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Leadership Complexity Agility

Ran Nyman

Italian Agile Day Feb. 11, 2017

Ran Nyman

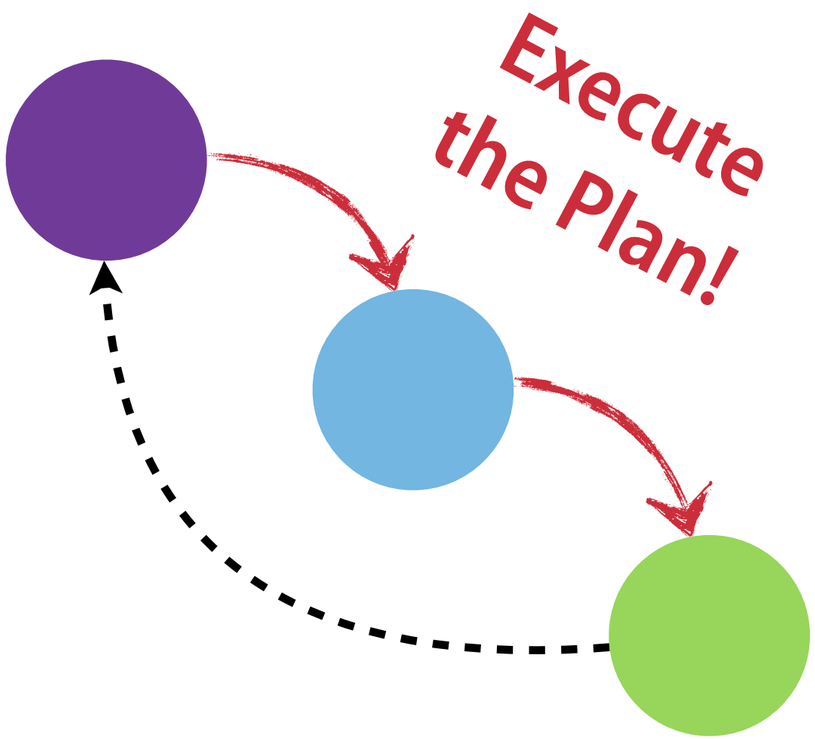
Worked with LeSS since 2005

MSc in Computer Science 1999

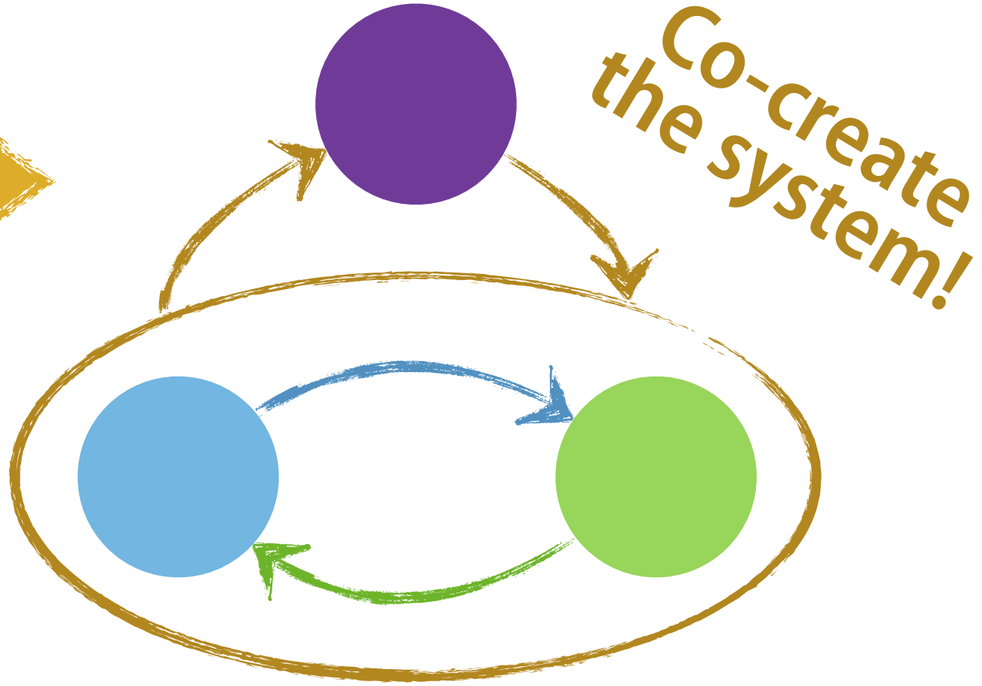
Since 1995 in professional SW development

Gosei as Company

Tayloristic Coordinated organization



Agile Learning organisation



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Leadership

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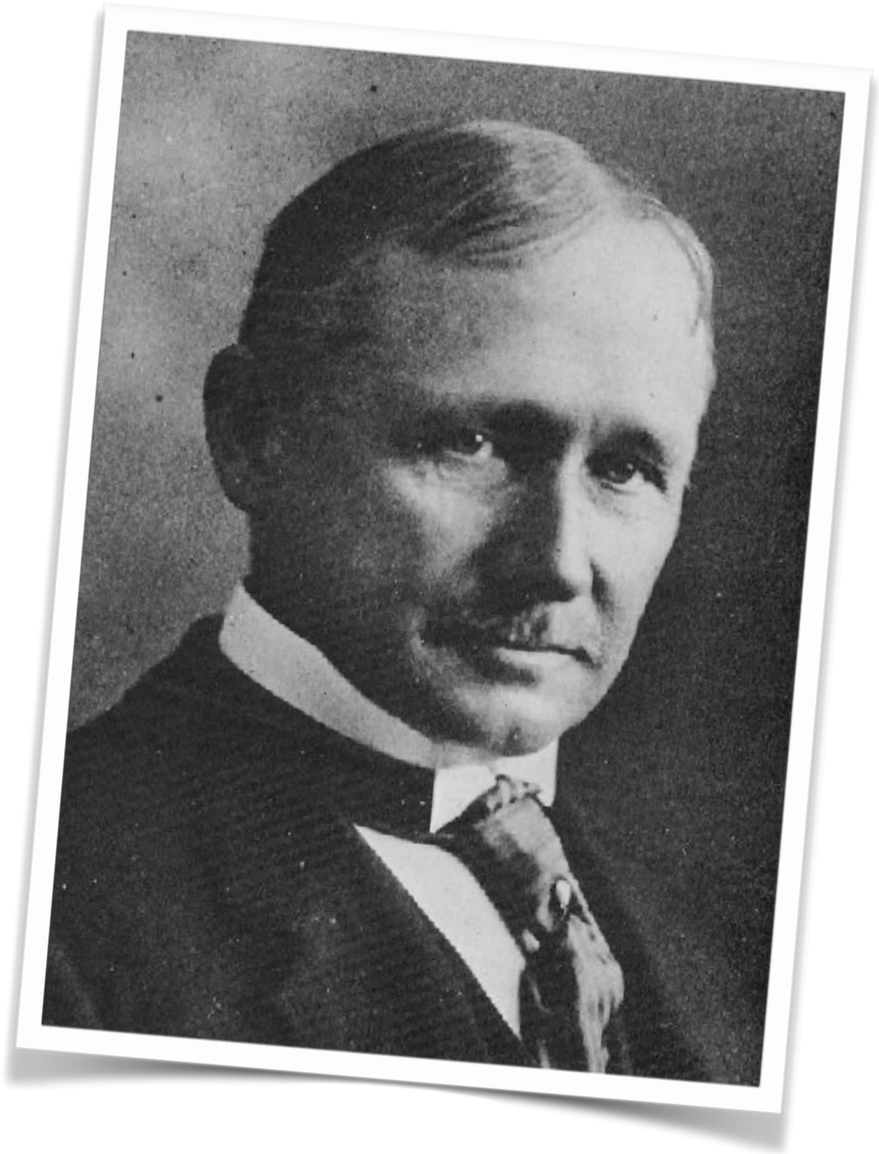
Taylorism

Frederic Winslow Taylor



The Principles of Scientific Management

BY

FREDERICK WINSLOW TAYLOR, M.E., Sc.D.

PAST PRESIDENT OF THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS

HARPER & BROTHERS PUBLISHERS

NEW YORK AND LONDON

1919

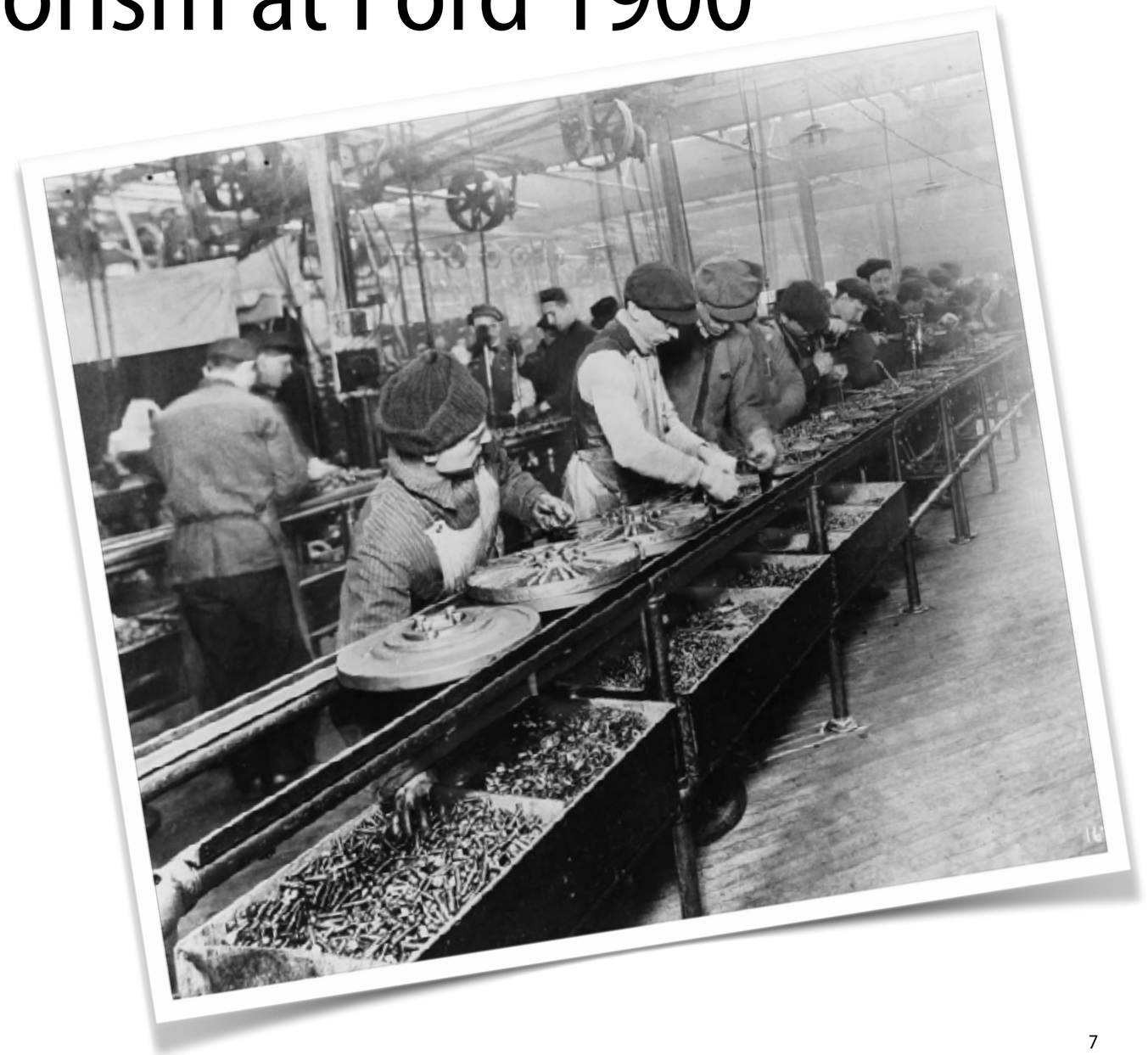
Extreme Taylorism at Ford 1900

Context

- Huge market and demand
- Winning product
- Lack of skilled workforce

Solution

- Manual Automation
- Detailed standardization
- Proper wages



Henri Fayol

- Functions of Management
- Principles of Management

By Unknown - Late 19th century, early 20th century picture (found online at http://www.slideshare.net/sturdybcomer/henry-fayol-10634333), Public Domain, https://commons.wikimedia.org/w/index.php?curid=43280334

Modern Taylorism

Split responsibilities

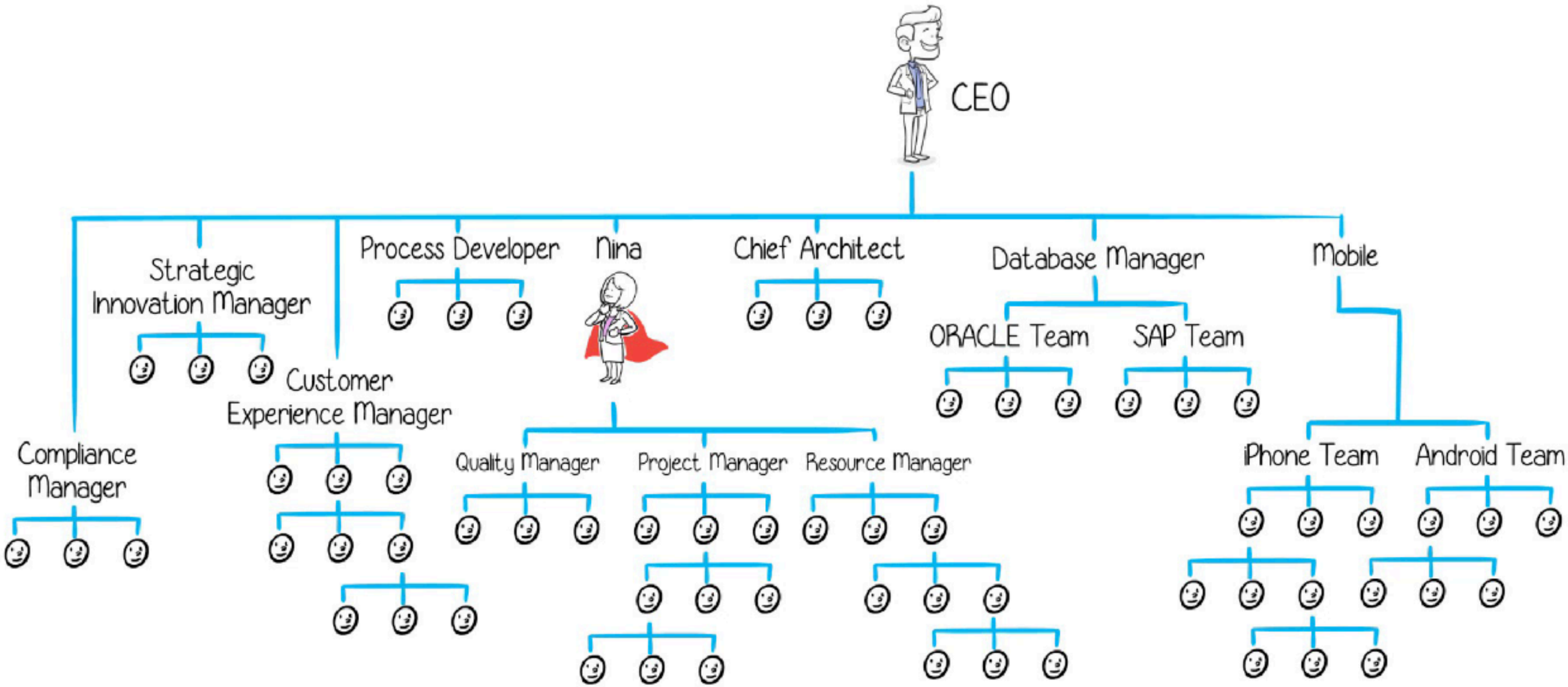
- Others promise, others deliver
- Others plan, others execute
- Others decide, others follow
- Others know, others decide
- Others implement, others test

Tas cialization

- n managers
- Resource manager
- Quality manager

- y Manager
- Specifier
- Architect
- UI designer
- ality manager
- manager
- owner
- Owner Team
- Release Manager

- Systen
- rtfolio manager
- mer Experience
- er
- development
- manager
- Int
- E ect
- Chief specialist
- Security manager



Everyday experience

“Pressure with Fear”

“Must Should”

“No time for real change”

“Power and wisdom are always elsewhere.”

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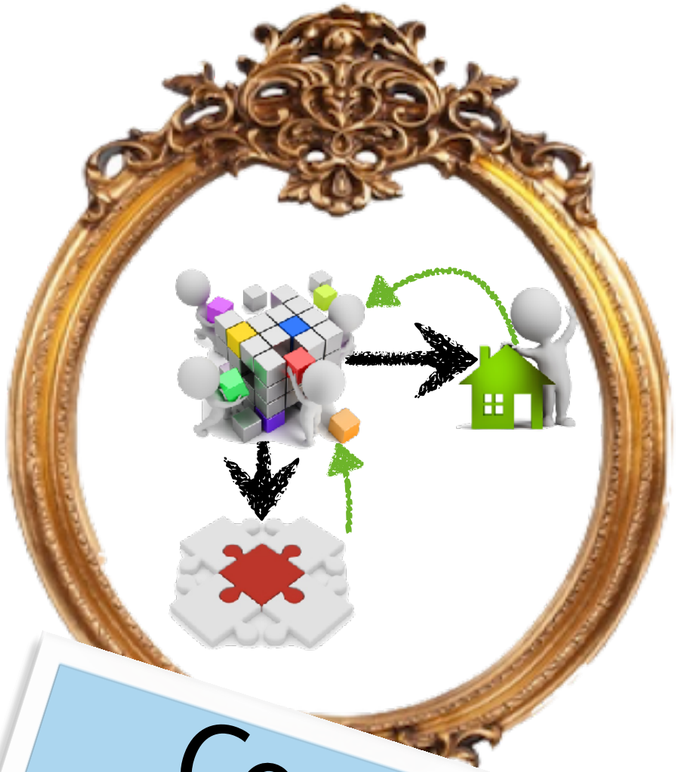
Actionable Fearless Leadership

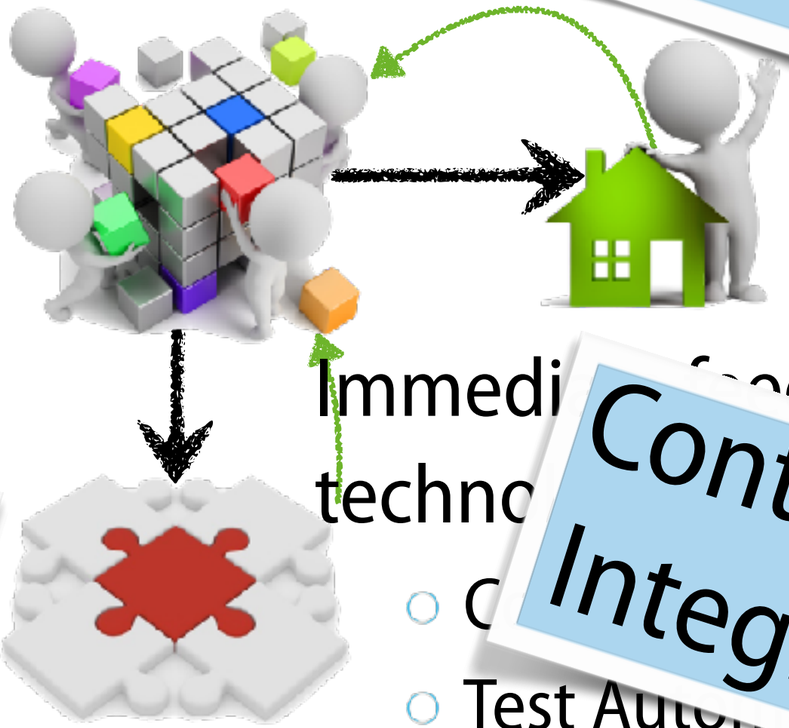
Build System with Feedback Reality

Organise for … learning

- Find yo…
- Cross-f… …th Customers
- Full produ…



Feature Teams working with Full Product



Continuous Experimentation

Immedi… …edback from techno…

- S… …elf
- Systems …
- C…
- Test Auto…

Continuous Integration

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LeSS Case 1

Browsing Gateway in 2004

Working with incremental sequential development

- 3 months increments with 3 project managers coordinating
- Weekly manual build (no CI)
- Individual component responsibilities
- Testing and development separated in different wings of building
- No meaningful automated e2e testing
- Manual testing using scripts

-> Releases constantly late with quality problems

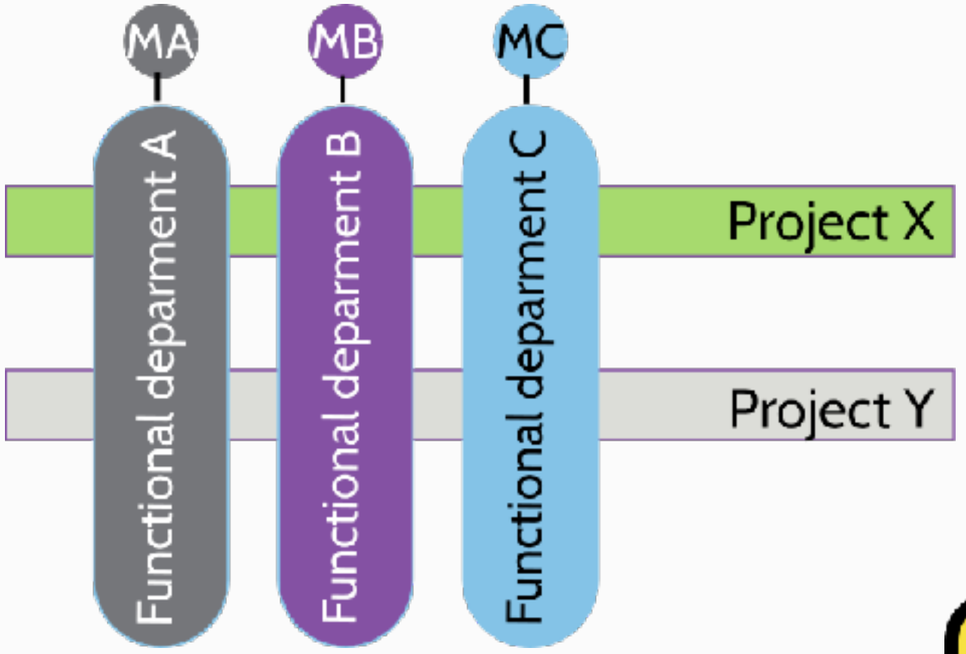
Actionable Fearless Leadership

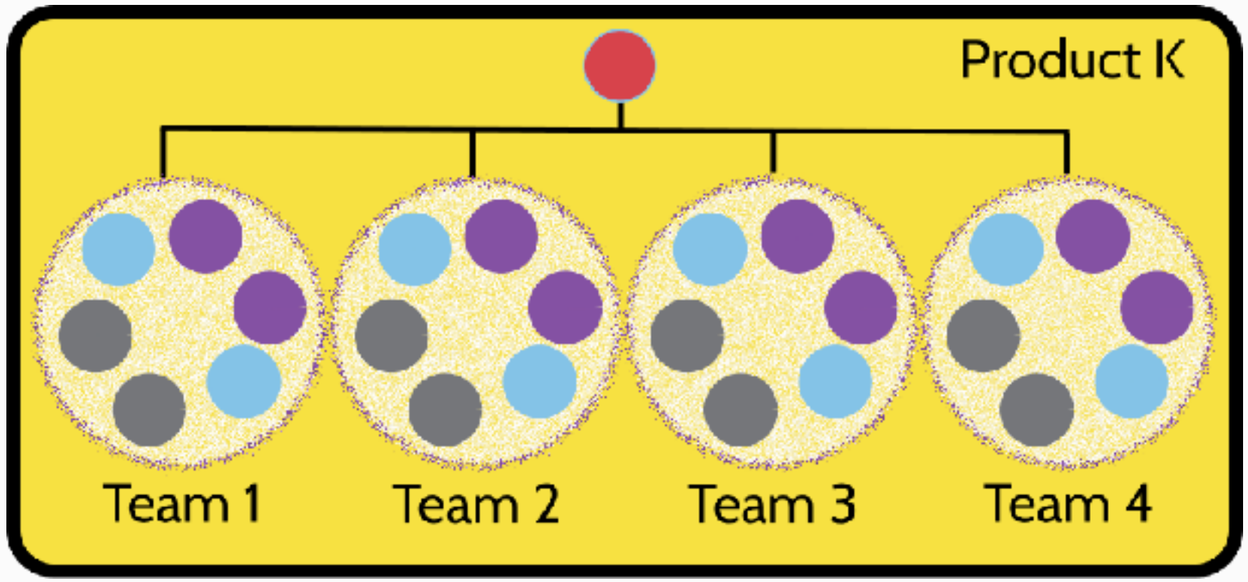
BL management decided to move to Scrum (LeSS as term was not know then)

Supported the adoption:

- But did not micromanage
- Created proper structure
- System that supports team work
- System that enable technical feedback
- Continuous experimentation

Focus from Internal Structure to Customer

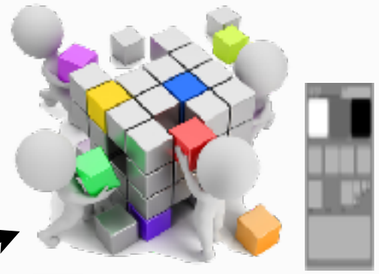




LeSS Structure

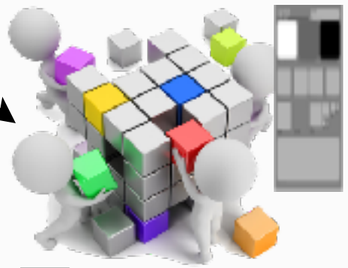
Product Owner

Product Backlog



Team a

Team b



Team c

ScrumMaster

One Sprint Backlog per Team

ScrumMaster

From Physical Silos to Collaboration

From Manual Build to CI

No other way of keeping SW in shape

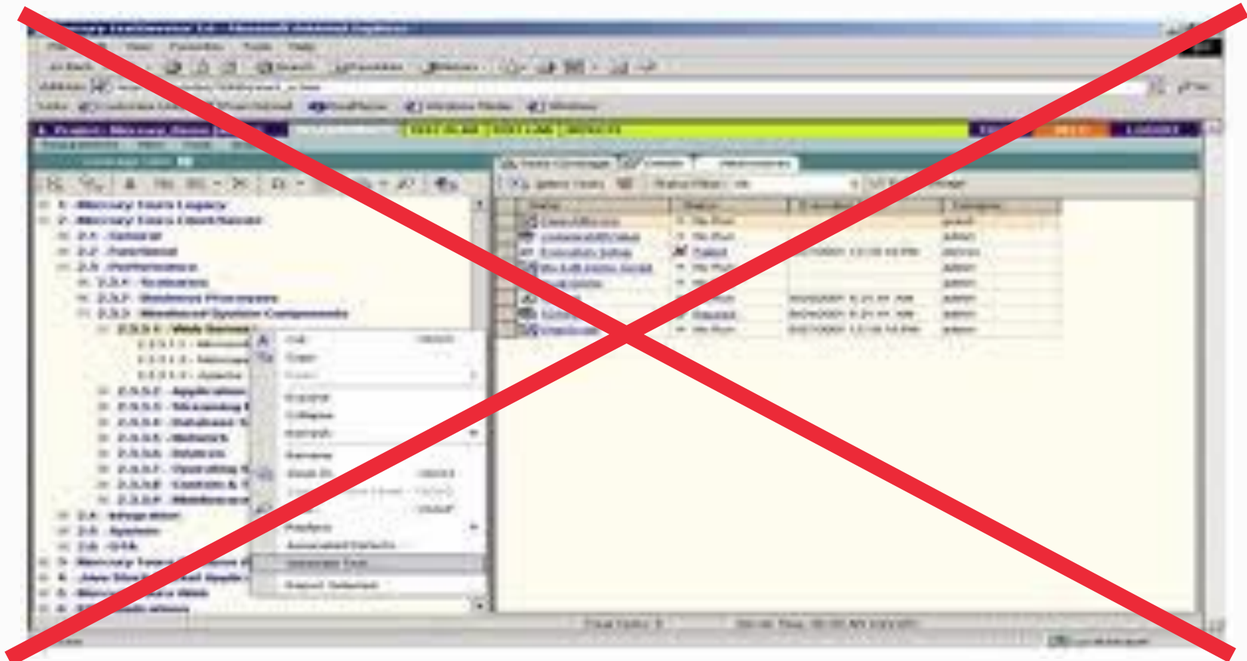
Branching did not work

Do not use ClearCase

From Manual Testing to A-TDD

Getting rid of scripted manual tests

- -> Automate them
- But do not offshore automation!
- But do not create your own framework!



Performance testing?

- We ran it continuously

Stability testing?

- We ran it continuously

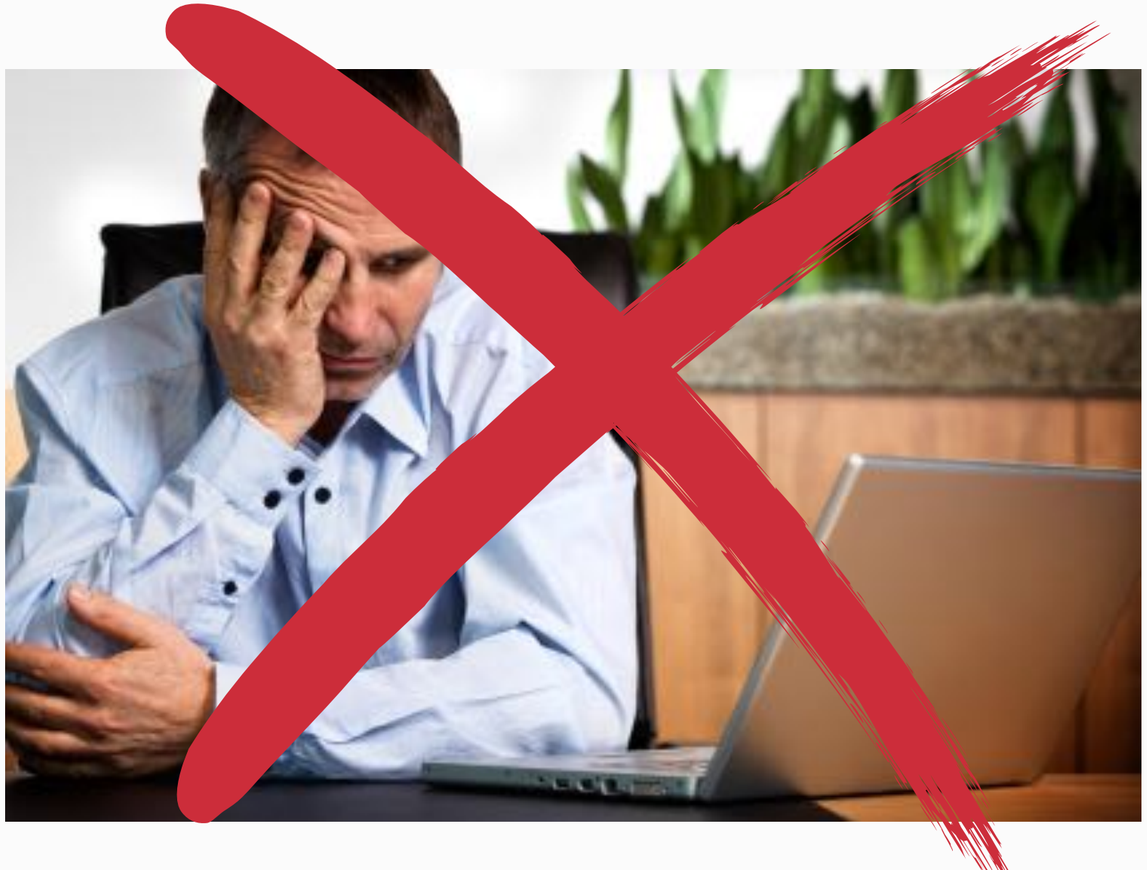
From Project Managers to One Product Owner

One single real PO that prioritises

- Teams clarify directly with stakeholders

Project Managers:

- Kept them away from teams
- -> Not much work



Results

Great working spirit

100% test automation

Product version 2.1 launched before scheduled date

- PSPI
- Strong Definition of Done

Feature Teams working with Full Product

Continuous Integration

Continuous Experimentation

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Complexity

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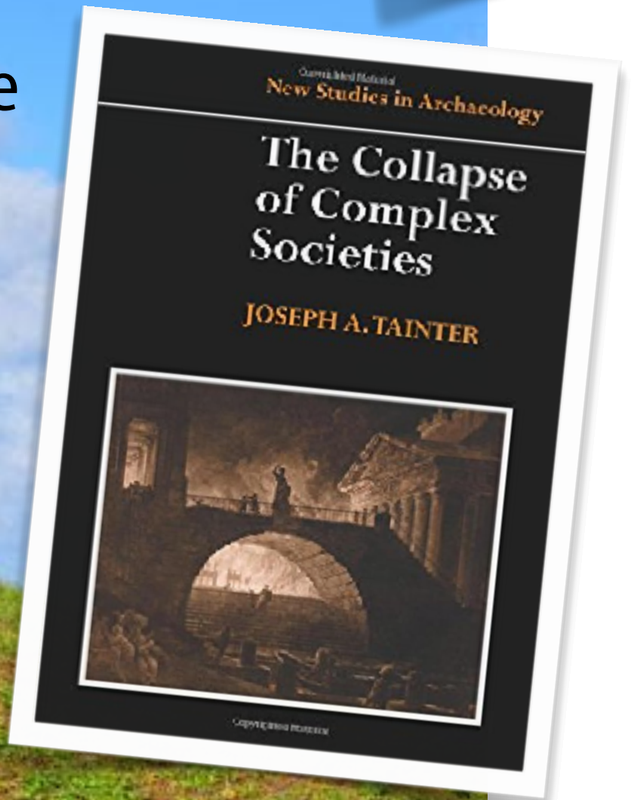
Collapse of Complex Societies

Joseph A. Tainter

Collapse of Complex societies:

- Mayas
- Chacoan
- West Roman Empire
- Western Chou
- Mesopotamia
- Egypt
- . . .



Tainter's story in brief

Innovation
increases local efficiency
and complexity.

Complexity grows

- Elite creates wasteful rituals to maintain their status
- Rent instead of value creation

Abundant resources
and innovation enable the
growth of the Society.

The complex society can no more adapt and collapses.
The population drops dramatically.

The root cause of the collapse
is
the internal complexity
not
the depletion of resources.

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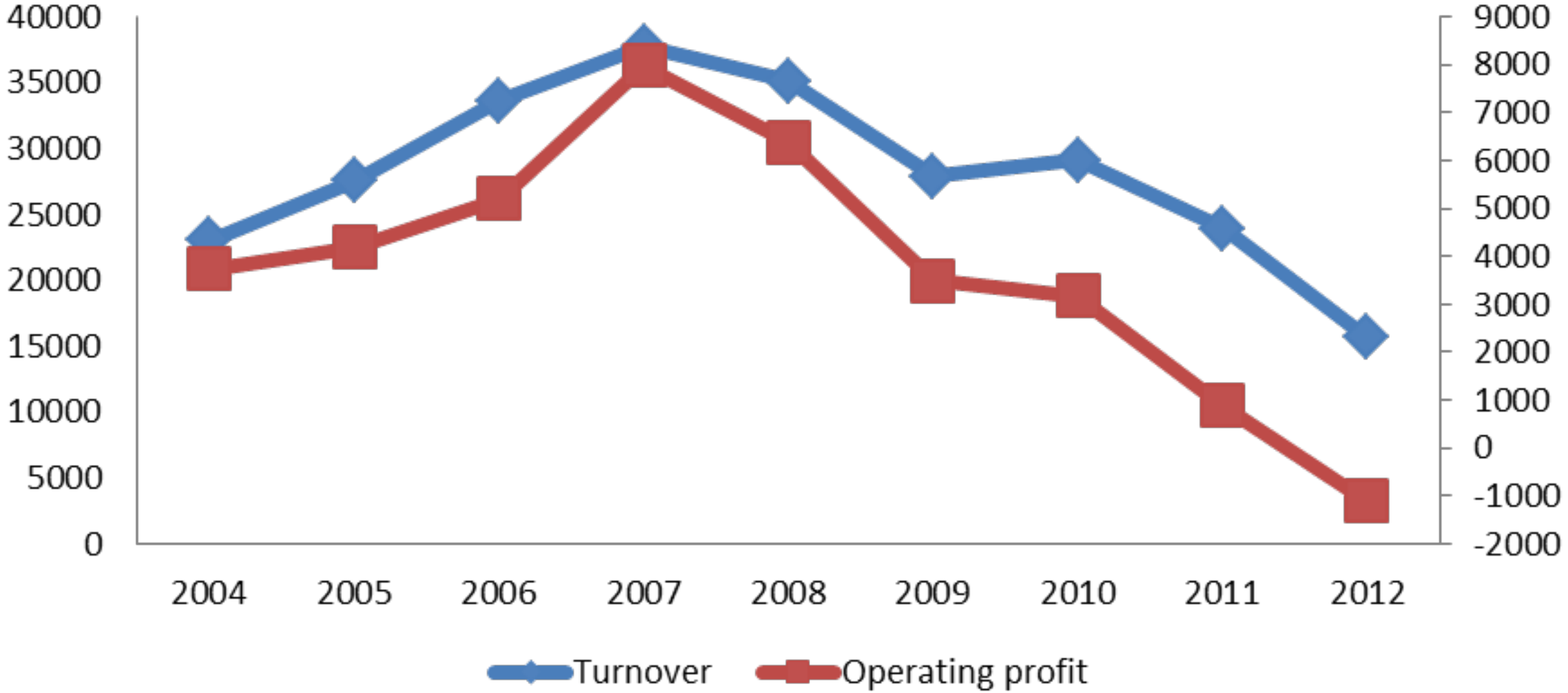
Collapse of Productivity in NOKIA Mobile Phones

NOKIA mobile phone business 2004-2012 (million euros)



Graph by Christian Sandström, http://disruptiveinnovation.se

NOKIA

Nokia Mobile Phones

Nokia Networks

NOKIA opportunity 1990

Aggressively grab the opportunities

- Great success in the beginning

“Just make it work” - engineers

- Trust and autonomy
- Success during the growth phase

Business opportunities

- Crumbling Telecom monopolies
- Detailed GSM standard
- Talented workforce in Finland
- Ambitious leader Jorma Ollila

Stage 1

NOKIA Challenges Beginning of 2000

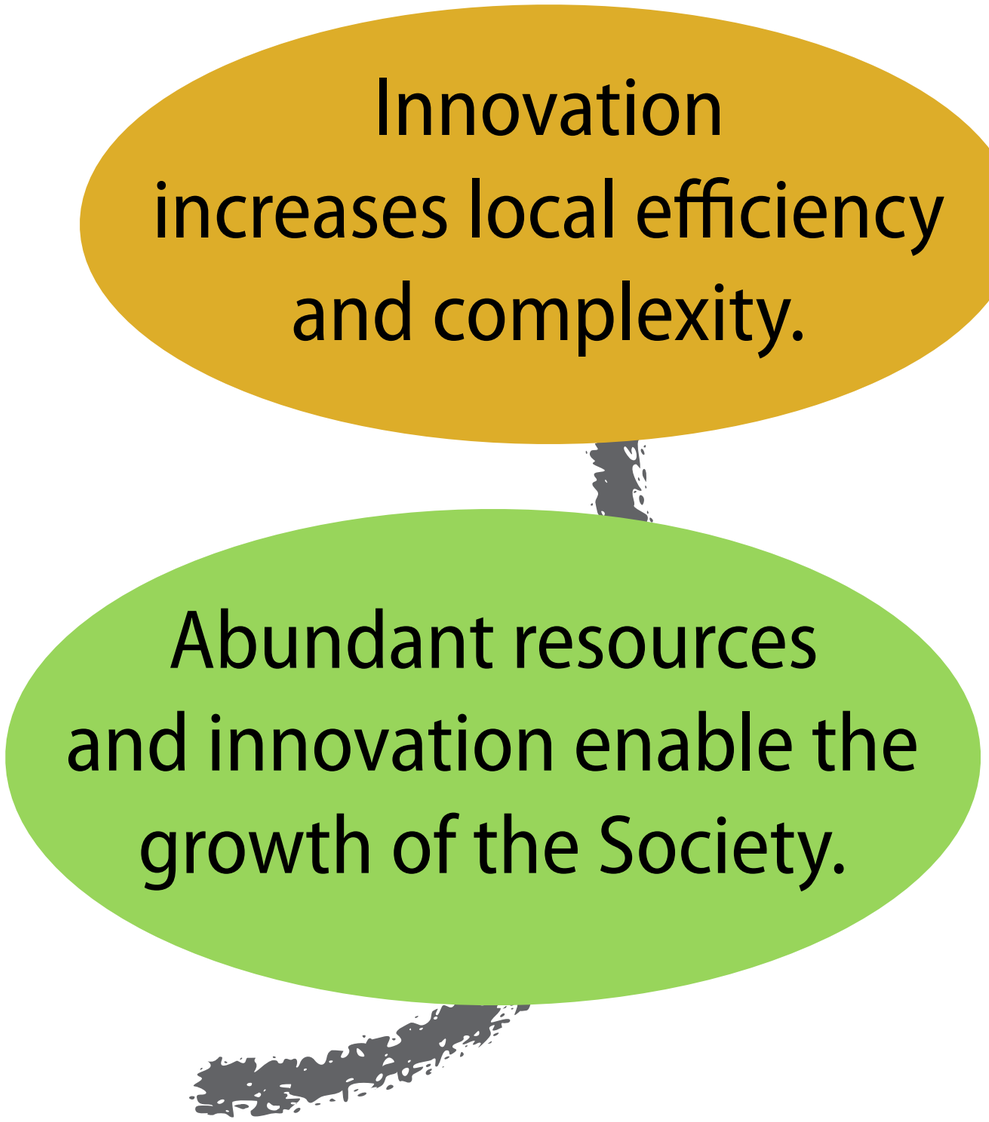
“Just make it work” - engineers

- Ever increasing complexity

Organizational background

- 100 years of heavy industry
- Lack of experience in leading SW product development
- Technology over design

Stage 2



Growth of Complexity

20% growth for 5 years in a row

- Codify competence into process
- Narrow task specialisation
- Others decide others do

SW development challenge underestimated

- Attention in Radio, Hardware, Business, Coordination, Manufacturing, Supply chain

Want to educate the recruits, but "Just make it work"

-> Self-organising for short-term

- Learn the emergent local habits
- Best became elite
- Elite educated, others survive
- Plenty of coordinators
- Some only hang around
  - OK until layoffs

Stage 3

Innovation
increases local efficiency
and complexity.

Complexity grows

- Elite creates wasteful rituals to maintain their status
- Rent instead of value creation

Abundant resources
and innovation enable the
growth of the Society.

NOKIA Mobile Phones

“Just make it work” - engineers

- Pressured by

“Just make it happen” - management

- Fear disconnected the organization
- Superficial decision making
- Failed to respond to competition

Situation 2007-2011

- New competitors, new game
- Technology constrains design
- Coordination chaos

Stage 4

Innovation
increases local efficiency
and complexity.

Complexity grows

- Elite creates wasteful rituals to maintain their status
- Rent instead of value creation

Abundant resources
and innovation enable the
growth of the Society.

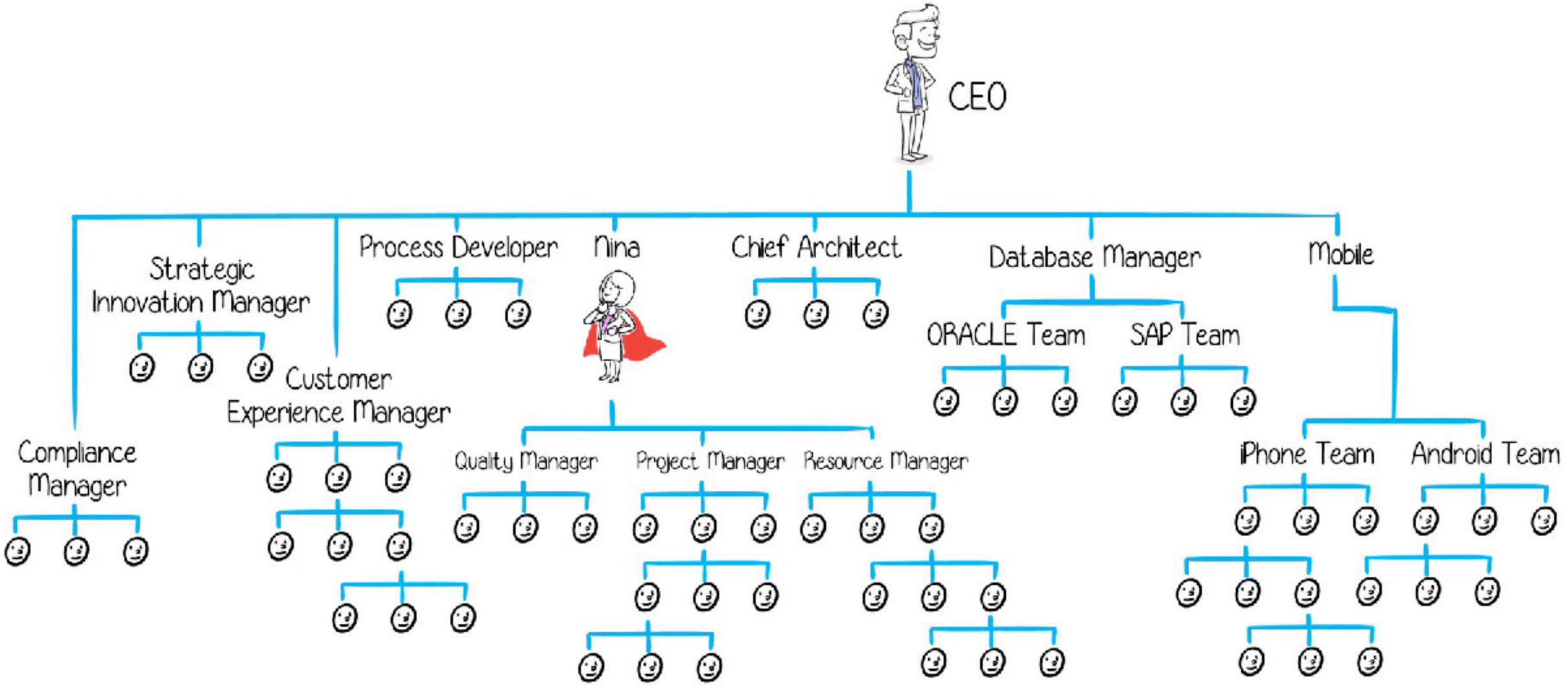
The complex society can no more adapt and collapses.
The population drops dramatically.

NOKIA/MS Mobile Phones 2016

Microsoft announcing on May 23 the "streamlining" of the business. It would lay off "up to 1,850 jobs worldwide", with up to 1,350 of those in Finland

The company also wrote off USD$900 million from the Nokia acquisition.

In Dec, it was announced that the sales of all Lumia phones were discontinued.



MORE SPECIALISTS, MORE COORDINATORS,
MORE ROLES, MORE CHAOS

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Agile

Manifesto for Agile Software Development

We are uncovering better ways of developing
software by doing it and helping others do it.
Through this work 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.

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LeSS Case 2

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Starting Development Avoiding Complexity

Starting Phase

Management support

- From R&D Head and BL Head

Two teams instead of one

No legacy code

- How often can you start from scratch?

First steps

- Create Product Backlog
- Build initial architecture
- Decide tooling and development practices

Setting up Teams

Getting buy-in from teams

- Feature teams of component teams?

Where to get ScrumMasters?

What do with managers?

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Initial LeSS with 2 Teams
Agile

LeSS with 2 Teams

Initial Product Backlog Creation

Initial Architecture

Joint Sprint Planning 1 & 2

Coordination during Sprint

- Scrum of Scrum
- Just go and talk

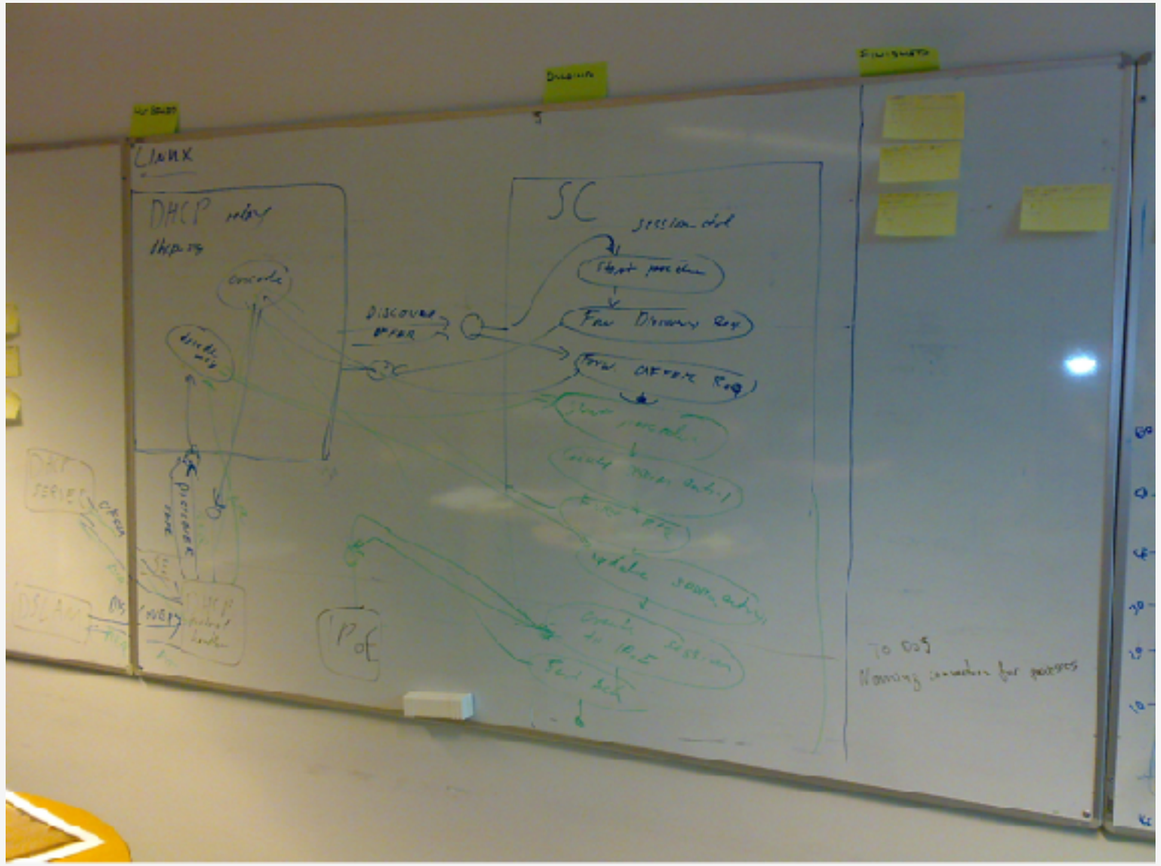
Joint Sprint Review

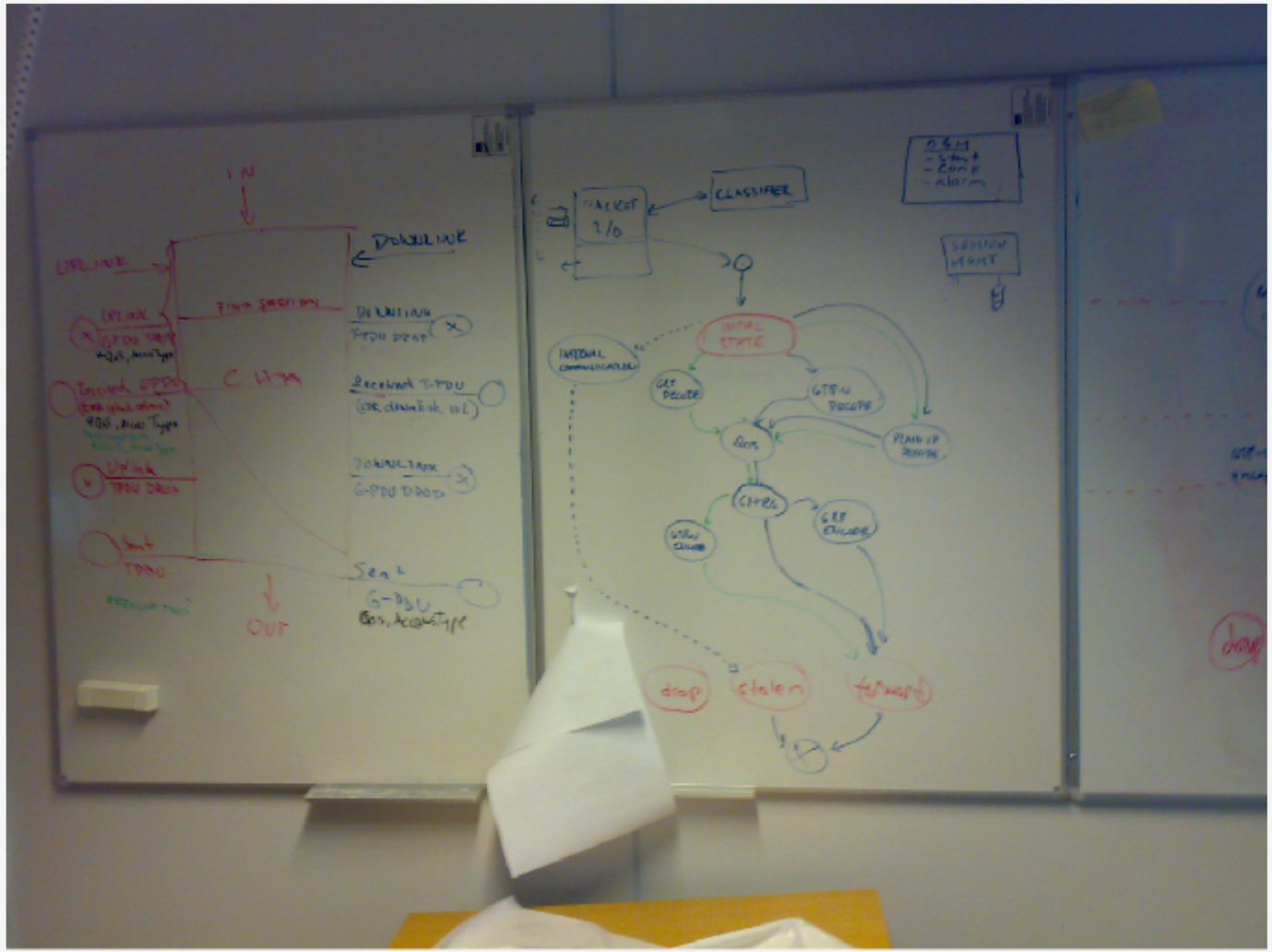
Team Retrospectives

Overall Sprint Retrospective

Initial Product Backlog Creation

Initial Architecture





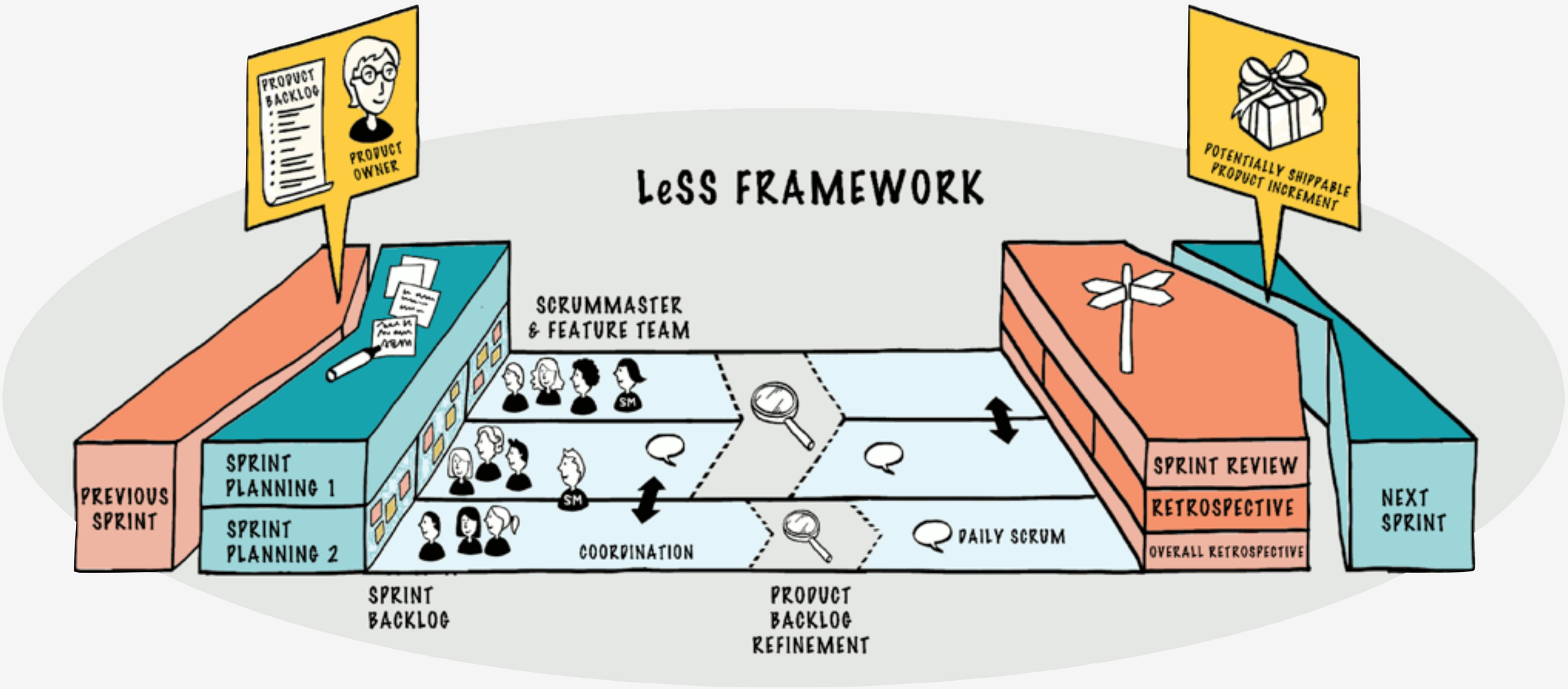
Joint Sprint Planning 1 and 2

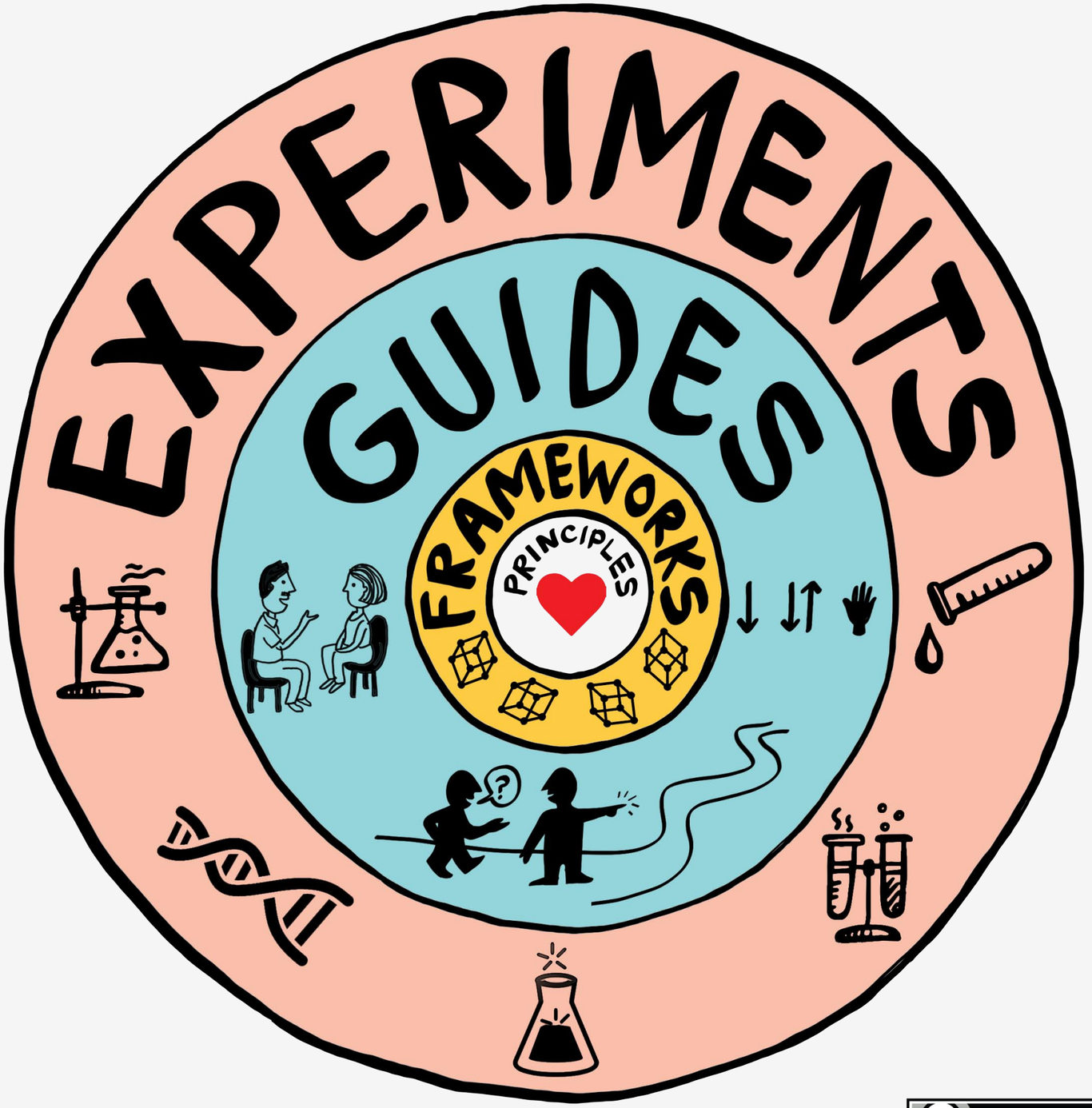
Initial Team Room

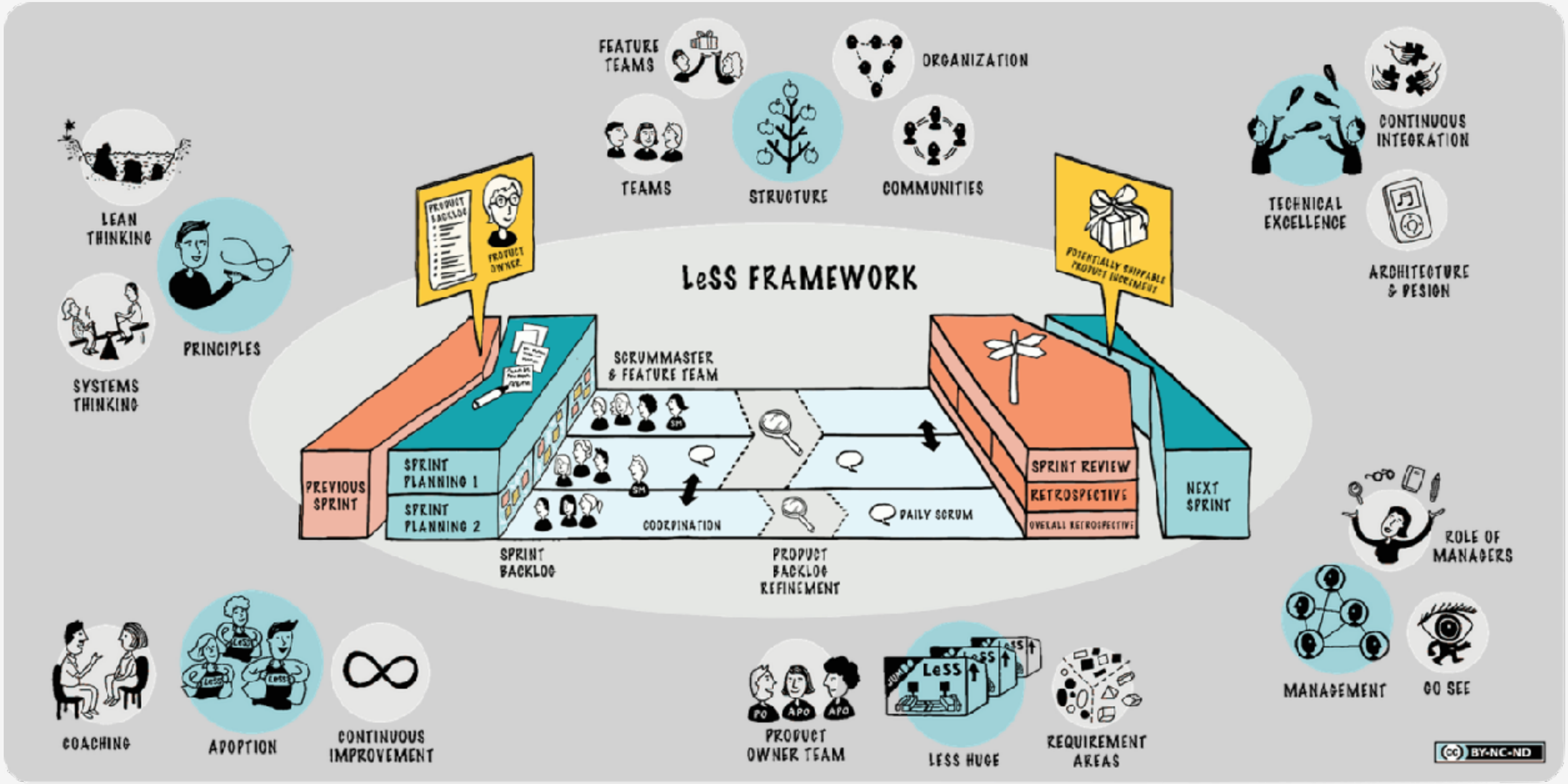
Better Team Rooms

Joint Sprint Review

Overall Sprint Retrospective


LeSS FRAMEWORK
PRODUCT BACKLOG
PRODUCT OWNER
POTENTIALLY SHIPPABLE PRODUCT INCREMENT
SCRUMMASTER & FEATURE TEAM
SM
SM
PREVIOUS SPRINT
SPRINT PLANNING 1
SPRINT PLANNING 2
COORDINATION
DAILY SCRUM
SPRINT REVIEW
RETROSPECTIVE
OVERALL RETROSPECTIVE
NEXT SPRINT
SPRINT BACKLOG
PRODUCT BACKLOG REFINEMENT




FEATURE TEAMS
ORGANIZATION
TEAMS
STRUCTURE
COMMUNITIES
CONTINUOUS INTEGRATION
TECHNICAL EXCELLENCE
ARCHITECTURE & DESIGN
LEAN THINKING
PRINCIPLES
SYSTEMS THINKING
LeSS FRAMEWORK
PRODUCT BACKLOG
PRODUCT OWNER
POTENTIALLY SHIPPABLE PRODUCT INCREMENT
SCRUMMASTER & FEATURE TEAM
PREVIOUS SPRINT
SPRINT PLANNING 1
SPRINT PLANNING 2
COORDINATION
DAILY SCRUM
SPRINT REVIEW
RETROSPECTIVE
OVERALL RETROSPECTIVE
NEXT SPRINT
SPRINT BACKLOG
PRODUCT BACKLOG REFINEMENT
ROLE OF MANAGERS
MANAGEMENT
GO SEE
COACHING
ADOPTION
CONTINUOUS IMPROVEMENT
PRODUCT OWNER TEAM
LESS HUGE
REQUIREMENT AREAS
BY-NC-ND

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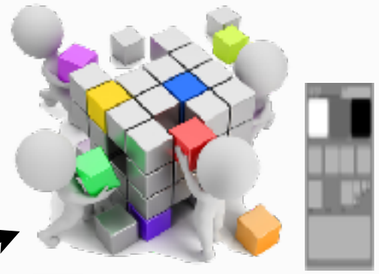
Growing
From LeSS to LeSS Huge
Keeping Complexity Minimal

LeSS Structure

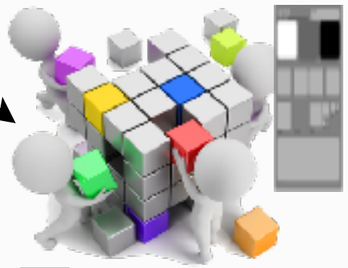
Product Owner

Product Backlog



Team a

Team b



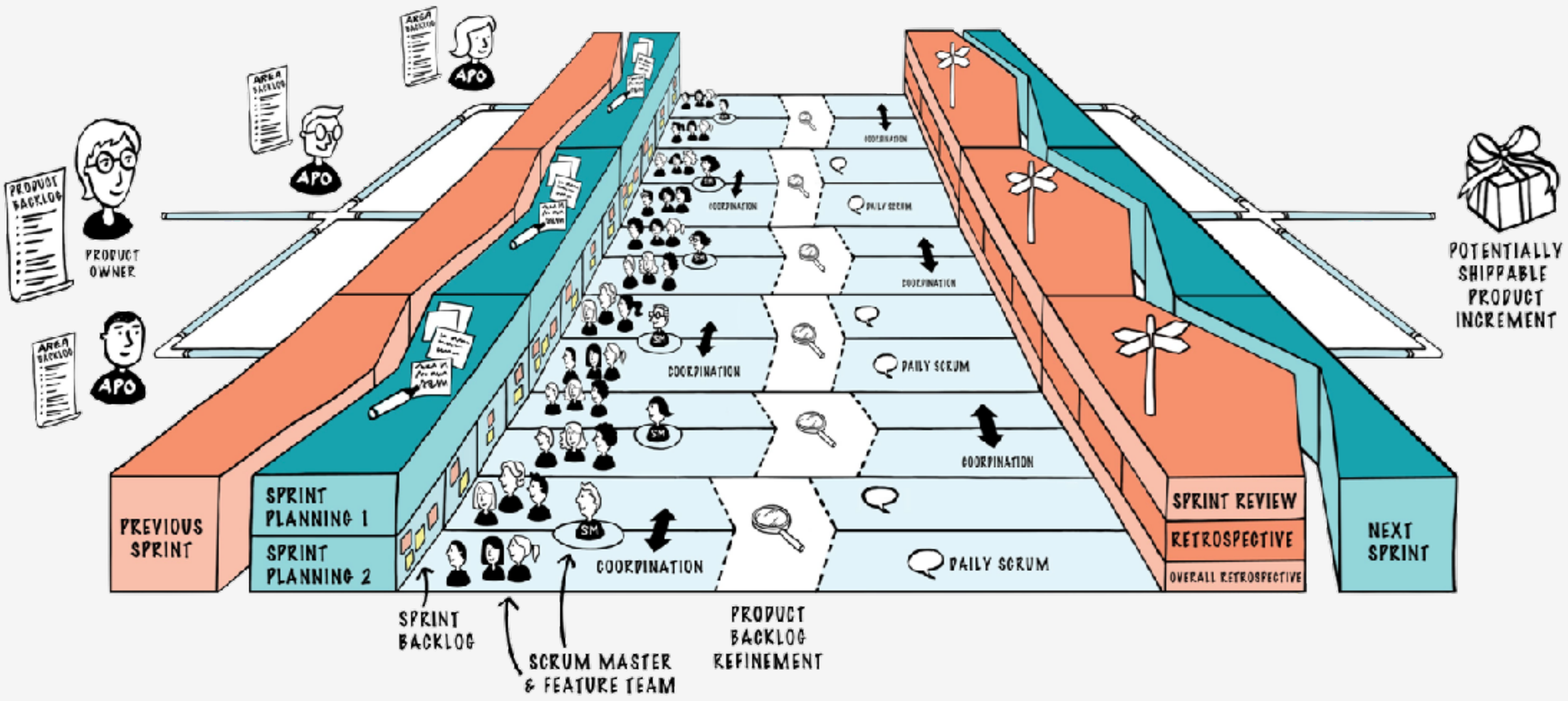
Team c

ScrumMaster

ScrumMaster

One Sprint Backlog per Team

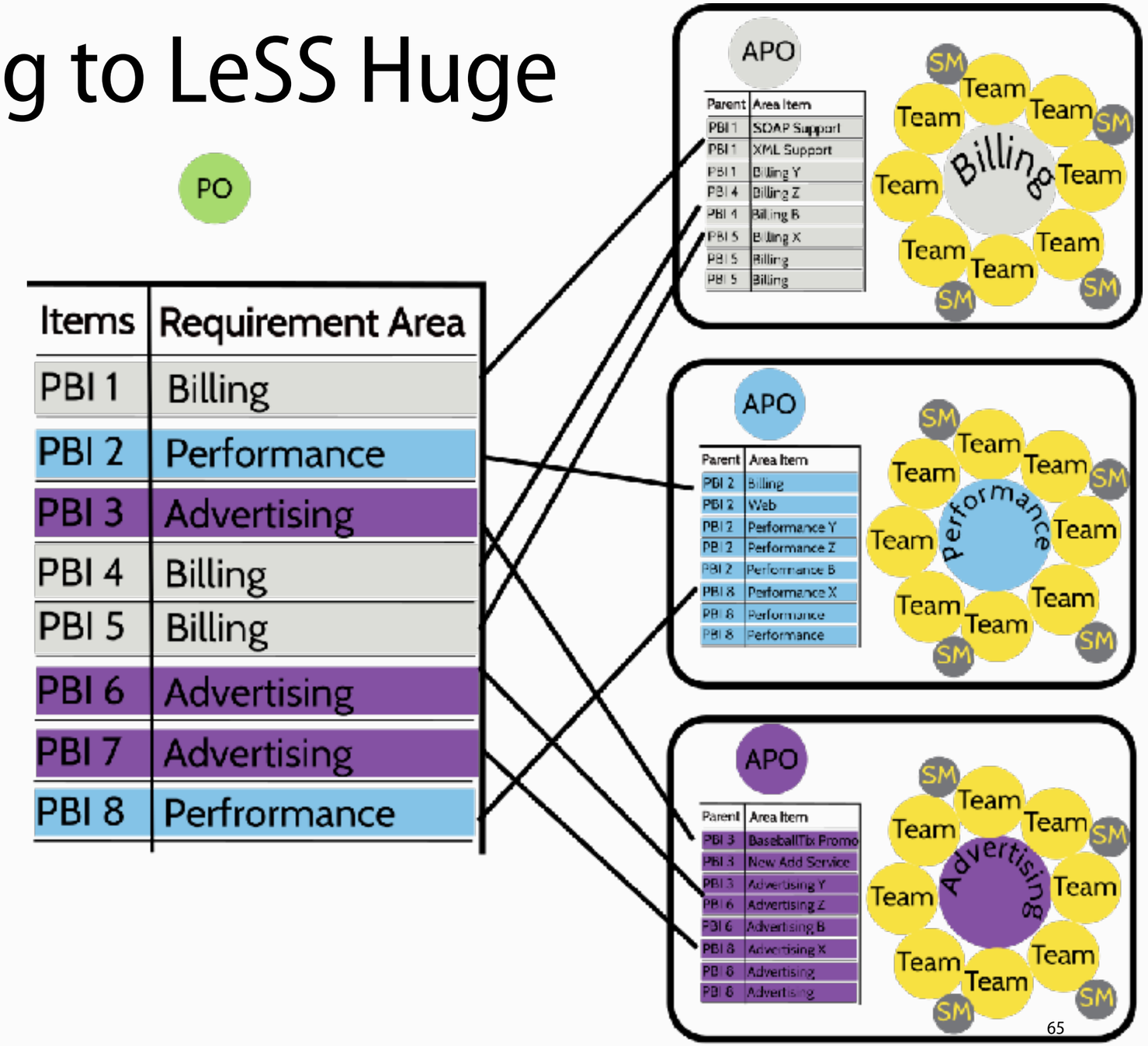
LeSS Huge


PRODUCT BACKLOG
PRODUCT OWNER
AREA BACKLOG
APO
AREA BACKLOG
APO
AREA BACKLOG
APO
PREVIOUS SPRINT
SPRINT PLANNING 1
SPRINT PLANNING 2
SM
COORDINATION
DAILY SCRUM
COORDINATION
DAILY SCRUM
COORDINATION
COORDINATION
DAILY SCRUM
SPRINT REVIEW
RETROSPECTIVE
OVERALL RETROSPECTIVE
NEXT SPRINT
POTENTIALLY SHIPPABLE PRODUCT INCREMENT
SPRINT BACKLOG
SCRUM MASTER & FEATURE TEAM
PRODUCT BACKLOG REFINEMENT

Moving to LeSS Huge

Adds:

- **Requirement Areas**
- **Area Product Owner**
- **Area Product Backlog**



LeSS Huge

Introduced Requirement Areas

- 1-2 Teams per RA

Area Product Owners?

- From Product Management but not real Area Product Owners
- Clarification with them but
- Prioritisation and feedback from PO
- -> Feature experts not real Area POs

LeSS Huge in Action

Common cadence to all teams

Product Backlog refinement per Requirement Area

Sprint Review to Sequential

- PO + Feature Experts visiting each team

Observations

Overall Retrospective

- How to get improvements done and keep people motivated

What do with project mangers?

Performance testing?

Analysis

Impediment service

Training

Managers as development team worked fabulously

Real Area Product Owners needed for

- Inspect and adapt
- Feedback and motivation for teams

Employee Feedback

We would have not succeeded without LeSS

This is the only way of building products. We do not want to go back to sequential development.

- More collaboration, freedom, discussions, impact on product
- Seeing the results with fast feedback

Challenges

- How to keep architecture in good shape
- Seeing the whole difficult

Management Feedback

“As a result of our Agility in developing products, we have been able to demonstrate the product capabilities at an early stage of the development cycle itself, helping us to win new customers cases.”

Head of Business-line

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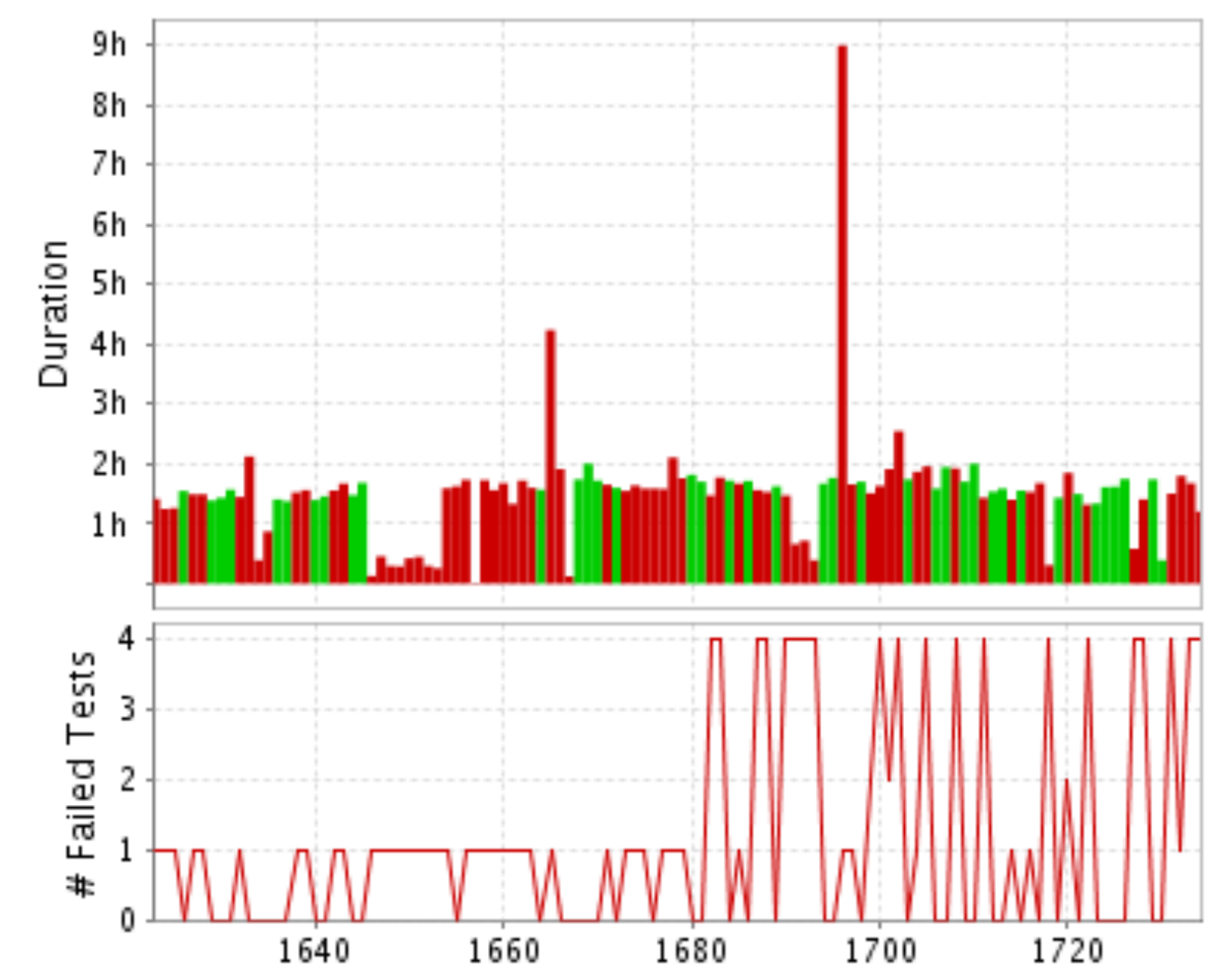
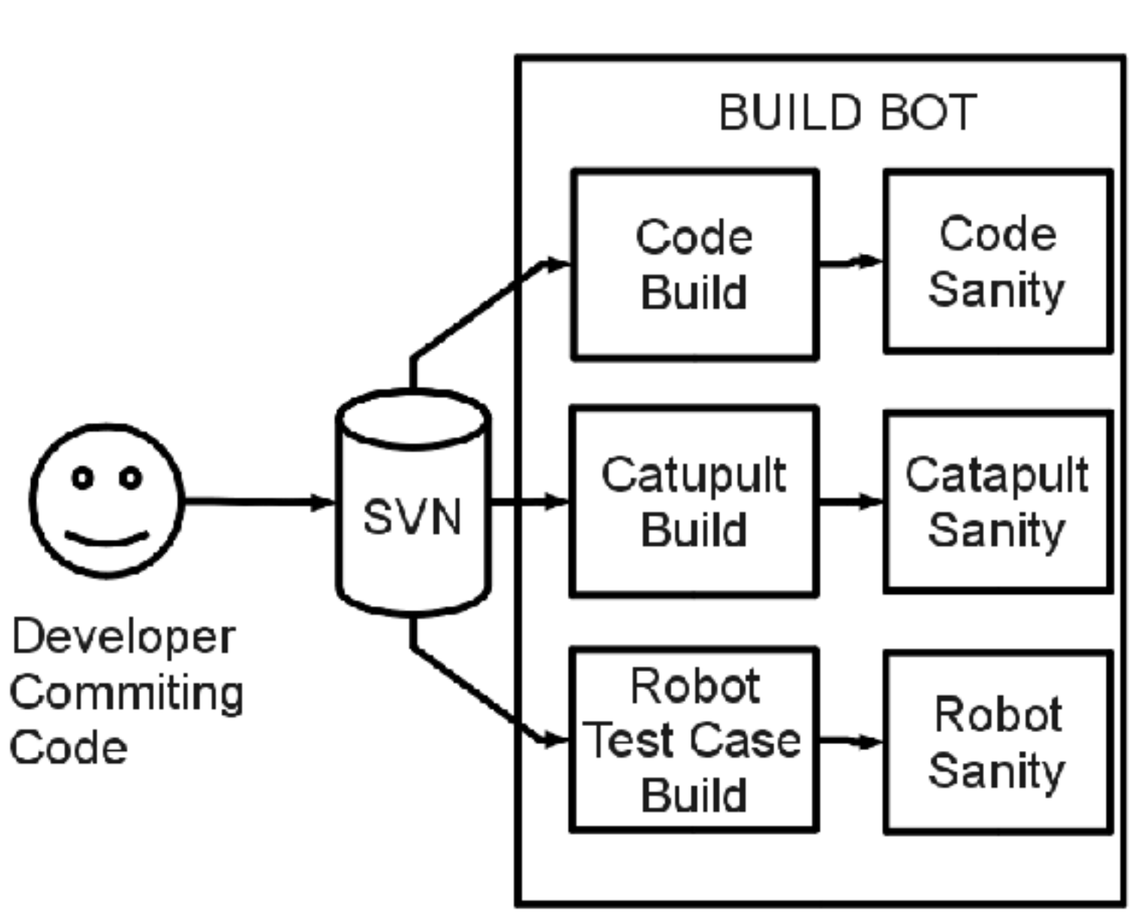
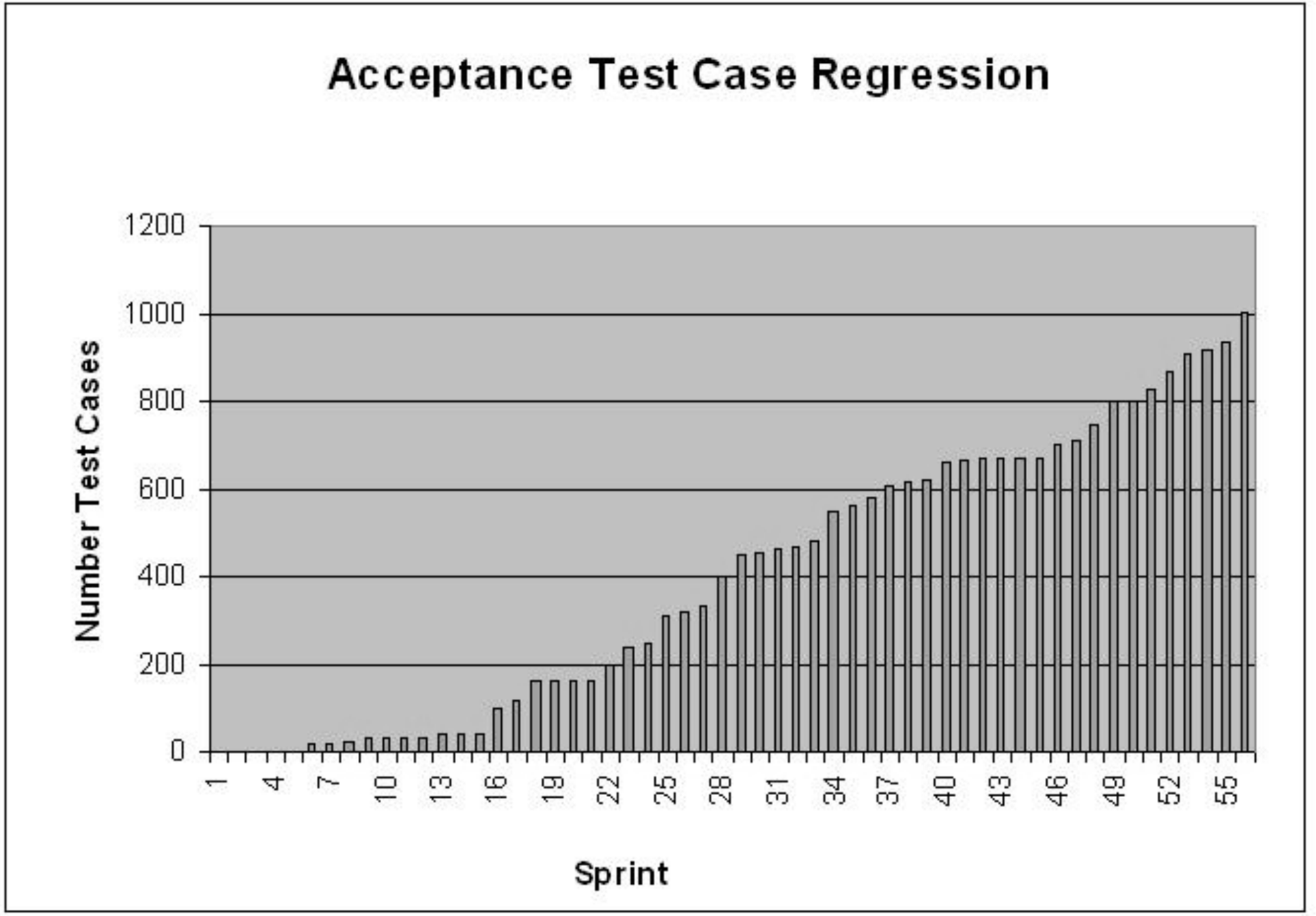
Agile Enablers

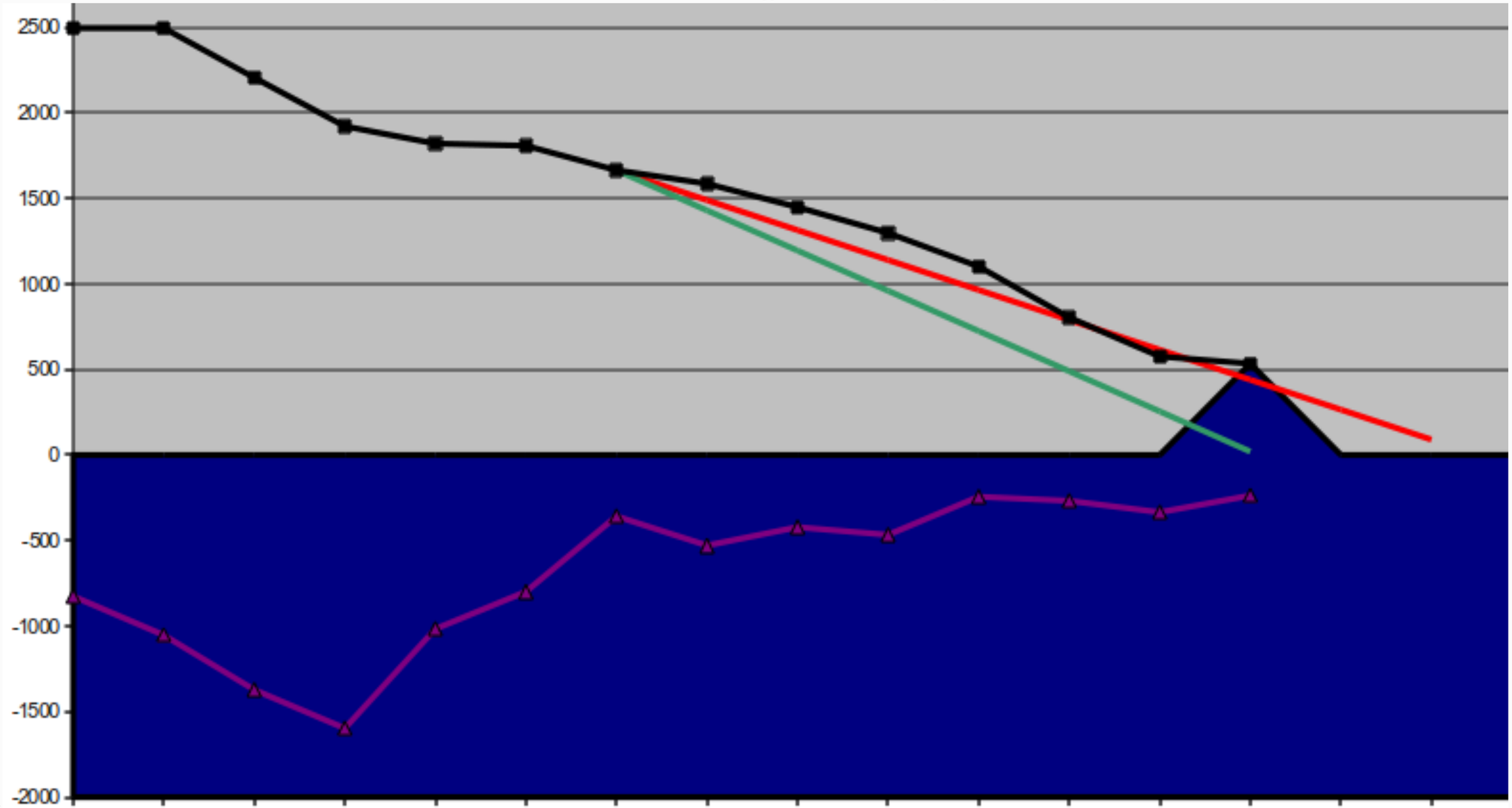
Continuous Integration






Acceptance Test Case Regression
Number Test Cases
1200
1000
800
600
400
200
0
1
4
7
10
13
16
19
22
25
28
31
34
37
40
43
46
49
52
55
Sprint

Tracking Progress



Better View on Status

Support from top and bottom

Scrum and LeSS

Structural changes

One Product Owner

One Product Backlog

Continuous experimentation

Passionate ScrumMasters

Education and Coaching

No project managers interfering

Strong DoD

PSPI after each and every Sprint

Practices:

- Continuous Integration
- Main branch development
- Focus on testing:
  - Unit
  - Automated Acceptance
  - Performance and stability

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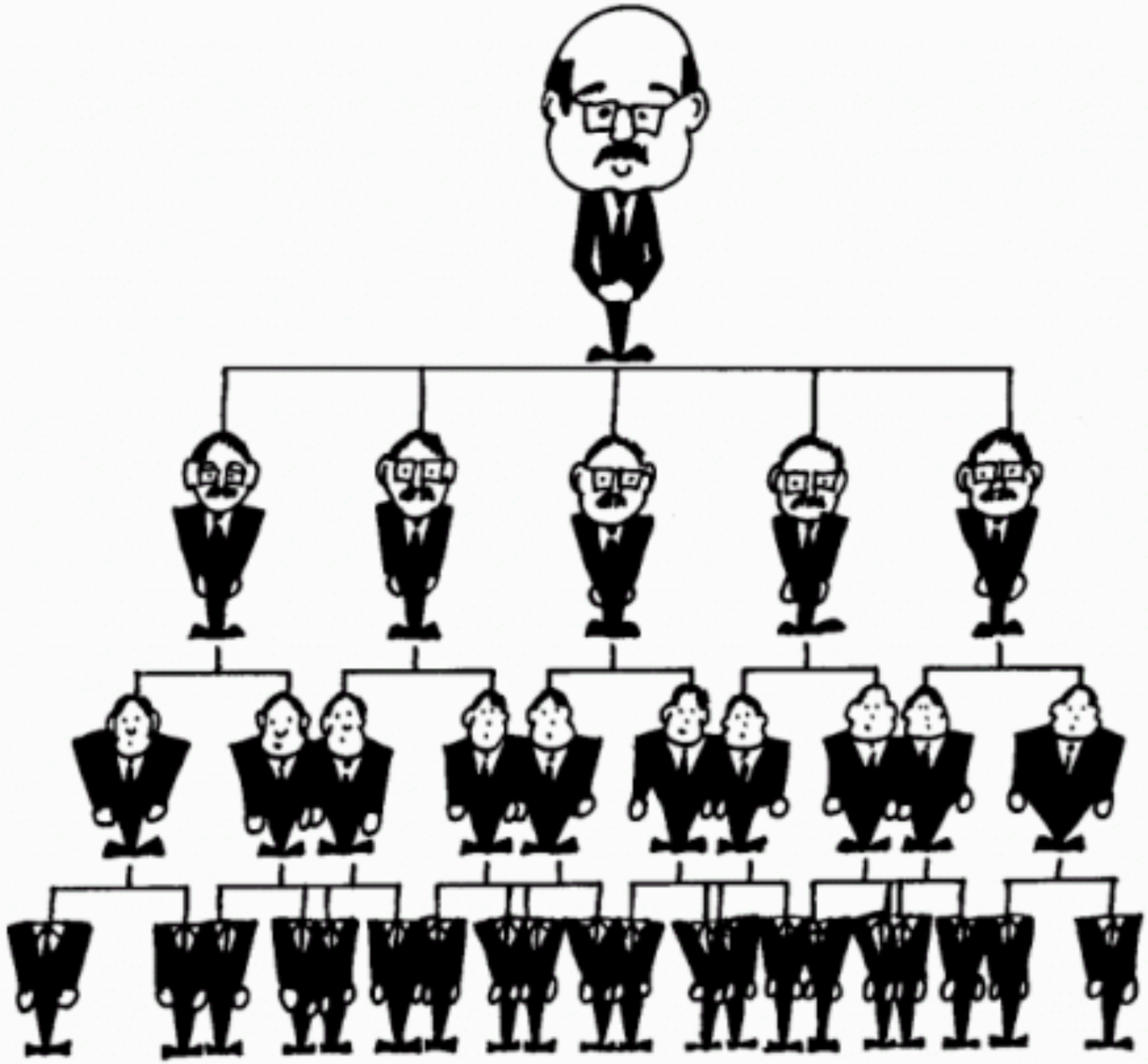
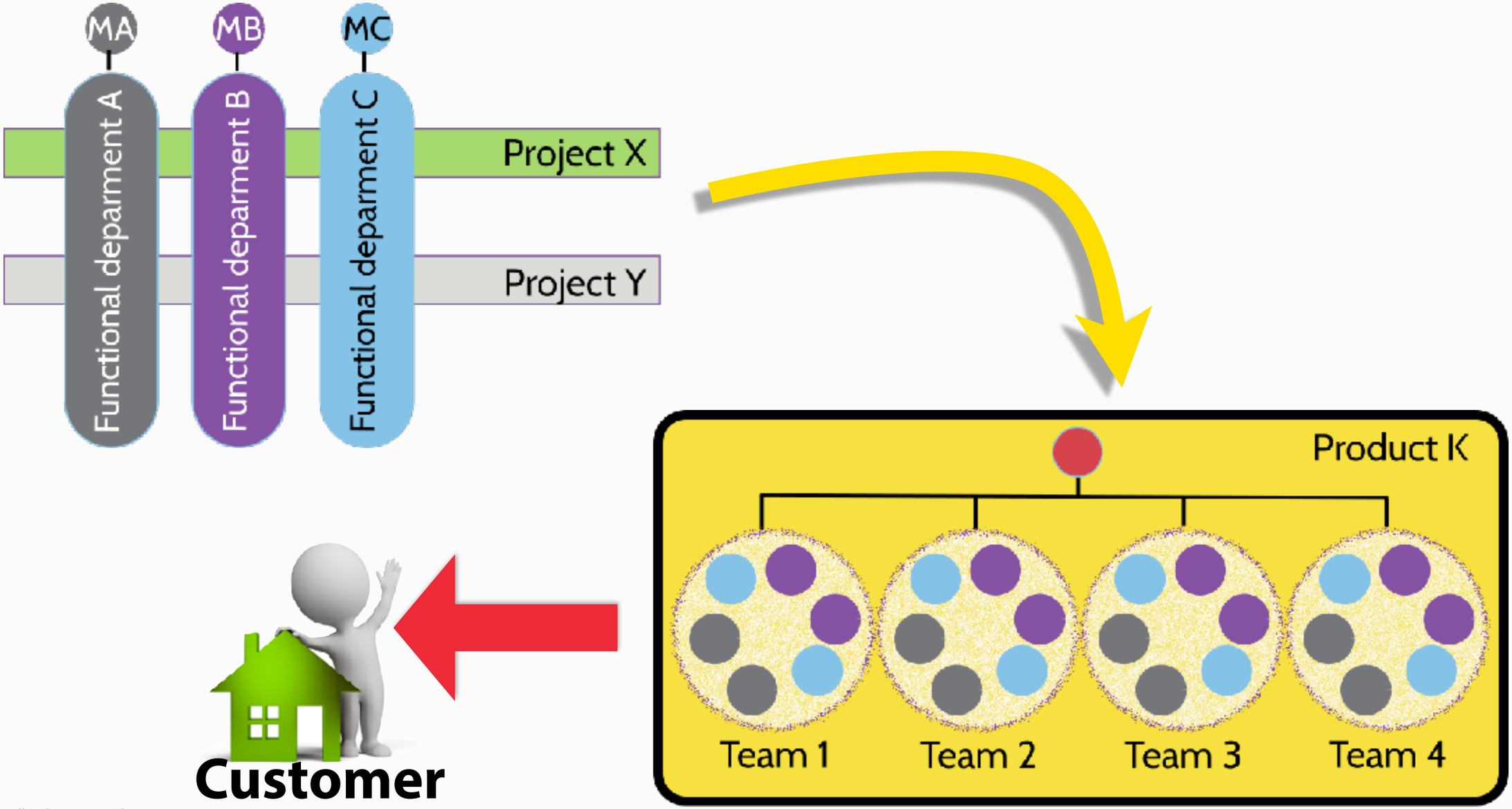
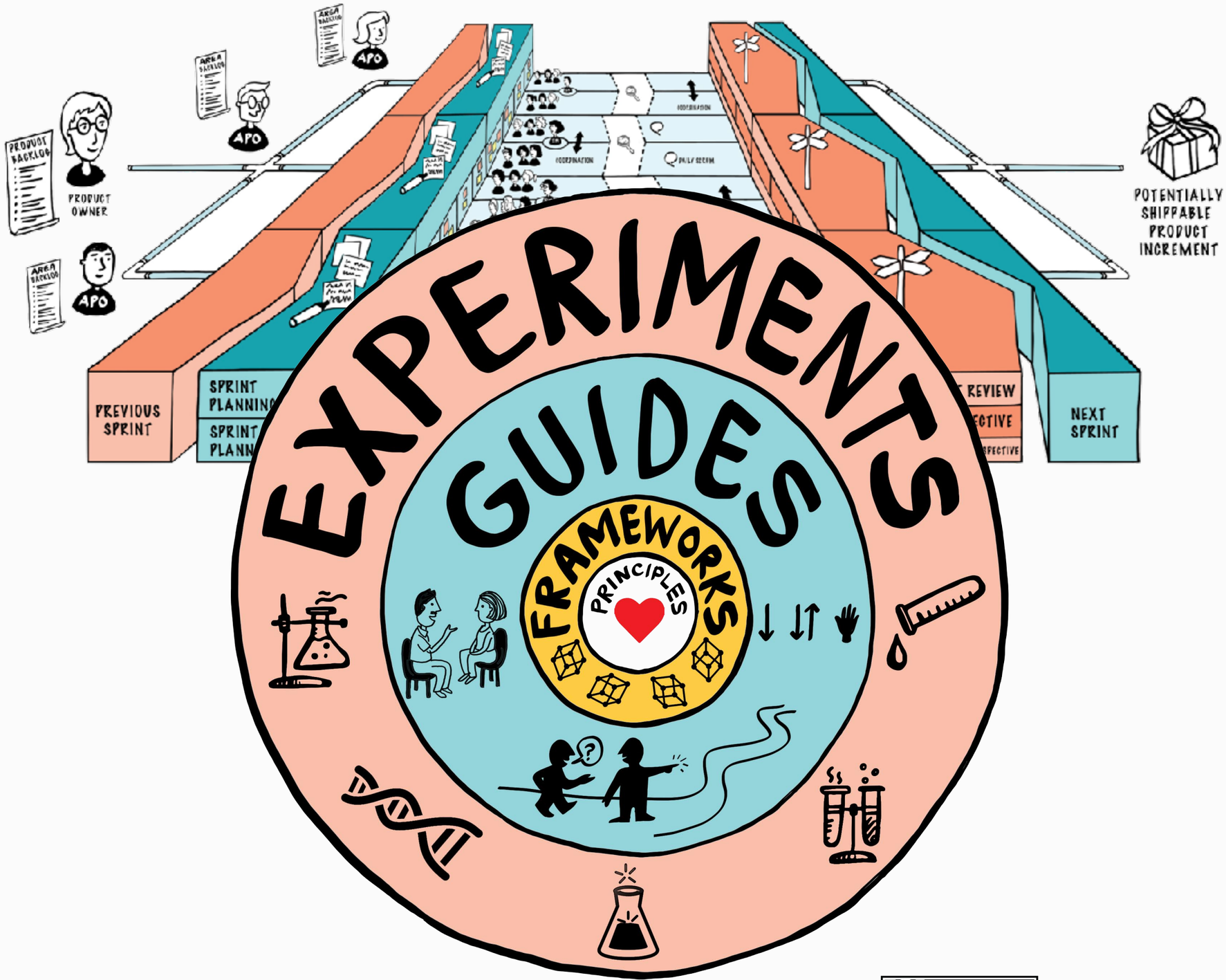
Complexity
Leadership
Agile

Complexity Grows





Agile with LeSS



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Q&A

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