# Agile Transformation

## Chart Your Path

PMINYC December 8, 2020

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# David Liebman
## Brief Intro

David is an IT professional with over 25 years' experience. His career has included roles as lead developer, systems architect, project manager and Agile Coach. This varied experience has provided him a unique and perceptive view of the software development lifecycle.

His work has taken him to many of New York's major financial, insurance, media and health care institutions.

He is the Principal of Lean Agile Innovation LLC. specializing in Agile Transformations, providing guidance and training, at all levels, instilling the values and principles for an organization to "be agile".
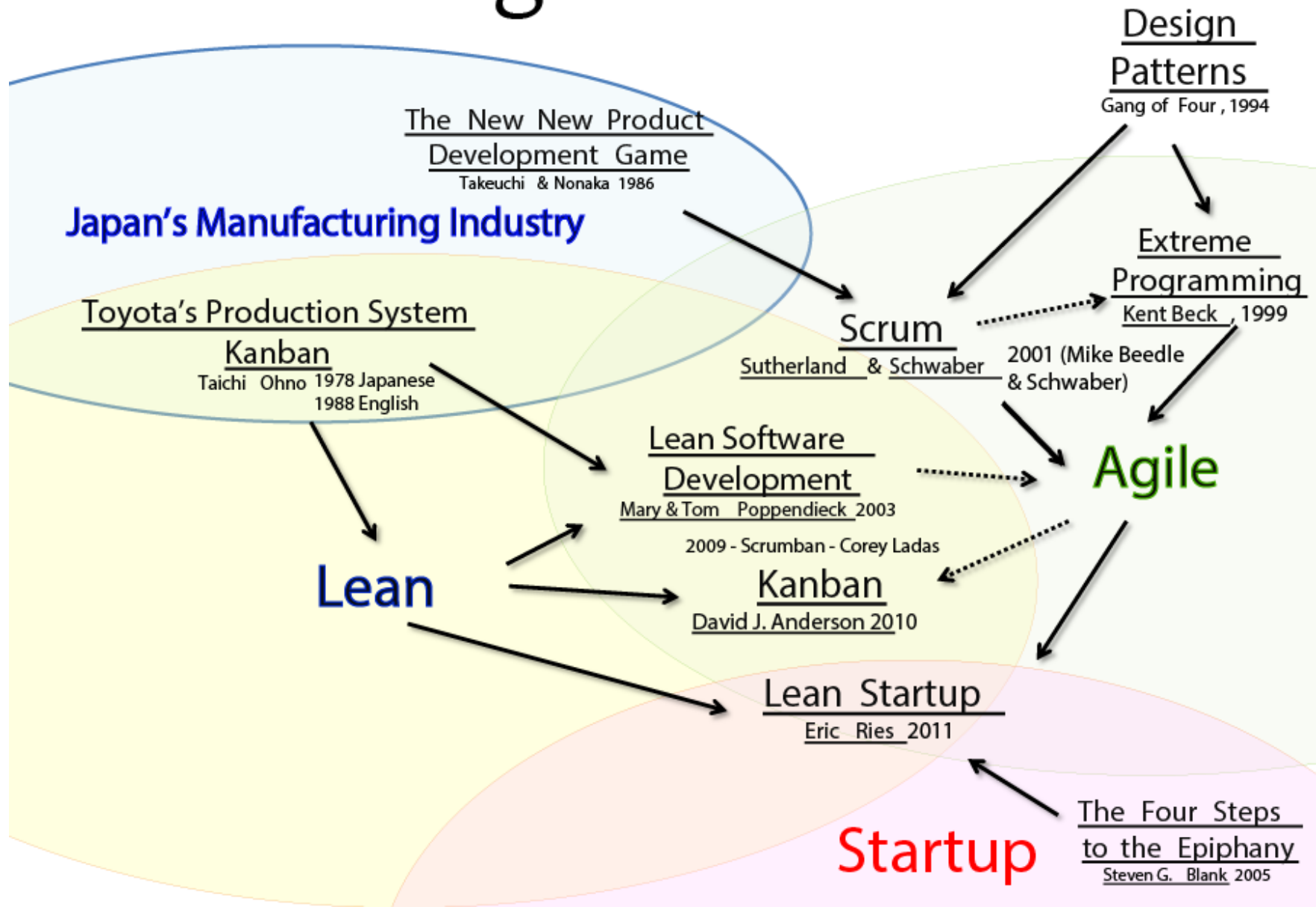
## Lean Agile Innovation LLC

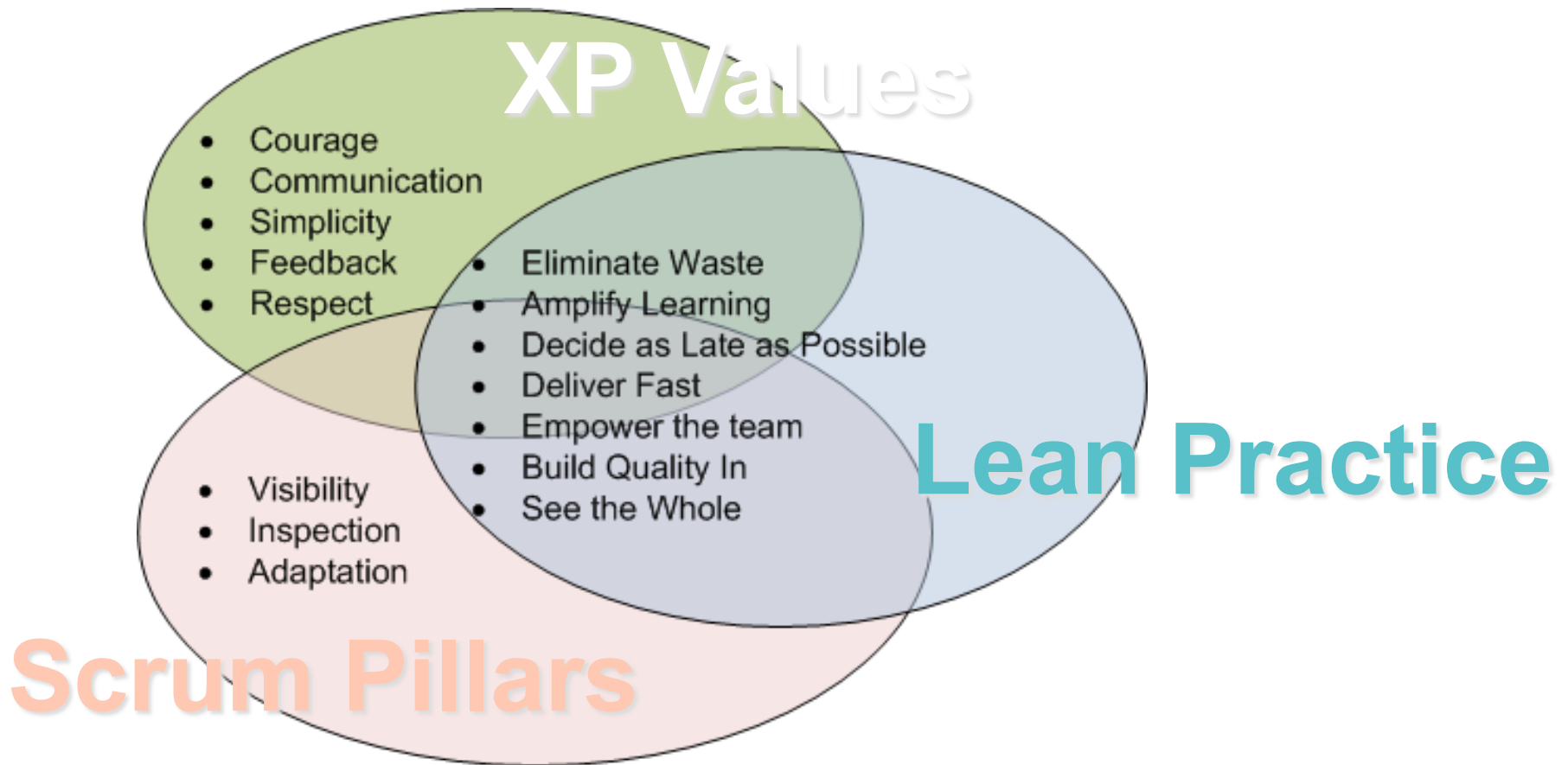468 Lakeville Lane

East Meadow, NY 11554-2202

Tel: 516 353-3870

# OK ...Where to Start

# Agile & Lean

**Design Patterns**
Gang of Four , 1994

**The New New Product Development Game**
Takeuchi & Nonaka 1986

**Japan's Manufacturing Industry**

**Toyota's Production System**
**Kanban**
Taichi Ohno 1978 Japanese
1988 English

**Extreme Programming**
Kent Beck , 1999

**Scrum**
Sutherland & Schwaber

2001 (Mike Beedle
& Schwaber)

**Lean Software Development**
Mary & Tom Poppendieck 2003

2009 - Scrumban - Corey Ladas

**Kanban**
David J. Anderson 2010

**Agile**

**Lean**

**Lean Startup**
Eric Ries 2011

**Startup**

**The Four Steps to the Epiphany**
Steven G. Blank 2005

# Values and Principles



- Courage
- Communication
- Simplicity
- Feedback
- Respect

**XP Values**

- Eliminate Waste
- Amplify Learning
- Decide as Late as Possible
- Deliver Fast
- Empower the team
- Build Quality In
- See the Whole

**Lean Practice**

- Visibility
- Inspection
- Adaptation

**Scrum Pillars**

# Lean Principles

## Eliminate Waste
Unfinished code

Features not needed

Broken processes

Waiting queues

## Empower
Environment to succeed
Strong Communication

## Build Quality In
Test Driven Development

Build to Acceptance

## See the Whole
Complete product vision
Organization connections

## Deliver Fast
Fail Fast. Find disconnects early.

Deliver value.

## Amplify Knowledge
Tacit knowledge
Get the message out
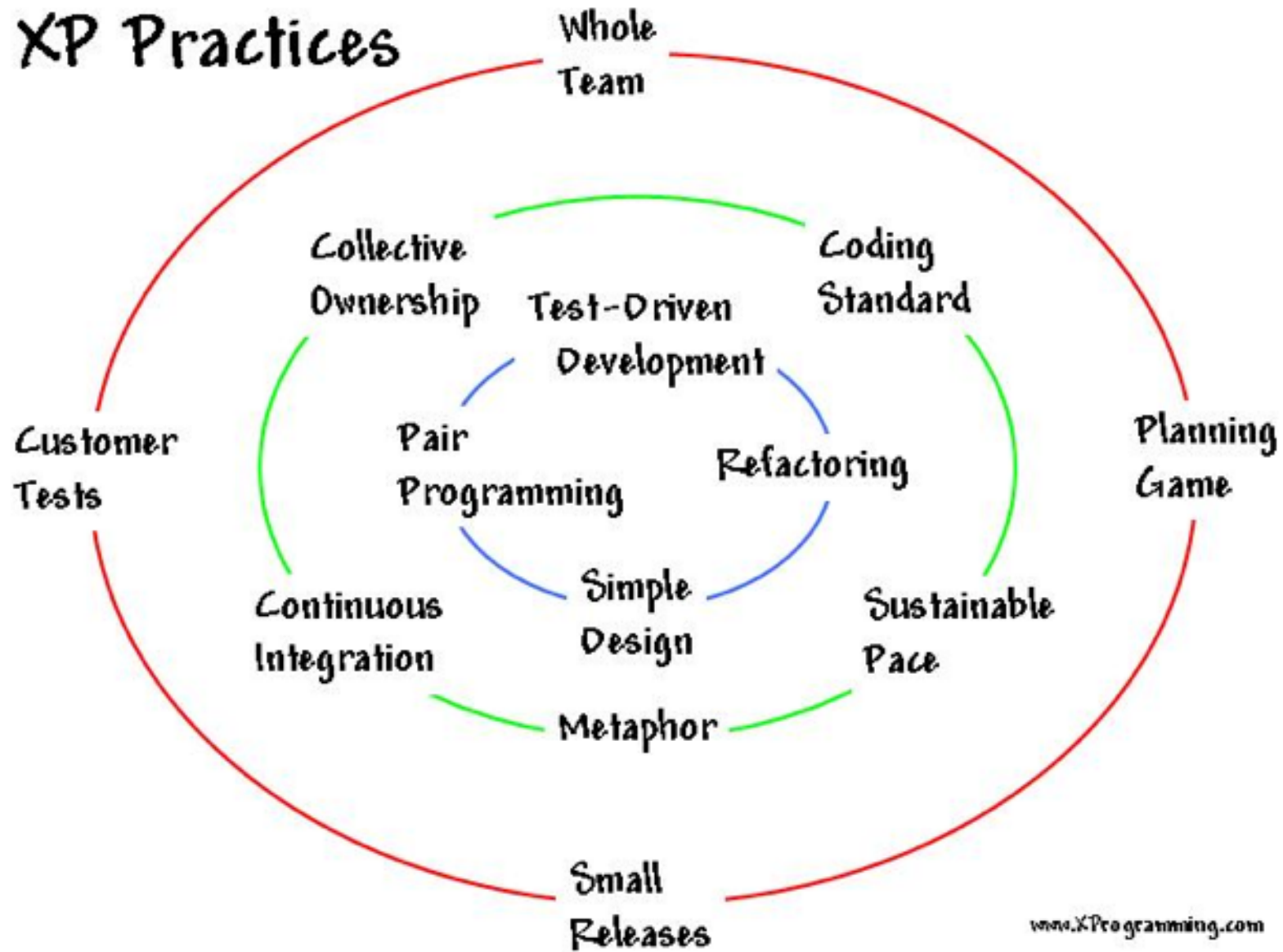
## Decide as Late as Possible
Make decision with max info

# Lean Focus

5 - Seek Perfection

1 - Identify Value

4 - Establish Pull

2 - Map the Value Stream

3 - Create Flow
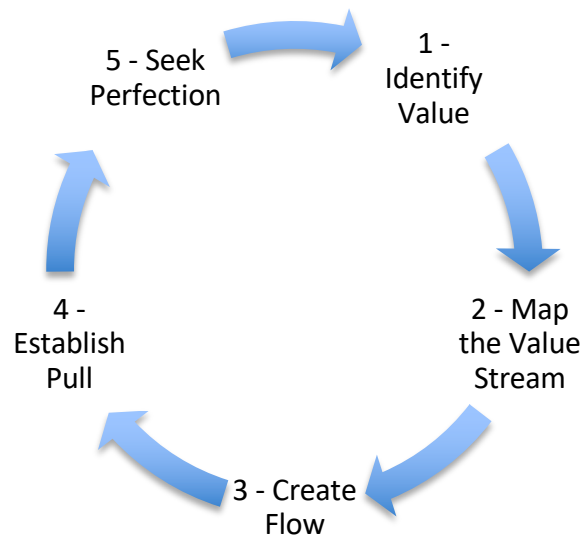
**Limit Waste**
1.  **T**ransport time of information between areas (offices, desks)
2.  **I**nventory (too much, too little, or erroneous information)
3.  **M**otion of workers
4.  **W**ait time between process steps
5.  **O**ver-processing, which places high attention on low-value activities
6.  **O**ver-production, which places the priorities on the wrong activities, drivers, or values
7.  **D**efects or activities that are not directly related to needs

XP Practices

- Whole Team
- Collective Ownership
- Coding Standard
- Test-Driven Development
- Customer Tests
- Pair Programming
- Refactoring
- Planning Game
- Continuous Integration
- Simple Design
- Sustainable Pace
- Metaphor
- Small Releases

www.XProgramming.com

# Subway Map to Agile Practices



Lines represent practices from the various Agile "tribes" or areas of concern:

| | | |
|---|---|---|
| Extreme Programming | Scrum | Design |
| Teams | Product management | Testing |
| Lean | Devops | Fundamentals |

Agile Alliance

# Agile Manifesto - 2001

We have come to value

| Individuals and Interactions | over | Processes and Tools |
|---|---|---|
| Working Software | over | Comprehensive Documentation |
| Customer Collaboration | over | Contract Negotiation |
| Responding to Change | over | Following a Plan |

That is, while there is value in the items on the right, we value the items on the left more.

# Agile Principles

| | |
|---|---|
| **Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.** | **Working software is the primary measure of progress.** |
| Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage. | Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely. |
| Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale. | Continuous attention to technical excellence and good design enhances agility. |
| Business people and developers must work together daily throughout the project. | Simplicity–the art of maximizing the amount of work not done–is essential. |
| Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done. | The best architectures, requirements, and designs emerge from self-organizing teams. |
| The most efficient and effective method of conveying information to and within a development team is face-to-face conversation. | At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly. |

# Principles in 3 Words

| Satisfy the Customer | Working software |
|---|---|
| Embrace Change | Sustainable Pace |
| Frequent Delivery | Technical Excellence |
| Cross-functional Collaboration | Keep it Simple |
| Support and Trust | Self-organization |
| Face-to-face Conversation | Inspect and Adapt |

http://marcbless.blogspot.com/

# Declaration of Interdependence

- We increase return on investment
  by making continuous flow of value our focus

- We deliver reliable results
  by engaging customers in frequent interactions
  and shared ownership

- We expect uncertainty and manage for it through
  iterations, anticipation and adaptation

- We unleash creativity and innovation
  by recognizing that individuals are the ultimate source of
  value, and creating an environment where they can make
  a difference

# Our Environment



**Complex**
Probe
Sense
Respond
Emergent

**Complicated**
Sense
Analyze
Respond
Good Practice

Disorder

**Chaotic**
Act
Sense
Respond
Novel

**Simple**
Sense
Categorize
Respond
Best Practice

Dave Snowden

So how do we control ourselves in an unpredictable world?

The most important, and still difficult part is to know accurately where we are.

We need an honest feedback mechanism which can accurately tell us what the situation is at frequent intervals.

Martin Fowler
http://www.martinfowler.com/articles/newMethodology.html

# Agile Mindset

Effective management must be directed at what you want, not against what you don't want.

<div align="right">Russell Ackoff</div>

When you want to understand Agile project management, ask "How might we perform project management in a way that allows us to create and respond to change and deal with uncertainty?"

<div align="right">Agile Alliance and<br>Project Management Institute (PMI)</div>

# Agile Mindset
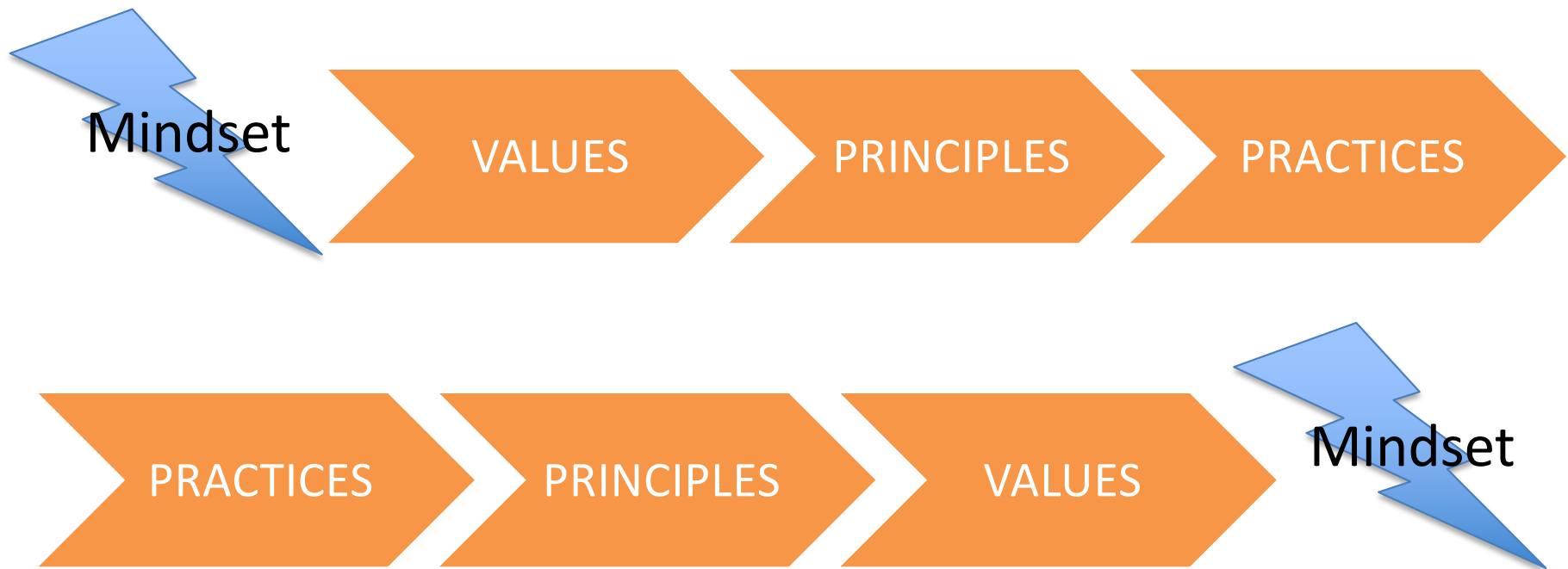
# An Agile Mind
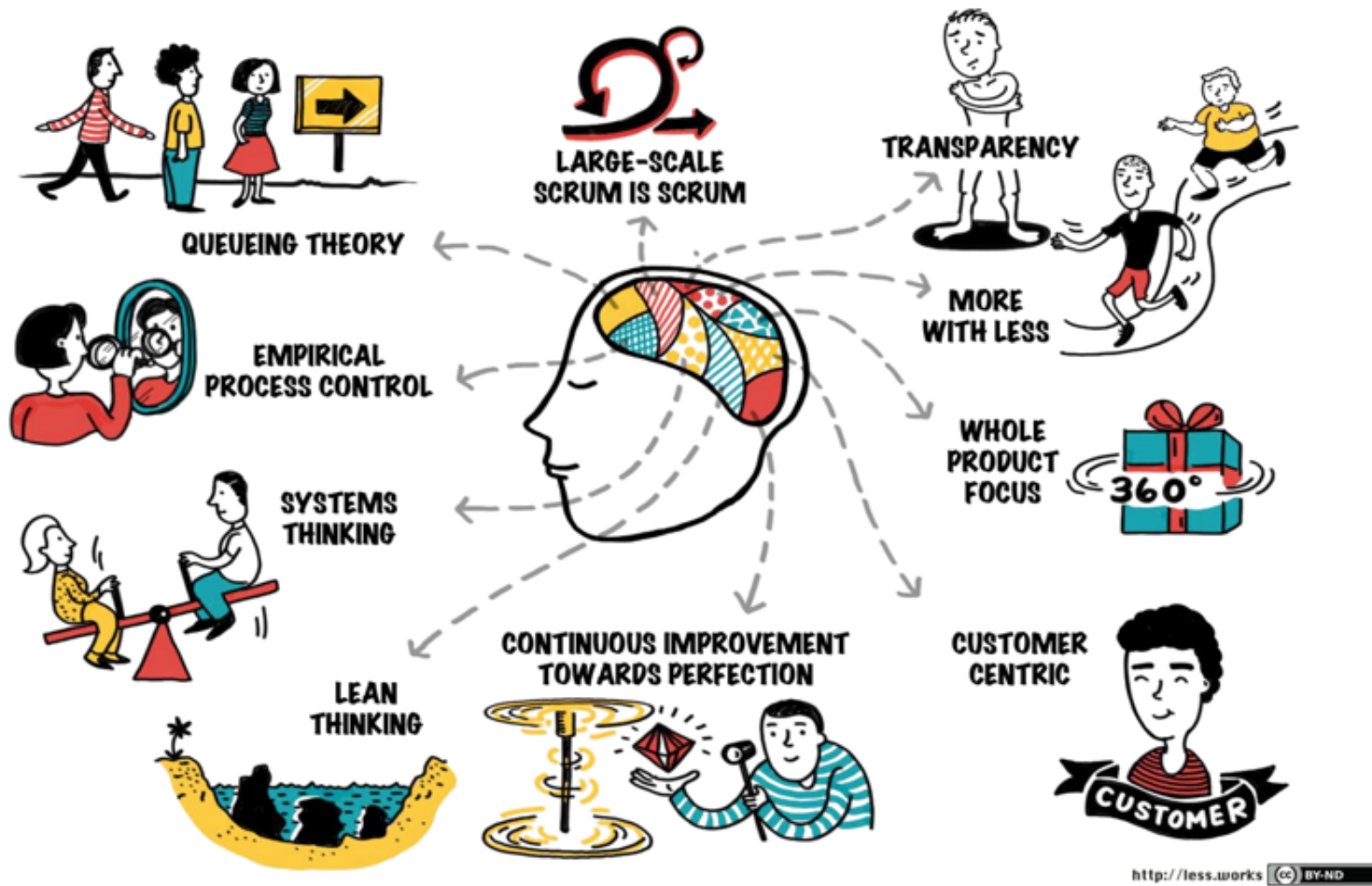
# Roadblocks

- Business
    - Lack of business involvement
    - No clear objectives
- Organizational
    - Funding
    - HR – Staffing / Evaluating
- Technical
    - Cross team dependencies
    - Release management
    - Infrastructure

# Organization Culture

- Customer Focus
- Collaboration & Communication
- Cross Functional Teams
- Iterative / Incremental Development
- Empirical Process
- Continuous Improvement
- Systems Thinking
- Respect

# Cultural Change

- John Seddon explains "culture follows structure" this way: Attempting to change an organization's culture is a folly, it always fails. People's behavior (the culture) is a product of the system; when you change the system peoples' behavior changes.

Larman, Craig. Large-Scale Scrum
(Addison-Wesley Signature Series (Cohn)) (pp. 65-66).
Pearson Education.

# Where Should We Focus?



- Individual

- Team / Org

Mindset

Practices

Culture & Relationships

Environment

- Team

- Org / Team
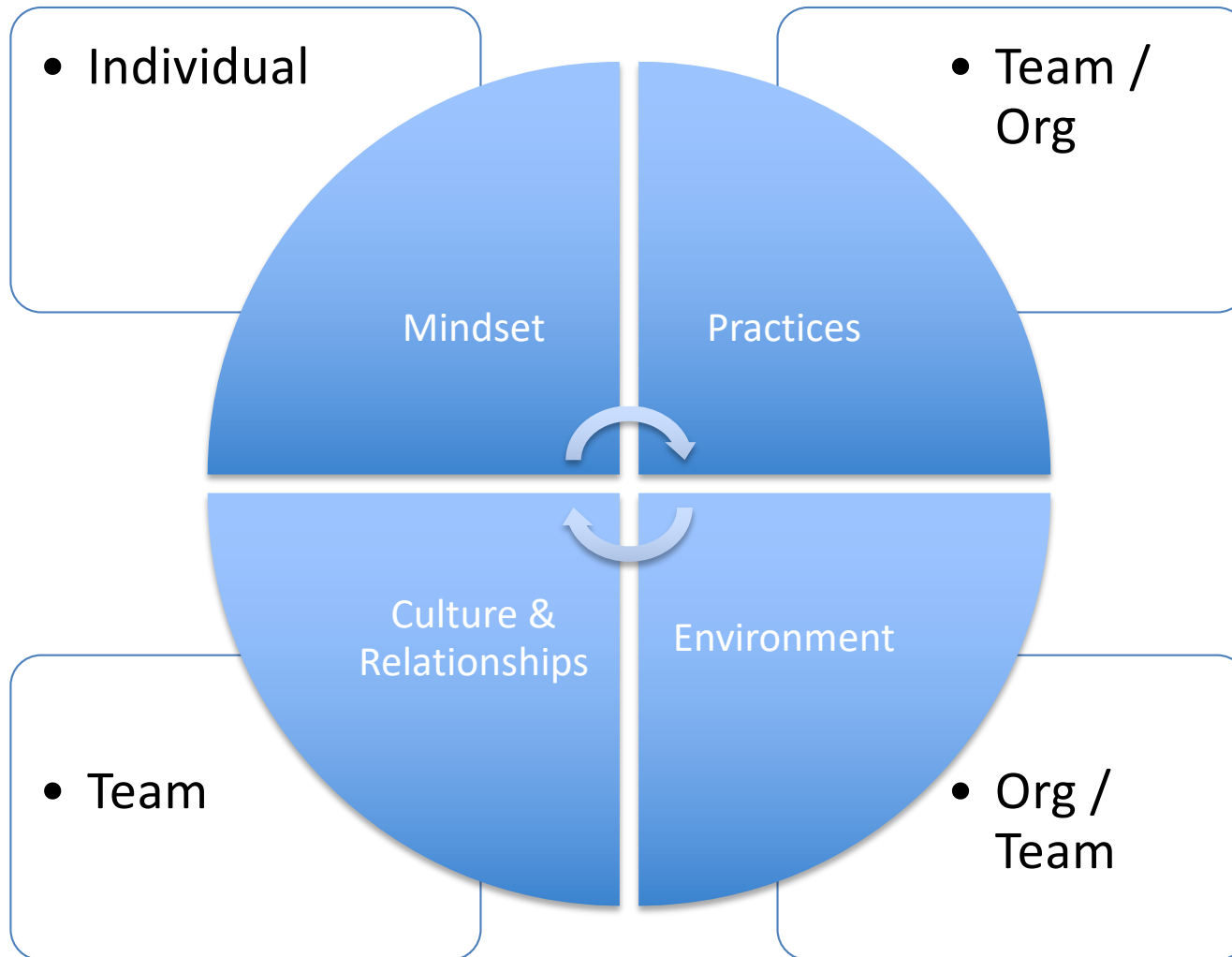
# Agile Frameworks

# Frameworks & Methodologies

- Alistair Cockburn suggested that a methodology is the set of conventions that a team agrees to …. that follows Agile values and principles.

- Scrum and XP  - became frameworks when they were generalized to be used by other teams.

- Those frameworks help to inform where a team starts with their methodology, but they shouldn't be the team's methodology. The team will always need to adapt its use of a framework to fit properly in its context.

Agile Alliance

# Frameworks

- Scrum
- eXtreme Programming (XP)
- Kanban
- Lean Software Development
- Feature Driven Development
- LeSS
- Scaled Agile Framework - SaFE
- Scrum@Scale

# Team Focus

- Product Vision

- Product Backlog

- Cross Functional Team

- Working Agreements / DoD

- Delivery of High-Quality Product Increments

- Metrics / Continuous Improvement

# Scrum Framework



**Scrum Patterns**

# SCRUM

Product Owner Team Scrum Master

**PO**

**SM**

Burn down Chart

Daily Scrum
15 min

Sprint
Planning
Part 1
(What?)
2-4 h

Sprint
Planning
Part 2
(How?)
2-4 h

1 Day

2-4 weeks
Sprint

Sprint
Review
2-4 h

Sprint
Retrospective
1,5-3 h

Product
Backlog
(Features)

Sprint
Backlog
(Tasks)

Product Backlog
Refinement
5-10% of Sprint

Potentially Shippable
Product Increment
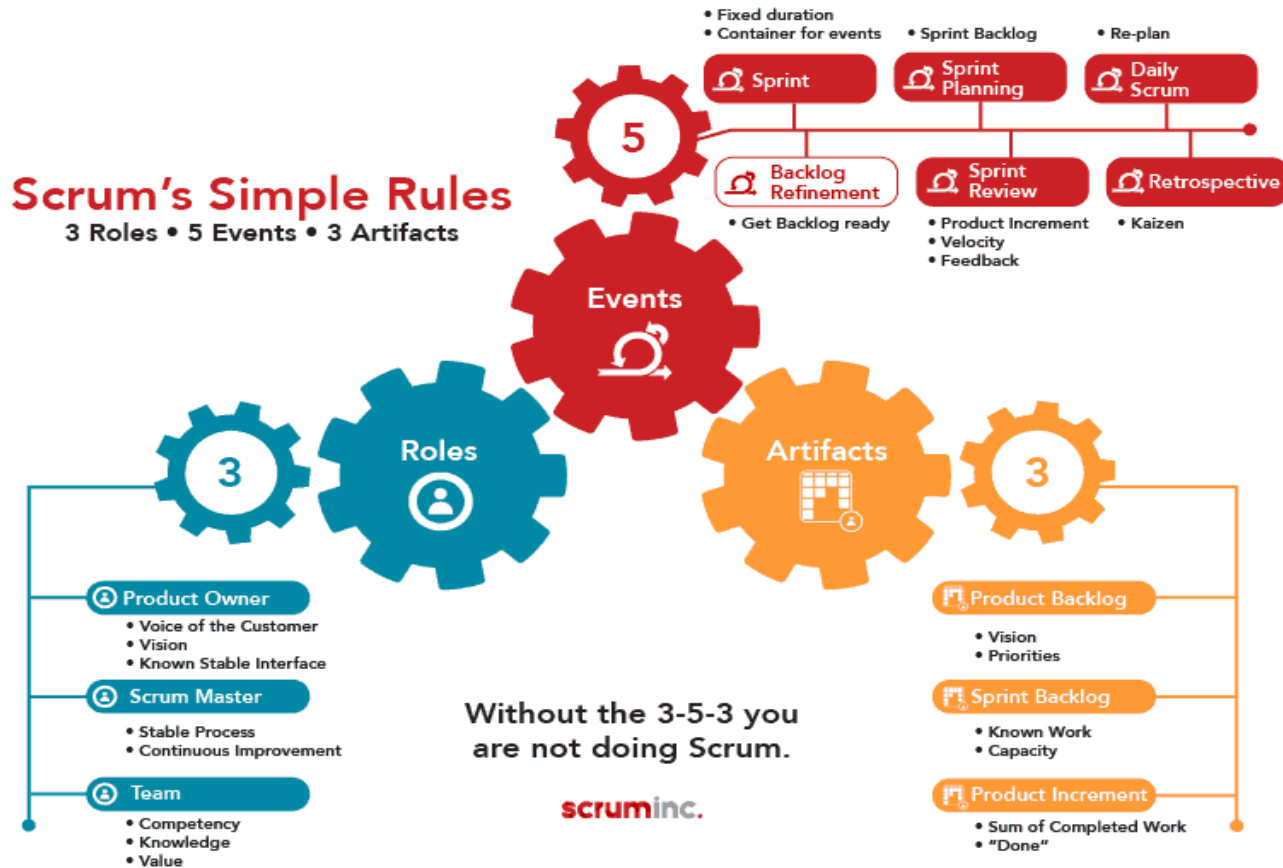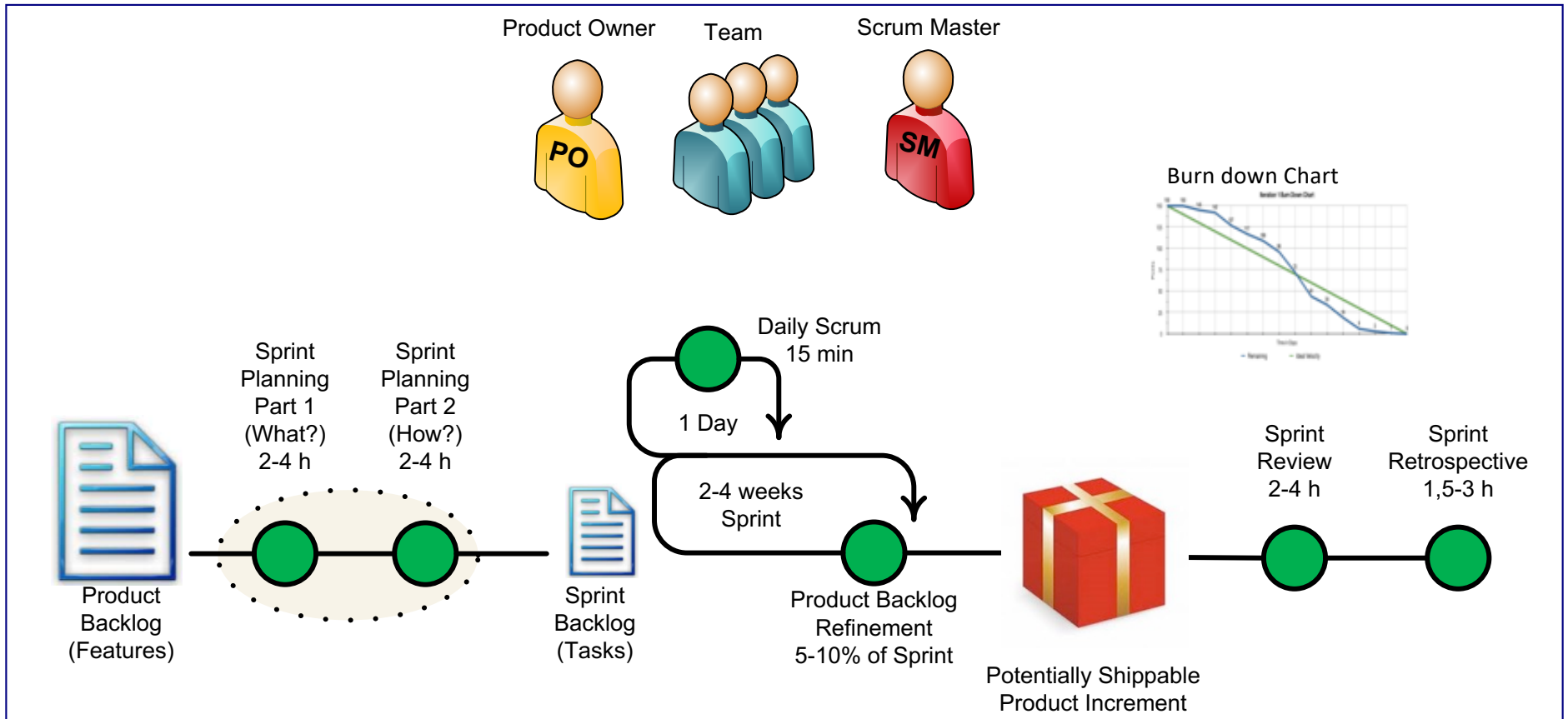
Scrumbook.org

# Kanban Method

**Foundational Principles**

- **Start with what you do now**
- **Agree to pursue evolutionary change**
- **Initially, respect current roles, responsibilities & job titles**
- **Encourage acts of leadership at all levels**

**Core Practices**

- **Visualize**
- **Limit WIP**
- **Manage flow**
- **Make policies explicit**
- **Implement feedback loops**
- **Improve collaboratively, evolve experimentally (using models and the scientific method)**

# Kanban Board

# When Scaling - Consider

- Company Size

- Structure

- Culture

- Engineering Practices

- Governance

- Geographic Distribution

- Resources

# LeSS Framework
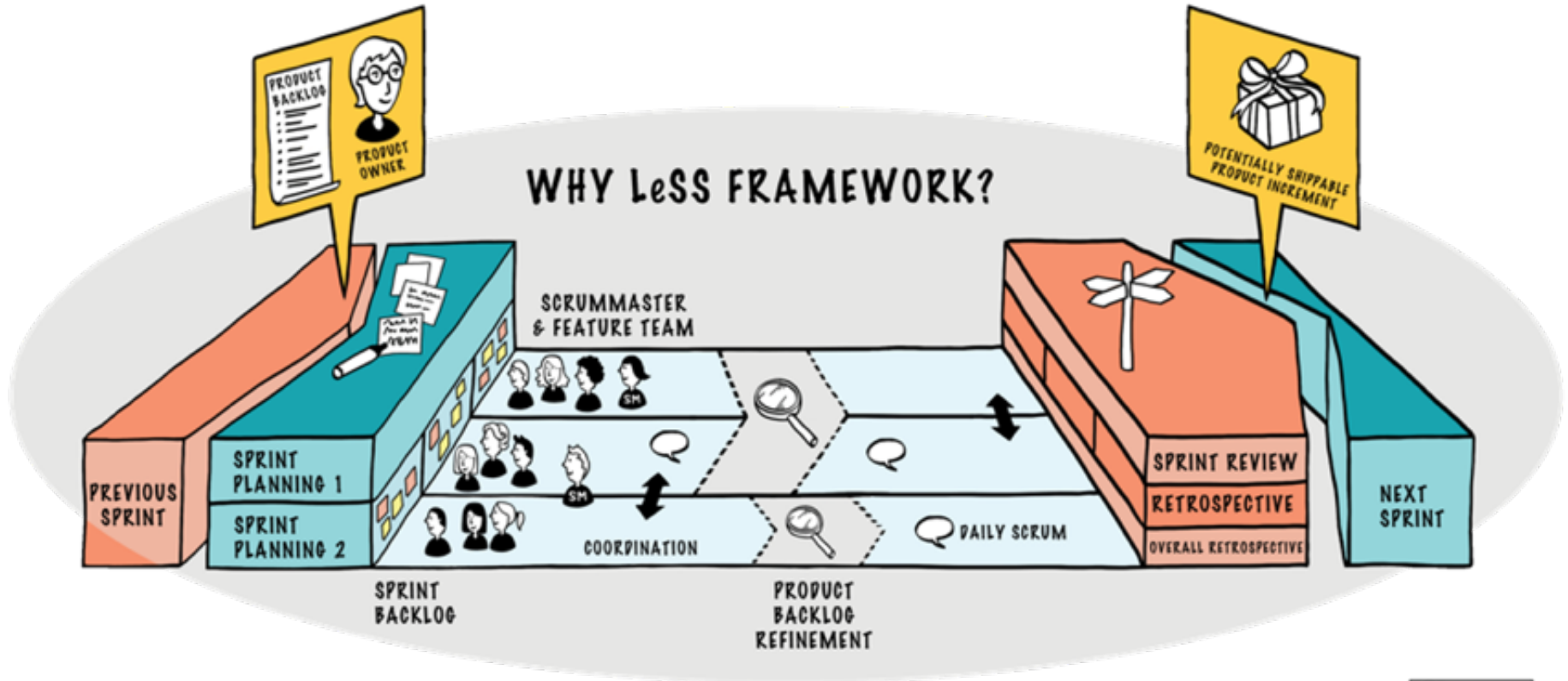
# LeSS Huge
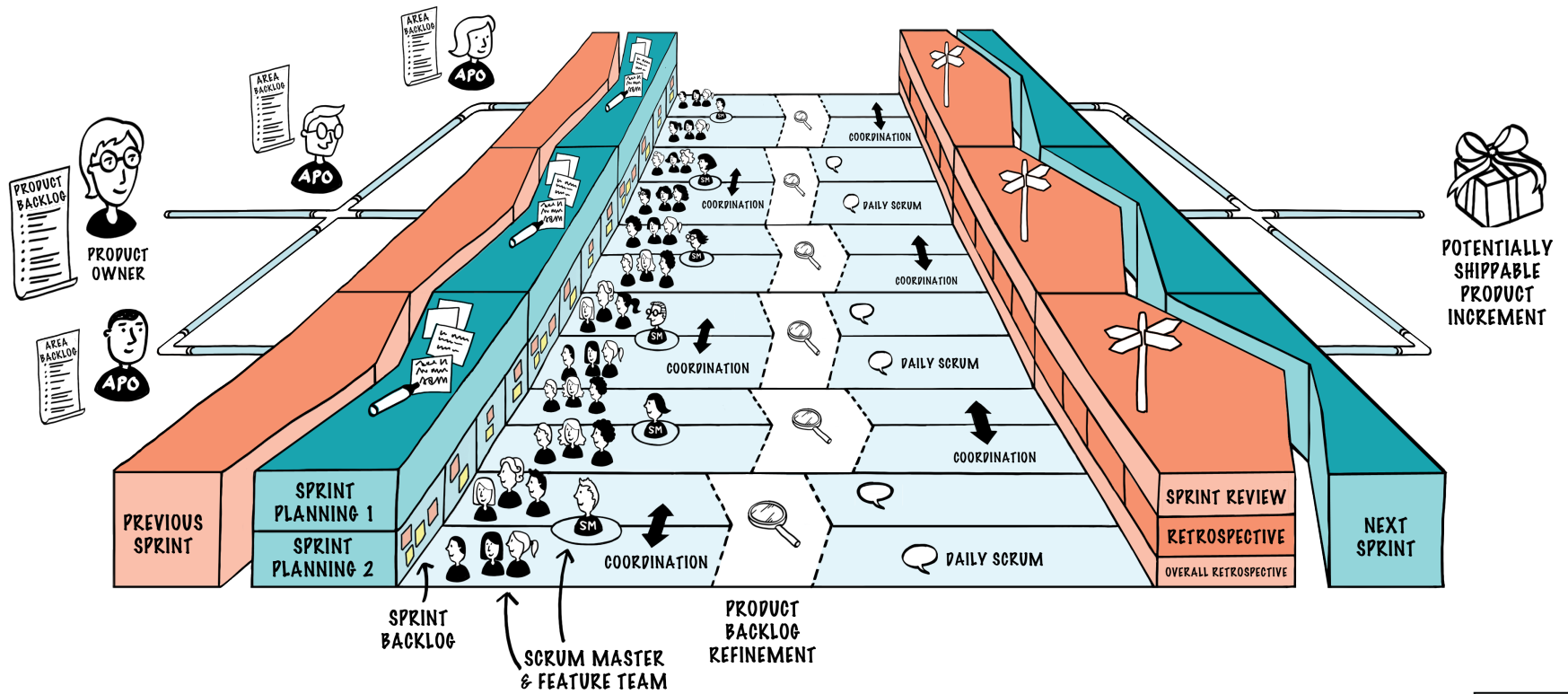
# Scrum@Scale Framework
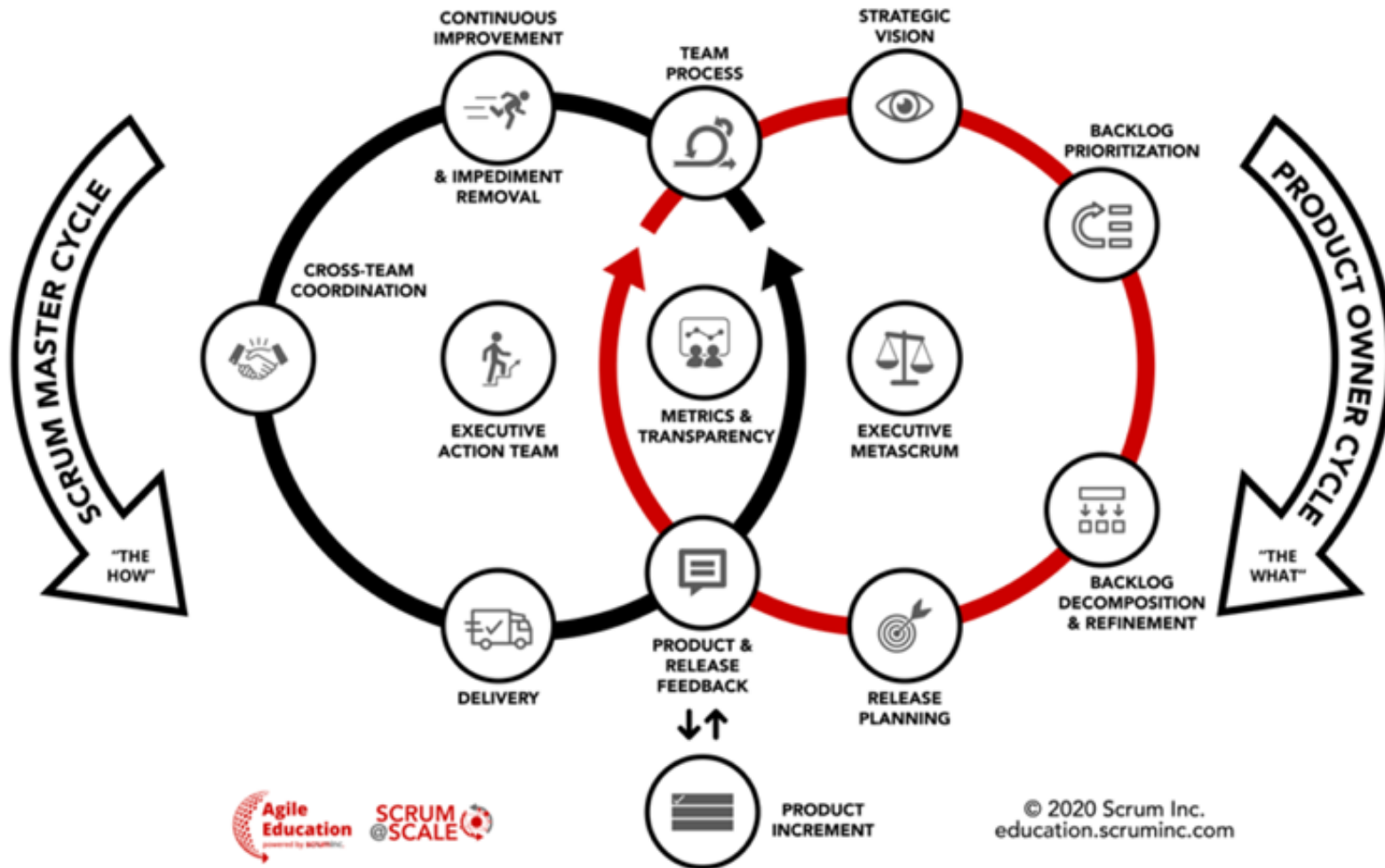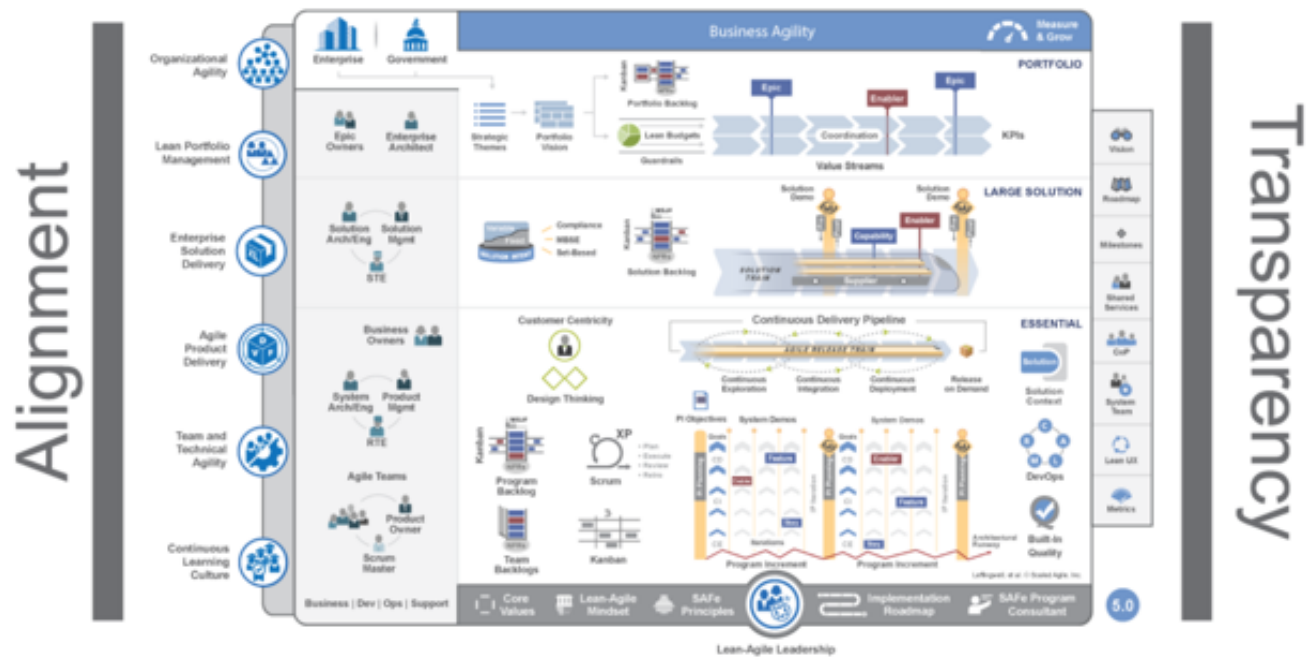
# Scaling Example
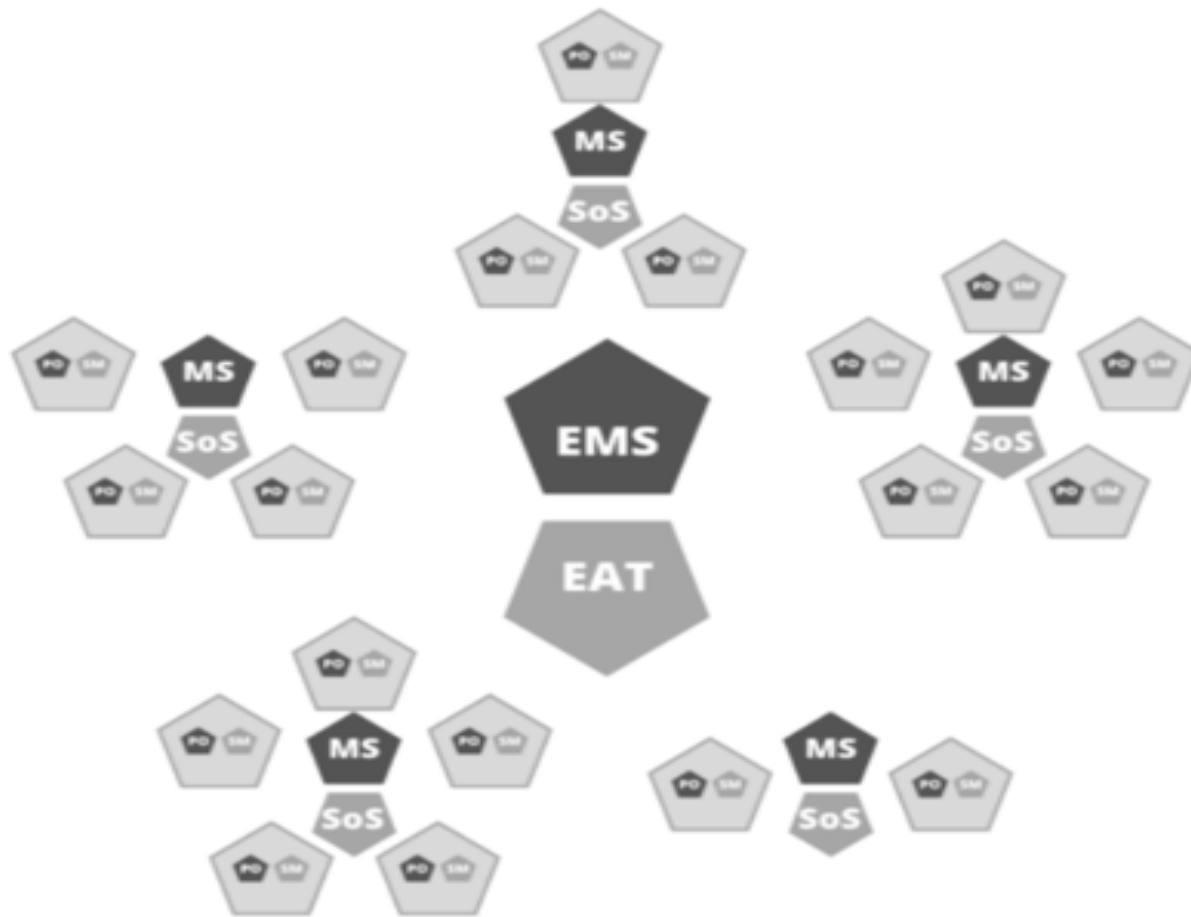


**5 SoS's with 2, 3, 4, & 2x5 Teams**

# SaFE Framework
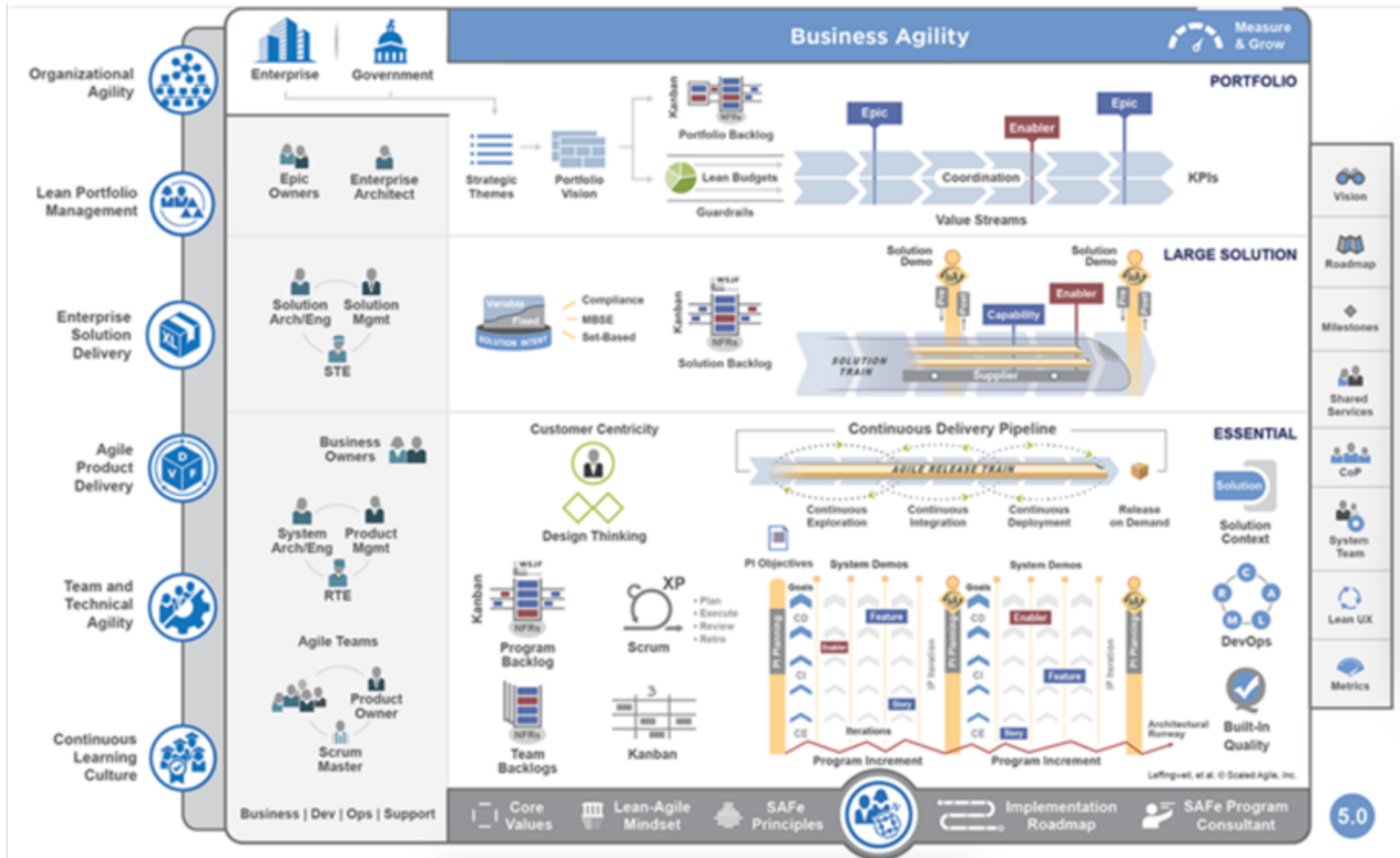
# SaFE Core Values



Built-In Quality

Alignment

Transparency

Program Execution

© Scaled Agile, Inc.

# SaFE Principles

#1 Take an economic view

#2 Apply systems thinking

#3 Assume variability; preserve options

#4 Build incrementally with fast, integrated learning cycles

#5 Base milestones on objective evaluation of working systems

#6 Visualize and limit WIP, reduce batch sizes, and manage queue lengths

#7 Apply cadence, synchronize with cross-domain planning

#8 Unlock the intrinsic motivation of knowledge workers

#9 Decentralize decision-making

#10 Organize around value

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# DAD Framework
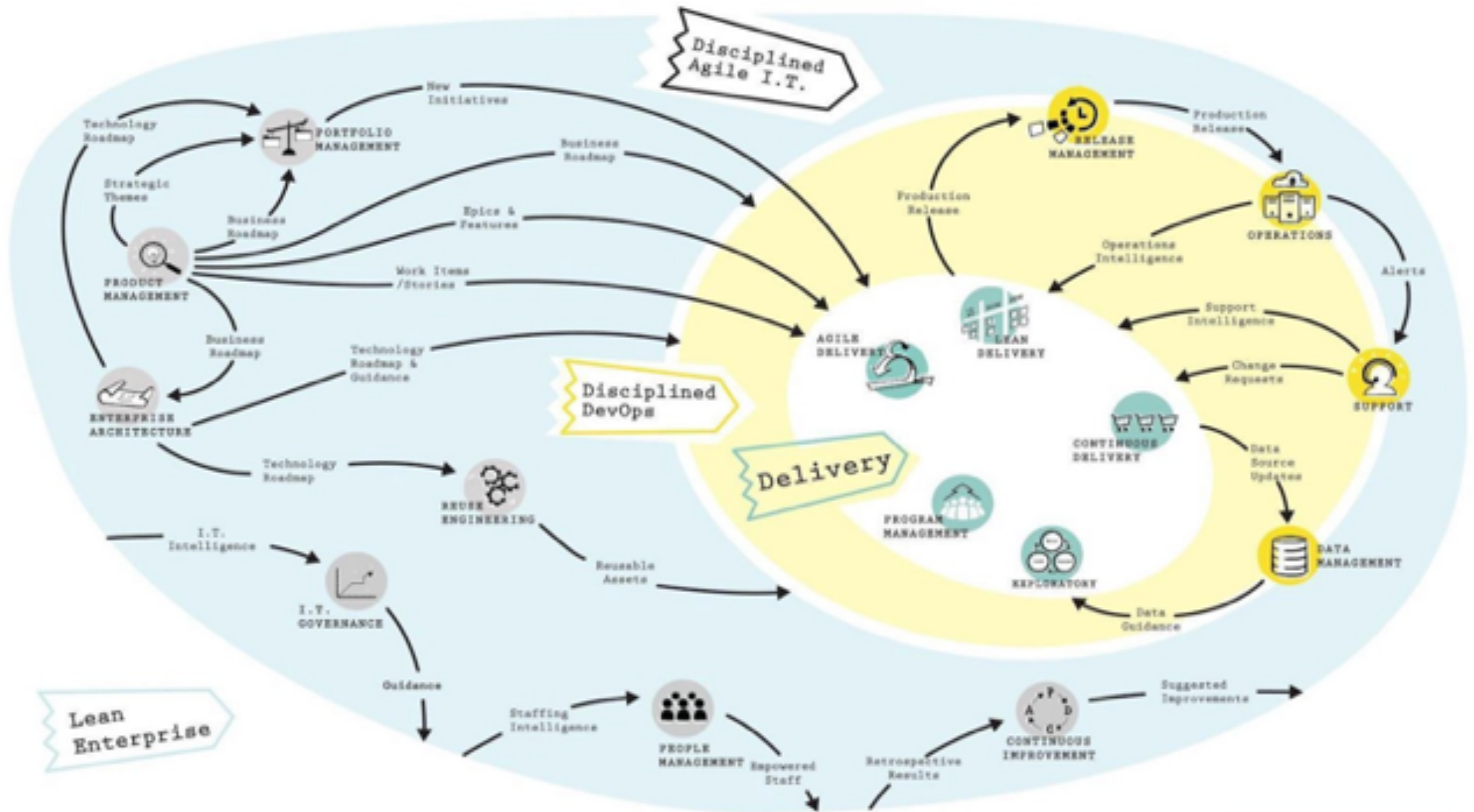
# DAD Life Cycles

The four life cycles of development in the Disciplined Agile Delivery Model.

- **Agile Delivery Lifecycle:**
  - Based on Scrum
  - There is no product backlog.
  - This cycle extends throughout the entire project.
- **Lean Lifecycle:**
  - A continuous stream of workflow
  - Lean Lifecycle suggests to meet only when necessary.
  - This cycle extends throughout the entire project.
- **Continuous Lean and Agile Delivery Lifecycles:**
  - Teams deliver frequently and quickly with timeboxed iterations
  - Continuous integration focused mainly during the construction transition stage
- **Exploratory (Lean Startup) Lifecycle:**
  - Brainstorming of new and testable solutions
  - This is done before the inception stage and the transition stage.
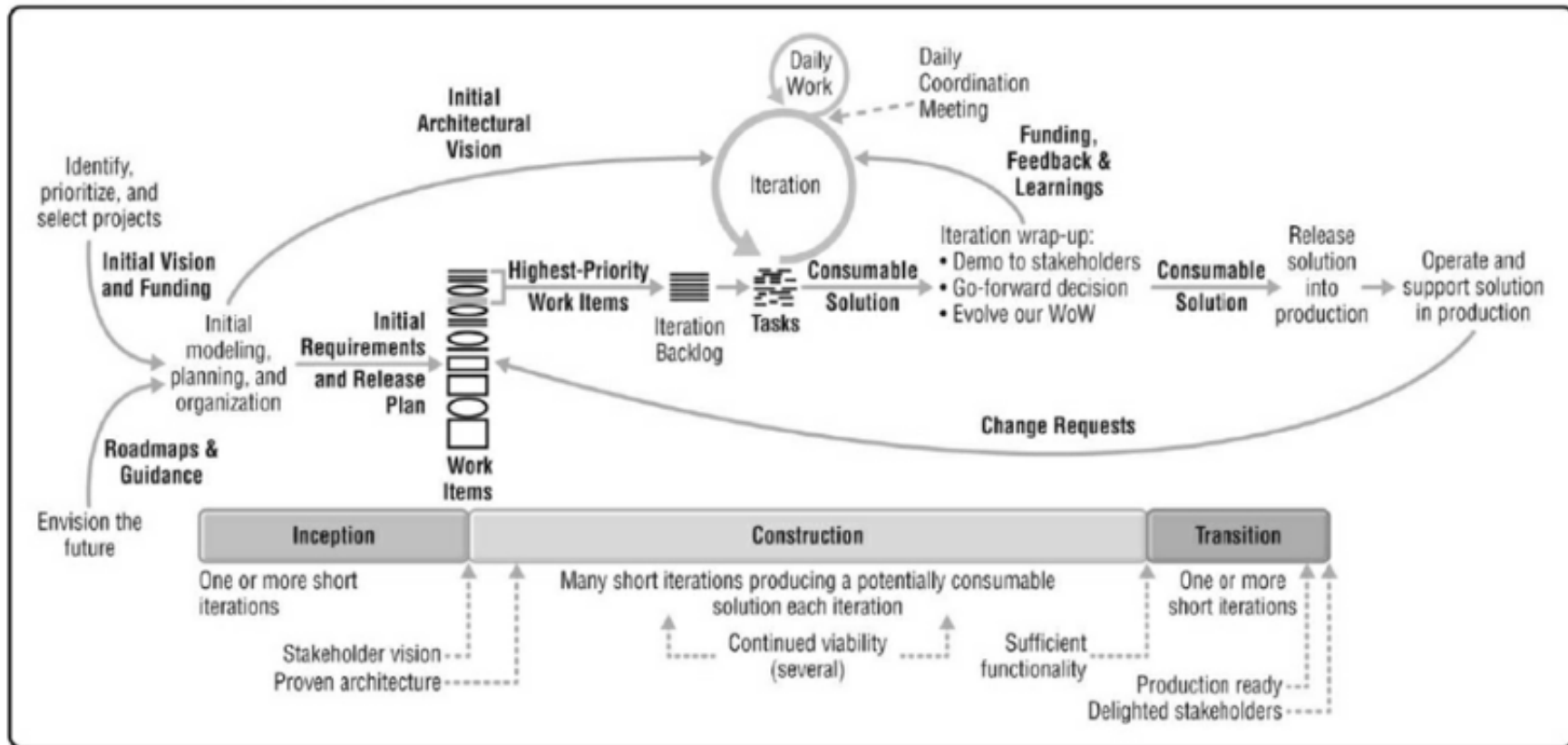
# DAD Stages

There are 3 stages of Disciplined Agile Delivery:

- Inception
- Construction
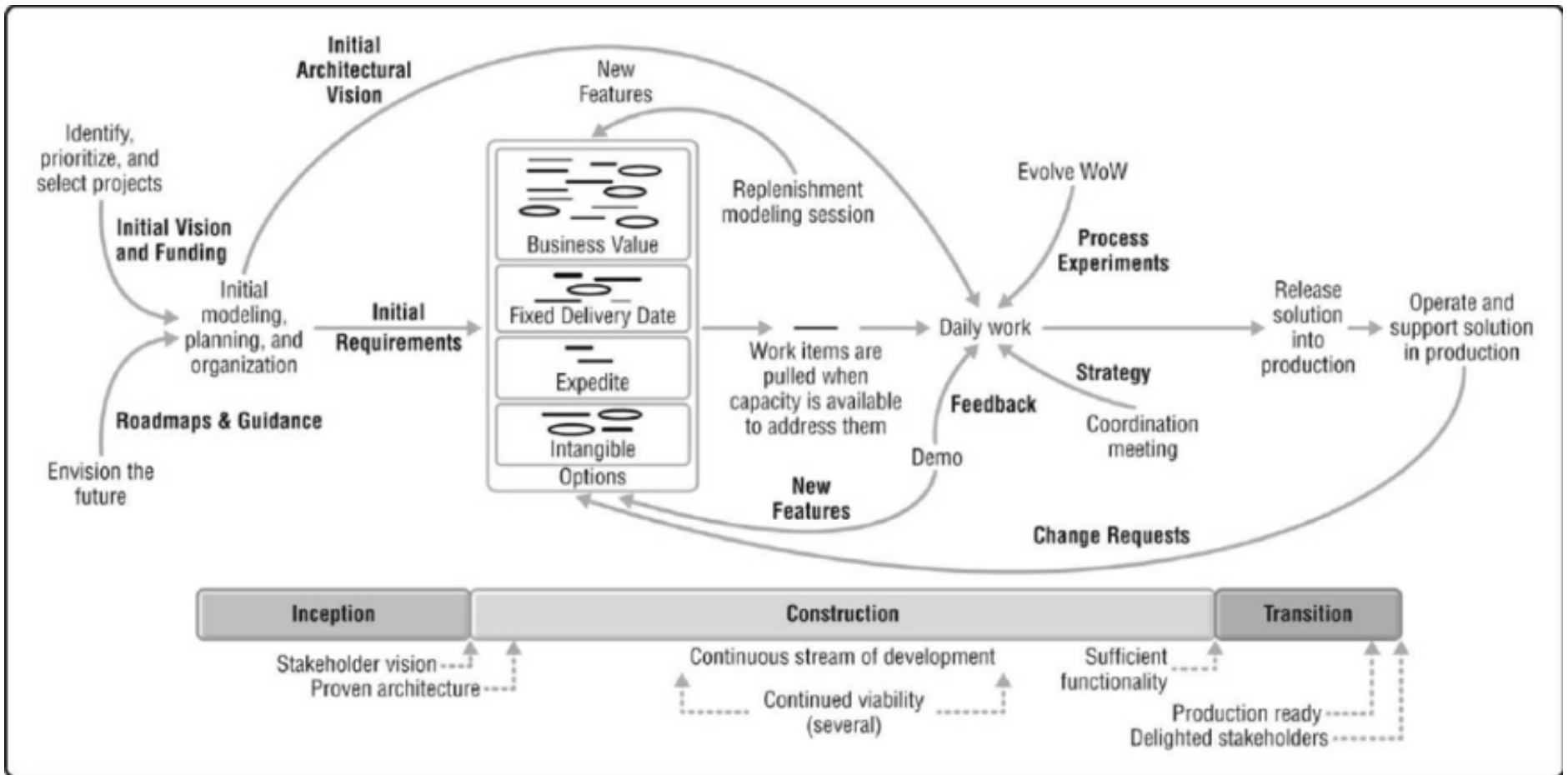- Transition

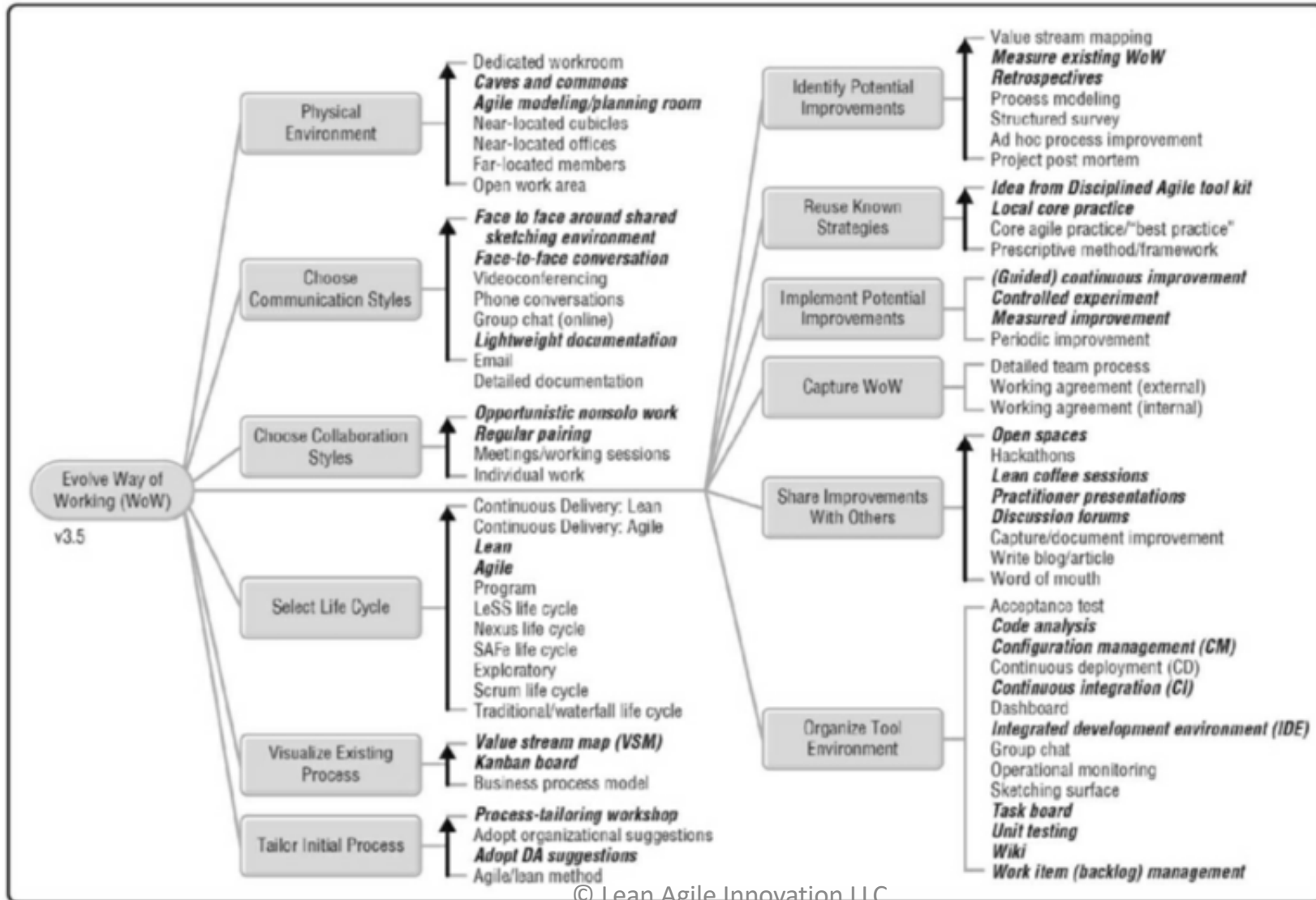# DAD Agile Life Cycle

# DAD

Key elements as listed below support the project:

- Program Management

- Release Management

- DevOps

- Product Management

- Enterprise Architecture

- IT Governance

- Continuous Improvement

# DAD Lean Life Cycle

# Goals in DAD

# Questions