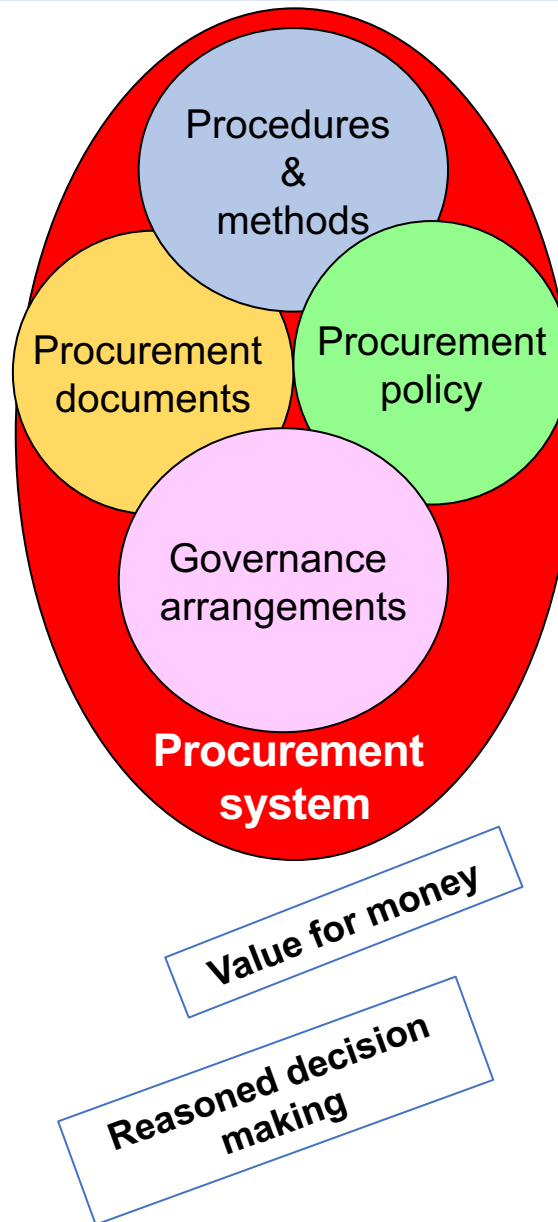
- **hold management to account** to ensure that projects embrace the culture, norms and practices of the organization and align with its purpose.
- **make decisions informed** by credible information and reliable data, compliance obligations



The **delivery management function** focuses on knowledgeable leadership, consistent governance and systematic administration of procurement, contracts and project finances
Delivery management is required to transform the value proposition associated with a business case into project outcomes.

A procurement system comprises

- rules and guidelines **governing the procedures and methods** that can be applied;
- **procurement documents** which include condition associated with the tender process, evaluation criteria, conditions of contract and pricing mechanisms and which specify and describe the goods, services or works that are required and any other requirements and constraints relating thereto;
- **governance arrangements** which authorises, directs, empowers, provides oversight and limits the actions of management; and
- **organisational policies** which **assign responsibilities for authorising activities** and confirming conformity with requirements, **provide delegations, establish ethical standards, limit choices**, establishes **developmental goals and procedures etc.**



New Procurement Framework and Regulations for Projects After July 1, 2016

Core procurement principles:

1. Value for money
2. Economy
3. Integrity
4. Fit for purpose
5. Efficiency
6. Transparency
7. Fairness

South African Constitution:

The **system for the contracting of goods and services** must:

- be fair, equitable, transparent, competitive and **cost effective** and **embrace a procurement policy providing for categories of preference in the allocation of contracts and the protection or advancement of persons, or categories of persons, disadvantaged by unfair discrimination**
- promote the **efficient, effective and economic use of resources** in an accountable, ethical and development orientated manner
- enable administrative action that is lawful, fair and **reasonable**

framework agreement - an agreement between an *employer* and a *contractor*, the purpose of which is to establish the terms governing *orders* to be awarded during a given period, in particular with regard to price and, where appropriate, the quantity envisaged

Order instruction to supply goods, carry out construction works and/or provide services under a *framework agreement*

Contract with a zero value



Permits repeat work



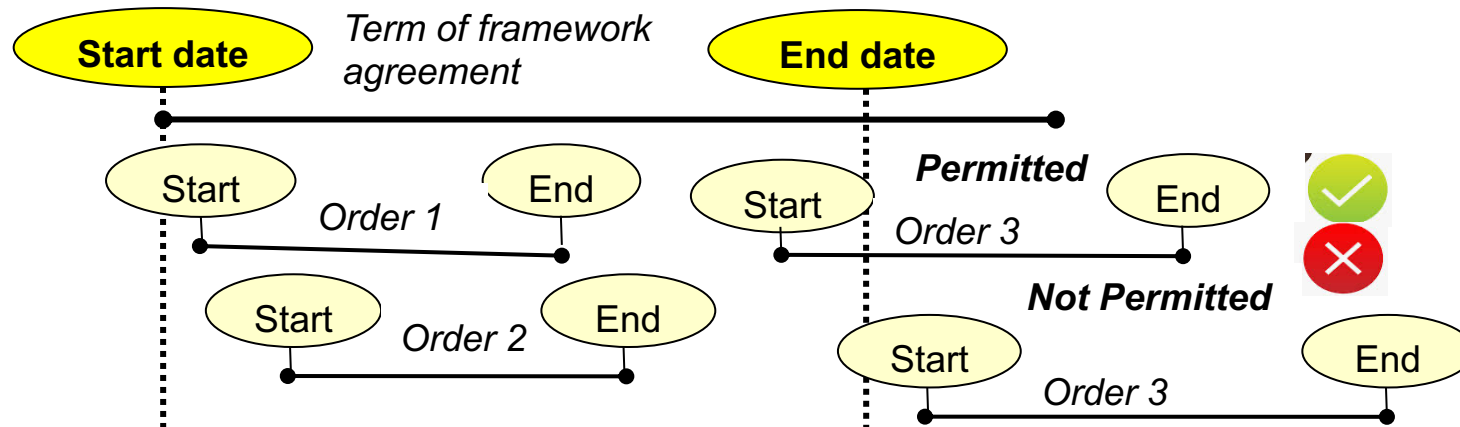
Orders (call-offs) instruct work for a price

Value created through issuing of orders which are read together with the framework agreement

Framework agreements contain:

- **prices** for work to be executed over a term
- or
- **cost parameters** which enable prices to be established once the scope of work has been determined.

Framework agreements recognise that the parties have **not come to a final agreement on all matters relevant to the relationship** between them but have come to agreement on enough matters to move forward with the relationship, with further details to be agreed to in the future.



Orders may

- only cover goods or services, or any combination thereof, **falling within the scope of work associated with the agreement**;
- not be issued after the expiry of the term** of the framework agreement; and
- be completed even **if the completion of the order is after the expiry of the term**.

The issuing of orders from framework agreements where several framework contractors have agreements covering the same scope of work **may be made with and without requiring competition amongst such contractors**.

ISO 20502: Project, programme and portfolio management — Guidance on project management

Principal activities (ISO 10845-1)		International Organisation for Standardization (ISO 21502:2020, Guidance on project management)
No	Description	
1	Establish what is to be procured	<p>Planning procurement</p> <p>A procurement strategy should be defined, taking into account the project’s “make or buy” decisions, the delivery practices and the type of legally binding agreements and the procurement process to be used.</p>
2	Decide on procurement strategies	<p>Team members procuring goods and services should identify the applicable procurement criteria to be used and processes to facilitate the acquisition of the products and services required from external sources.</p> <p>Procurement requirements should be validated with the project manager or designee from which procurement information and contract specifications should be developed and defined</p>



Procurement strategy (ISO 22058)
Packing strategy <ul style="list-style-type: none"> • Scope • Framework / non-framework agreement
Contracting strategy <ul style="list-style-type: none"> • Contract type • Pricing strategy
Targeting strategy
Selection method (method by which tender offers are solicited from the market)



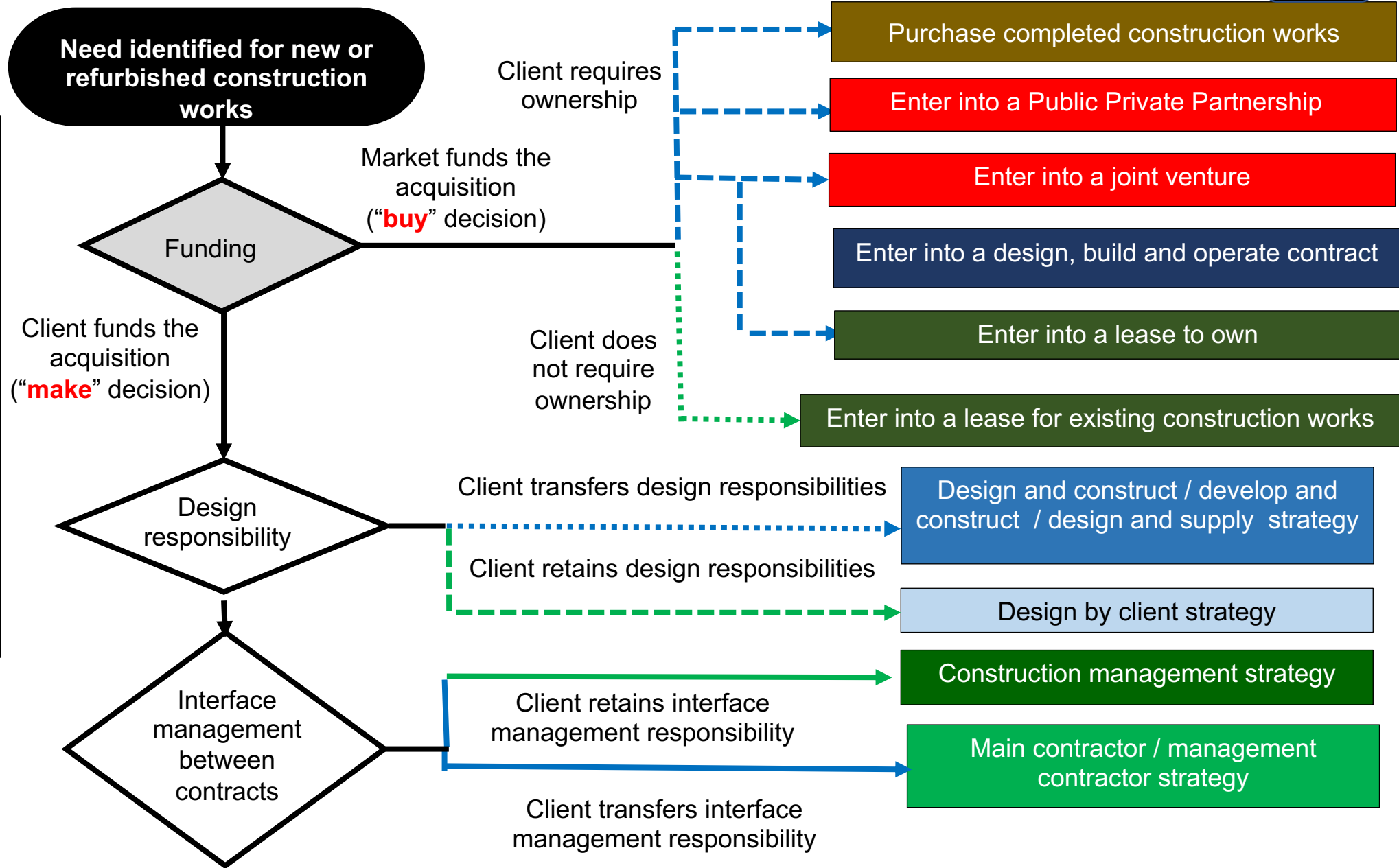
Procurement tactics which enable identified procurement strategies to be effectively implemented

Procurement tactics are also necessary to ensure that a suitable supplier / contractor is appointed

A client, where new or refurbished construction works is required, needs to answer basic questions relating to the financing of the project on:

- a “buy” or
- “make” basis, and

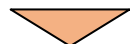
if the decision is to “make”, whether or not **design responsibilities** and / or **responsibilities for the management of interfaces** between direct contracts are to be **retained or transferred**.



1 Establish what is to be procured



2 Decide on procurement strategies



3 Solicit tender offers

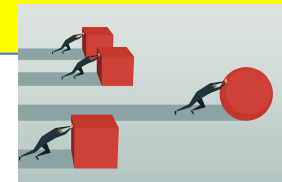
Solicit tender offers	
1.	Prepare procurement documents
2.	Obtain approval for procurement documents
3.	Confirm that budgets are in place
4.	Invite contractors to submit tender offers or expressions of interest
5.	Receive submissions
6.	Open and record submissions received



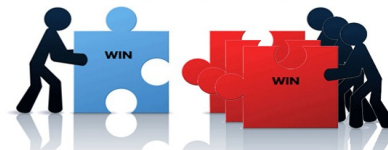
Negotiation selection method – selection method where a tender offer is solicited from a single tenderer

A selection method is the **procedure used to solicit a tender offer** with a view to entering into a contract for goods or services or any combination thereof with the successful tenderer.

Competitive selection method - any selection method in which the contract is normally awarded to the contractor who submits the lowest financial offer or obtains the highest number of tender-evaluation points



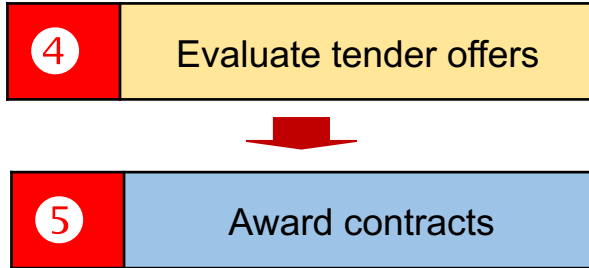
Competitive negotiation selection method – selection method which, through a series of negotiations, reduces the number of tenderers competing for the contract until the remaining tenderers are invited to submit final offers



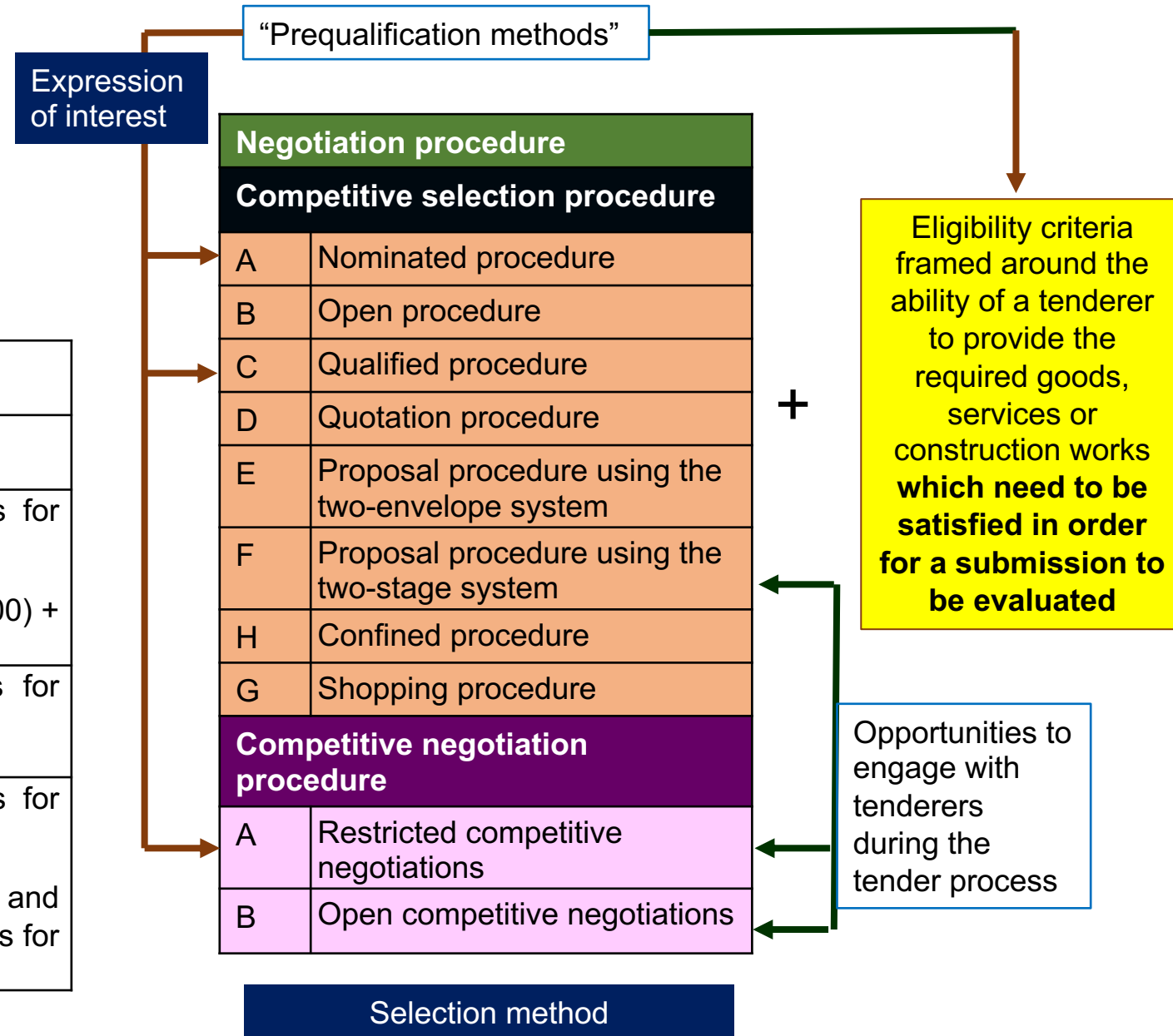
Competitive selection procedure	
A	Nominated procedure
B	Open procedure
C	Qualified procedure
D	Quotation procedure
E	Proposal procedure using the two-envelope system
F	Proposal procedure using the two-stage system
H	Confined procedure
G	Shopping procedure

Competitive negotiation procedure	
A	Restricted competitive negotiations
B	Open competitive negotiations

An evaluation of each offer should be undertaken in accordance with the stated **evaluation criteria**.



Method of evaluation	Basis for ranking
Method 1: Financial offer	financial offer
Method 2: Financial offer and quality	Points = points for financial offer + points for quality Points = f1 (points for financial offer out of 100) + f2 (points for quality out of 100)
Method 3: Financial offer and preferences	Points = points for financial offer + points for preference
Method 4: Financial offer, quality and preferences	Points = points for financial offer + points for preference + points for quality Points = f1 (points for financial offer and preference out of 100) + f2 (points for quality out of 100)



6

Administer contracts and confirm compliance with requirements

Standard forms of contract



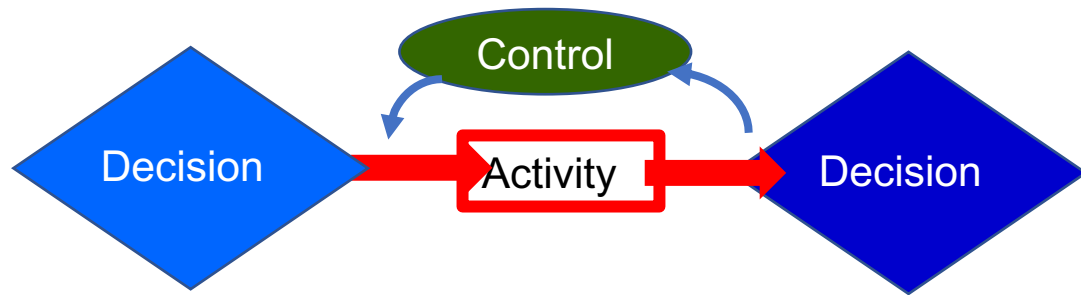
A standard form of contract or standard contract is commonly used on **infrastructure projects**. Such contracts are usually published by an authoritative industry body. **They provide fixed terms and conditions which are deemed to be agreed and are not subject to further negotiation or amendment when applied to a particular tender.**

The standard forms of contract, apart from dealing with rights and duties of the parties to the contract (employer and contractor) commonly make provision for matters such as:

- procedures for **making changes to the scope of work** after the formation of a contract;
- procedures to address the **impacts on time, cost and quality or performance of changes** made to the scope of work after the formation of a contract and the occurrence of events for which the contractor is not at risk;
- the seeking of instructions on **how to proceed when particular events occur or circumstances arise**;
- **the risks which are borne by each party** and how the contractor is **compensated for risk events** for which he is not at risk;
- how defects (parts of the goods, services of works which are not in accordance with the scope of work) are to be dealt with;
- procedures for termination and the determination of what is due to the contractor upon termination;
- the **certification of amounts** due in terms of the contracts;
- the certification of delivery or completion of the works;
- the actions of an agent of the employer; and
- the resolution of disputes.

Workflow may be regarded as the sequence of activities with explicit starting and ending points to describe a task

An activity as a series of operations (sequential, parallel, mixed) is punctuated by decisions



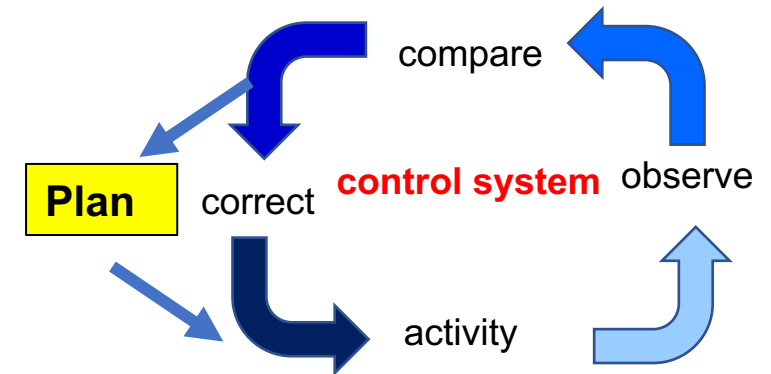
For a project to progress meaningfully, its objectives and their achievement need to be closely allied to the decision structure. **Decisions give purpose to activity.** A project begins and ends with decision points

Decisions not only give purpose to activity but also ensure that activities are undertaken in accordance with an organisation's:

- system of governance, or
- quality management system

Focus needs to be on the realisation of client objectives

For a project to progress meaningfully, its objectives and their achievements must be closely allied to its decision structure



The purpose of a **control system** is to regulate work in relation to its changing context

The control system involves the **comparing of progress against objectives** and **taking some corrective action** where necessary:

- taking steps to change the performance of the activity to **bring it closer to what was planned**; or
- changing the plan so that it **more closely reflects the changed situation** brought about by the departure from the plan

Decision points (control gates)

Decision points (controls or decision gates) form the major boundaries to activities and provide an opportunity to:

- authorise the proceeding with an activity within a process, or the commencing of the next process;
- confirm conformity with requirements before completing processes; or
- provide information which creates an opportunity for corrective action to be taken.

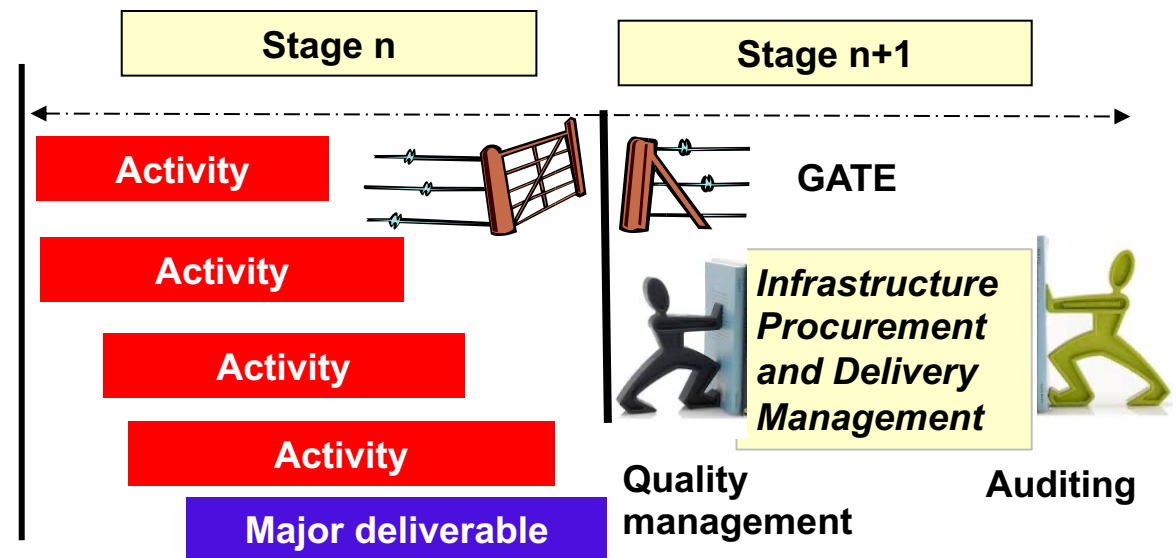
A gate is a point in project life cycle where a **decision** is required before proceeding from one **stage** to another

Decisions need to be based on information that is provided

A gate provides assurance that a project

- Remains within agreed mandates
- Aligns with the purpose for which it was conceived
- Can progress successfully from one phase to the next

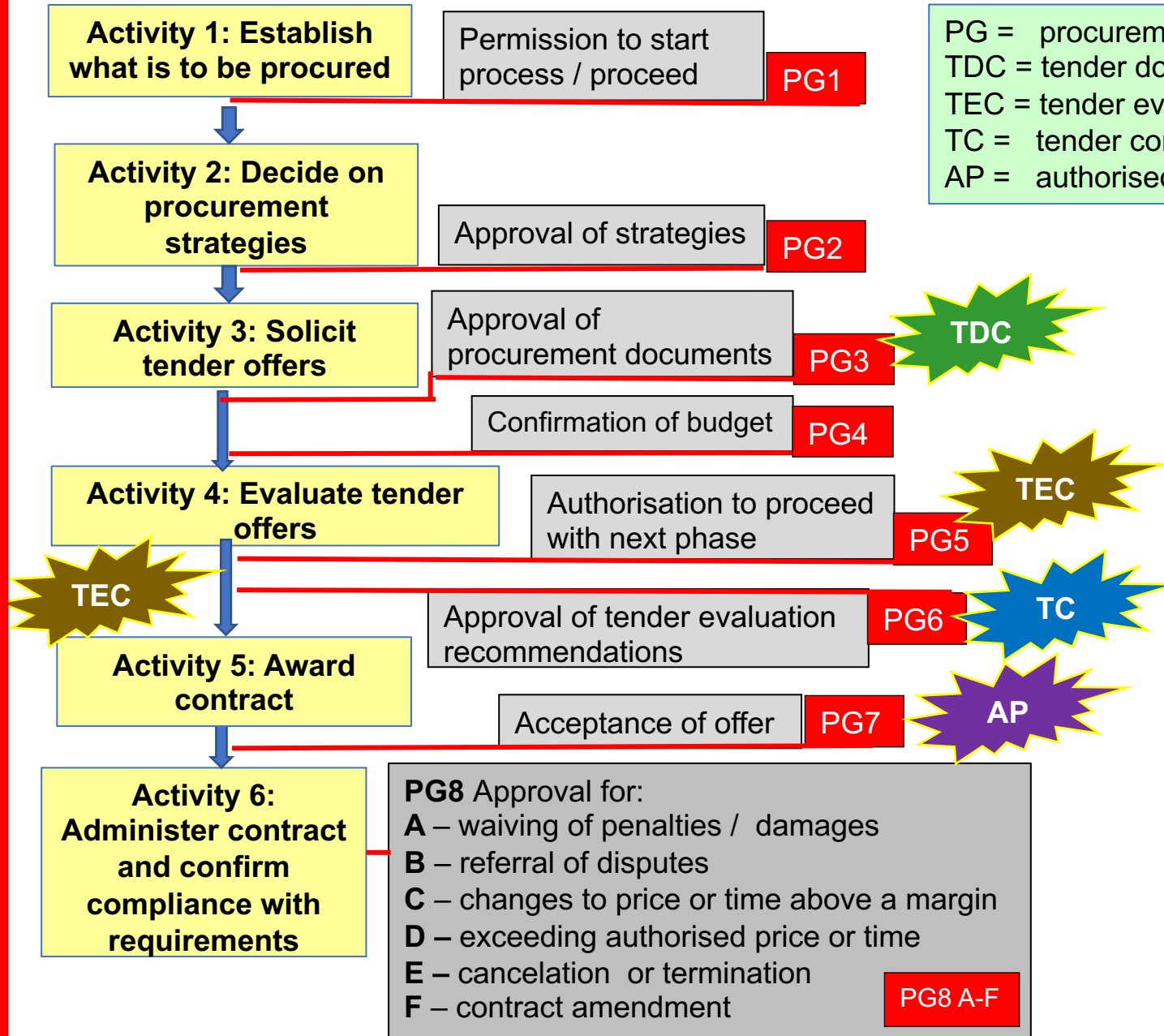
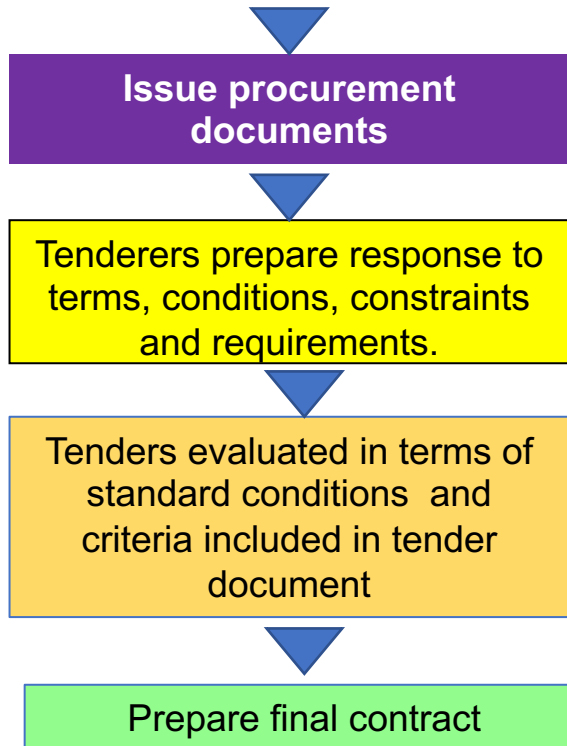
A gate is a decision point but is also risk / quality oversight control and audit point



Develop:

- procurement tactics to solicit offers including evaluation criteria
- draft terms and conditions, including the basis for remuneration
- what is to be provided, and
- requirements and constraints to providing the work

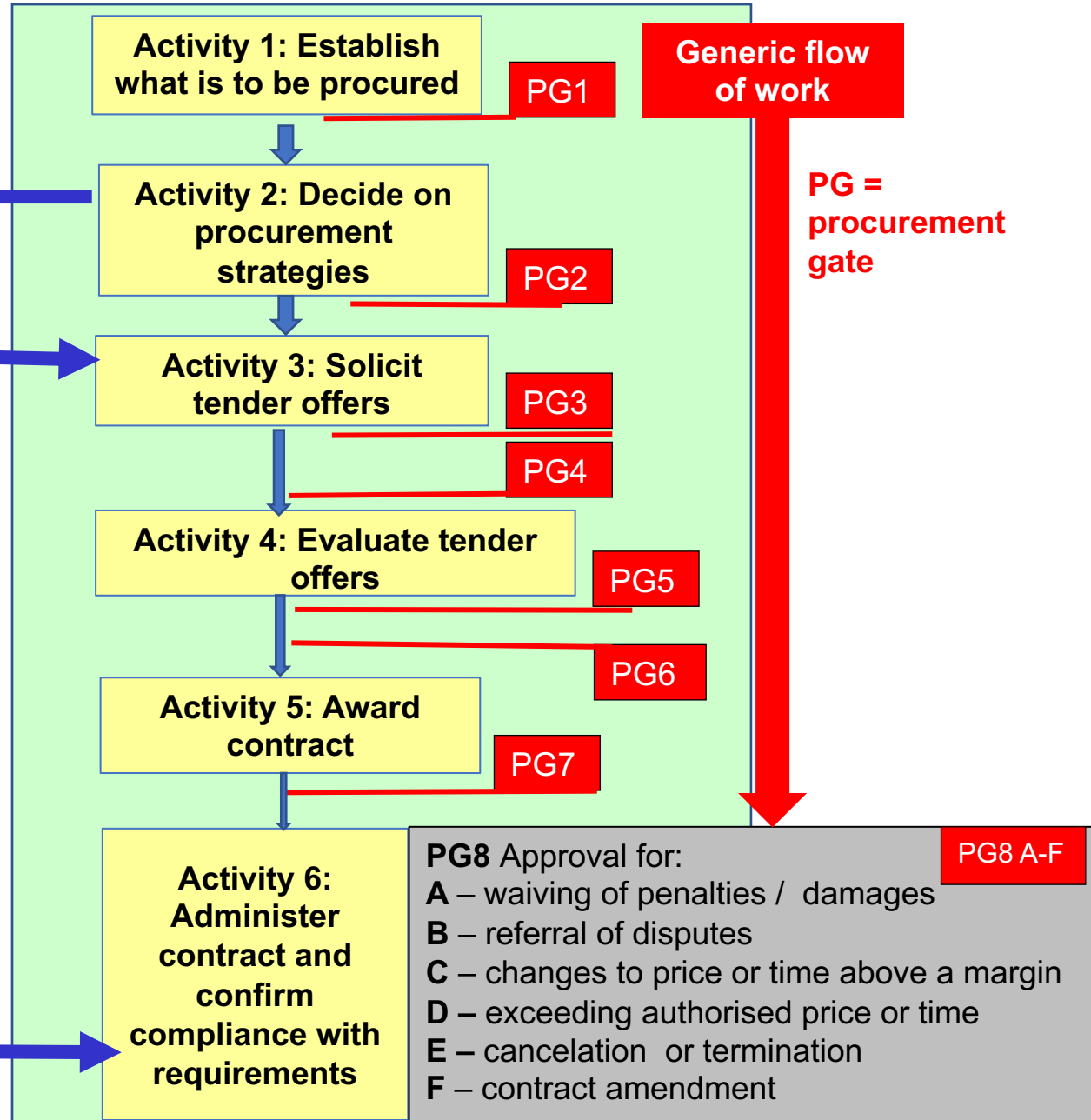
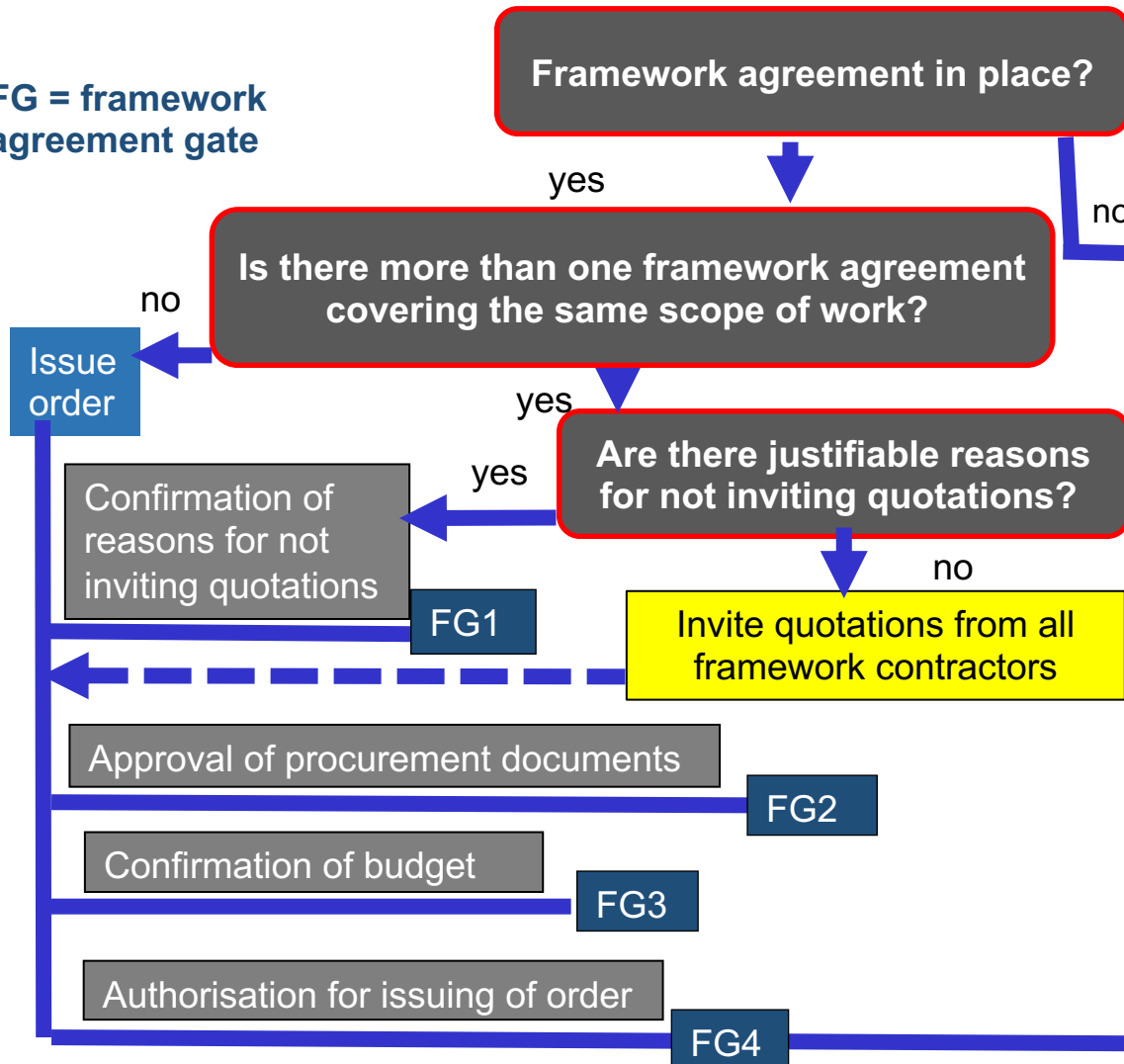
PG = procurement gate
 TDC = tender documentation committee
 TEC = tender evaluation committee
 TC = tender committee
 AP = authorised person



Control framework for framework agreements

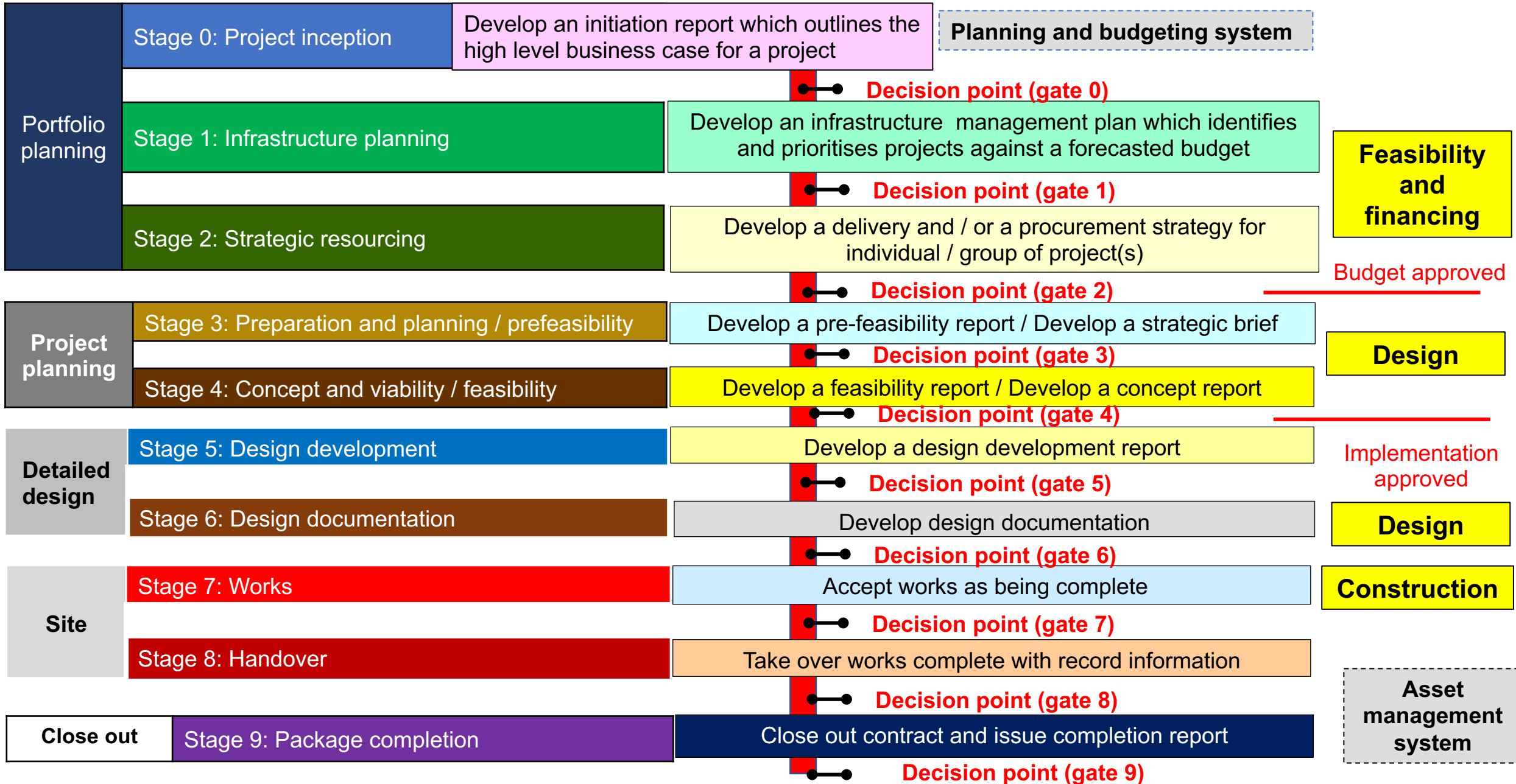
Governance activities need to be linked to the milestones in the procurement process through gates

FG = framework agreement gate

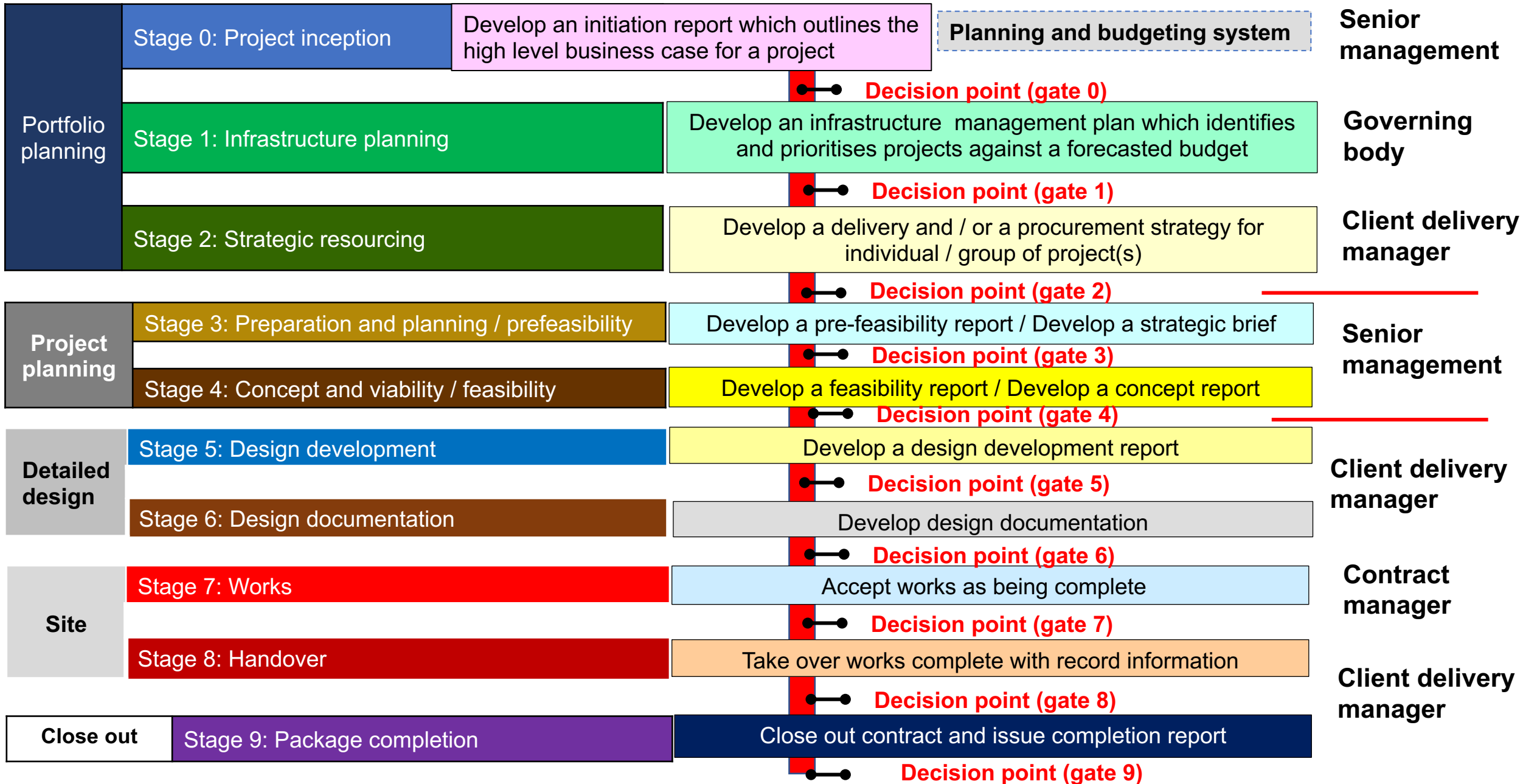


- PG8 Approval for:**
- A – waiving of penalties / damages
 - B – referral of disputes
 - C – changes to price or time above a margin
 - D – exceeding authorised price or time
 - E – cancellation or termination
 - F – contract amendment

Project cycle (flow of information)



Project cycle (flow of information) - responsibilities



Thank you



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Details can be found in DHET's **UNIVERSITY MACRO-INFRASTRUCTURE FRAMEWORK (MIF) Infrastructure Management Guidelines for Universities**

www.dhet.gov.za/SitePages/DocManuals.aspx

Go to DHET website – click on “Resources” and then on “Manuals”

ISO DIS 6082 - Construction project governance – Guidance on delivery management which is under development is based on the DHET Guidelines

The School of Construction Economics and Management, University of the Witwatersrand offers an online **post graduate diploma in the management of construction with a n elective on IPDM**

Infrastructure Procurement and Delivery Management – principles and practices.

Annexures in 2021 edition (3rd edition)

- 1 Spatial planning guidelines
- 2 Model Infrastructure management policy
- 3 Developing a 3-5 year infrastructure management plan
- 4 Guideline on an asset management system for infrastructure
- 5 Universal design: standards for integrated planning
- 6 Private Public Partnerships
- 7 Model Supply Chain Management Policy
- 8 Model Infrastructure Procurement and Delivery Management Policy
- 9 Developing an implementation plan
- 10 Client budget and schedule management
- 11 Procurement regime for universities
- 12 Example of Registers required to support the effective administration of projects
- 13 Procurement strategy and tactics
- 14 A generic procurement strategy for universities
- 15 Guide to ICT norms and standards
- 16 A Client Maturity Model for Delivering Infrastructure Projects
- 17 Maturity Model for Infrastructure Asset Management
- 18 Framework agreements
- 19 Delivery management guidelines for infrastructure projects
- 20 Planning and budgeting guidelines for infrastructure projects
- 21 Procurement guidelines for delivering infrastructure projects
- 22 Proforma Terms of Reference for a University's Infrastructure Delivery Steering Committee
- 23 Space norms, space efficiencies, and the new normal
- 24 Guidance on applying the cost norms