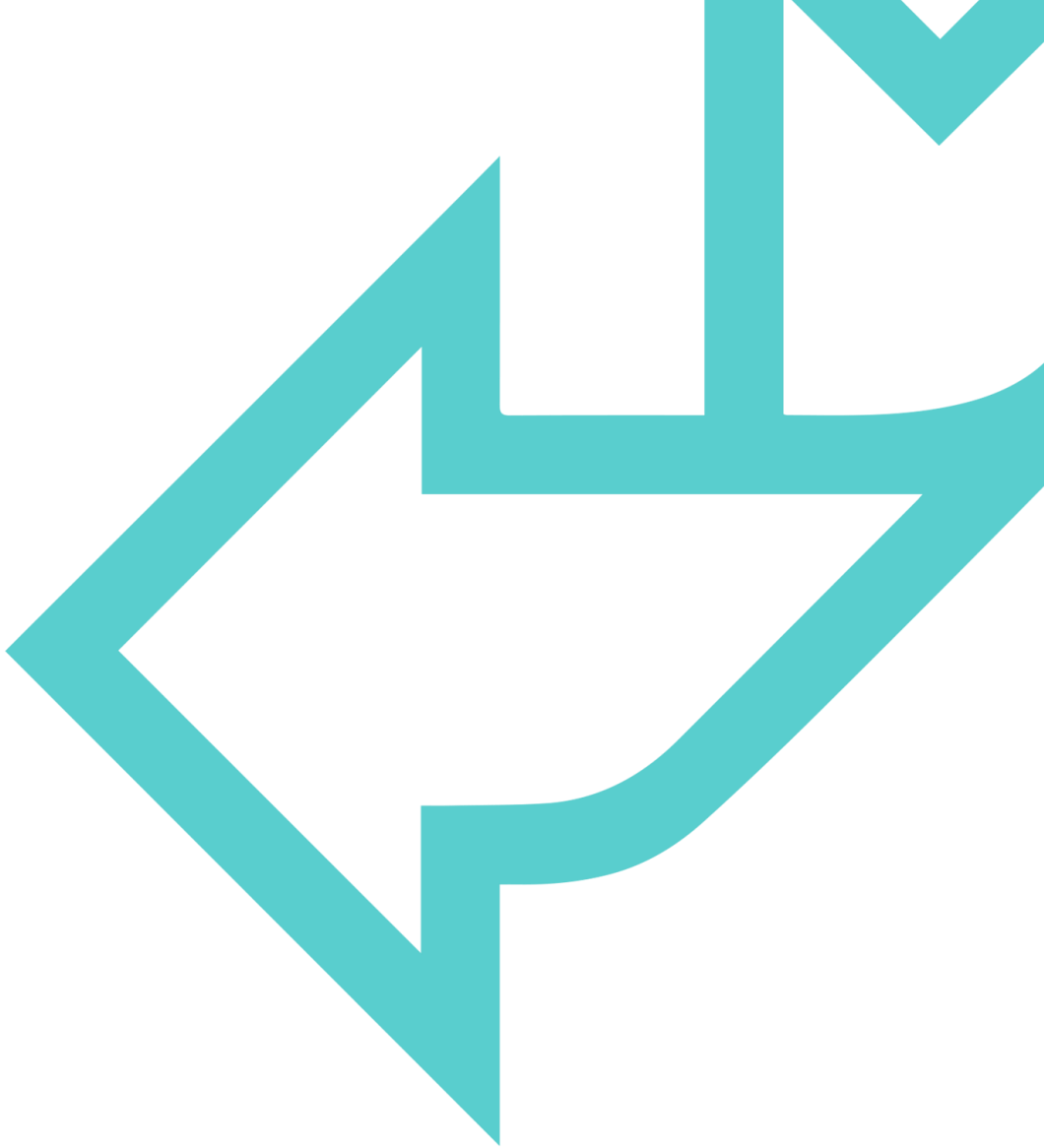
POWERING POTENTIAL

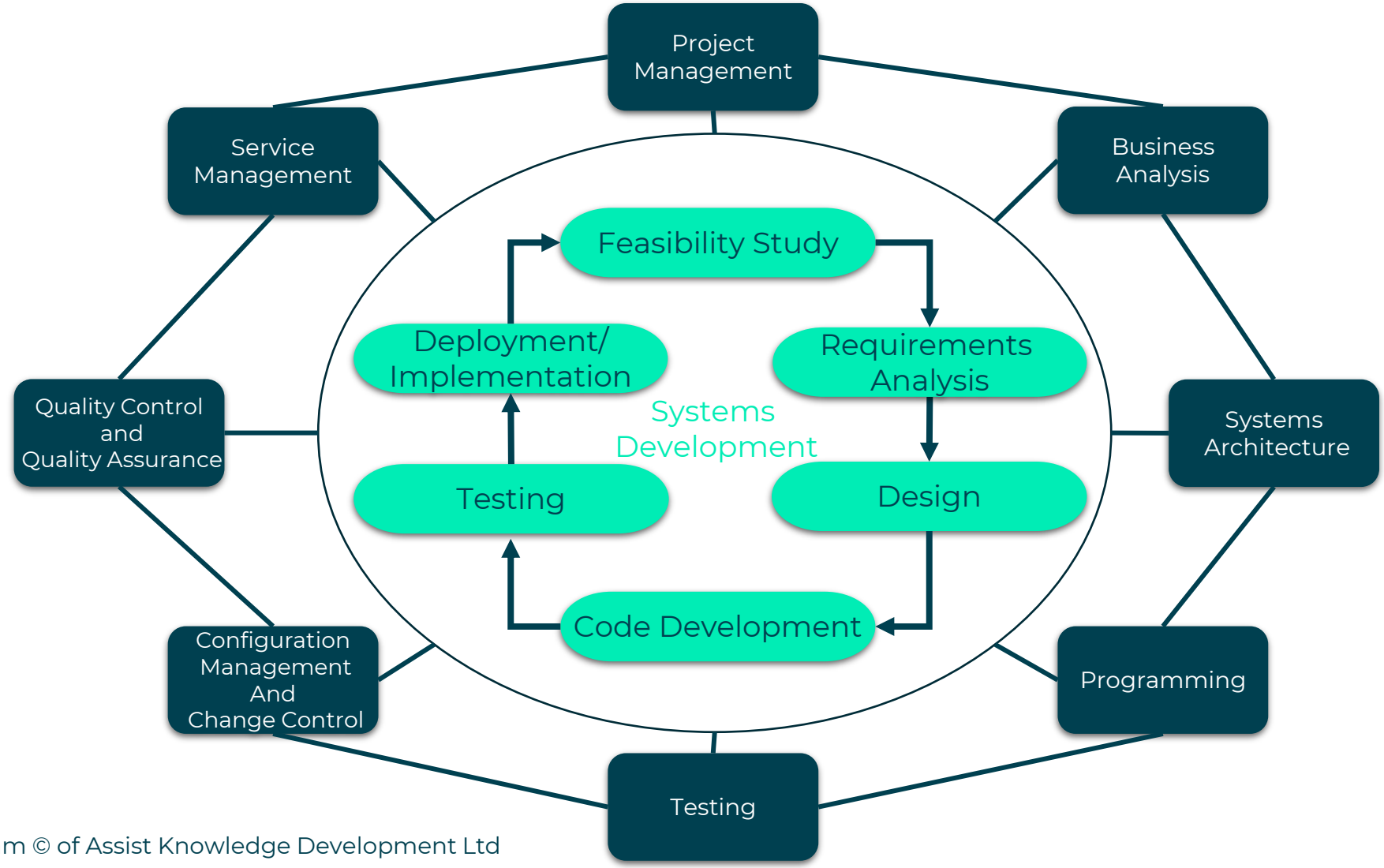
Software Developer

Agile Software Development

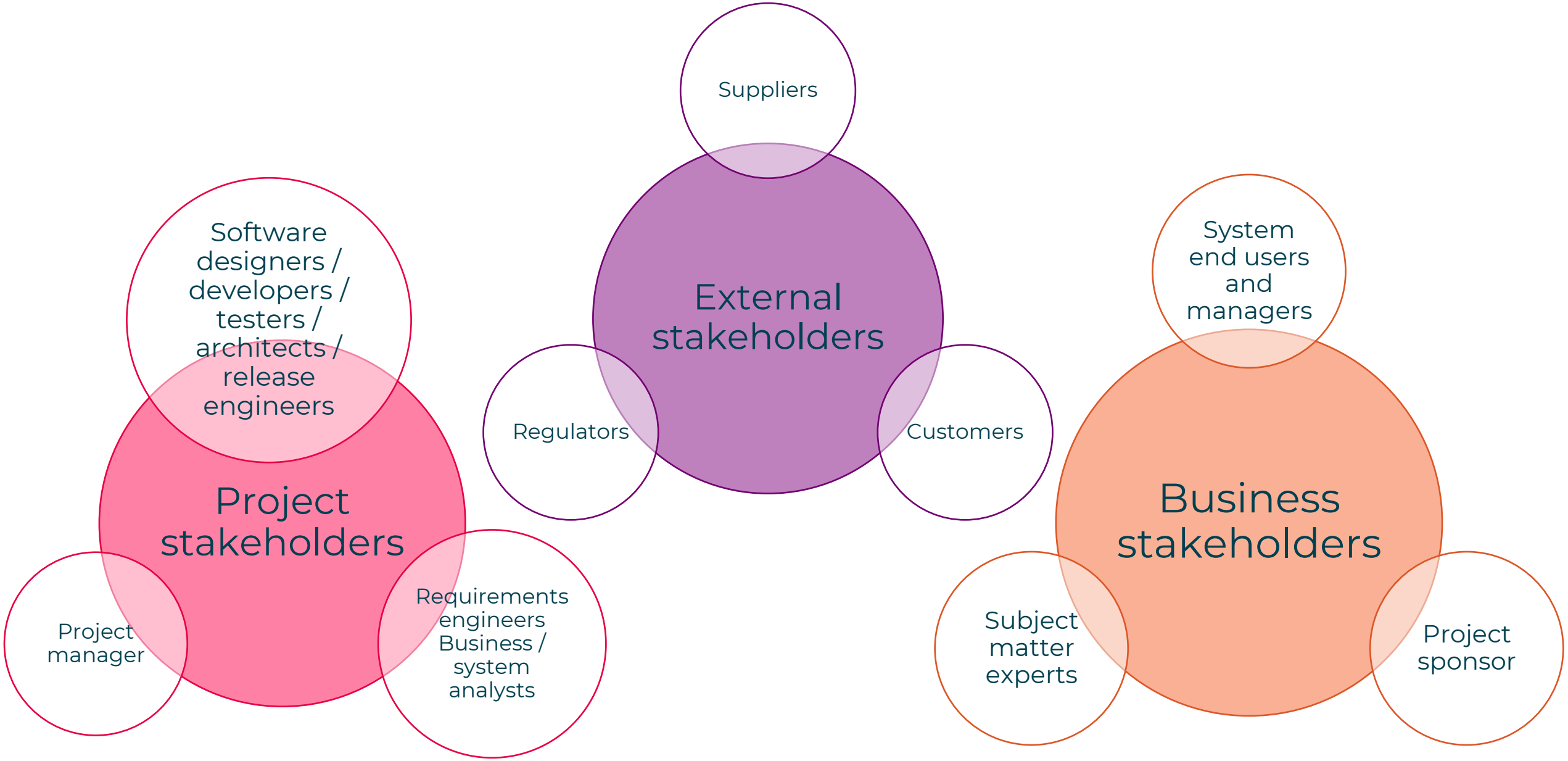
Team Roles and Responsibilities



System development principles



Main roles


Suppliers
External stakeholders
Regulators
Customers
Software designers / developers / testers / architects / release engineers
Project stakeholders
Project manager
Requirements engineers Business / system analysts
System end users and managers
Business stakeholders
Subject matter experts
Project sponsor

PROJECT SPONSOR

The owner of the new system:

- Responsible for ensuring that the system meets its goals and realises its benefits.
- Has sign off powers, budget authority.
- Has the final decision on all project matters.
- Accountable for the terms of reference.
- Initiates project reviews.
- Resolves key project issues.
- Champions the new system.

SYSTEM END USERS AND MANAGERS

People who will use the system on a day-to-day basis:

- Make sure that functionality and usability requirements are properly specified.
- Must be happy that:
  - The requirements are workable.
  - The requirements are complete.

Business stakeholders

SUBJECT MATTER EXPERTS (SME)

The super user who provides specialist knowledge of the business area to be improved:

- Might be an external resource.
- May have consultancy experience.
- Provides information and ideas on business issues and possibilities.
- Works with the analysts to ensure that the knowledge and ideas are represented in the requirements.

PROJECT MANAGER

Plans and controls the project:

- Ensures the project keeps to time and cost constraints.
- Ensures the requirements engineering process is followed.
- Resolves conflicts between stakeholders over the requirements.

Project stakeholders

BUSINESS ANALYSTS (REQUIREMENT ENGINEERS)

Elicit, document, analyse, validate, and manage requirements

- Involved earlier in project than system analyst – more business focus.

- Work with senior business and IT staff:
  - Conduct high level feasibility studies
  - Develop business requirements and business cases
  - Investigate business problems – recommend appropriate solutions

- Produce written reports and presentations.
- Solution development.
- User acceptance testing.
- Produce supporting models.

Project stakeholders

SYSTEMS ANALYSTS

Specialises in analysing, designing, and implementing IT systems

- More technical focus.

- **Analysis:**
  - Understands the role of IT in the process
  - Investigate the current system(s)
  - Document **as is** system using standard models
  - Define new system requirements

- **Design:**
  - Design systems to meet requirements
  - Write specifications for developers
  - Participate in reviews and testing

Project stakeholders

SYSTEMS ANALYSTS

Specialises in analysing, designing, and implementing IT systems

Implementation:

- Documentation / training
- Testing / conversion / handover

Review:

- Review of live system / development method
- What went well / not so well?
- Lessons learnt / what next?

Skills:

- Communication
- Use analysis techniques and tools
- Methodical and quality focus

Project stakeholders

TECHNICAL ARCHITECTS

Designing the solution's technical architecture:

- Ensure **non-functional** requirements are met:
  - Performance
  - Operating System
  - Network
  - Database

Project stakeholders

DESIGNERS / DEVELOPERS

Responsible for creating IT system to meet the requirements:

- **Designers will specify the system** – architecture, screens, reports, interfaces, components.

- **Turn the specifications into code**:
  - Understand the specification
  - Design the component
  - Design the testing
  - Write the code
  - Test the component

Project stakeholders

TESTERS

Ensures the quality, design integrity, and functionality of the system

- **This will include**:
  - planning testing activities
  - specifying and executing tests
  - recording the results
  - checking and reporting progress

Project stakeholders

CUSTOMERS

Are affected by the interfaces to the system (inputs and outputs)

- Projects must comply with legal requirements concerning customers.
- Often need to communicate with them to inform them of changes.
- May need to consult with them to discover preferences.

External stakeholders

REGULATORS

Many industries have statutory regulatory bodies:

- Financial, utilities, telecoms.
- Regulatory constraints give rise to requirements on projects.
- So do changes in the law.

External stakeholders

SUPPLIERS

- **May be affected by changes to interfaces**
  - Will need time to change their systems if affected.
  - Our degree of influence over the supplier will depend on many things, including the relative sizes of the businesses.

External stakeholders

OPERATIONS

Processes and services administered by IT:

- Support hardware and software for Internal and external clients.

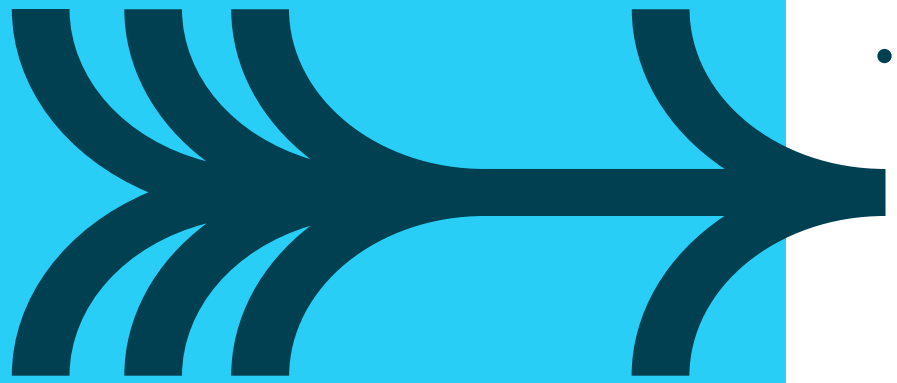
All organisations have some form of IT operations:

- Deliver effective service at required quality and cost.

Interface with system development team:

- Usually considered separate to system development.
- Work with system development to support system
- Ensure operational requirements included and working.
- Involved in operational user testing (UAT)

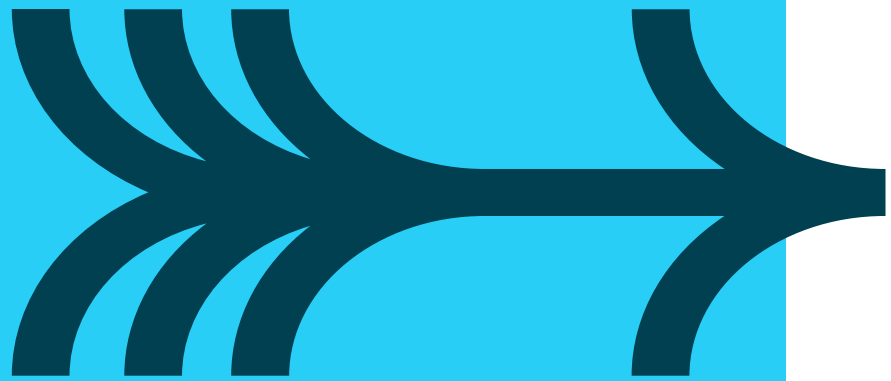
- Deployment approach and post-implementation support.
- Documentation and training.



What is DevOps?

The multi-skilling of people to make the whole development, operations, and testing workflow more agile.

DEVOPS



Software engineering practice that aims at unifying:

- software development (dev).
- software operation (ops).
- testing.

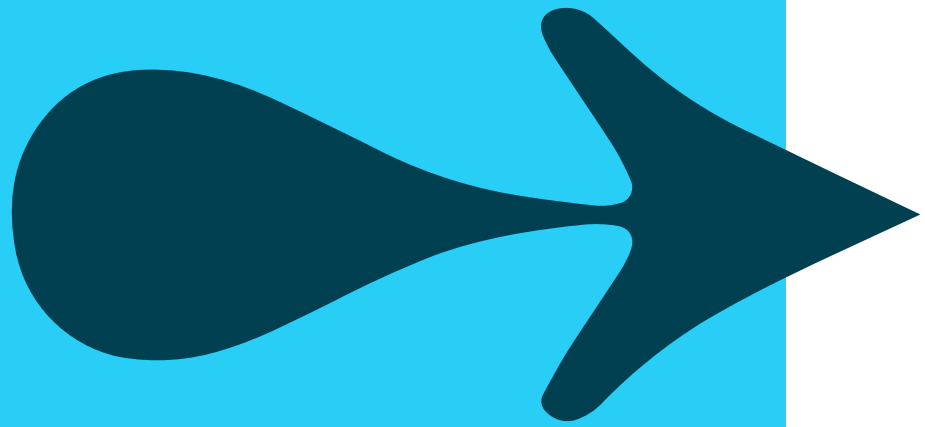
Main characteristics:

- Automation and monitoring.
- All steps of software construction – from integration, testing, releasing, to deployment and infrastructure management.

Objectives:

- Shorter development cycles.
- Increased deployment frequency.
- More dependable releases.
- Greater alignment with business objectives.

DEVOPS: CHALLENGES



More than just a tool or a process change:

- Requires an organisational culture shift.
- Difficult due to conflicting nature of roles:
  - Operations: Seek organisational stability
  - Developers: Seek change
  - Testers: Seek risk reduction
- Getting these groups to work cohesively is challenging

Building a DevOps culture:

- Strong interdepartmental communication:
  - Use team-building and other employee engagement activities
- Create an environment that nurtures cultural change.
- All software applications meet a set of architecturally significant requirements.

review

POWERING POTENTIAL

QUESTIONS AND FEEDBACK