

# The Scrum Software Factory

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For a leading specialist in air transport communication and IT solutions

# Why the client needed change?

**Change Drivers:** For 5 year project by Year 3 Client, over-spent and under-delivered.

- Around 50% of the budget was spent and approximately 25% scope completed
- Delivery Delays
- Technical debt build-up
- Quality issues

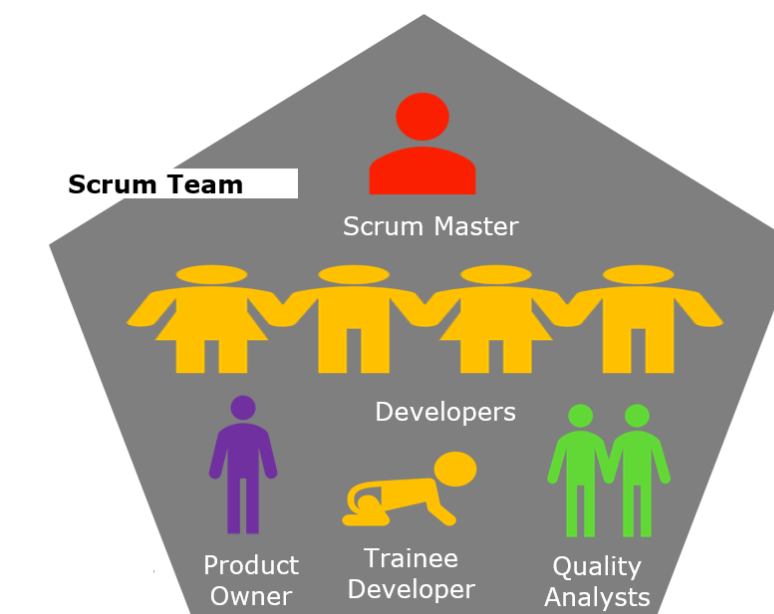
**Change Vision:** Client wanted to be faster, on time, on budget.

- Project acceleration to get back to 5-year Plan
- Finite Scope
- Engage 3 off-shore partners under same governance, responsible for development and testing prior to clients acceptance testing.

# Creating a Reference Model

The first challenge was to create a Scrum team and ensure that this team implements Scrum well.

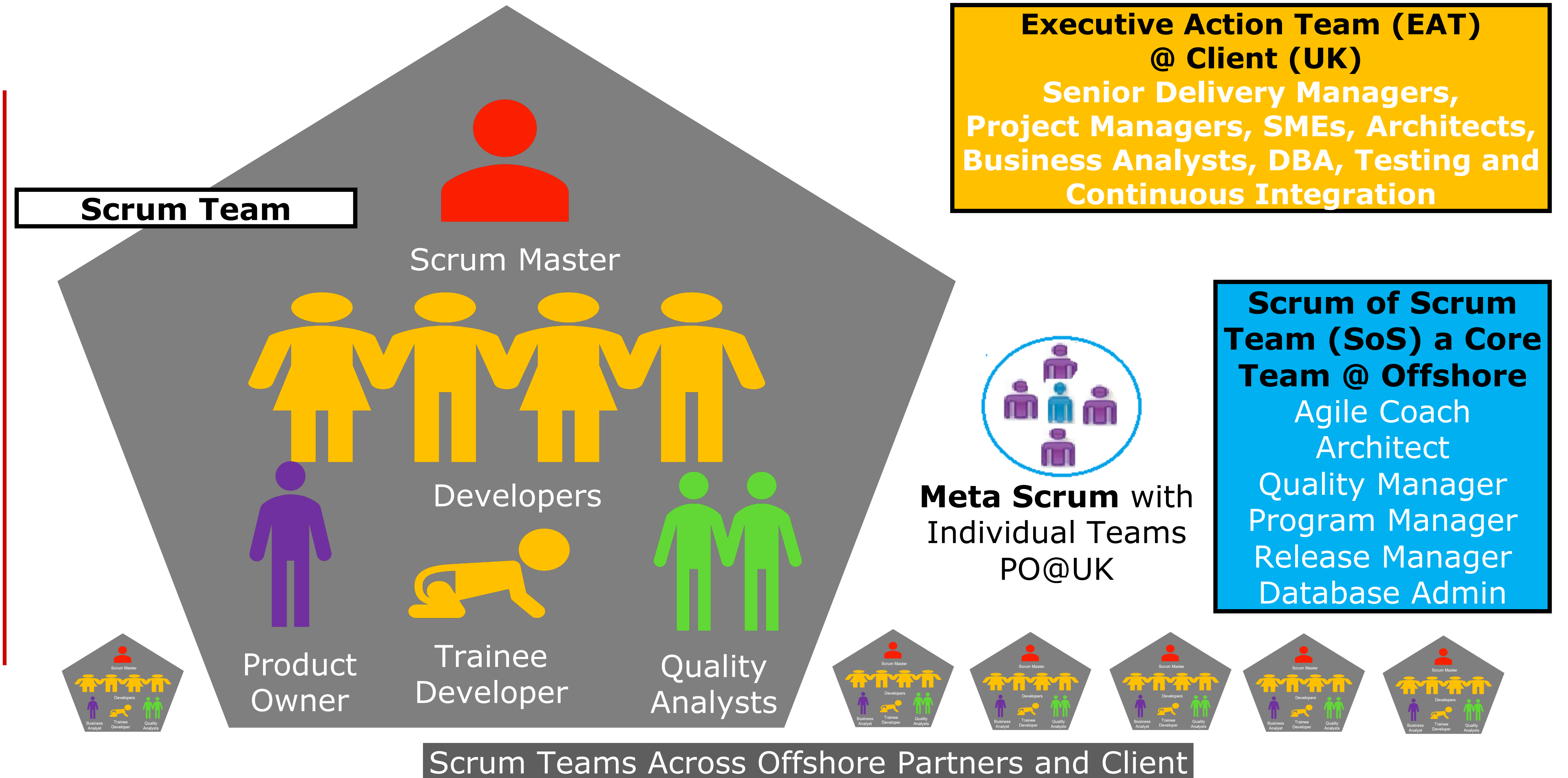
- Find the initial challenges with one Scrum team
- Resolve the initial challenges
- Find the challenges faced with two Scrum teams
- Resolve the coordination challenges between two teams
- Competency gap in terms of Scrum and product domain knowledge which was overcome by trainings
- Having these teams as reference model to use Scrum At Scale



# Challenges Faced and Actions Taken

- Availability of quality product backlog because of limited product owner's availability to offshore team  
**Action** - Effective communication and collaborative tools like WebEx, video conferencing etc.
- Too much re-work due to lack of automation  
**Action** - Building automated test cases and implementing CI-CD pipeline resolved this concern.
- Competency gap in terms of Scrum and product domain knowledge  
**Action** - Scrum and product trainings.
- Distribution of product backlog between two teams  
**Action** - Effectively ordering the product backlog and following the INVEST principles.
- Integration of the product increment delivered by the teams at end of the Sprint  
**Action** - effectively managing the source code streams, based on the features and following continuous integration.
- Code dependencies between two teams  
**Action** - Having feature teams and effective backlog ordering helped to reduce the code dependencies within a sprint between these two teams.

# Teams Structure



# Key Scaling Events



## Daily – Scaled Daily Scrum

- Participants – Representative from each scrum Team (mostly the scrum master), The Scrum of Scrums Master (SoSM), QA Manager, Configuration Manager, and Integration Manager
- Inspect & Adapt - Sprint Goal and Program level impediments
- Output – Updated SoS Board and Key items to discuss in EAT Meeting



## Daily - Product Owner Team – Meta Scrum

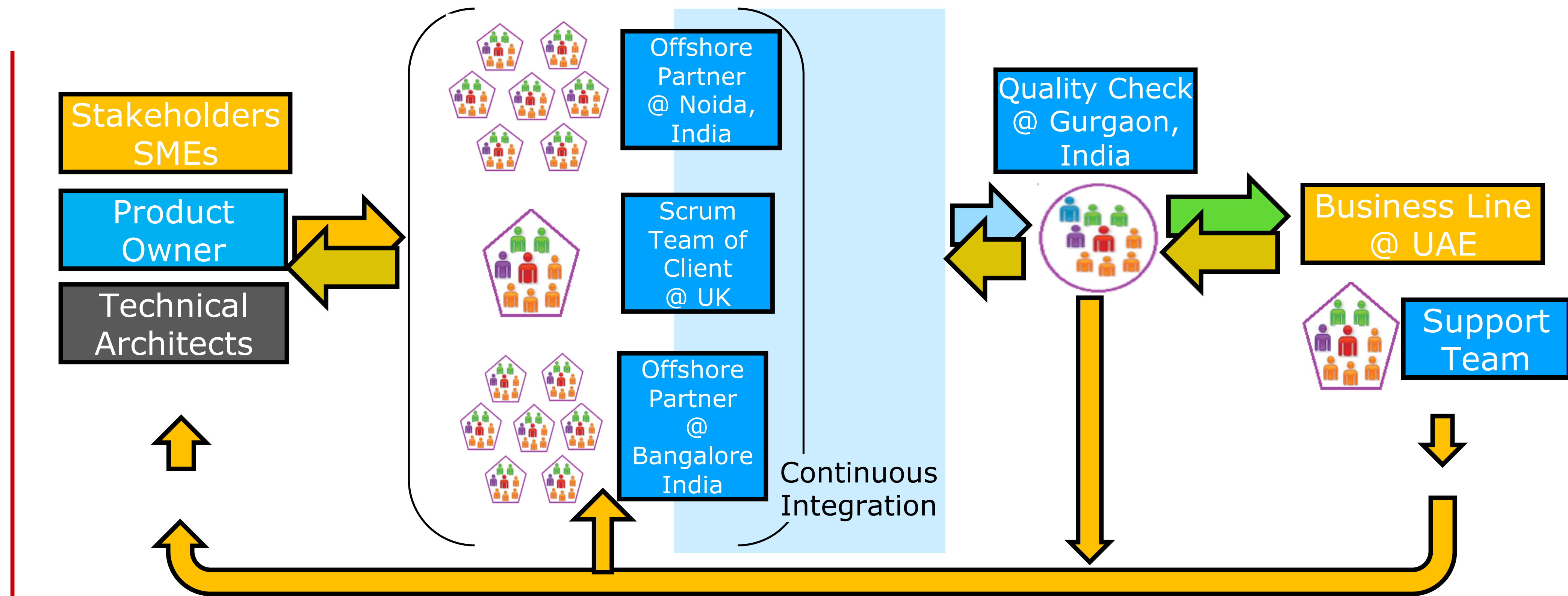
- Participants – Chief Product Owner, Product Owner of Individual Teams, Representative from each offshore partners
- Inspect & Adapt – Release Goal, Overall Product Backlog, and Key Impediments from each partner
- Output – Updated and Ordered Product Backlog



## Every Sprint – Executive Action Team Meeting

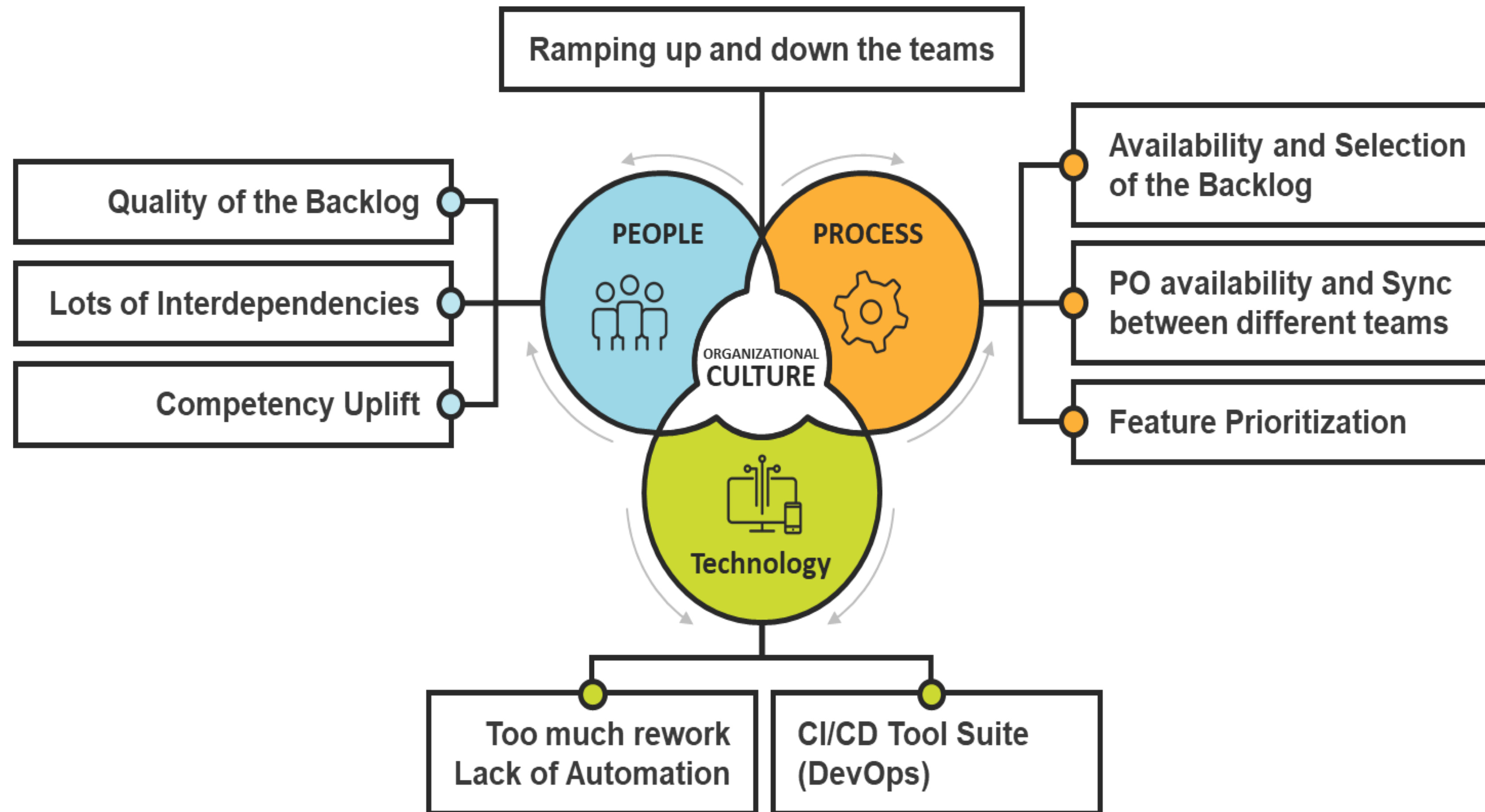
- Participants – SOS Team, Business Sponsor, SDM, Chief Product Owner, Representative from each offshore partners
- Inspect & Adapt – Release Goals, Technical Debt, Key People and Concerns
- Output – Plan for Resolution for program level impediment, Updated Governance structure

# End-to-End Delivery Process



1	2	3	4	5	6	7
Backlog Management Stakeholder Management	Backlog Availability High level Design Agreements	Software Development With Unit Test Cases	Software Deployment to Quality Check	Acceptance, Integration and Performance Tests	Software Review and Demo/ UAT	Software Deployed on Production when Requested

# Challenges Faced





# Key Achievement

Output and Productivity increased by more than double

95 percent of Sprint delivery were in green

Quality increased from .47 defects per functional Point to 0.29 defects per FP

Average cost per functional point reduced from \$2650 to \$1100

The team were able to generate new ideas for product enhancements

85% of the inherited technical debt absorbed at no extra cost

Best Teams were retained for BAU support and rest were used for another new project

The Client received an award for best implement project in agile

# Success Recipe

Clear Strategy, Support from client and senior management for working in Scrum

Agile Framework for everyone to refer and practice. Excellent governance structure.

Continuous Delivery Pipeline helping to release and adapt faster

Cross functional Teams with a strategy to retain best skilled members

Empowered, Self organizing teams having excellent collaborative environment

