

SAFe® Product Owner/Product Manager

Delivering Value through Effective Program Increment Execution

5.0.1

SAFe® Course - Attending this course gives students access to the SAFe Product Owner/Product Manager exam and related preparation materials.



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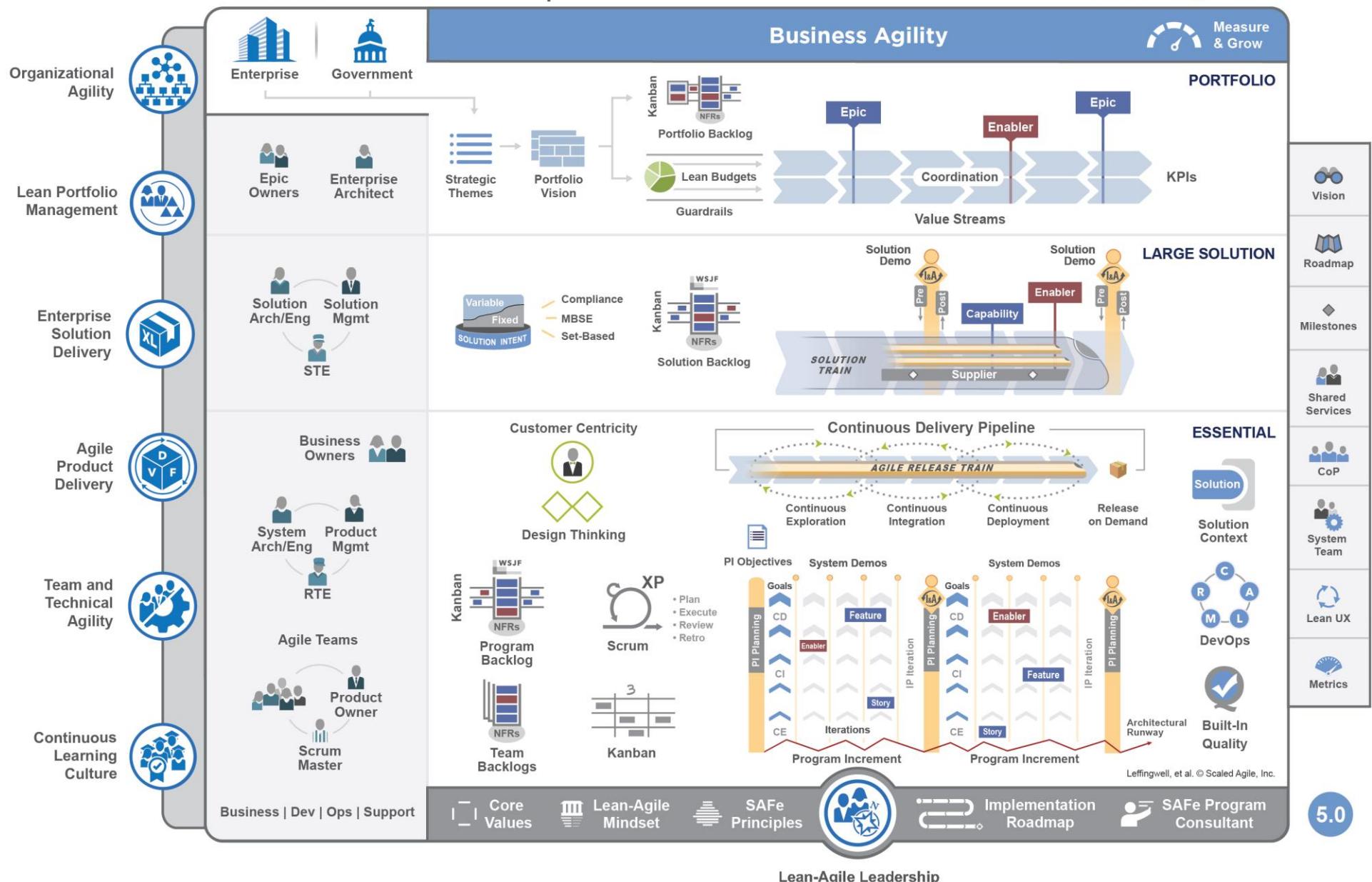
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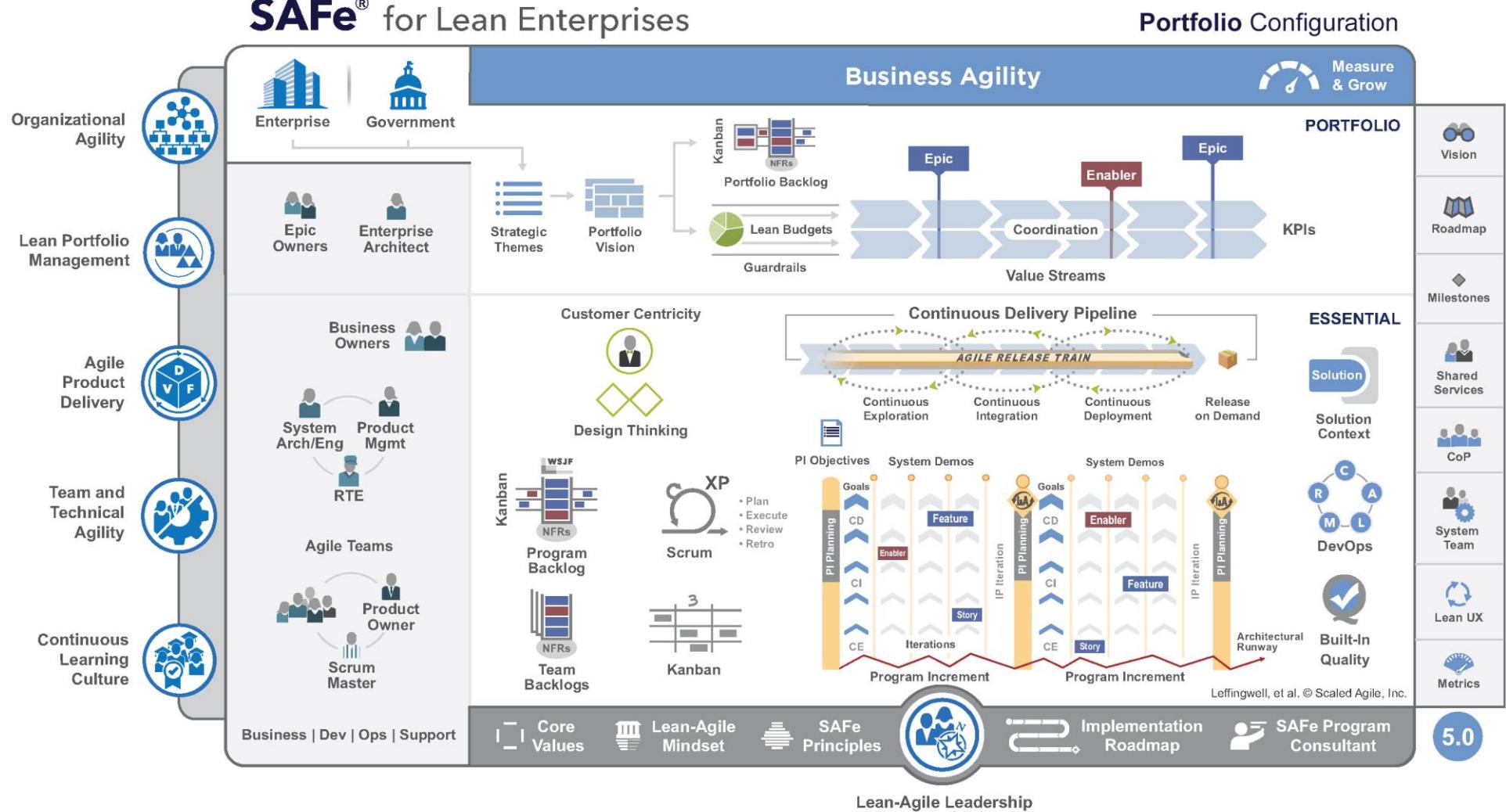
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SAFe® for Lean Enterprises

Full Configuration

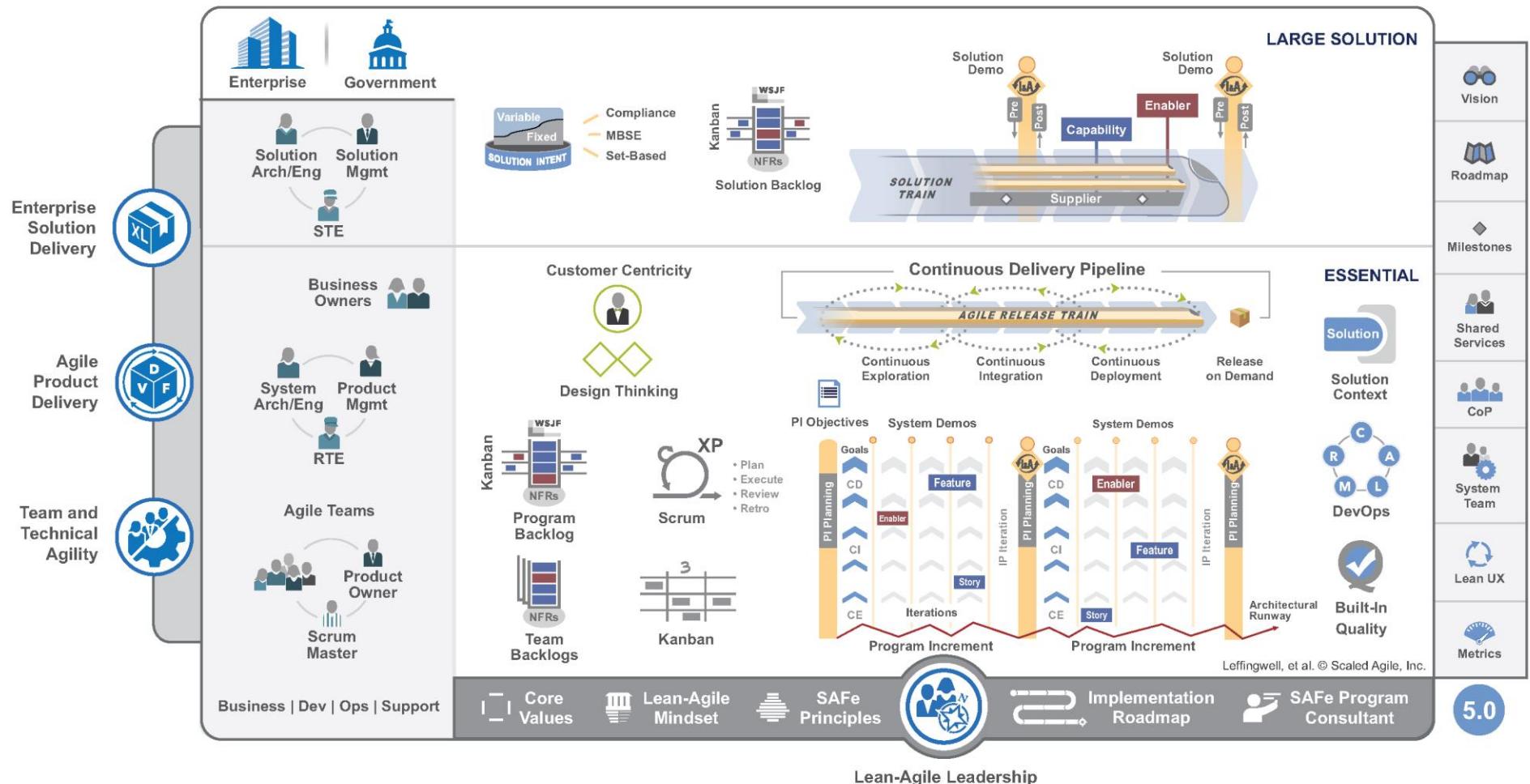


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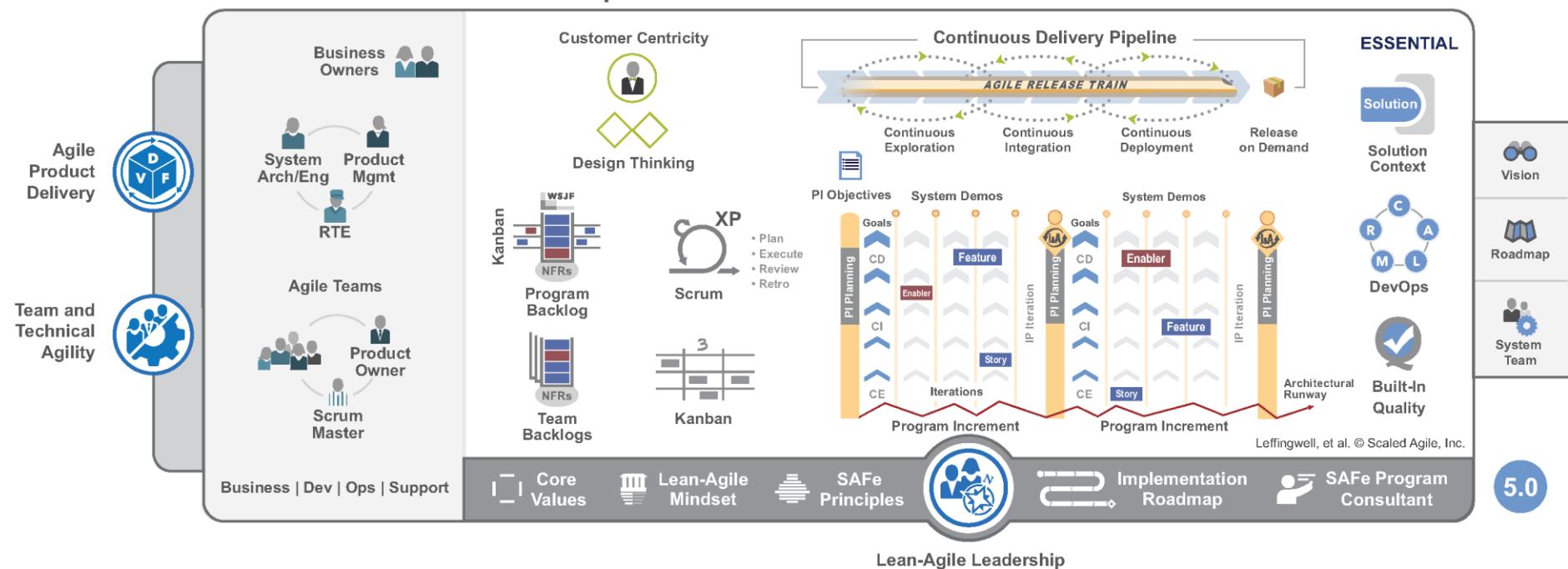
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Large Solution Configuration



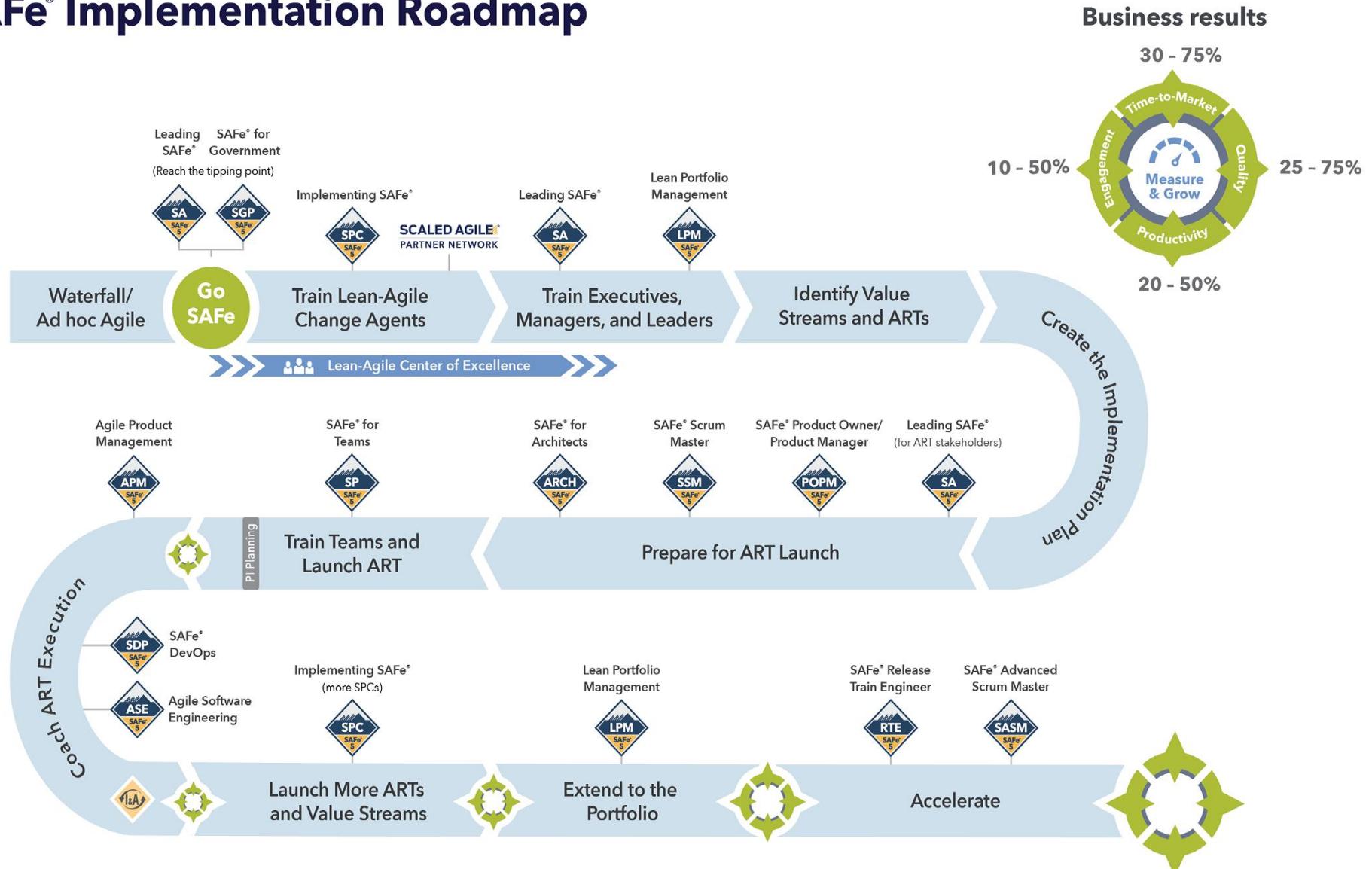
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Essential Configuration





SAFe® Implementation Roadmap



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SAFe® Courses and Certifications

Course	Description	Certification
Leading SAFe®	Thriving in the Digital Age with Business Agility	 with SAFe® 5 Agilist Certification
Implementing SAFe®	Achieving Business Agility with the Scaled Agile Framework	 with SAFe® 5 Program Consultant Certification
SAFe® for Government	Applying Lean-Agile Practices in the Public Sector with SAFe®	 with SAFe® 5 Government Practitioner Certification
Lean Portfolio Management	Aligning Strategy with Execution	 with SAFe® 5 Lean Portfolio Manager Certification
SAFe® Product Owner/Product Manager	Delivering Value through Effective Program Increment Execution	 with SAFe® 5 Product Owner/Product Manager Certification
Agile Product Management	Using Design Thinking to Create Valuable Products in the Lean Enterprise	 with SAFe® 5 Agile Product Manager Certification
SAFe® Scrum Master	Applying the Scrum Master Role within a SAFe® Enterprise	 with SAFe® 5 Scrum Master Certification
SAFe® Advanced Scrum Master	Advancing Scrum Master Servant Leadership with SAFe®	 with SAFe® 5 Advanced Scrum Master Certification
SAFe® Release Train Engineer	Facilitating Lean-Agile Program Execution	 with SAFe® 5 Release Train Engineer Certification
SAFe® for Architects	Architecting for Continuous Value Flow with SAFe®	 with SAFe® 5 Architect Certification
SAFe® DevOps	Optimizing Your Value Stream	 with SAFe® 5 DevOps Practitioner Certification
SAFe® for Teams	Establishing Team Agility for Agile Release Trains	 with SAFe® 5 Practitioner Certification
Agile Software Engineering	Enabling Technical Agility for the Lean Enterprise	 with SAFe® 5 Agile Software Engineer Certification

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Digital Workbook User Guide

Frequently Asked Questions

Q: How can I take notes in my digital workbook?

A: After each lesson, there is a notes page that allows you to type notes directly into the workbook. At the end of the workbook, there is an action plan which also has fields that allow you to type notes. Remember to save your workbook to your personal computer to save any content you may have added.

If you open the digital workbook with a product like Adobe Acrobat, there are functions that allow you to add your own text boxes, add bookmarks, highlight text, and add comments. Remember to save your workbook to your personal computer to save any content you may have added.

Q: What other features are included in the digital workbook?

A: Action plan slides are followed by editable digital action plan worksheets. All videos have a hyperlink directly below the slide that will take you to the correct URL. If you click on assets in the front matter, you will be taken to ScaledAgileFramework.com resources like the Implementation Roadmap and course certification pages.

Q: How do I fill out the action plan in my digital workbook?

A: To add text to a blue text field, click within the blue box and type. Remember to save your workbook to your personal computer to save any content you may have added.

Q: Is my digital workbook saved on the community platform?

A: The original digital workbook file will always be available to you in your Learning Plan on the SAFe Community Platform. However, any text or content added to your digital workbook must be saved on your personal computer. Remember to save your workbook to your personal computer to save any content you may have added.

Q: Can I share my digital workbook with my coworkers?

A: No. You cannot share your digital workbook. It is for personal use only, so you may not reproduce or distribute it.

Q: Can I print the digital workbook?

A: Yes. You may print the digital workbook for your personal use. The file is in full color, so if you'd prefer to print the workbook in black and white only, make sure to adjust your printing preferences.

Logistics

- ▶ Course meeting times
- ▶ Breaks
- ▶ Facilities
- ▶ Technology requirements
- ▶ Working agreements

Notes:

Course goals

At the end of this course you should be able to:

- ▶ Articulate the Product Owner and Product Manager roles
- ▶ Connect SAFe Lean-Agile principles and values to the PO/PM roles
- ▶ Decompose Epics into Features and decompose Features into Stories
- ▶ Refine Features and Stories
- ▶ Manage Program and Team Backlogs
- ▶ Collaborate with Agile Teams in estimating and forecasting work
- ▶ Represent Customer needs in Program Increment (PI) Planning
- ▶ Execute the Program Increment and deliver continuous value

Notes:

Course map

- ▶ Lesson 1: Becoming a SAFe POPM
- ▶ Lesson 2: Preparing for PI Planning
- ▶ Lesson 3: Leading PI Planning
- ▶ Lesson 4: Executing Iterations
- ▶ Lesson 5: Executing the PI
- ▶ Lesson 6: Becoming a Certified SAFe Professional

Notes:

Lesson 1

Becoming a SAFe POPM

Learning Objectives:

- 1.1 Describe SAFe for Lean Enterprises
- 1.2 Explain Value Streams
- 1.3 Describe Lean-Agile Mindset decision-making
- 1.4 Describe Product Owner/Product Manager responsibilities



SAFe® Course Attending this course gives students access to the SAFe Product Owner/Product Manager exam and related preparation materials.



Video: Introduction to Terrific Transport Corporation

Duration
3 min

Throughout this course, you will participate in some activities and discussions that ask you to play the role of a Product Owner or member of the Product Management team at the Terrific Transport Corporation (TTC).

Please watch this company background video, where Anthea Bowen, CEO of TTC, provides the history and future direction of the company.



Click to here to play video
<https://vimeo.com/296743657/e22b54b952>

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Notes:



Video link: <https://vimeo.com/296743657/e22b54b952>

1.1 Describe SAFe for Lean Enterprises

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Notes:

The world's leading framework for Enterprise Agility

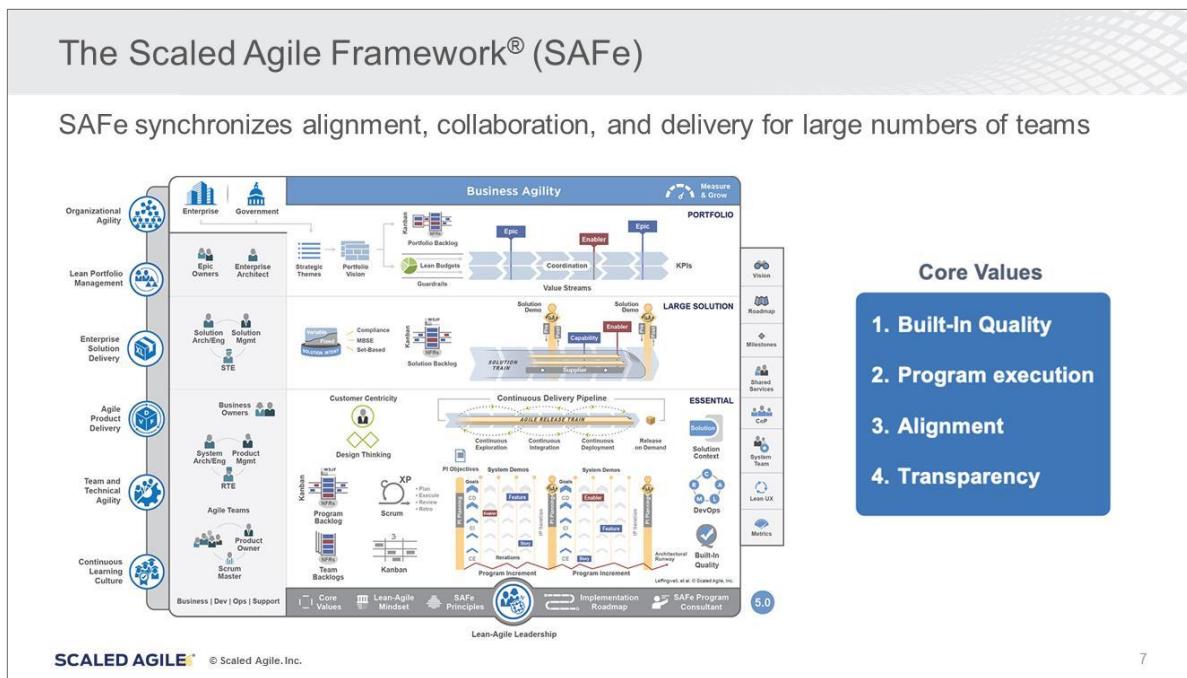
SAFe® for Lean Enterprises is a knowledge base of proven, integrated principles, practices, and competencies for Lean, Agile, and DevOps.

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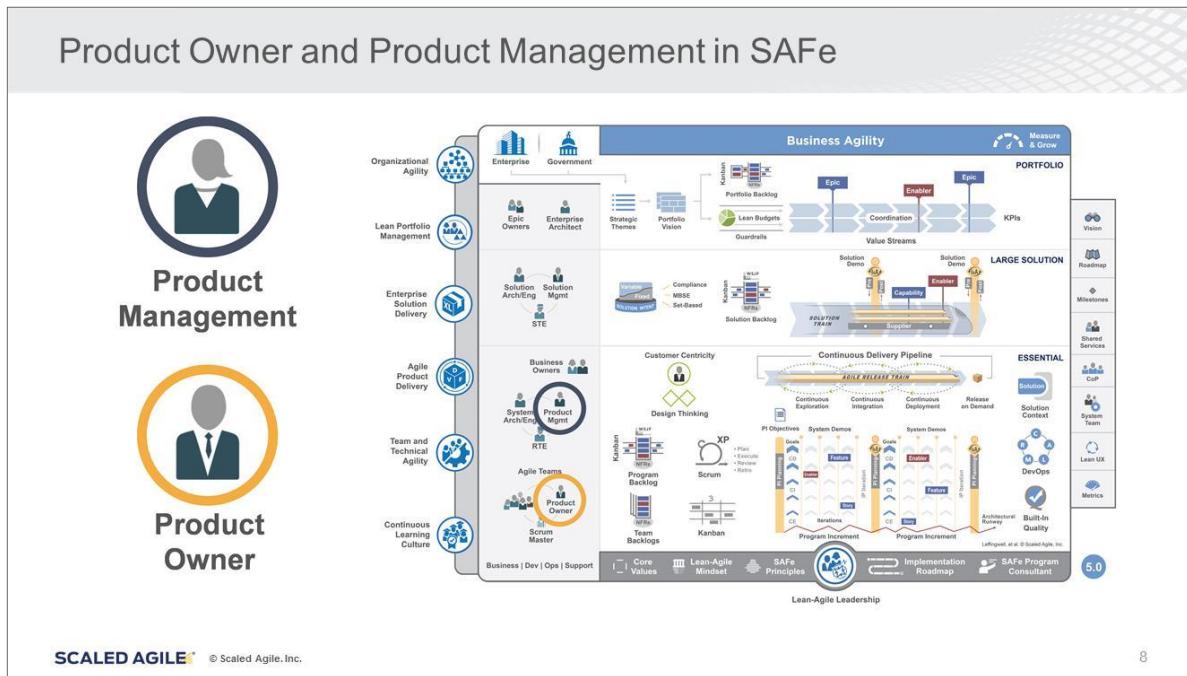
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Notes:

1.1 Describe SAFe for Lean Enterprises

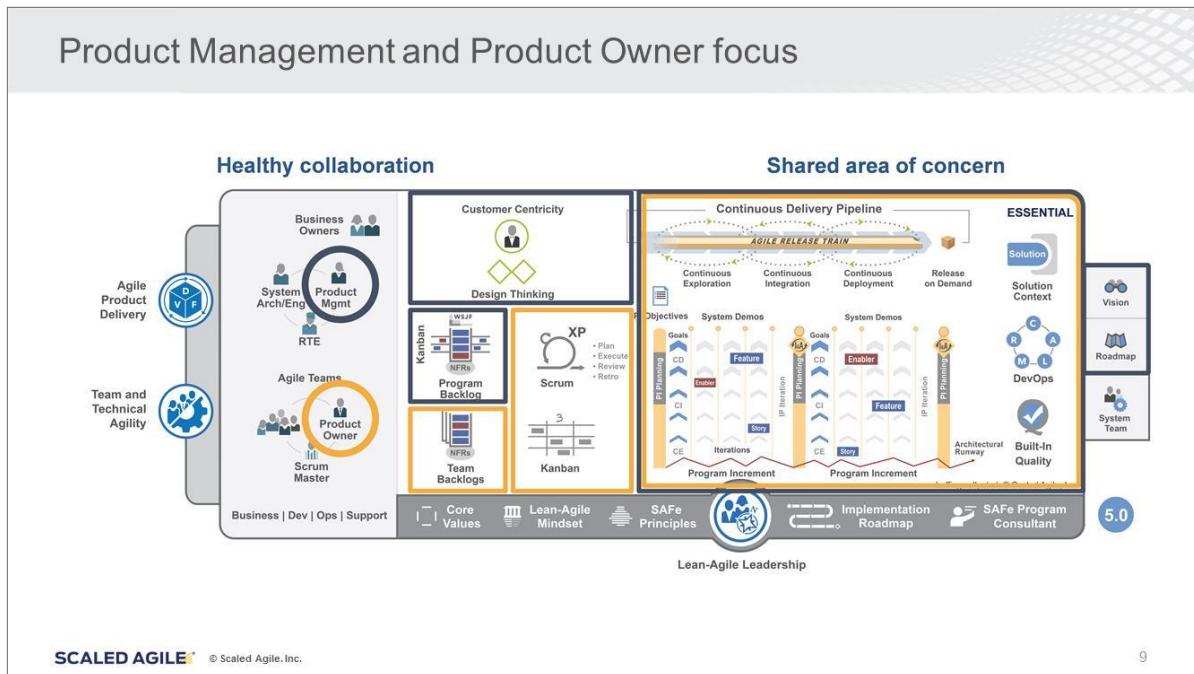


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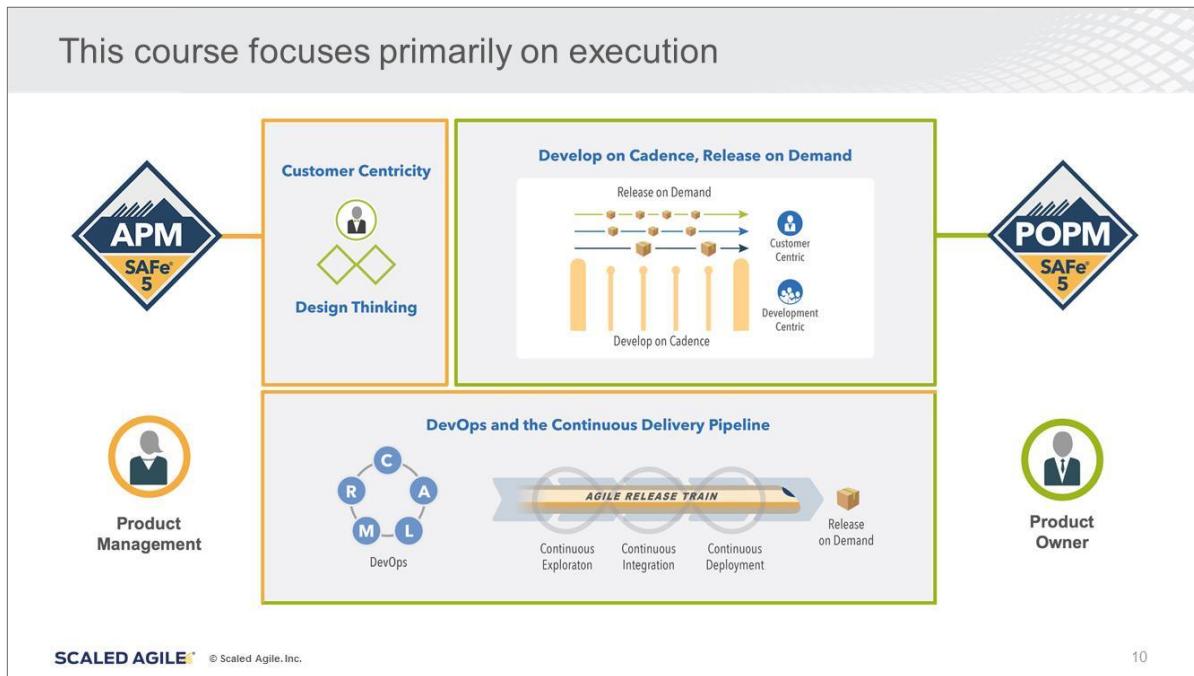


Notes:

1.1 Describe SAFe for Lean Enterprises



Notes:



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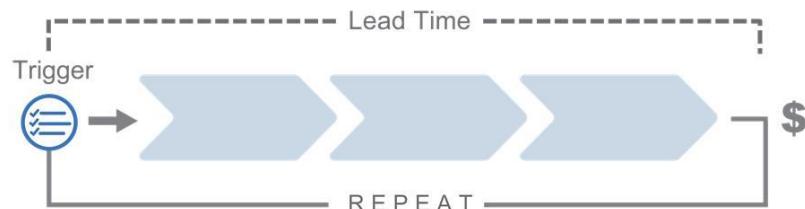
1.2 Explain Value Streams

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Notes:

What is a Value Stream?

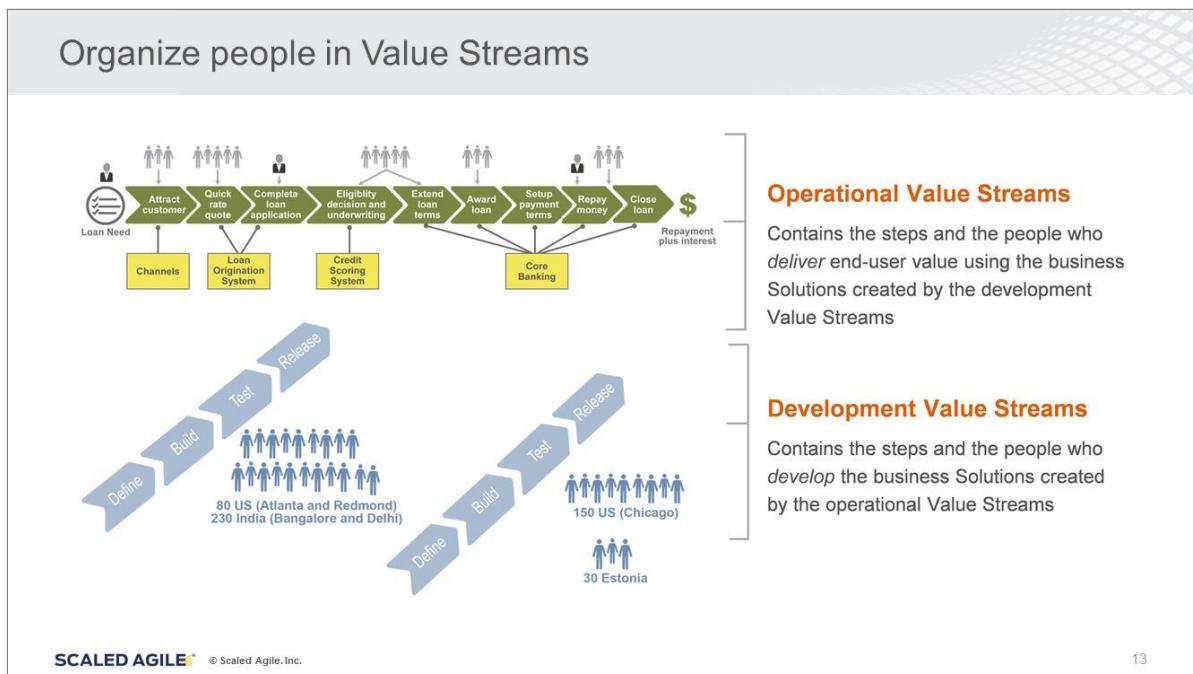


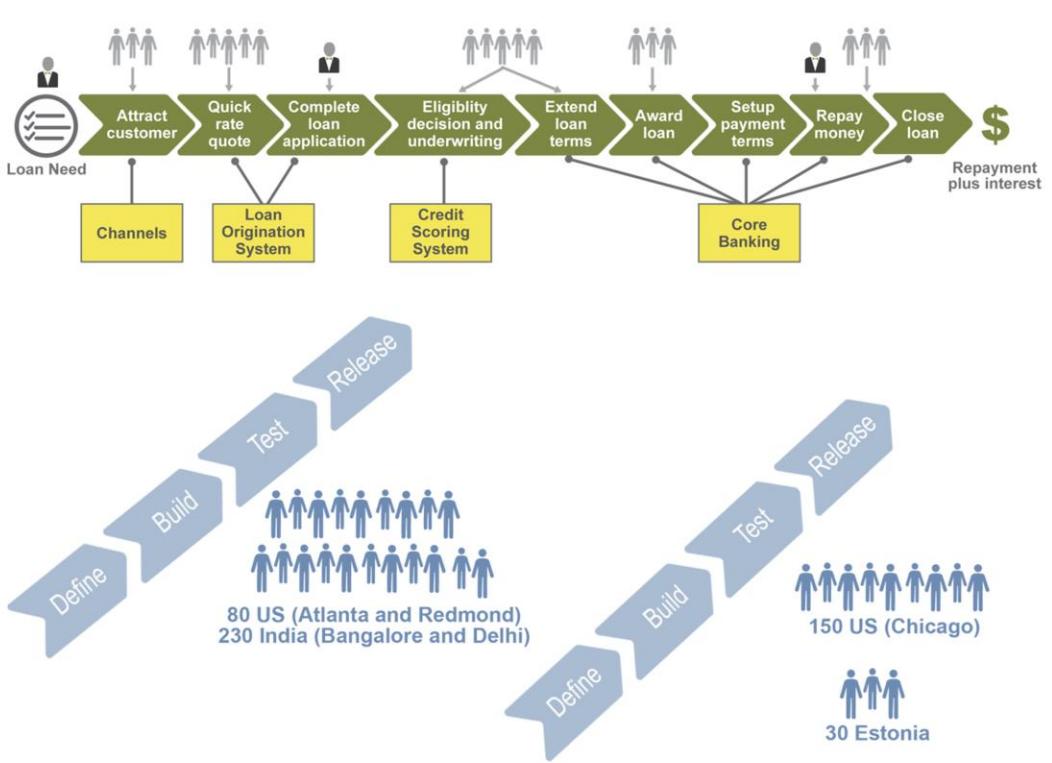
- ▶ Value Streams represent the series of steps an organization uses to implement Solutions that provide a continuous flow of value to a Customer.
- ▶ Value Streams:
 - Are used to define and realize portfolio-level business objectives and organize Agile Teams to deliver value more rapidly
 - Contain the systems, the people who do the work, and the flow of information and materials

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Notes:





Operational Value Streams

Contains the steps and the people who *deliver* end-user value using the business Solutions created by the development Value Streams

Development Value Streams

Contains the steps and the people who *develop* the business Solutions created by the operational Value Streams

What is a Solution?

- ▶ Each Value Stream produces one or more Solutions, which are products, services, or systems delivered to the Customer, whether internal or external to the Enterprise.
- ▶ A Solution may be a product, a product line, a set of systems, or a service that enables an operational Value Stream.



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Notes:

TTC Value Streams



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Notes:

1.3 Describe Lean-Agile Mindset decision-making

1.3 Describe Lean-Agile Mindset decision-making

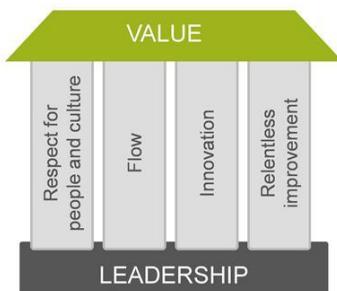
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Notes:

Embrace the Lean-Agile Mindset

House of Lean



Value in the shortest sustainable lead time

Agile Manifesto

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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Notes:

The Agile Manifesto Principles

1. Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.
2. Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.
3. Deliver working software frequently, from a couple of weeks to a couple of months, with a preference for the shorter timescale.
4. Business people and developers must work together daily throughout the project.
5. Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done.
6. The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.

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Notes:

The Agile Manifesto Principles

7. Working software is the primary measure of progress.
8. Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.
9. Continuous attention to technical excellence and good design enhances agility.
10. Simplicity—the art of maximizing the amount of work not done—is *essential*.
11. The best architectures, requirements, and designs emerge from self-organizing teams.
12. At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly.

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Notes:

SAFe Lean-Agile 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

20

Notes:



Discussion: Lean-Agile Mindset



- In your group, discuss how the SAFe Lean-Agile Principles will impact your decision-making as a Product Owner or Product Manager.
- More details on the principles can be found in your student workbook.

Notes:

Principle #1 - Take an economic view

Delivering the "best value and quality for people and society in the shortest sustainable lead time" requires a fundamental understanding of the economics of building systems. Everyday decisions must be made in a proper economic context. This includes the strategy for incremental value delivery and the broader economic framework for each value stream. This framework highlights the trade-offs between risk, cost of delay (CoD), manufacturing, and operational and development costs. In addition, every value stream must operate within the context of an approved budget and be compliant with the guardrails that support decentralized decision-making.

Principle #2 - Apply systems thinking

Deming observed that addressing the challenges in the workplace and the marketplace requires an understanding of the systems within which workers and users operate. Such systems are complex, and they consist of many interrelated components. But optimizing a component does not optimize the system. To improve, everyone must understand the larger aim of the system. In SAFe, systems thinking is applied to the system under development, as well as to the organization that builds the system.

Principle #3 - Assume variability; preserve options

Traditional design and life cycle practices encourage choosing a single design-and-requirements option early in the development process. Unfortunately, if that starting point proves to be the wrong choice, then future adjustments take too long and can lead to a sub-optimal design. A better approach is to maintain multiple requirements and design options for a longer period in the development cycle. Empirical data is then used to narrow the focus, resulting in a design that creates optimum economic outcomes.

Principle #4 - Build incrementally with fast, integrated learning cycles

Developing solutions incrementally in a series of short iterations allows for faster customer feedback and mitigates risk. Subsequent increments build on the previous ones. Since the 'system always runs,' some increments may serve as prototypes for market testing and validation; others become minimum viable products (MVPs). Still others extend the system with new and valuable functionality. In addition, these early, fast feedback points help determine when to pivot to an alternate course of action when necessary.

Principle #5 - Base milestones on objective evaluation of working systems

Business owners, developers, and customers have a shared responsibility to ensure that investment in new solutions will deliver economic benefit. The sequential, phase-gate development model was designed to meet this challenge, but experience shows that it does not mitigate risk as intended. In Lean-Agile development, integration points provide objective milestones at which to evaluate

1.3 Describe Lean-Agile Mindset decision-making

the solution throughout the development life cycle. This regular evaluation provides the financial, technical, and fitness-for-purpose governance needed to assure that a continuing investment will produce a commensurate return.

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

Lean enterprises strive to achieve a state of continuous flow, where new system capabilities move quickly and visibly from concept to cash. Keys to implementing flow are: 1. Visualize and limit the amount of work in process (WIP). This increases throughout and limits demand to actual capacity. 2. Reduce the batch sizes of work to facilitate fast and more reliable flow. 3. Manage queue lengths to reduce the wait times for new functionality.

Principle #7 - Apply cadence, synchronize with cross-domain planning

Cadence creates predictability and provides a rhythm for development. Synchronization causes multiple perspectives to be understood, resolved, and integrated at the same time. Applying development cadence and synchronization, coupled with periodic cross-domain planning, provides the mechanisms needed to operate effectively in the presence of the inherent development uncertainty.

Principle #8 - Unlock the intrinsic motivation of knowledge workers

Lean-Agile leaders understand that ideation, innovation, and employee engagement are not generally motivated by individual incentive compensation. Such individual incentives can create internal competition and destroy the cooperation necessary to achieve the larger aim of the system. Providing autonomy and purpose, minimizing constraints, creating an environment of mutual influence, and better understanding the role of compensation are keys to higher levels of employee engagement. This approach yields better outcomes for individuals, customers, and the enterprise.

Principle #9 - Decentralize decision-making

Achieving fast value delivery requires decentralized decision-making. This reduces delays, improves product development flow, enables faster feedback, and creates more innovative solutions designed by those closest to the local knowledge. However, some decisions are strategic, global, and have economies of scale that justify centralized decision-making. Since both types of decisions occur, creating a reliable decision-making framework is a critical step in empowering employees and ensuring a fast flow of value.

Principle #10 - Organize around value

Many enterprises today are organized around principles developed during the last century. In the name of intended efficiency, most are organized around functional expertise. But in the digital age, the only sustainable competitive advantage is the speed with which an organization can respond to the needs of its customers with new and innovative solutions. These solutions require cooperation amongst all the

1.3 Describe Lean-Agile Mindset decision-making

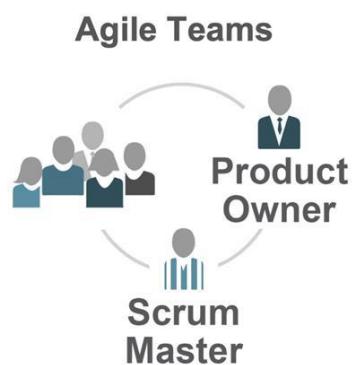
functional areas, with their incumbent dependencies, handoffs, waste, and delays. Instead, Business Agility demands that enterprises organize around value to deliver more quickly. And when market and customer demands change, the enterprise must quickly and seamlessly reorganize around that new value flow.

1.4 Describe Product Owner/Product Manager responsibilities

Notes:

What is an Agile Team?

- ▶ An Agile Team is a cross-functional, self-organizing team that defines, builds, tests, and possibly deploys valuable things
- ▶ Uses Scrum and Kanban for team Agility
- ▶ Applies Built-in Quality practices for Technical Agility
- ▶ Delivers value every two-week Iteration
- ▶ Basic building block of the SAFe Enterprise



Notes:

1.4 Describe Product Owner/Product Manager responsibilities

Roles and responsibilities on the Agile Team

		
Agile Team <ul style="list-style-type: none">• Create and refine User Stories and acceptance criteria• Define, build, test, and deliver Stories• Develop and commit to team PI Objectives and Iteration plans• Five to eleven members	Scrum Master <ul style="list-style-type: none">• Coaches the Agile Team and facilitates team meetings• Removes impediments and protects the team from outside influence• Attends scrum of scrum meetings	Product Owner <ul style="list-style-type: none">• Defines and accepts Stories• Acts as the Customer for developer questions• Works with Product Management to plan Program Increments (PI)

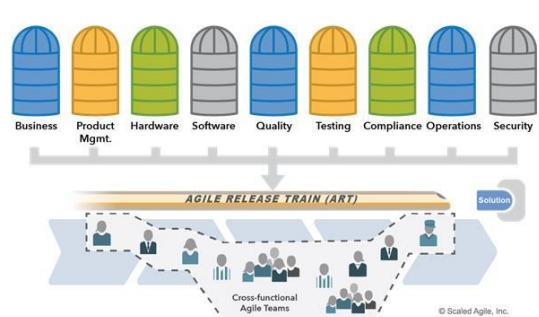
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Notes:

What is an Agile Release Train (ART)?

- ▶ Virtual organization of 5 to 12 teams (50 to 125+ individuals)
- ▶ Has all the capabilities—software, hardware, firmware, and other assets—needed to define, implement, test, and deploy new system functionality
- ▶ Operates with the goal of achieving continuous flow of value
- ▶ Synchronized on common cadence (a Program Increment)
- ▶ Aligned to common mission via the Program Backlog



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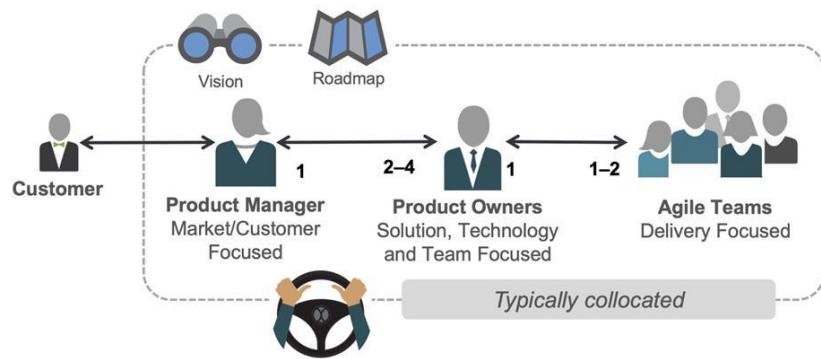
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Notes:

1.4 Describe Product Owner/Product Manager responsibilities

PMs and POs collaboratively steer the train

At scale, a single person cannot handle product and market strategy while also being dedicated to an Agile Team



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Notes:

PM, PO, and Agile Team areas of focus

Product Manager Drives the PI and product	Product Owner Drives the Iteration	Agile Team Drives program execution
Owns Program Backlog	Owns Team Backlog(s)	Builds Quality-In, evolves Agile architecture
Defines Features, PIs, and Releases	Defines Iterations and Stories	Owns estimates
Owns Vision, Roadmap, pricing, licensing, ROI	Contributes to Vision, Roadmap, ROI	Evolves the Continuous Delivery Pipeline
Collaborates on Enablers	Accepts Iteration increments	

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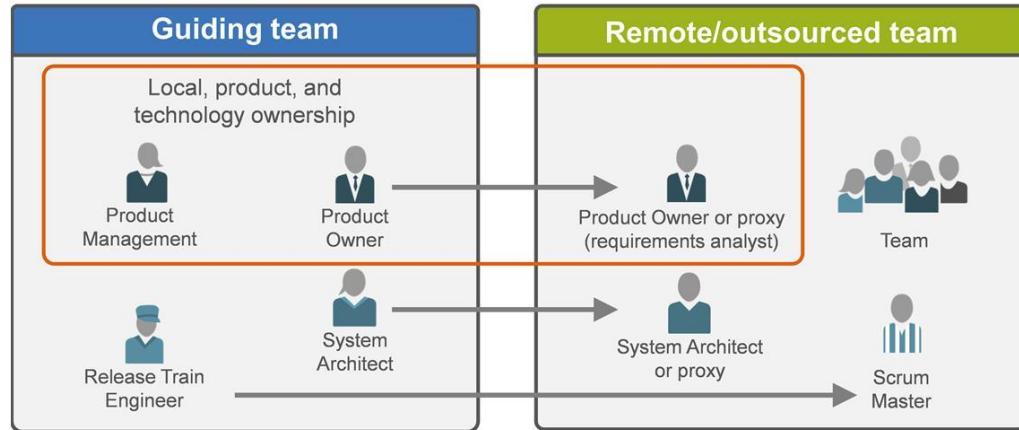
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Notes:

1.4 Describe Product Owner/Product Manager responsibilities

Product Owners/Product Managers and distributed teams

Product Owners and Product Managers may not be co-located, which can create additional responsibilities.



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Notes:

PO and PM governance: Content authority

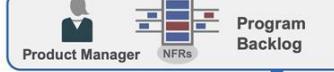
Product Manager – Program Backlog

- Has Program Backlog content authority. Works with the System Architect and Team to prioritize Enablers.
- Has content authority for Vision and Roadmap.
- Helps drive PI Objectives.
- Establishes Features and acceptance criteria.



Product Owner – Team Backlog

- Has Team Backlog content authority. Works with the System Architect to prioritize Enablers.
- Drives Iteration Goals and content via prioritized Stories.
- Establishes Story acceptance criteria.
- Has authority for accepting Stories and Team increments.
- Helps drive PI Objectives at the Team Level.



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Notes:

1.4 Describe Product Owner/Product Manager responsibilities

PO/PMs collaborate with other ART roles

	Release Train Engineer	The RTE acts as the chief Scrum Master for the train
	System Architect-Engineering	System Architect-Engineering provides architectural guidance and technical enablement to the teams on the train
	System Team	The System Team provides processes and tools to integrate and evaluate assets early and often
	Business Owners	Business Owners are the key stakeholders on the Agile Release Train

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Notes:

Product Owner attributes



- ▶ Excellent written and verbal communication skills
- ▶ Available to the Agile Team
- ▶ Good domain knowledge
- ▶ Good business sense
- ▶ Technical foundation
- ▶ Decisive
- ▶ Strong negotiation skills

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Notes:

1.4 Describe Product Owner/Product Manager responsibilities

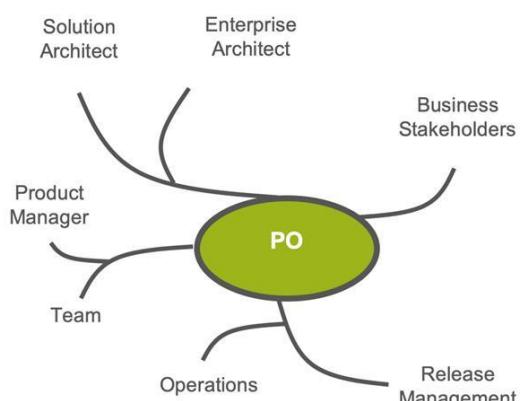


Activity: Key stakeholders and collaborators

Prepare 5 min Share 10 min

► **Step 1:** Working individually, write your name in the middle of a circle. Write the names of people you consider stakeholders and collaborators.

► **Step 2:** Draw lines to capture relationships.



PO

Solution Architect
Enterprise Architect
Business Stakeholders
Release Management
Operations
Team
Product Manager

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Notes:



Action Plan: Becoming a Product Owner/Product Manager in the SAFe Enterprise

Duration 5 min

On the Action Plan page in your workbook, answer the following questions:

► What are some potential issues that might make it difficult to shift your approach, your team, and/or your organization to establish or foster the Product Owner and Product Manager roles in SAFe?

► As you shift to a Lean-Agile mindset in your practices and as you help others in your organization think and act in more Agile ways, what are some things you plan to do differently?

► Is your organization organized around value? Describe how it is organized around value and describe ways it might improve organizing around value.



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Notes:



Product Owner / Product Manager Action Plan

Lesson 1: Becoming a PO/PM in the SAFe Enterprise



**Product
Management**



**Product
Owner**

What are some potential issues that might make it difficult to shift your approach, your team, and/or your organization to establish or foster the Product Owner and Product Manager roles in SAFe?

As you shift to a Lean-Agile mindset in your practices and as you help others in your organization think and act in more Agile ways, what are some things you plan to do differently?

Is your organization organized around value? Describe how it is organized around value and describe ways it might improve organizing around value.

Lesson review

In this lesson you:

- ▶ Explored SAFe for Lean Enterprises
- ▶ Reviewed Value Streams
- ▶ Discovered how the Lean-Agile Mindset impacts PO and PM decision-making
- ▶ Reviewed PO/PM responsibilities

Notes:

Lesson 1 notes



Enter your notes below:

Lesson 2

Preparing for PI Planning

Learning Objectives:

- 2.1 Describe the Program Increment
- 2.2 Describe the Vision
- 2.3 Forecast work through Roadmaps
- 2.4 Create beneficial Features
- 2.5 Manage the Program Backlog and Kanban



SAFe® Course Attending this course gives students access to the SAFe Product Owner/Product Manager exam and related preparation materials.

2.1 Describe the Program Increment

Notes:

Video: PI Planning

Duration
2 min



<https://vimeo.com/356905724/60d2ba24bf>

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Video link: <https://vimeo.com/356905724/60d2ba24bf>

2.1 Describe the Program Increment

PI Planning

Cadence-based PI Planning meetings are the heartbeat of the Agile Enterprise.

- ▶ Two days every 8 – 12 weeks (10 weeks is typical)
- ▶ Everyone attends in person if possible
- ▶ Product Management owns Feature priorities
- ▶ Agile Teams own Story planning and high-level estimates
- ▶ Architect/Engineering and UX work as intermediaries for governance, interfaces, and dependencies



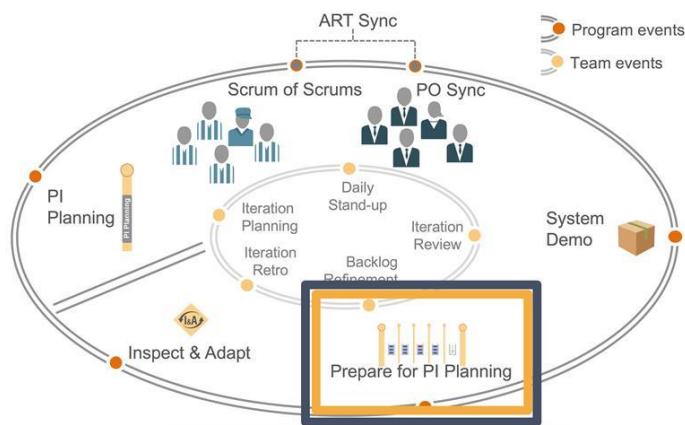
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Notes:

Preparing for PI Planning

Supported by POs, PMs take the lead in preparing for PI Planning



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Notes:

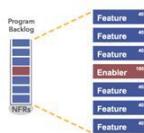
2.1 Describe the Program Increment

POs and PMs are essential to successful PI Planning

PI Planning preparation → PI Planning → PI Planning outputs



Create/update Vision and Roadmaps



Socialize the Top 10 Features to set expectations for the PI Planning meeting



Product Managers negotiate scope, socialize, and contribute to Business Value



Team and Program PI Objectives and Program Board

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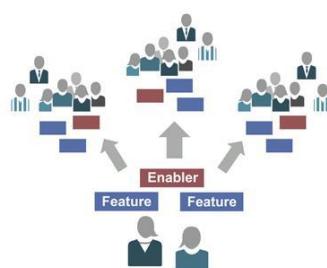
39

Notes:

How much preparation is enough?

Both too much and too little preparation can cause problems

- ▶ More preparation may be needed if creating entirely new Features or Architectural Runway
- ▶ Too much preparation can inhibit exploration, interaction, and emergent designs/solutions during PI Planning
- ▶ Ongoing socialization of Features and Enablers as well as adequate backlog refinement influence preparedness



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Notes:

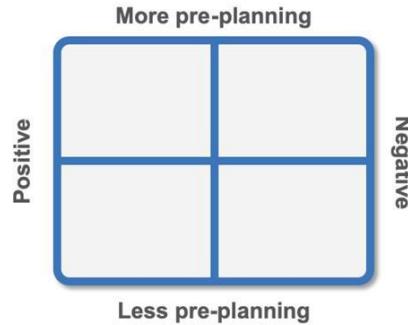
2.1 Describe the Program Increment



Discussion: Just enough pre-planning

Duration
5 min

- ▶ As a class, discuss how the amount of pre-PI Planning you do can have positive and negative outcomes.
- ▶ The instructor will capture your thoughts on a flip chart in the quadrants shown at right.
- ▶ Consider how the Lean-Agile mindset and SAFe practices influence and enable PI Planning preparedness.



Notes:

2.2 Describe the Vision

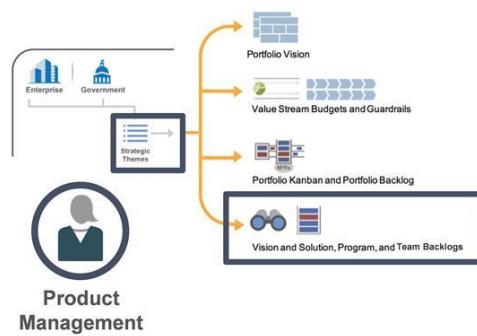
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Notes:

Portfolio Strategic Themes guide the Vision

Product Management collaborates with Lean Portfolio Management to ensure the Vision and the Program/Team Backlogs are aligned to Strategic Themes.



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Notes:

2.2 Describe the Vision

 Video: Terrific Transport Corporation Strategic Themes 

Anthea Bowen, CEO of the Terrific Transport Corporation (TTC), and Pat Bakker, Solution Manager, review TTC's Strategic Themes.



Click to here to play video
<https://vimeo.com/310890102/890a0eaa12>

Notes:



Video link: <https://vimeo.com/310890102/890a0eaa12>



Discussion: Van Program Strategic Themes

Duration
3 min

 Truck Program

 Van Program

 Autonomous Vehicle Program

 Autonomous Delivery Program

STRATEGIC THEMES

- Increase Truck Program sales volume by 15%
- Obtain gold safety standard status with Van Program
- Triple Autonomous Vehicle Program revenue within 18 months through commercial expansion
- Capture dominant autonomous delivery market share in zones 1 and 2 within 18 months
- Expand the Giving-1 Program to all Terrific Transport locations

As a class, discuss how these Strategic Themes will influence the work of POs and PMs on the Van Program.

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Notes:

Prepare the Vision

The Vision is a description of the future state of the product or Solution.

- ▶ Where are we headed with this product or Solution?
- ▶ What problem does it solve?
- ▶ What Features and benefit hypotheses do we think it provides?
- ▶ For whom does it provide them?
- ▶ What nonfunctional requirements (performance, reliability, platforms, etc.) does the Solution deliver?



Common formats:

- ▶ Rolling-wave briefings
- ▶ Vision document
- ▶ Preliminary data sheet
- ▶ Draft press release

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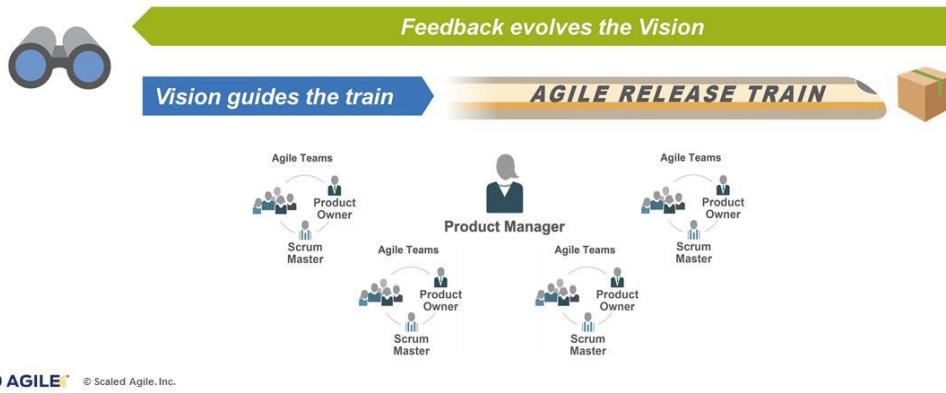
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Notes:

2.2 Describe the Vision

Product Management creates the Vision for the ART

Product Management creates the Program Vision, which evolves through Customer feedback and learnings of the ART



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Notes:

Vision: Postcard from the future

Vision: Postcard from the future

- Aspirational, yet realistic and achievable
- Motivational enough to engage others on the journey



Result: The teams start thinking about how to apply their strengths in order to get there

Heath, Chip and Dan Heath. *Switch: How to Change Things When Change Is Hard*. New York: Broadway Books, 2010

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Notes:

2.2 Describe the Vision

Van Maintenance Advisor postcard from the future



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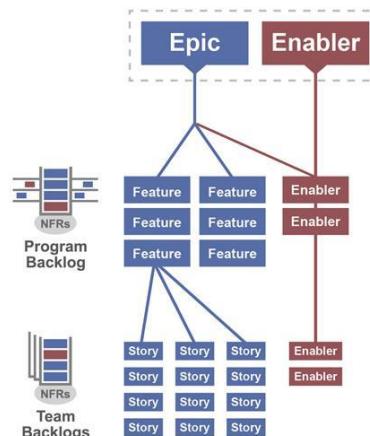
Notes:

Summary of SAFe requirements

An **Epic** is a container for a significant Solution development initiative that captures the more substantial investments that occur within a portfolio.

A **Feature** is a service that fulfills a stakeholder need. Each Feature includes a name, a benefit hypothesis, acceptance criteria, and is sized or split as necessary to be delivered by a single ART in a PI.

Stories are short descriptions of a small piece of desired functionality, written from the perspective of the user.



An **Enabler** supports the activities needed to extend the Architectural Runway to provide future business functionality.

Enablers are captured in various backlogs throughout SAFe.

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Notes:

2.2 Describe the Vision



Activity: Create Epics to fulfill the Vision

Prepare
5 min

Share
10 min

- ▶ The Van Maintenance Advisor is a substantial new offering. It will consist of several Epics representing significant development initiatives.
- ▶ Working as a team, review these three Epics that support the Van Maintenance Advisor offering. Can you add one additional Epic?

Epic: Develop next-generation van hardware to capture additional data on van performance

Epic: Maintenance programs tailored for each van based on sensor data

Epic: Automated electronic inspections and tracking

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Notes:

Create Epics

Instructions: Working as a team, review these three Epics that support the Van Maintenance Advisor offering. Can you add one additional Epic? Use the Epic Hypothesis Statement to document the description and requirements of your Epic.

Epic: Develop next-generation van hardware to capture additional data on van performance

Epic: Maintenance programs tailored for each van based on sensor data

Epic: Automated electronic inspections and tracking

Epic Hypothesis Statement

Funnel Entry Date: <The date that the epic entered the funnel.>

Epic Name: <A short name for the epic.>

Epic Owner: <The name of the epic owner.>

Epic Description: <An elevator pitch (value statement) that describes the epic in a clear and concise way.>
For <customers>
who <do something>
the <solution>
is a <something - the 'how'>
that <provides this value>
unlike <competitor, current solution or non-existing solution>
our solution <does something better – the 'why'>

Business Outcomes: <The measurable benefits that the business can anticipate if the epic hypothesis is proven to be correct.>

Leading Indicators: <The early measures that will help predict the business outcome hypothesis. For more on this topic, see the Innovation Accounting advanced topic article.>

Nonfunctional Requirements (NFRs): <Nonfunctional requirements (NFRs) associated with the epic.>

Create Epics

Instructions: Working as a team, review these three Epics that support the Van Maintenance Advisor offering. Can you add one additional Epic? Use the Epic Hypothesis Statement to document the description and requirements of your Epic.

Epic Hypothesis Statement

Funnel Entry Date:

Epic Name:

Epic Owner:

Epic Description:

Business Outcomes:

Leading Indicators:

Nonfunctional Requirements (NFRs):

2.3 Forecast work through Roadmaps

2.3 Forecast work through Roadmaps

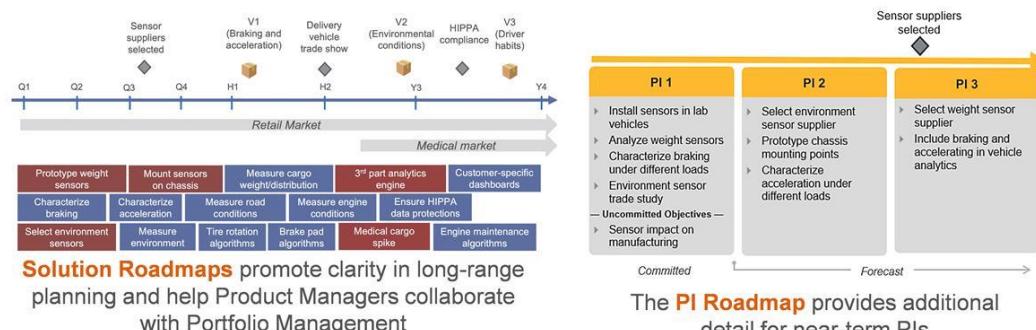
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Notes:

Create forecasts through Roadmaps

- The Enterprise and its stakeholders need to plan for the future
- Roadmaps enable the Enterprise to make forecasts about the future while adapting to changing market opportunities

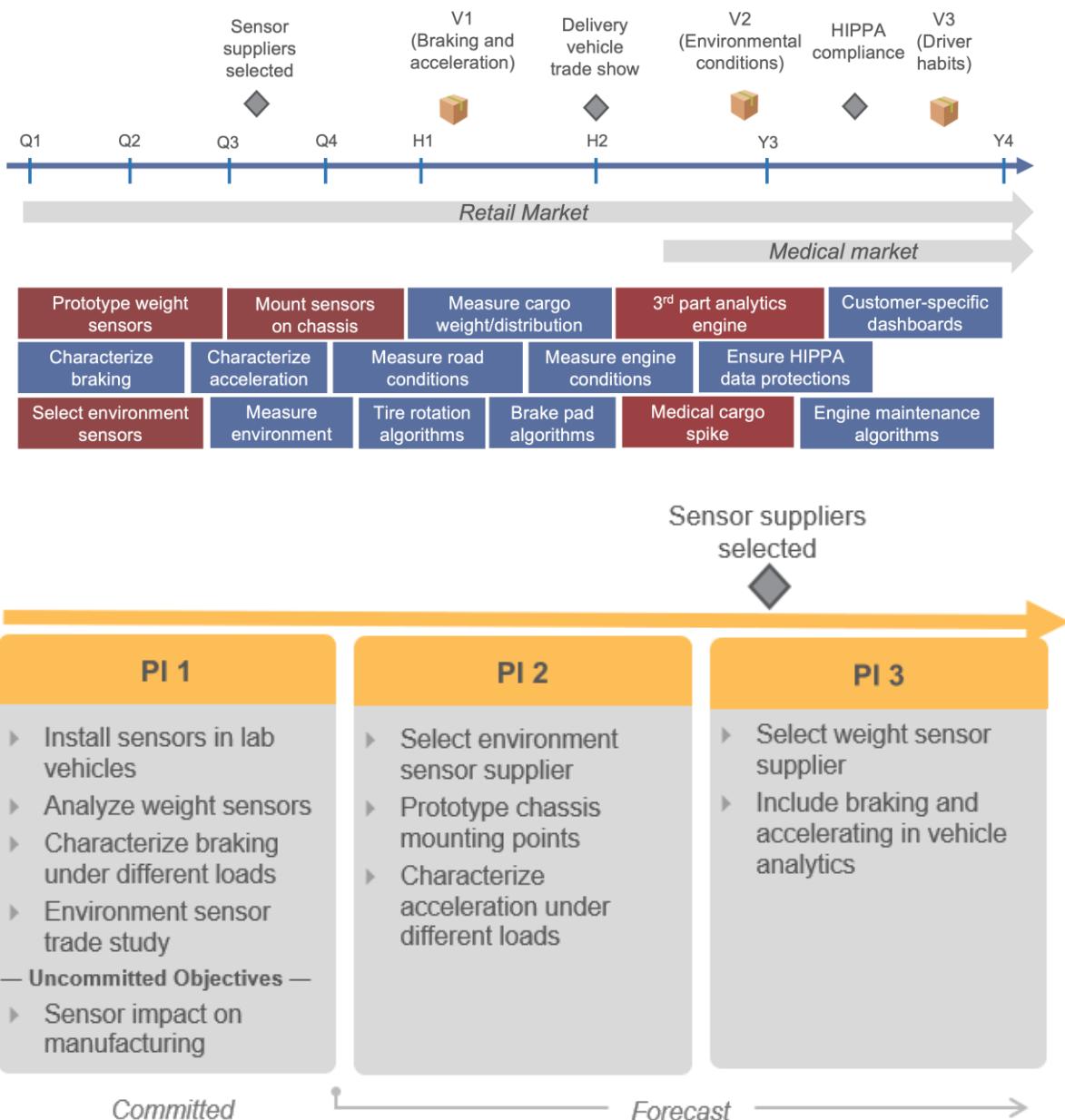


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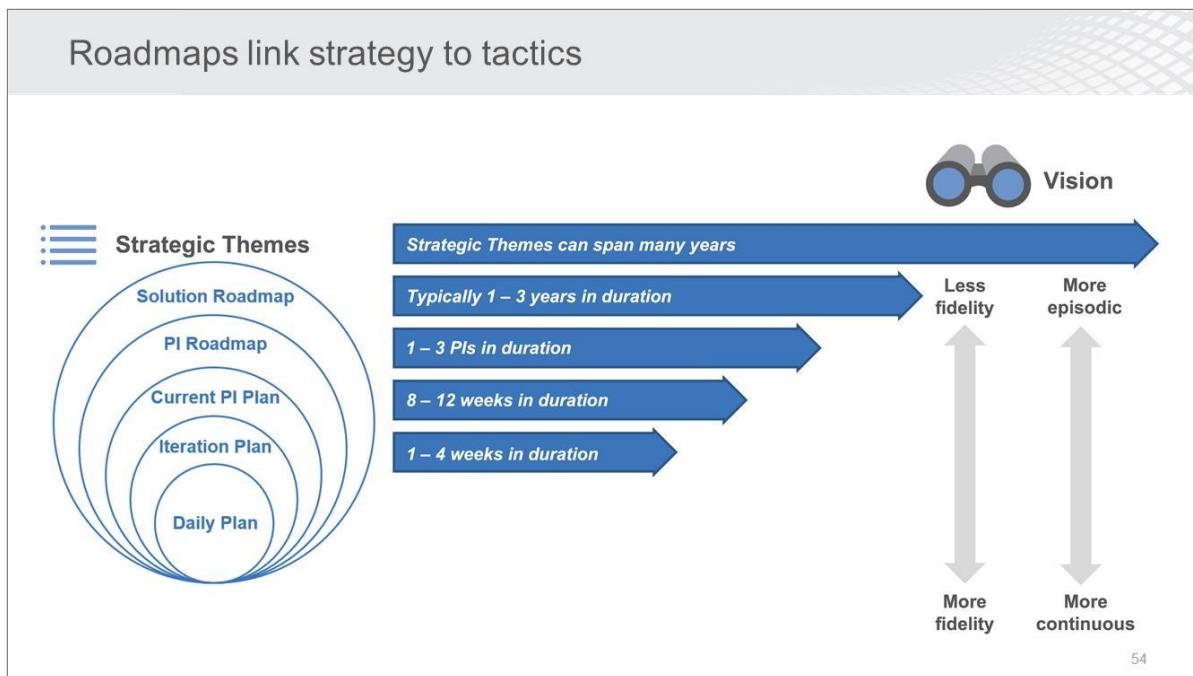
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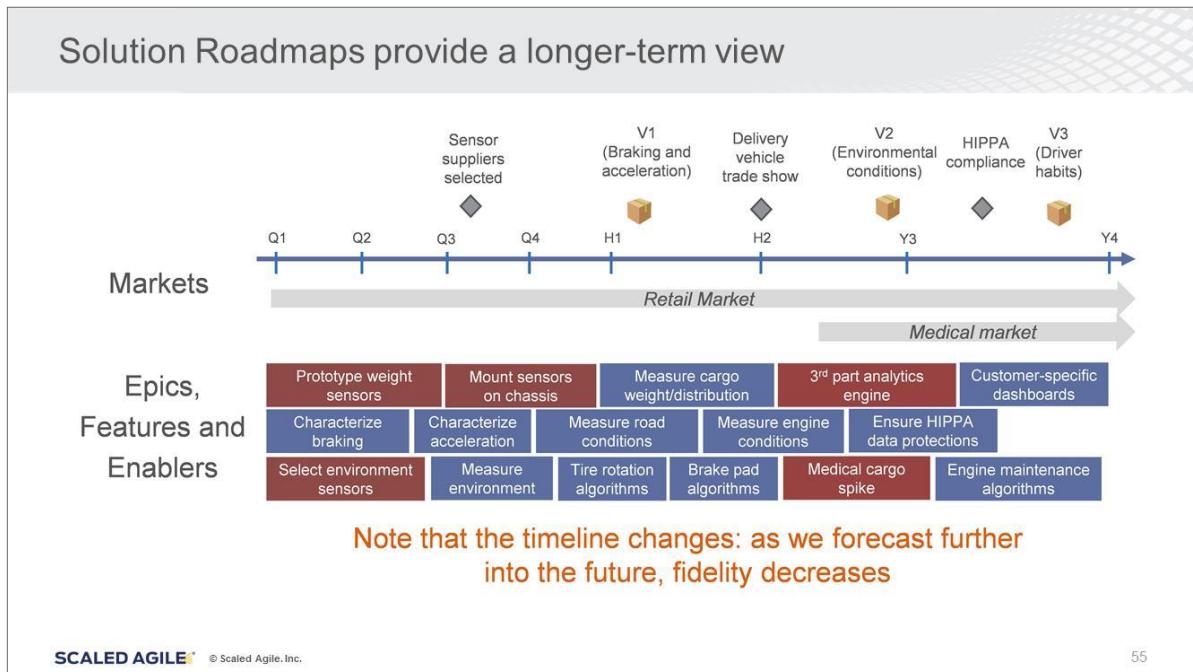
2.3 Forecast work through Roadmaps



2.3 Forecast work through Roadmaps

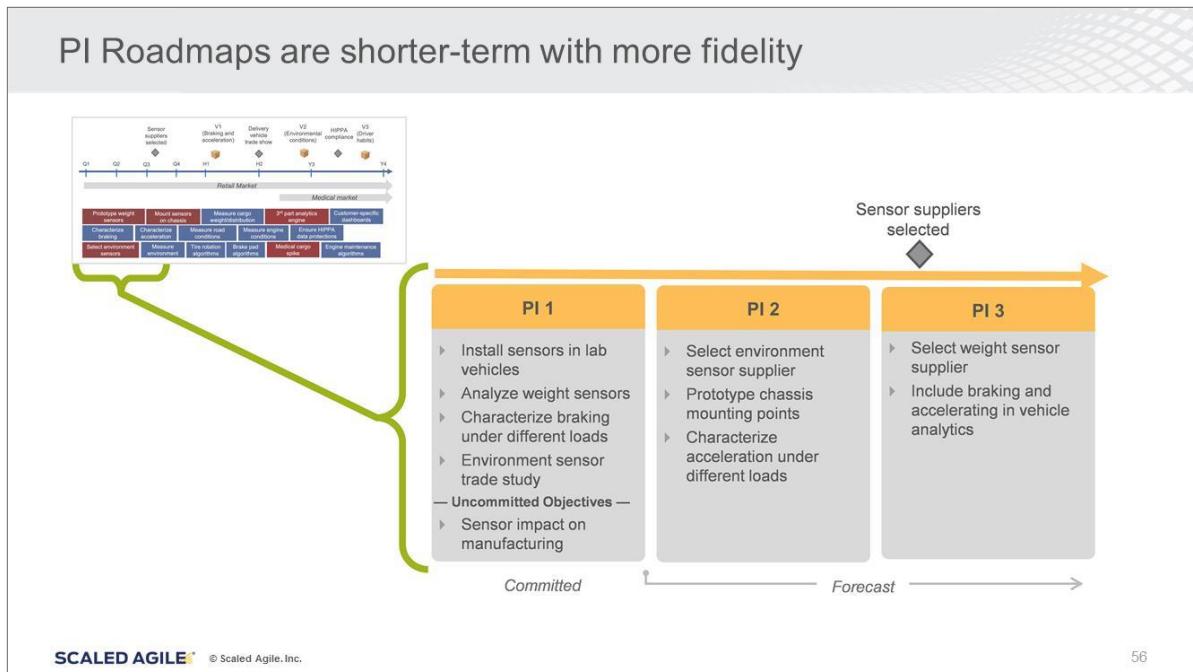


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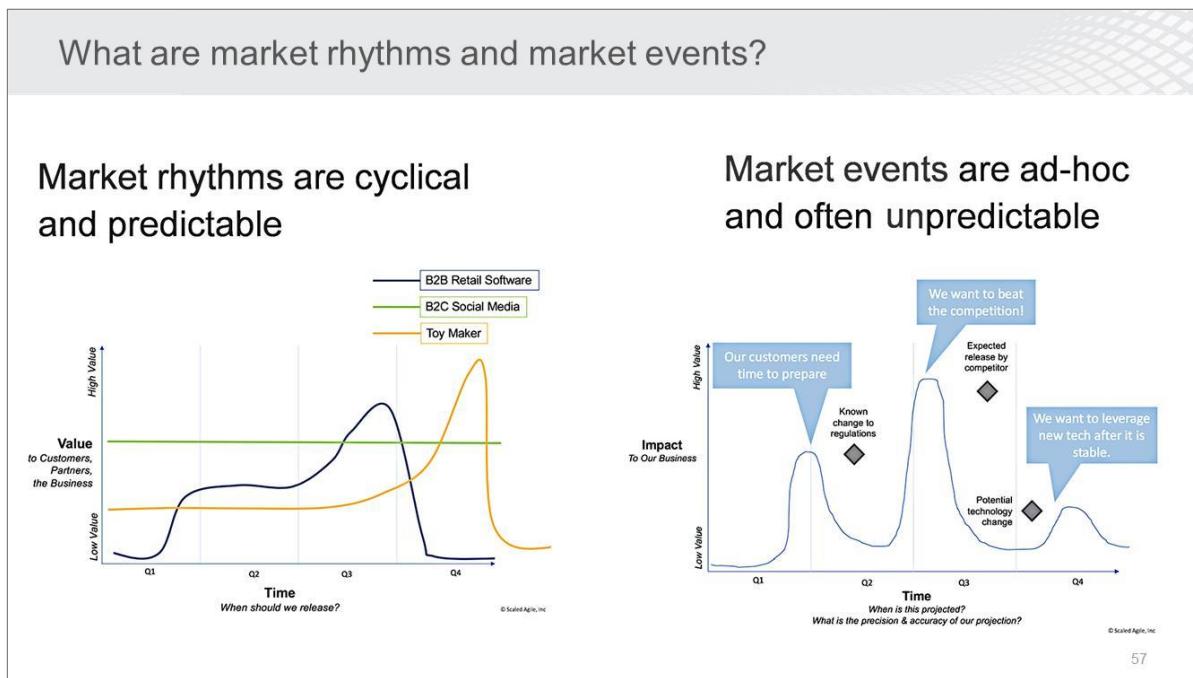


Notes:

2.3 Forecast work through Roadmaps

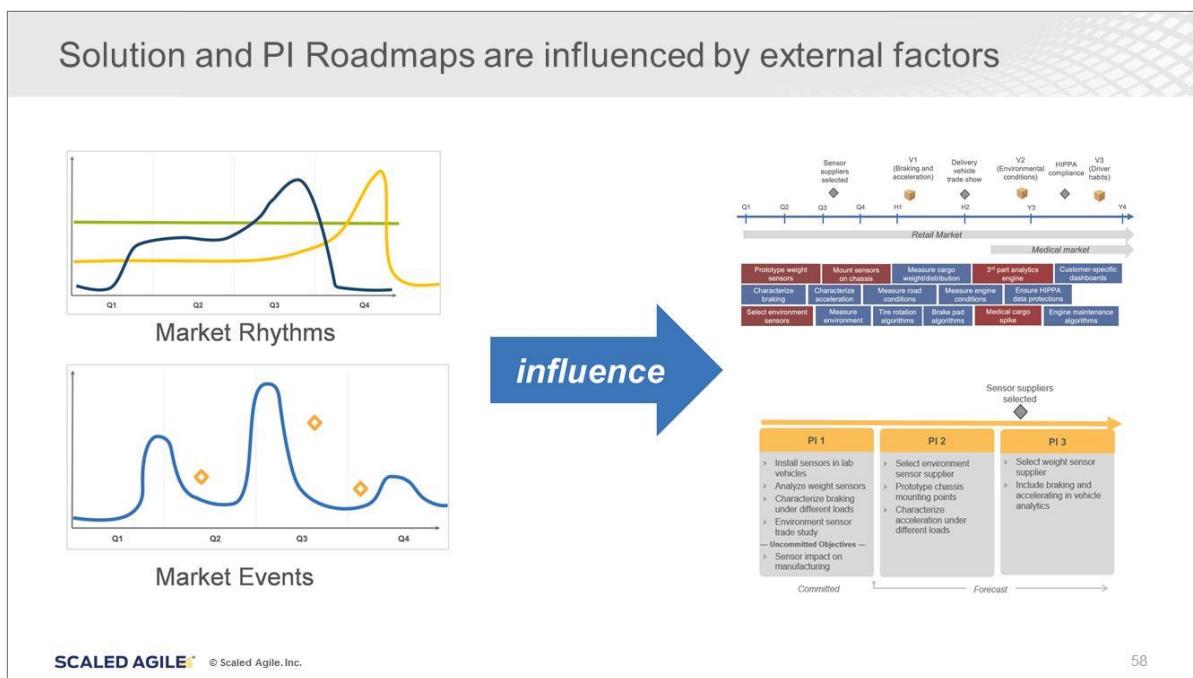


Notes:



Notes:

2.3 Forecast work through Roadmaps



Notes:

Activity: Consider market rhythms for optimum release timing

Prepare 5 min **Share** 10 min

The activity involves considering market rhythms to determine optimum release timing. It includes a list of tasks and a timeline for preparation and sharing.

Tasks:

- The System Architect has informed the Product Management team that Customers will have to take their vans out of service for approximately one day to install the new hardware required by the Van Maintenance Advisor.
- Approximately 1/3 of your van Customers are serving the local retail market while 1/3 are serving the medical specimen market.
 - Step 1: Draw a market rhythms chart with one line for each market segment to help determine when you could release the new hardware to minimize disruptions to your customers.
 - Step 2: Be prepared to share with the class.

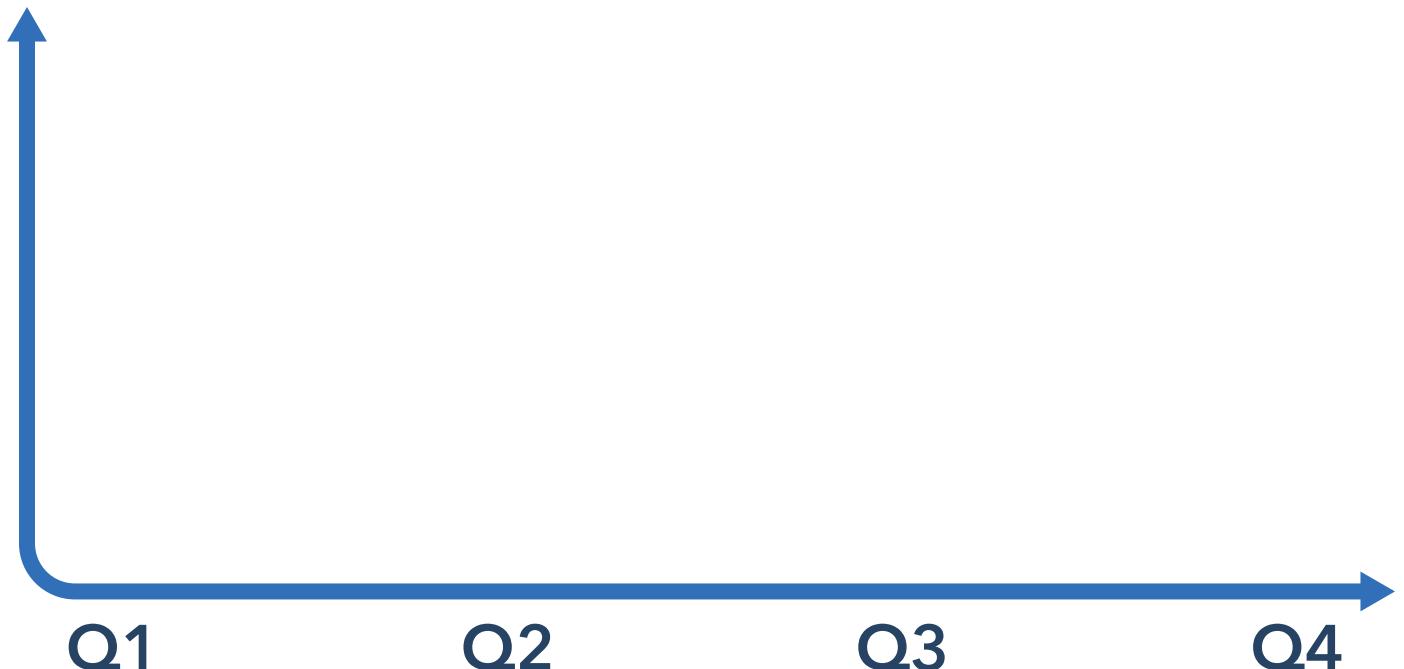
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Notes:

Market Rhythms Chart

Instructions: Use the Adobe Markup tool to draw a market rhythms chart with one line for each market segment to help determine when you could release the new hardware to minimize disruptions to your customers.



Notes

2.4 Create beneficial Features

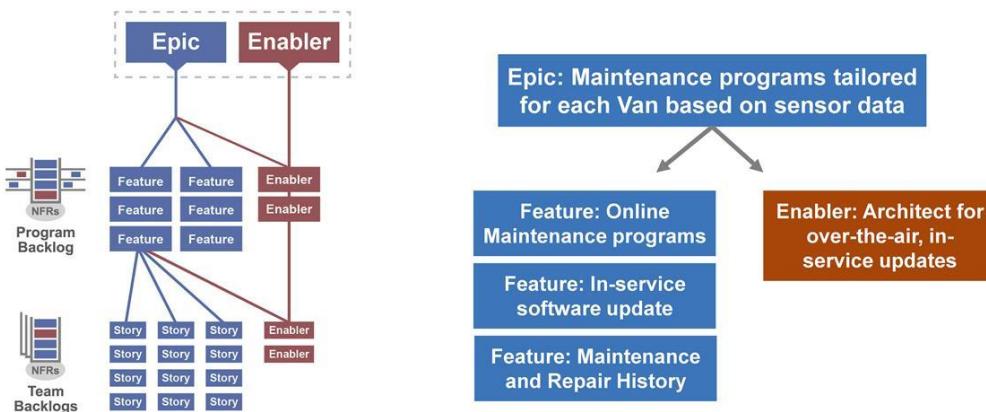
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Notes:

Epics are decomposed into Features

Additional Features and Enablers...



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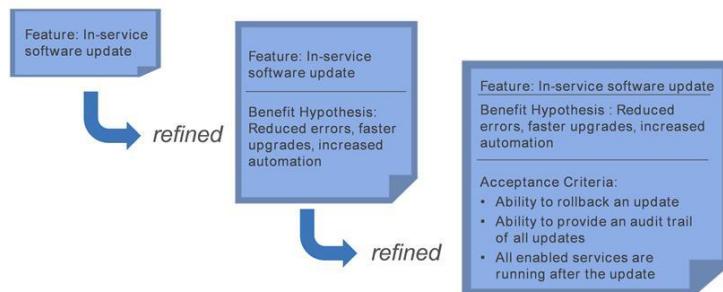
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Notes:

2.4 Create beneficial Features

Analysis and refinement ensure Features are ready for implementation

Features may start as a one-sentence overview with more details added in PI Planning and backlog refinement meetings.



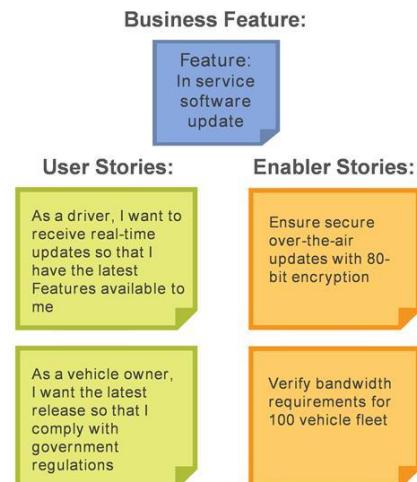
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Notes:

Features are implemented incrementally by Stories

- ▶ During PI Planning and Backlog Refinement, Features are refined into Stories
- ▶ Stories are short descriptions of desired functionality, written in the user's language and sized to fit a single Iteration for one team



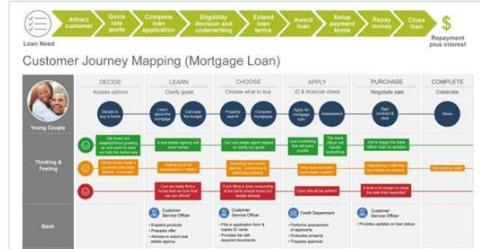
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Notes:

2.4 Create beneficial Features

Design Thinking tools support PMs and POs in creating Features

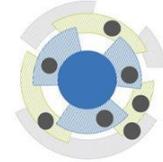


Customer Journey Maps



Mike the
Fleet Manager

Personas



Whole-Product Thinking

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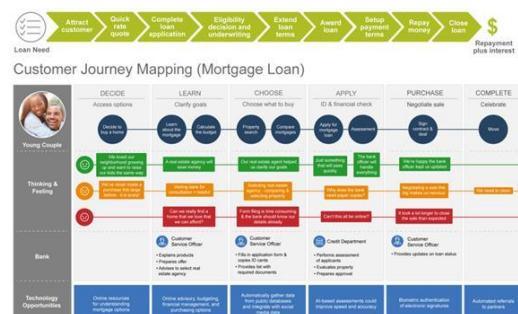
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Notes:

Customer journey maps can inform operational Value Streams

Customer journey maps:

- ▶ Illustrate the user's experience engaging with a company through products, online experiences, and services
- ▶ May document user desires, activities, feelings, questions, pain points, etc.
- ▶ Can help identify gaps and opportunities



Journey Maps help design operational Value Streams

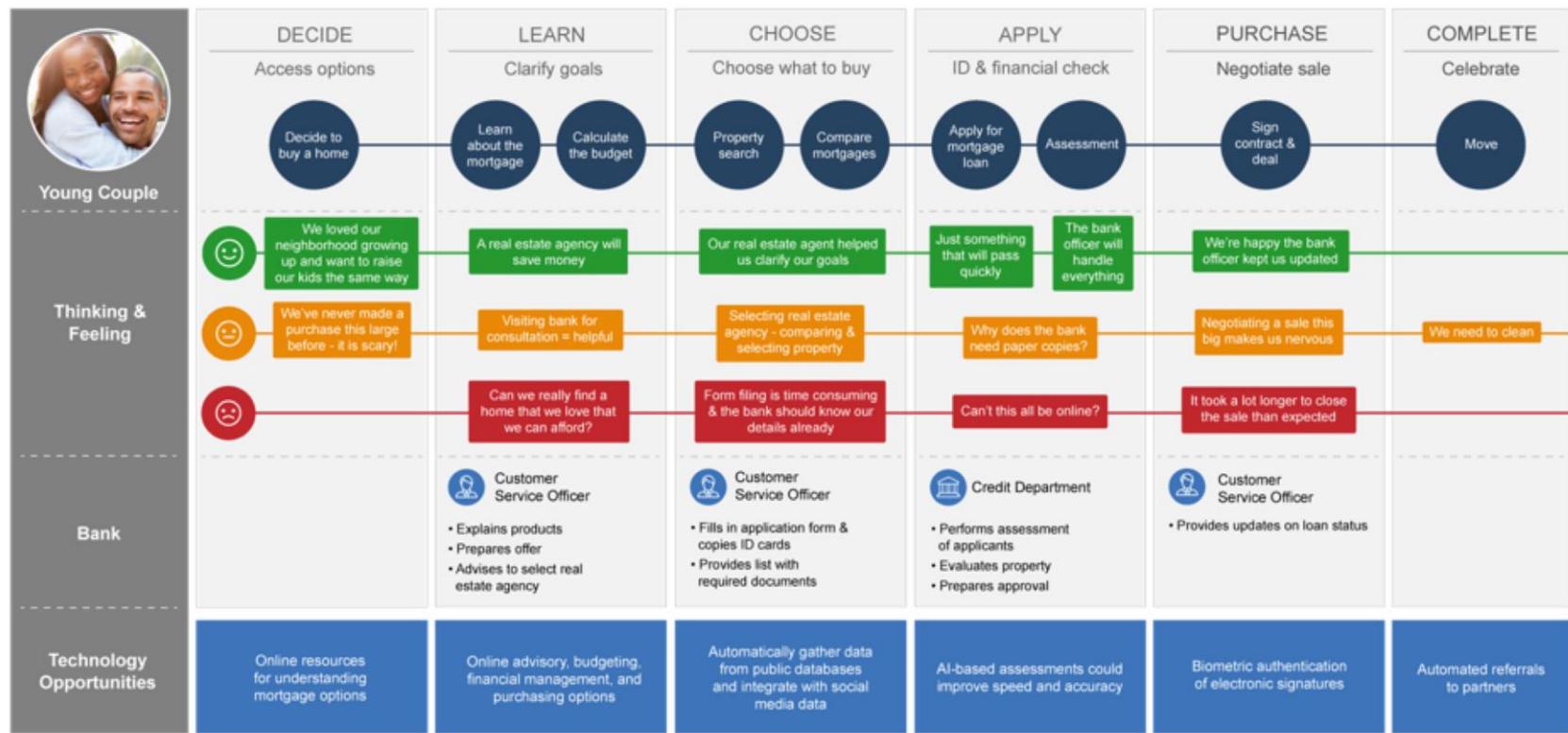
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Notes:



Customer Journey Mapping (Mortgage Loan)



Journey Maps help design operational Value Streams

Personas help understand Customers

Personas:

- ▶ Are fictional characters based upon your research
- ▶ Represent the different people who might use your product or Solution in a similar way
- ▶ Convey the problems Customers face in their own context (e.g. their work environment) and key triggers for using the product
- ▶ Capture rich, concise information (photographs, family stories, jobs, etc.) that inspire great products without unnecessary details

Notes:

Example persona



Mike the Fleet Manager

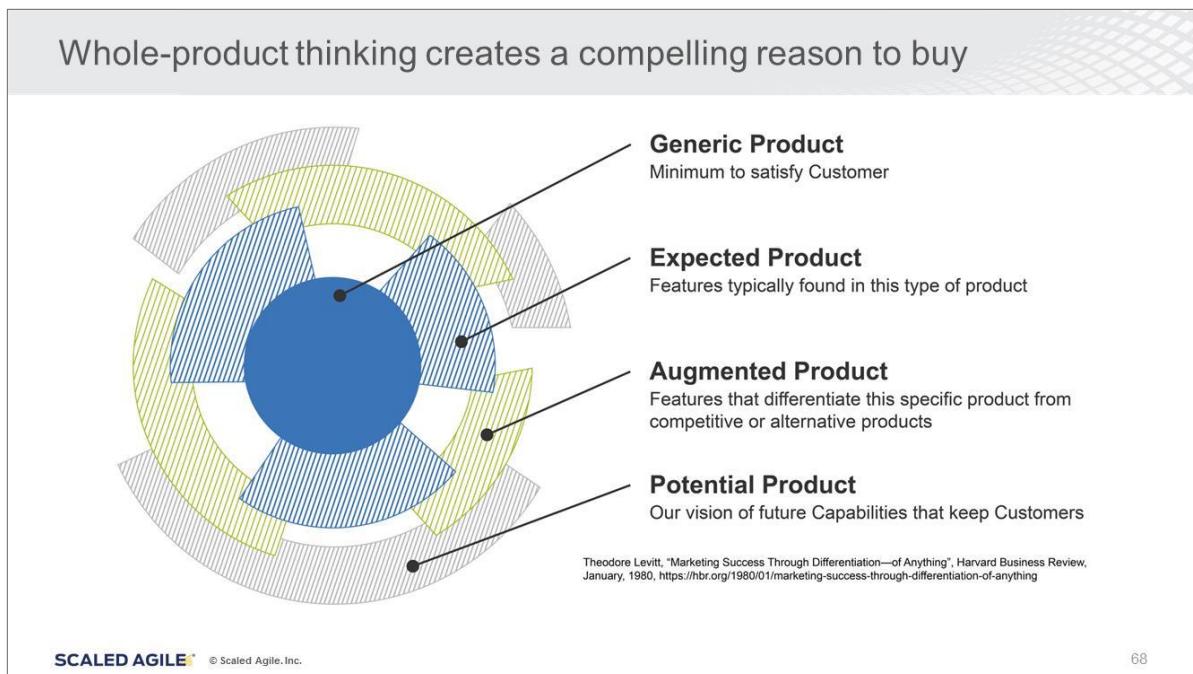
Age: 36
Location: Reno, Nevada, USA
Manages: 50 vans, 80 part-time and full-time drivers

"I started my own courier van service when I was 18. I did everything – delivery, managing the vehicles and handling customers. During the last recession I had to shut down my company – but that's OK, because I was getting tired of working alone. I'm now the Fleet Manager for big company. Driver safety is my top priority."

I have an office but I'm in constant motion – my tablet is more useful than my desktop computer.	I used to be a driver and driver safety is a personal priority.	My vans need to be on the road – a van in the shop doesn't make me any money!
I need to be able to respond quickly to emergencies.	Reno weather is hard on vans. I think my maintenance schedule is better than what TTC recommends.	I learned Spanish and some Vietnamese to better communicate with my drivers.

Notes:

2.4 Create beneficial Features



Notes:



Notes:



Discussion: Solution Context



What are some critical aspects of the Solution Context of the hardware and software contained within the Courier Van that provides the data for the Van Maintenance Advisor?

What are some critical aspects of the Solution Context of how Fleet Managers will use the Van Maintenance Advisor?

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Notes:

Feature storming is a tool for decomposing Epics into Features

Here is a suggested process for decomposing Epics into Features:

1. Identify an Epic to be decomposed and assemble a team of PMs, POs, technical leaders, and members of the ART
2. Write the Epic on a piece of paper and tape it to the wall
3. Hand out blank index cards to all participants and have them rapidly generate as many Features in the context of this Epic as possible (just a name and, if needed, a brief description)
4. Organize results by merging duplicates and arrange them into clusters. The results will be managed in the Program Kanban.

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Notes:



Activity: Decompose an Epic using Feature storming

Prepare
10 min

Share
5 min

- ▶ Step 1: Working in your groups, decompose this Epic by creating as many Features as possible
 - Leverage the Mike the Fleet Manager persona and Solution Context to help create a more complete set of Features
- ▶ Step 2: Be prepared to share with the class.

Epic
Maintenance programs tailored for each van based on sensor data

Notes:

Feature Storming

Instructions: Use the space below to decompose this Epic by creating as many Features as possible. Leverage the Mike the Fleet Manager persona and Solution Context to help create a more complete set of Features.

Epic: Maintenance programs tailored for each van based on sensor data.

Features:



Activity: Feature refinement

Prepare
10 min

Share
5 min

- ▶ Step 1: Take three of the Features that you have created. Using a flip chart, refine them with a description, benefit hypothesis, and acceptance criteria.
- ▶ Step 2: Identify who is the primary beneficiary of acceptance criteria.
- ▶ Step 3: Be prepared to share with the class.

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Notes:

Feature Refinement

Instructions: Take three of the Features that you have created. Using the space below, refine them with a description, benefit hypothesis, and acceptance criteria. Identify who is the primary beneficiary of acceptance criteria.

#1

Feature: In-service software update

#3

Refined...

Feature: In-service software update

Benefit Hypothesis: Reduced errors, faster upgrades, increased automation

Acceptance Criteria:

- Ability to rollback an update
- Ability to provide and audit trail of all updates
- All enabled services are running after the update

Description:

Benefit Hypothesis:

Acceptance Criteria:

Feature Refinement

Instructions: Take three of the Features that you have created. Using the space below, refine them with a description, benefit hypothesis, and acceptance criteria. Identify who is the primary beneficiary of acceptance criteria.

Description:

Benefit Hypothesis:

Acceptance Criteria:

Description:

Benefit Hypothesis:

Acceptance Criteria:

2.4 Create beneficial Features

Set quality expectations with the definition of done (DoD)



Team Increment	System Increment	Solution Increment	Release
<ul style="list-style-type: none">• Stories satisfy acceptance criteria• Acceptance tests passed (automated where practical)• Unit and component tests coded, passed, and included in the BVT• Cumulative unit tests passed• Assets are under version control• Engineering standards followed• NFRs met• No must-fix defects• Stories accepted by Product Owner	<ul style="list-style-type: none">• Stories completed by all teams in the ART and integrated• Completed features meet acceptance criteria• NFRs met• No must-fix defects• Verification and validation of key scenarios• Included in build definition and deployment process• Increment demonstrated, feedback achieved• Accepted by Product Management	<ul style="list-style-type: none">• Capabilities completed by all trains and meet acceptance criteria• Deployed/installed in the staging environment• NFRs met• System end-to-end integration verification, and validation done• No must-fix defects• Included in build definition and deployment/transition process• Documentation updated• Solution demonstrated, feedback achieved• Accepted by Solution Management	<ul style="list-style-type: none">• All capabilities done and meet acceptance criteria• End-to-end integration and solution V&V done• Regression testing done• NFRs met• No must-fix defects• Release documentation complete• All standards met• Approved by Solution and Release Management

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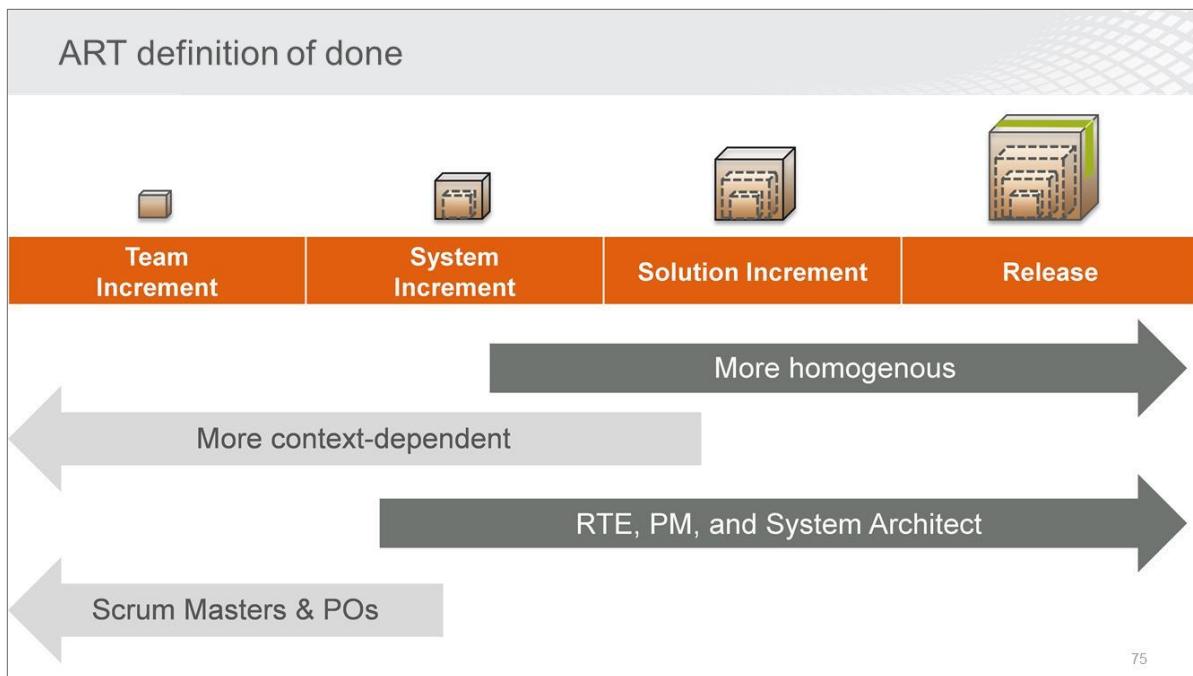
2.4 Create beneficial Features



Team Increment	System Increment	Solution Increment	Release
<ul style="list-style-type: none"> Stories satisfy acceptance criteria Acceptance tests passed (automated where practical) Unit and component tests coded, passed, and included in the BVT Cumulative unit tests passed Assets are under version control Engineering standards followed NFRs met No must-fix defects Stories accepted by Product Owner 	<ul style="list-style-type: none"> Stories completed by all teams in the ART and integrated Completed features meet acceptance criteria NFRs met No must-fix defects Verification and validation of key scenarios Included in build definition and deployment process Increment demonstrated, feedback achieved Accepted by Product Management 	<ul style="list-style-type: none"> Capabilities completed by all trains and meet acceptance criteria Deployed/installed in the staging environment NFRs met System end-to-end integration verification, and validation done No must-fix defects Included in build definition and deployment/transition process Documentation updated Solution demonstrated, feedback achieved Accepted by Solution Management 	<ul style="list-style-type: none"> All capabilities done and meet acceptance criteria End-to-end integration and solution V&V done Regression testing done NFRs met No must-fix defects Release documentation complete All standards met Approved by Solution and Release Management

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2.4 Create beneficial Features



Notes:

The definition of done has distinct areas of concern

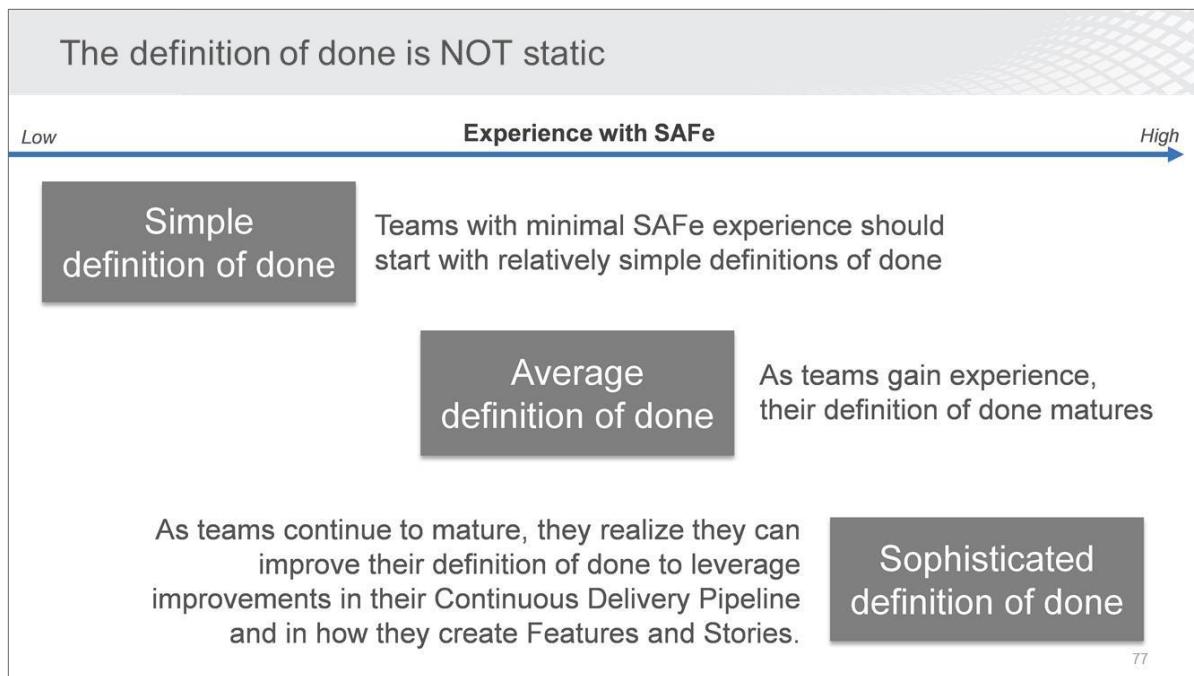
Policies about how to validate deliverables	Required tasks that reflect technical practices	Required tasks that reflect Product management practices
Example Stories satisfy acceptance criteria Unit and acceptance tests pass	Example All code checked into version control API and/or data model documentation updated	Example Releases notes created for marketing and sales User documentation updated Website FAQs updated

- ▶ Acceptance criteria focus on specific characteristics of a Feature or Story
- ▶ DoD is about policies that apply across Features or Stories

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Notes:

2.4 Create beneficial Features



Notes:

2.5 Manage the Program Backlog and Kanban

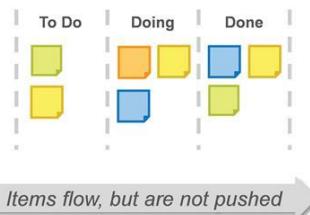
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Notes:

Kanban in a nutshell

- ▶ Visual tool for monitoring and managing workflow
- ▶ Columns represent steps in the work process
- ▶ Work items (Features, Enablers, Stories) are ‘pulled’ across the board as capacity allows
- ▶ Explicit process policies define how and when a work item moves across the board
- ▶ Work-in-process (WIP) promotes flow and the continuous delivery of value



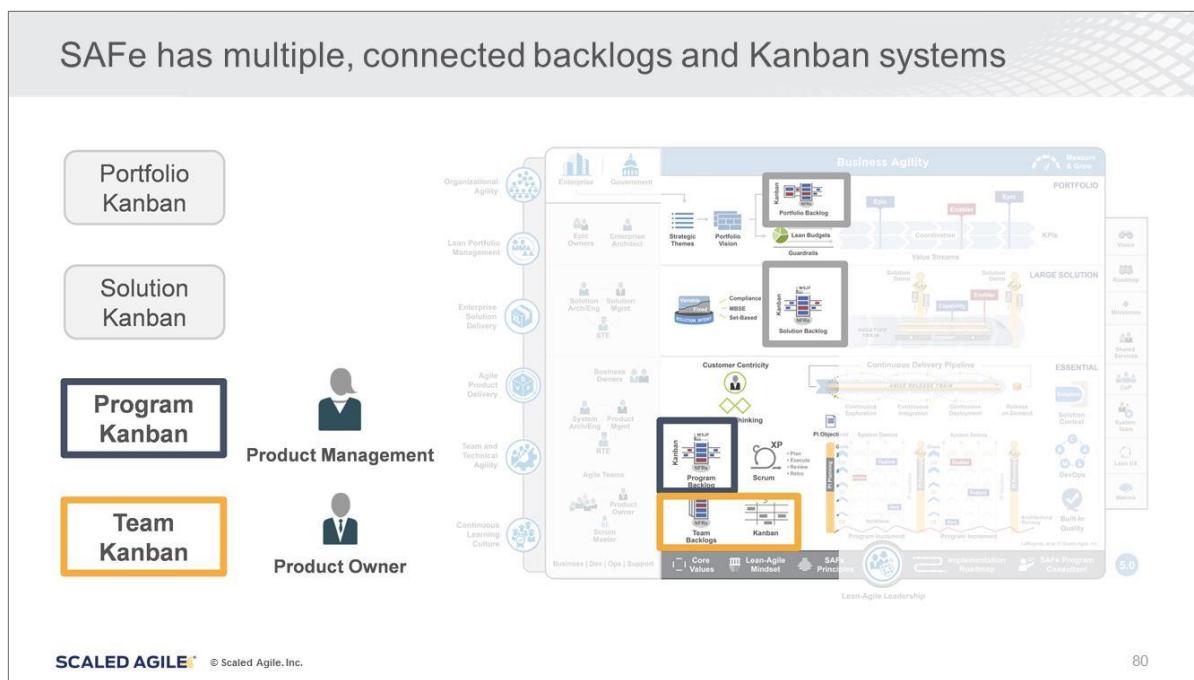
Items flow, but are not pushed

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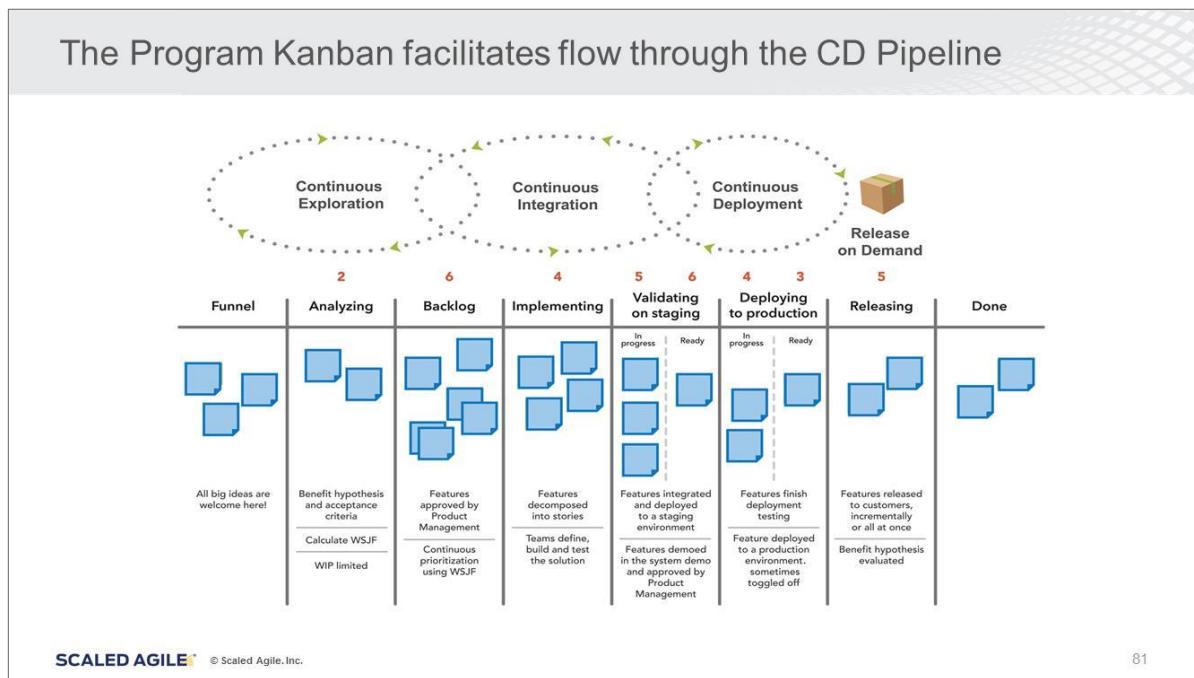
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Notes:

2.5 Manage the Program Backlog and Kanban

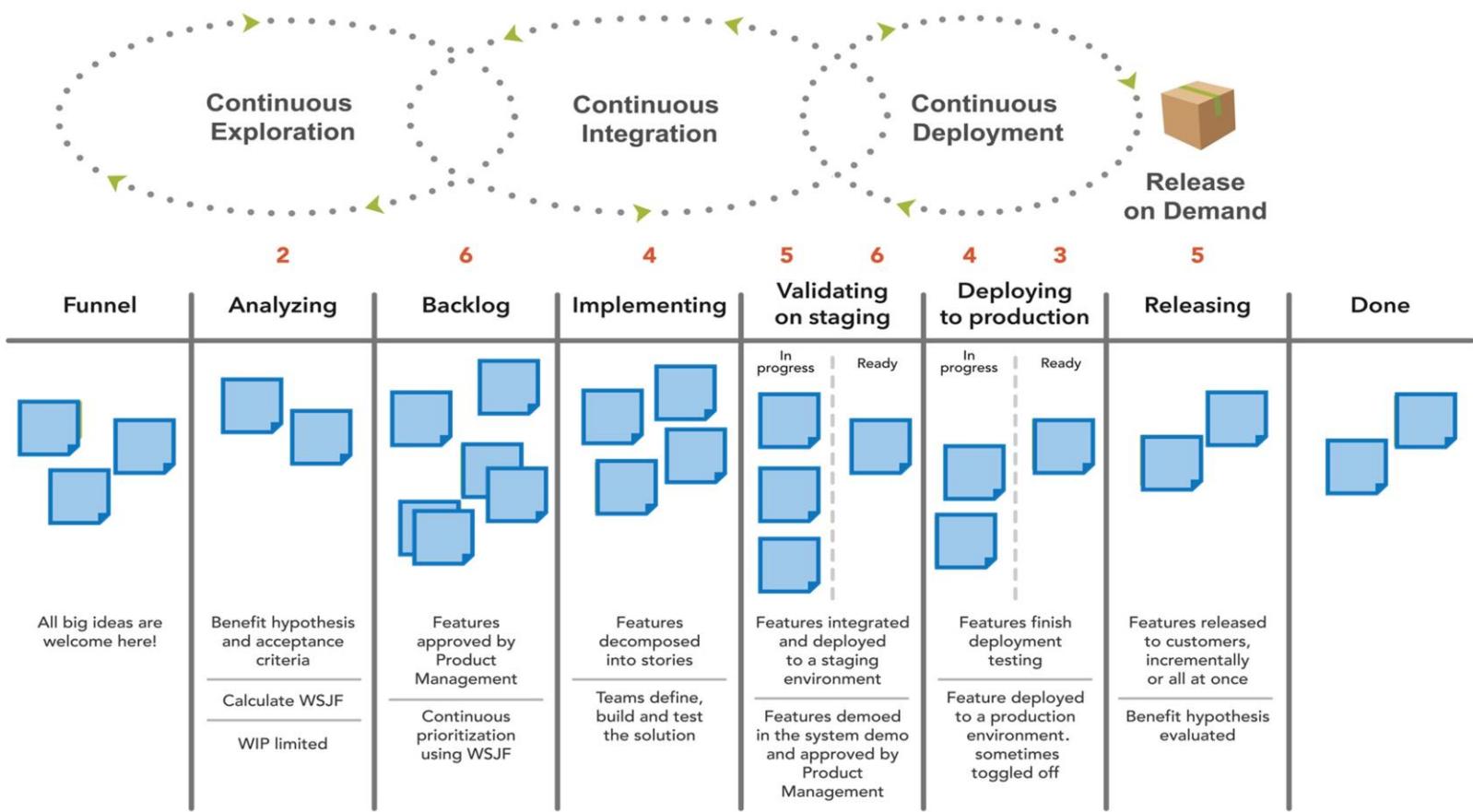


Notes:



Notes:

2.5 Manage the Program Backlog and Kanban



Prioritization anti-patterns



HiPPO - Highest-paid person makes the decision.

"The Senior VP said we should do this project."



Squeaky Wheel - The person who yells the loudest or makes the biggest promise of revenue.

"Fund my project, and we will make a billion dollars!"



ROI - Making a decision based exclusively on ROI without considering other factors.

"The ROI indicates we will make a 30% profit."

Role

I'm the PM, so I should do it!



Solution/Product Management

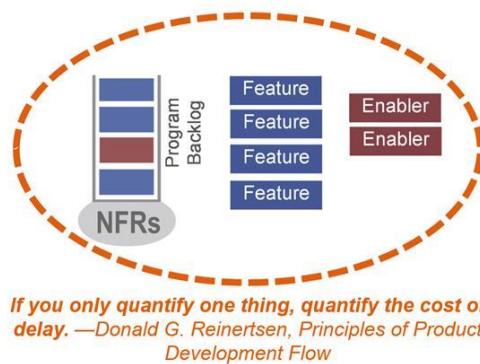
Notes:

Prioritize Features for optimal return on investment

In a flow system, job sequencing by Product Owners and Product Managers is key to economic outcomes.

To prioritize based on Lean economics, you need to know two things:

1. What is the cost of delay (CoD) in delivering value?
2. What is the cost to implement the valuable thing?



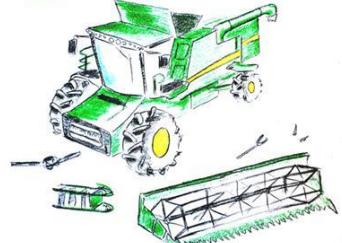
Notes:

Example with equal CoD: Which job first?

A \$\$\$, 1 day



B \$\$, 3 days



C \$\$\$, 10 days



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Notes:

Example with equal duration: Which job first?

A \$\$\$, 3 days



B \$\$, 3 days



C \$, 3 days



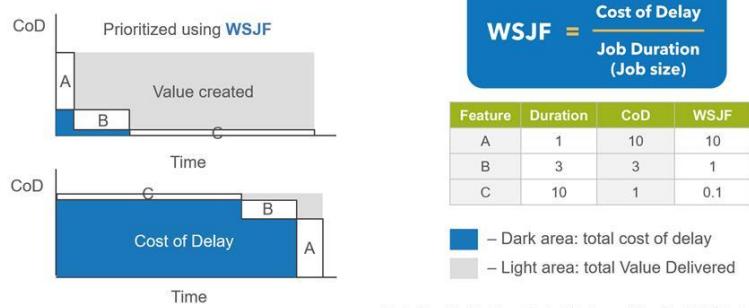
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Notes:

General case: Any CoD and duration

In the general case, give preference to jobs with shorter duration and higher CoD using weighted shortest job first (WSJF):



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Notes:

Components of cost of delay

User and business value



Relative value to the Customer or business

- ▶ What do they prefer?
- ▶ What is the revenue impact?
- ▶ Are there potential penalties or other negative impacts?

Time criticality



How user/business value decays over time

- ▶ Is there a fixed deadline?
- ▶ Will they wait for us or move to another Solution?
- ▶ What is the current effect on Customer satisfaction?

Risk reduction & Opportunity enablement (RR & OE)



What else does this do for our business

- ▶ Reduce the risk of this or future delivery?
- ▶ Is there value in the information we will receive?
- ▶ Will it enable new business opportunities?

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Notes:

Calculate WSJF with relative estimating

In order to calculate WSJF, teams need to estimate cost of delay and duration

- ▶ For duration, use job size as a quick proxy for duration
- ▶ Relative estimating is a quick technique to estimate job size and relative value
- ▶ WSJF stakeholders: Business Owners, Product Managers, Product Owners, and System Architects

$$\text{WSJF} = \frac{\text{User - Business Value} + \text{Time Criticality} + \text{Risk Reduction and/or Opportunity Enablement}}{\text{Job Size}}$$

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Notes:



Activity: Prioritizing the Program Backlog



- ▶ Step 1: Select three Features from the previous activity and prioritize them using the WSJF template in your workbook
- ▶ Step 2: Do one column at a time. Start by picking the smallest item and giving it a “1.” There must be at least one number “1” in each column of the template.
- ▶ Step 3: Be prepared to share your WSJF prioritization.

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Notes:

Feature	User-business value	Time criticality	RR OE value	CoD	Job size	WSJF
	+	+	=	÷	=	
	+	+	=	÷	=	
	+	+	=	÷	=	

Digital Weighted Shortest Job First Calculator

$$WSJF = \frac{\text{User-business value} + \text{Time criticality} + \text{Risk reduction and/or opportunity enablement}}{\text{Job size}}$$

Feature	User- business value	Time criticality	RR OE value	CoD	Job size	WSJF
	+	+	=	÷	=	
	+	+	=	÷	=	
	+	+	=	÷	=	
	+	+	=	÷	=	
	+	+	=	÷	=	
	+	+	=	÷	=	

Do one column at a time. Click in the Feature cell to enter the Feature title. Start by picking the smallest item and giving it a "1." There must be at least one number "1" in each column of the template. The form will automatically calculate after you enter the Job size.

Feature	User- business value	Time criticality	RR OE value	CoD	Job size	WSJF
	+	+	=	÷	=	
	+	+	=	÷	=	
	+	+	=	÷	=	
	+	+	=	÷	=	

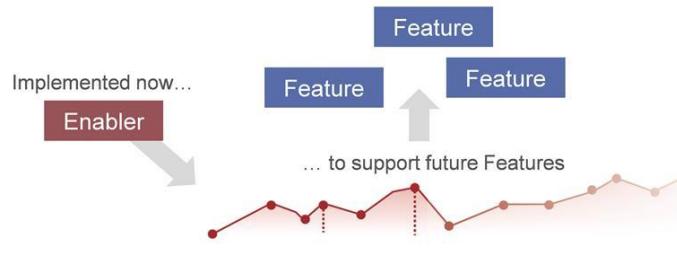
Feature	User- business value	Time criticality	RR OE value	CoD	Job size	WSJF
	+	+	=	÷	=	
	+	+	=	÷	=	
	+	+	=	÷	=	
	+	+	=	÷	=	

Do one column at a time. Start by picking the smallest item and giving it a "1."

There must be at least one number "1" in each column of the template.

Partner with System Architect/Engineering

- ▶ Support Enabler items that provide sufficient Architectural Runway
- ▶ Work with System Architect/Engineering team to sequence technical infrastructures that will enable delivery of new business functionality



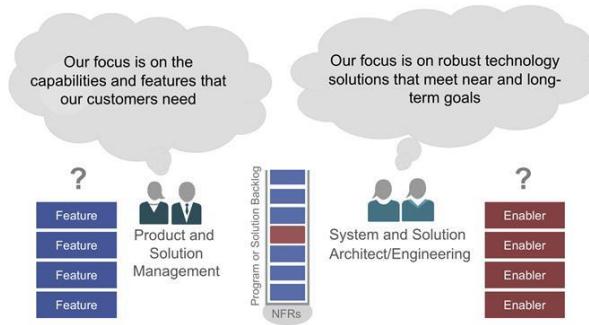
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Notes:

How much architecture?

Product Management collaborates with System Architects to balance business Features and Enablers to ensure investment in just enough Architectural Runway.



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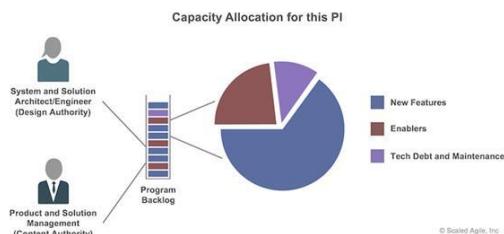
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Notes:

Organize Features by type

Organizing Features by type helps balance functionality with Architectural Runway

1. Determine how much capacity is to be allocated to each type
2. Establish policies to determine how much work is performed for each type



Capacity allocation example policies

1. We agree on the percentage of capacity to be devoted to new Feature development vs. Enablers, tech debt, and maintenance at each boundary.
2. We agree that the Architect has design authority and prioritizes the work in that class.
3. We agree that content authority (Product Management) prioritizes Program Backlog items.
4. We agree to collaboratively prioritize our work based on economics.
5. We agree to collaborate to sequence work in a way that maximizes Customer value.

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Notes:



Activity: Draft your capacity allocation policy



- ▶ Step 1: Consider how you would use capacity allocation in your Enterprise
- ▶ Step 2: Draft a capacity allocation policy that you could bring back for discussion with your key collaborators
- ▶ Step 3: Be prepared to share with the class

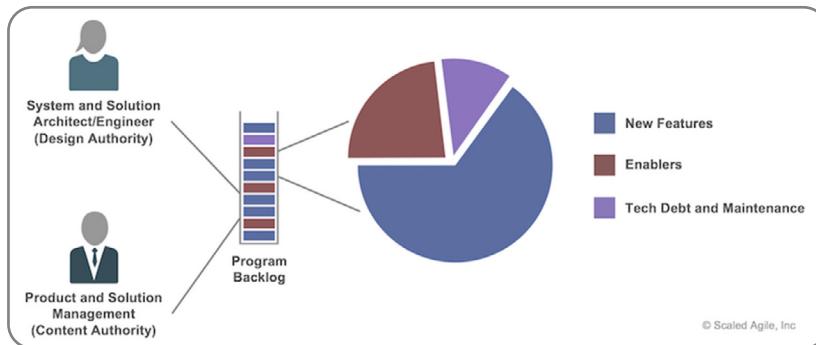
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Notes:

Capacity Allocation Policy

Instructions: Consider how you would use capacity allocation in your Enterprise. Use the space below to draft a capacity allocation policy that you could bring back for discussion with your key collaborators. Be prepared to share with the class.



Capacity allocation policies

Relative estimating

- ▶ Agile Teams use Story points and relative estimating to quickly arrive at size estimates for User Stories
- ▶ Product Managers can use historical data to quickly estimate the size of Features in Story points as well
- ▶ Feature estimates can then be rolled up into Epic estimates in the Portfolio Backlog
- ▶ Portfolio Managers and other planners can use their ART's capacity allocation to estimate how long a portfolio Epic might take under various scenarios

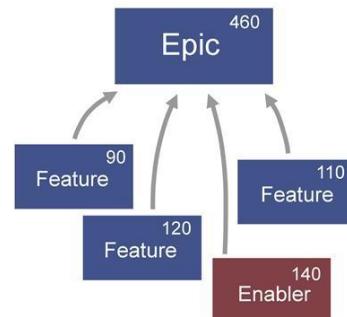
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Notes:

Estimating Epics in SAFe

1. Epics are decomposed into potential Features during PI Planning and backlog refinement
2. Potential Features are estimated in Story points
 - Typically performed at the PM/System Architect level, based on history and relative size
 - Individual teams are engaged as necessary
3. Feature estimates are aggregated back into the Epic estimate as part of the lightweight business case



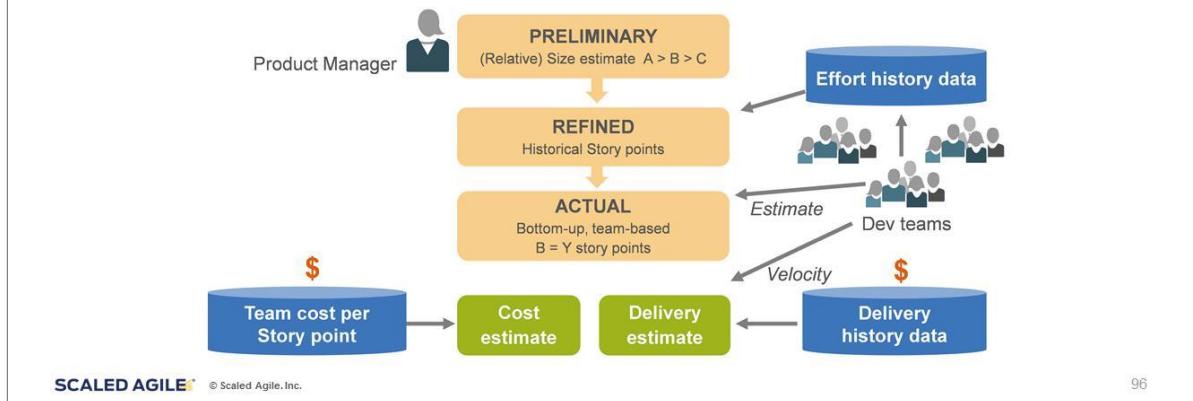
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Notes:

Estimating Features

Estimating the effort needed to implement a Feature typically goes through a series of successive refinements.



Notes:

Estimating cost

Once the Feature has been estimated in Story points, a cost estimate can be quickly derived.

- ▶ Calculate the burdened cost for a team in an Iteration length
- ▶ Divide that by their PI velocity to get average cost per Story point

*Example: If a team has an average velocity of **40 points**, and their cost is **\$40,000 per Iteration**, then each Story point costs ~\$1,000*



Notes:



Action Plan: Preparing for PI Planning



On the Action Plan page in your workbook, answer the following questions:

- ▶ Do you have a Vision? If not, what would be required to create one?
- ▶ Have you considered the effects of market rhythms and events in your Roadmap?
- ▶ Have you developed personas and a whole product model to assist your ART in developing Features?

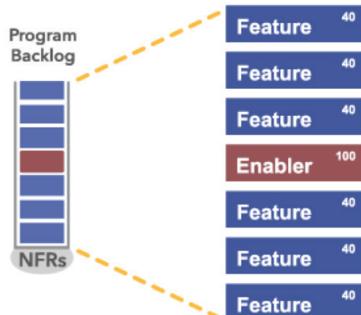


Notes:



Product Owner / Product Manager Action Plan

Lesson 2: Preparing for PI Planning



Do you have a Vision? If not, what would be required to create one?

Have you considered the effects of market rhythms and events in your Roadmap?

Have you developed personas and a whole product model to assist your ART in developing Features?

Lesson review

In this lesson you:

- ▶ Reviewed Program Increments
- ▶ Explored how POs and PMs create and utilize the Vision
- ▶ Discovered how to forecast work through Roadmaps
- ▶ Practiced creating beneficial Features
- ▶ Reviewed how to manage work through the Program Backlog and Kanban

Notes:

Lesson 2 notes



Enter your notes below:

2.5 Manage the Program Backlog and Kanban

Lesson 3

Leading PI Planning

Learning Objectives:

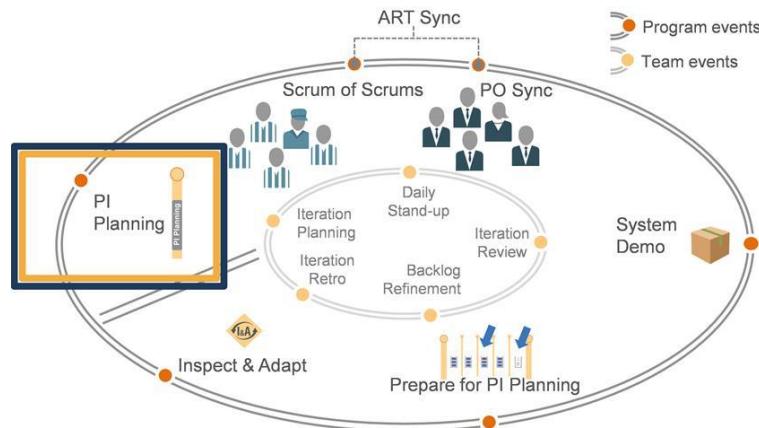
- 3.1 Communicate the Vision
- 3.2 Establish PI Objectives
- 3.3 Manage dependencies
- 3.4 Manage risks



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Leading PI Planning

PMs and POs have key roles in PI Planning.



Notes:

PMs and POs are essential to successful PI Planning

PI Planning preparation → PI Planning → PI Planning outputs



Notes:

PI Planning two-day agenda

Day 1 Agenda		Day 2 Agenda	
8:00- 9:00	Business Context	8:00- 9:00	Planning Adjustments
9:00- 10:30	Product/Solution Vision	9:00- 11:00	Team Breakouts
10:30- 11:30	Architecture Vision and Development Practices	11:00- 1:00	Final Plan Review and Lunch
11:30- 1:00	Planning Context and Lunch	1:00- 2:00	Program Risks
1:00- 4:00	Team Breakouts	2:00- 2:15	Confidence Vote
4:00- 5:00	Draft Plan Review	2:15- ???	Plan Rework?
5:00- 6:00	Management Review and Problem Solving	Planning Retrospective and Moving Forward	

Notes:

3.1 Communicate the Vision

3.1 Communicate the Vision

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Notes:

What POs and PMs do during PI Planning – Day 1

- ▶ Communicate:
 - Program Vision
 - Present the top 10 Features
- ▶ Support team breakouts
- ▶ Collaborate to decompose Features into Stories
- ▶ Negotiate scope
- ▶ Review draft PI plans and provide feedback
- ▶ Participate in management review of draft plans

Day 1

8:00 ▶ 9:00	Business Context
9:00 ▶ 10:30	Product/Solution Vision
10:30 ▶ 11:30	Architecture Vision and development practices
11:30 ▶ 1:00	Planning context and lunch
1:00 ▶ 4:00	Team breakouts
4:00 ▶ 5:00	Draft plan review
5:00 ▶ 6:00	Management review and problem solving

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Notes:

Communicate the Vision

- ▶ Show the ART how the Vision aligns with Strategic Themes
- ▶ Prepare materials so that each team can see the Vision
- ▶ Provide user personas to illustrate how the Program Vision improves the lives of your Customers
- ▶ Explain the purpose of any nonfunctional requirements
- ▶ Map Vision to Strategic Themes and Solution Context

Notes:

TTC Van Program Vision



Notes:

3.1 Communicate the Vision

Communicate the Roadmap

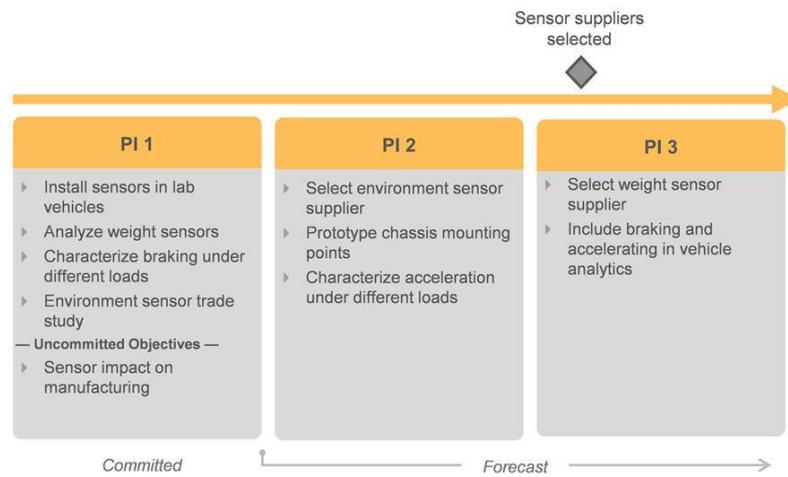
- ▶ The PI Roadmap illustrates how the work in this PI helps fulfill the Vision
- ▶ Communicate the PI Roadmap as part of your Vision to assist in PI Planning activities
- ▶ Highlight Program Epics, Milestones

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Notes:

TTC Van Program PI Roadmap



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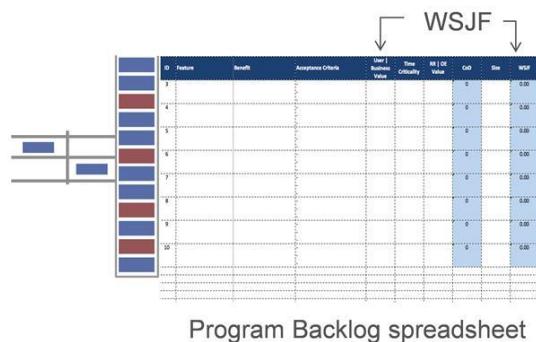
Notes:

Communicate the top ten Features

- ▶ Communicate the top ten Features to the ART
- ▶ There should be **no** surprises as teams should have seen these Features evolve over time
- ▶ Be prepared to explain *why* these Features were chosen (a SAFe Core Value is transparency)
- ▶ Socializing Features before PI Planning helps Product Management develop 'right-sized' Features
- ▶ Top ten is a **guideline**; sometimes the ART may pull more than ten Features, sometimes less

Notes:

TTC Van Program top ten Features



Top Features for PI 1

1. Install sensors in lab vehicles
2. Characterize weight sensors in different vehicle configurations
3. Analyze braking under different loads
4. Model performance under emergency brake conditions
5. Environment sensor trade study
6. Sensor impact on manufacturing
7. Fix cold weather calibration defects
8. Include climate history in oil change calculations
9. Add cargo loads to tire rotation recommendations

Notes:

3.1 Communicate the Vision



Activity: Communicate the Vision



- ▶ **Step 1:** Use the TTC Van Program Vision, PI Roadmap, and top ten Features to communicate the Van Program Vision to your ART as a Product Manager.
- ▶ **Step 2:** Deliver your Vision to the ART. Be creative.

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Notes:

Support team breakouts

- ▶ Team breakout time is when Agile Teams “do the work” of planning how they will deliver Features in upcoming Iterations
- ▶ Product Owners lead this activity with their respective teams
- ▶ Product Managers support teams and provide additional insights and guidance

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Notes:

Present draft plans, participate in management review

Teams present their draft plans with draft objectives, potential risks, and dependencies during the draft plan review.

At the end of PI Planning Day 1, the RTE facilitates the management review and problem-solving meeting. Management negotiates scope changes and resolves other issues by making planning adjustments, which are presented at the start of Day 2.



Notes:



Discussion: Addressing issues during management review and problem-solving

Duration
10 min

- ▶ During PI Planning, the team working on spiking Enabler Stories for sensor impact on manufacturing is also assigned the Feature to install sensors in lab vehicles. This team doesn't believe they have capacity. What can you do to help resolve this issue?
- ▶ Some tactics that can help resolve issues:
 - Change priorities
 - Adjust Vision
 - Change scope
 - Move people

Notes:

3.2 Establish PI Objectives

3.2 Establish PI Objectives

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Notes:

What POs and PMs do during PI Planning – Day 2

- ▶ Support team breakouts
- ▶ Accept team PI Objectives
- ▶ Establish business value with Business Owners
- ▶ Participate in final plan review
- ▶ Provide feedback on program risks
- ▶ Participate in confidence vote, rework (if applicable), and contribute to planning retrospective

Day 2

8:00 ▶ 9:00	Planning adjustments
9:00 ▶ 11:00	Team breakouts
11:00 ▶ 1:00	Final plan review and lunch
1:00 ▶ 2:00	Program risks
2:00 ▶ 2:15	PI confidence vote
2:15 ▶ ???	Plan rework if necessary
After commitment	Planning retrospective and moving forward

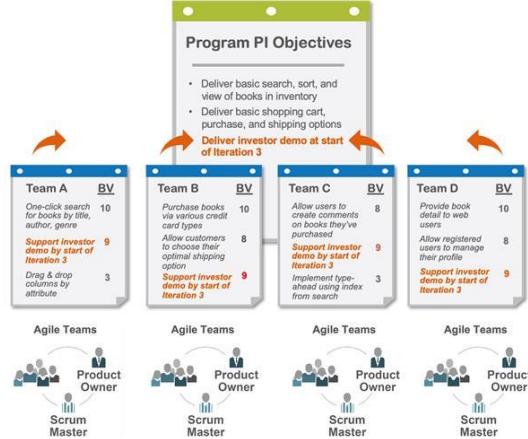
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Notes:

PI Objectives

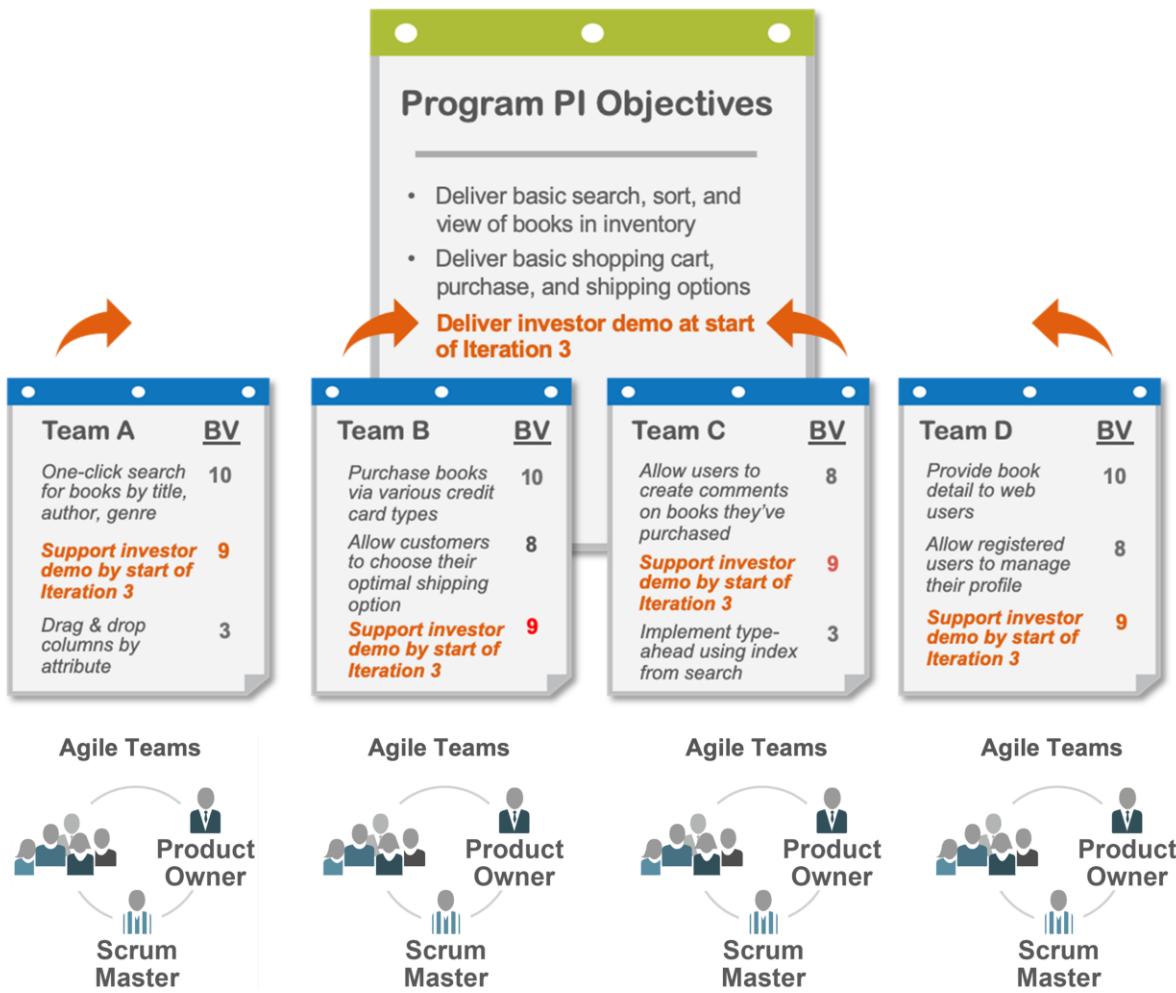
- ▶ PI Objectives are a summary of the business and technical goals that each team and the overall ART intend to achieve in the upcoming PI
- ▶ PI Objectives are built largely bottom-up as the teams estimate and identify them during PI Planning
- ▶ PI Objectives should reflect what is important to the business as well as other stakeholders



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Notes:

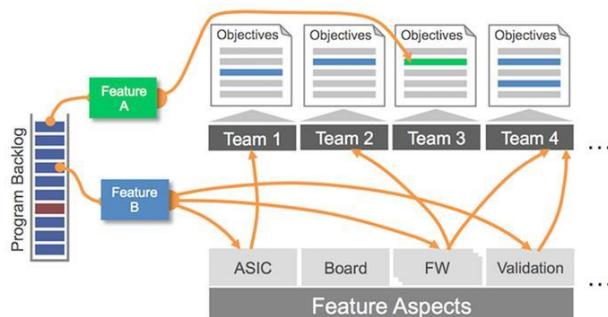


Why do we use PI Objectives?

- ▶ **Immediate Feedback:** Team PI Objectives provide confirmation to business leaders that teams understand desired outcomes
- ▶ **Decentralized Decisions:** The business value of the team PI Objectives promote decentralized decision-making should the team need to adjust planned work
- ▶ **Predictability without Specificity:** Committing to PI Objectives instead of a specific Feature or Story enhances agility as it allows the team and the PO to modify the planned work based on discovery and Customer input and still achieve the business value
- ▶ **Commitment:** Teams, not business leaders, commit to the objectives

Notes:

Distinguish Features from PI Objectives



- ▶ PI objectives often relate directly to a Feature
- ▶ Some Features can be delivered by individual teams; others (Feature B) require collaboration
- ▶ In addition to Features and inputs to Features, other team objectives will appear as well.

Notes:

3.2 Establish PI Objectives

Tips for writing effective team PI Objectives

- ▶ Remove jargon: PI Objectives should be understandable to Business Owners and Customers
- ▶ Describe the value and impact
- ▶ Don't use Features or Stories as PI Objectives, as these can change

Write SMART Objectives:

S	Specific	Intended outcome, start with action verb
M	Measurable	Descriptive, Y/N, quantitative, a range
A	Achievable	Within a team's control
R	Realistic	Recognize factors that can't be controlled
T	Time bound	Can be accomplished within the PI

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Notes:

Committed and uncommitted objectives

- ▶ **Uncommitted objectives** are used by teams to identify planned work that they have low confidence of completing
- ▶ They help improve the predictability of delivering business value since they are not included in the team's commitment, and they do not count toward the team's program predictability measure

Team A		BV
PI Objectives		
■ Proof of concept with mock sounds	10	
■ Help with radar POC	4	
■ Decide to create or buy engine noises	3	
Uncommitted		
■ Proof of concept with real sounds	7	

It is prudent to allocate 10-15 percent of team capacity to uncommitted objectives.

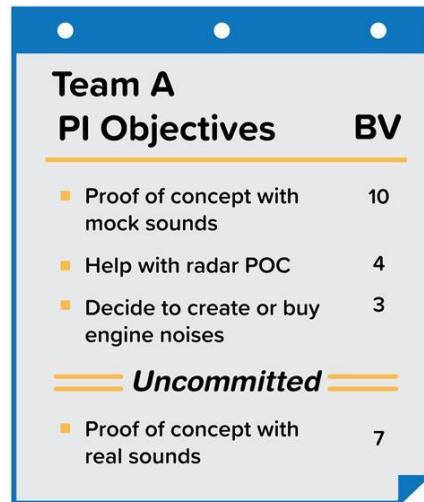
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Notes:

3.2 Establish PI Objectives

Assigning business value during the second team breakout



- ▶ **Business value** (BV) is a ranking supplied by the business that represents the importance of delivering each PI Objective
- ▶ PI Objectives and business value help teams stay focused on the delivery of value instead of the delivery of specific Features or Stories
- ▶ Actual BV is assessed during Inspect and Adapt

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Notes:

Considerations when assigning business value

Consideration	Description
Regulatory Value	Legal or infrastructure functionality which, if not deployed, can result in fines, revenue loss, or damage to the Enterprise brand
Commercial Value	Product/service functionality that brings new or maintains existing revenue
Market Value	Functionality that differentiates the product/service from competing products/services and new functionality needed to stay competitive
Efficiency Value	Functionality that reduces operating costs, including technical debt or improvements in the pipeline
Future Value	Functionality that focuses on enabling or realizing future value, including Enablers, POCs (proof of concepts), research spikes

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Notes:

3.3 Manage dependencies

Notes:

Video: The Program Board

Duration
7 min

The Program Board

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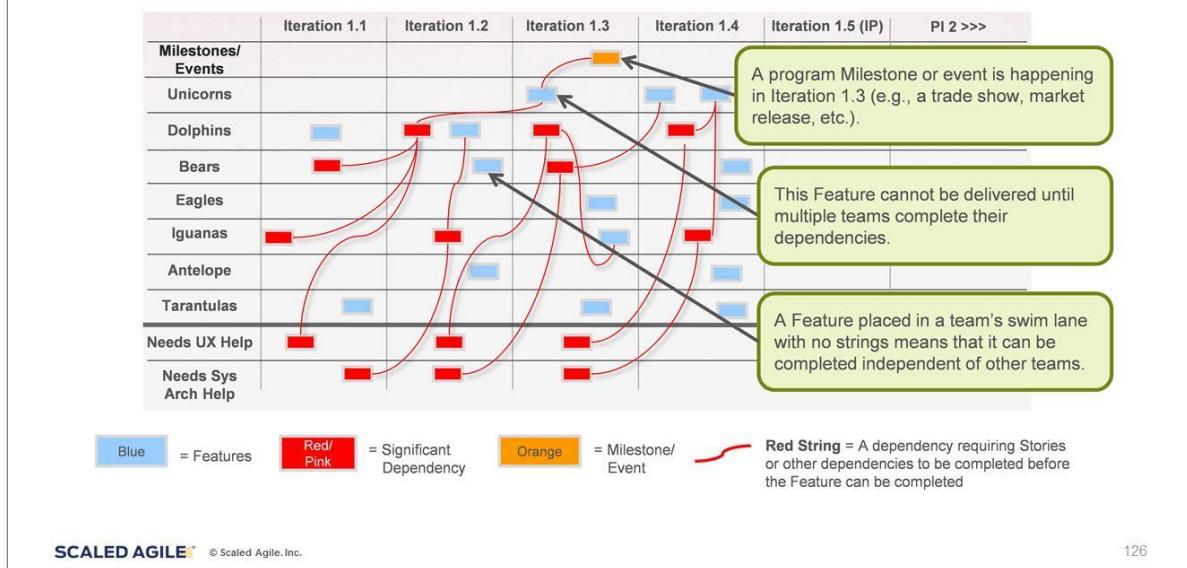
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Notes:

Video link: <https://vimeo.com/355401474/4ed0fa500e>

3.3 Manage dependencies

Using a program board to visualize work



Notes:

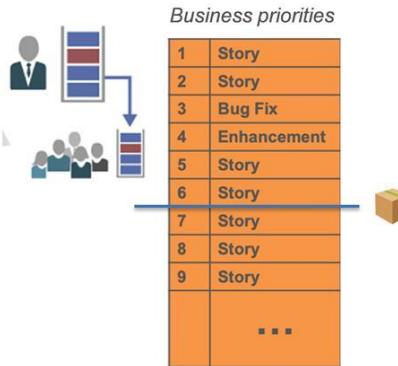
Strategies for managing dependencies

Challenge	Potential Strategy
ART bottlenecks	Distribute work to other teams
Iteration dependencies	Adjust work sequencing to eliminate same iteration dependencies
Unbalanced teams	Adjust work between teams based on forecasted capacity
Complex critical path	Adjust work between teams or split Features and Stories

Notes:

PI Planning can create options for releasing sooner

Before PI Planning...



During PI Planning, a team may suggest a sequence that creates options for releasing value sooner.

The PM can accept this sequencing or ask the team to retain the original sequencing based on other factors (e.g., a major Customer contract may be waiting on early validation from the first Story).

Team analysis

3	Bug Fix
4	Enhancement
1	Story
2	Story
9	Story
5	Story
6	Story
7	Story
8	Story
	...

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Notes:



Discussion: Identify dependency issues and resolve them



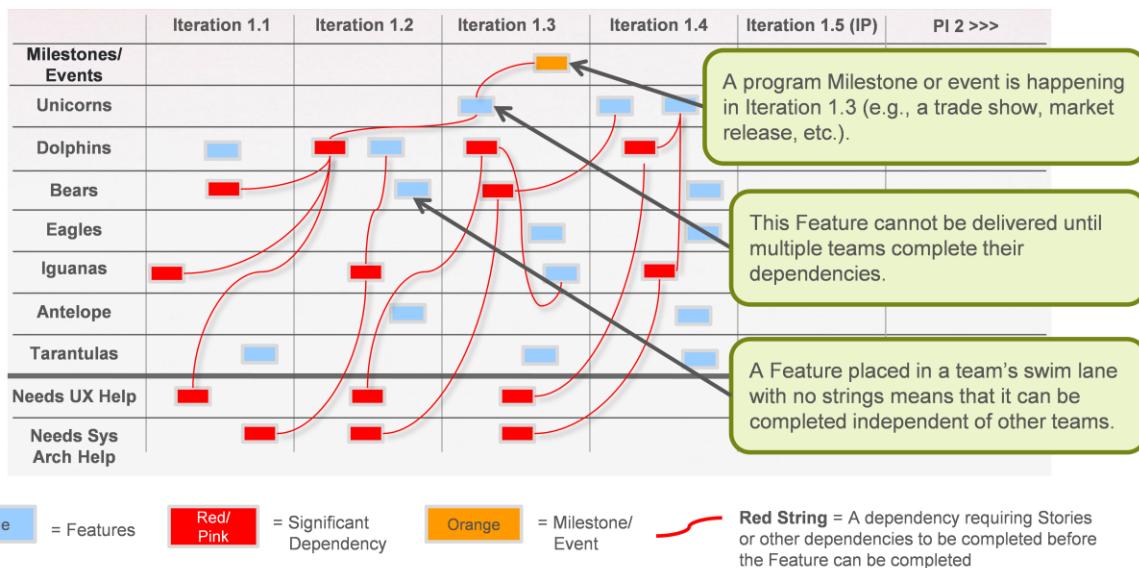
- ▶ **Step 1:** Review the program board shown in your student workbook.
 - What potential issues do you see?
 - Who should the PMs and POs collaborate with to help minimize dependencies and address the issues you identified?

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Notes:

3.3 Manage dependencies



3.4 Manage risks

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Notes:

Program, team, and other risks

- ▶ Risks to successful program execution can be local to a team, affect multiple teams (a program risk), or affect other aspects of the business
- ▶ PI Planning provides the ART with opportunities to localize and address risks

Other Risks

Program Risks

Local Risks

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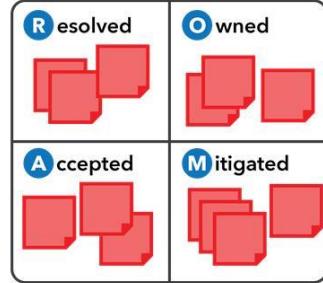
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Notes:

Addressing program risks in PI Planning Day 2

After all plans have been presented, remaining program risks and impediments are discussed and categorized using **ROAM**:

- ▶ **Resolved:** Has been addressed; no longer a concern
- ▶ **Owned:** Someone has taken responsibility
- ▶ **Accepted:** Nothing more can be done; if risk occurs, release may be compromised
- ▶ **Mitigated:** Team has plans to adjust as necessary



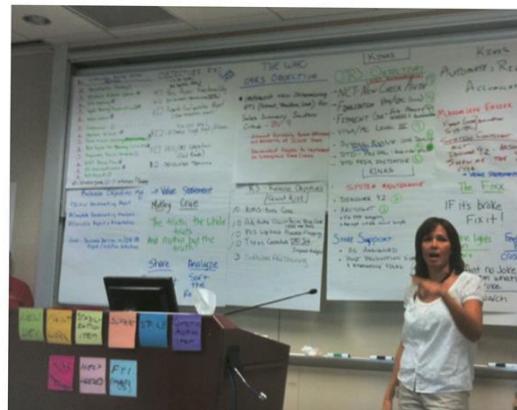
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Notes:

Building the final plan

- ▶ Final plans are collected at the front of the room and are reviewed by all teams
- ▶ Business Owners are asked if they accept each team's plan
- ▶ If accepted, the team's plan and program risk sheet are brought to the front of the room and included in the final plan
- ▶ If not accepted, the team removes their plan and continues planning after the review



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Notes:

Confidence vote: Team and ART

After dependencies are resolved and risks are addressed, a confidence vote is taken from the team and the ART. An average of three or higher is the minimum confidence vote to move forward with the PI commitment.

What happens when people vote a one or a two?

1. If the average confidence is two or lower, adjustments are made; plans are reworked
2. Any person who votes two fingers or fewer should be given time to voice their concern, which might add to the list of risks



No confidence



Little confidence



Good confidence



High confidence



Very high confidence

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Notes:



Action Plan: Leading PI Planning



On the Action Plan page in your workbook, answer the following questions:

- ▶ What are some improvements you could make as to how you engage during PI Planning?
- ▶ List some things you can do to improve your team's ability to manage dependencies during PI Planning.
- ▶ What are some ways you can improve how PI Objectives are written and coordinated across the ART?

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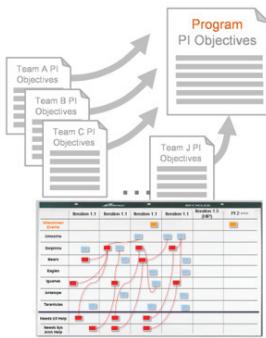
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Notes:



Product Owner / Product Manager Action Plan

Lesson 3: Leading PI Planning



What are some improvements you could make as to how you engage during PI Planning?

List some things you can do to improve your team's ability to manage dependencies during PI Planning.

List some things you can do to improve your team's ability to manage dependencies during PI Planning.

Lesson review

In this lesson, you:

- ▶ Explored how POs and PMs communicate the Vision and support the PI Planning event
- ▶ Examined how PI Objectives are developed
- ▶ Discovered how dependencies are managed
- ▶ Explored how to manage risks

Notes:

Lesson 3 notes



Enter your notes below:

Lesson 4

Executing Iterations

Learning Objectives:

- 4.1 Apply User Stories
- 4.2 Plan the Iteration
- 4.3 Manage flow with the Team Kanban
- 4.4 Continuously refine the backlog
- 4.5 Participate in the Iteration Review and Retrospective
- 4.6 Support DevOps and Release on Demand



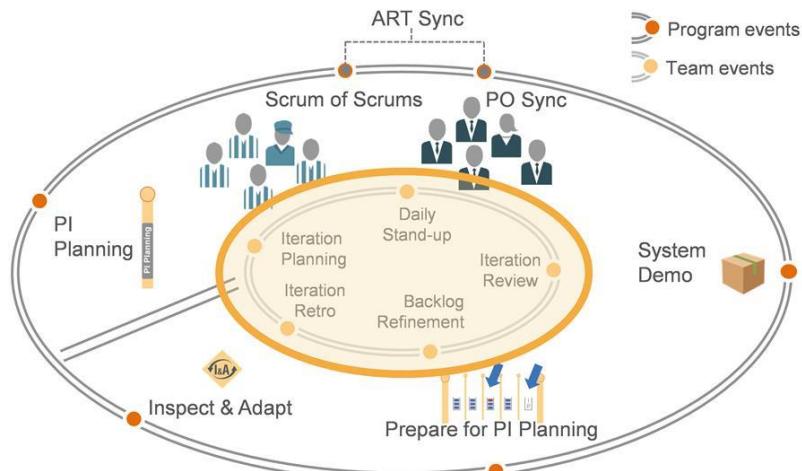
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Iterations are the basic building blocks of Agile development



Product Owner

Product Owners participate in all team events.



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Notes:

Iterations are time-boxed events

Here is an example of events in an iteration that starts on a Wednesday.

Monday	Tuesday	Wednesday	Thursday	Friday
		Iteration Planning	DSU	DSU
DSU	DSU and backlog refinement	DSU	DSU	DSU
DSU and Iteration Review	Iteration Retrospective			

Functionality is demonstrated throughout and can be released at any time as market needs warrant.

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Notes:

4.1 Apply User Stories

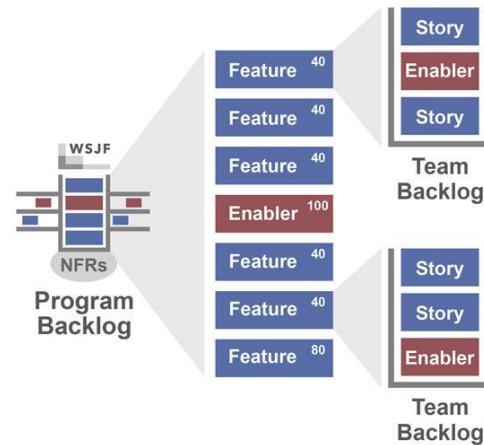
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Notes:

Features are decomposed into User Stories

- ▶ Features are implemented through one or more User Stories
- ▶ Features that represent a workflow are captured though Story maps



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Notes:

What are User Stories?

Stories are short descriptions of a small piece of desired functionality and are sized so they can be completed in a single Iteration.

- ▶ User Stories express desired end-user functionality written in the user's language
- ▶ Enabler Stories support exploration, architecture, infrastructure, and compliance

Notes:

Write User Stories using a standard format

Stories are written using the following template:

As a (user role), I want (activity) so that (business value)

- **User role** is the description of the person doing the action
- **Activity** is what they can do with the system
- **Business value** is why they want to do the activity

As a Fleet Manager, I want a notification before a van needs service so that I can balance service requests.

As a Fleet Manager, I want detailed service histories so that I can identify and track safety recalls and confirm repairs.

Notes:

Writing good user Stories: The 3Cs

Card	Conversation	Confirmation
Written on a physical or digital card.	Conversations between the team and the Product Owner provide necessary details.	Acceptance criteria confirms the Story correctness.
<p>As a Fleet Manager, I want a notification before a van needs service so that I can balance service requests.</p>	<p><i>Email or text notifications?</i></p> <p>Text</p>	<ul style="list-style-type: none"> The notification contains the Van ID defined by the Fleet Manager The notification is delivered on a schedule determined by the Fleet Manager

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Notes:

INVEST in a good Story

- Write Stories that can be developed separately
- Write Stories in which scope can be negotiated
- Write Stories that are valuable to the Customer
- Write Stories that can be estimated
- Write Stories that can fit in an Iteration
- Write Stories that are testable



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Notes:

4.1 Apply User Stories

Stories strive to convey a ‘just right’ amount of detail

As a Fleet Manager, I can search for vans so that I can find the van I want.

Insufficient detail

As a Fleet Manager, I can search my fleet so that I can find vans that need a safety recall.

Just right

As a Fleet Manager, I can search for a van by its Vehicle Identification Number, location, or driver so that I can find the van I want.

Overly constrained

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Notes:

Relating Features and Stories to personas improves design



Mike the Fleet Manager

Age: 36
Location: Reno, Nevada, USA
Manages: 50 vans, 80 part-time and full-time drivers

"I started my own courier van service when I was 18. I did everything – delivery, managing the vehicles and handling customers. During the last recession I had to shut down."

Feature: Safety Recall Management

Fleet Managers seek to maintain the safety of their vehicles by ensuring that all safety updates are applied to their vans.

Benefits:

- Increased driver safety
- Reduced liability
- Increased compliance

Story: As a Fleet Manager, I can search my fleet so that I can find vans that need maintenance. Vans that are overdue or need a safety recall are highlighted.

Story: As a Fleet Manager, I can review safety recalls so that I can prioritize the maintenance schedules of my fleet.

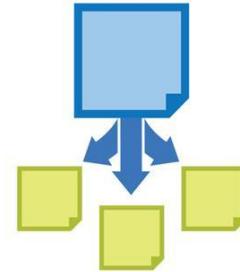
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Notes:

10 patterns for decomposing Features into Stories

- | | |
|---|---|
| <p>1 Workflow steps</p> <p>2 Business rule variations</p> <p>3 Major effort</p> <p>4 Simple/complex</p> <p>5 Variations in data</p> | <p>6 Data methods</p> <p>7 Defer system qualities</p> <p>8 Operations</p> <p>9 Use case scenarios</p> <p>10 Break out a spike</p> |
|---|---|



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Notes:



Activity: Decompose Features into Stories

Duration
10 min

- ▶ **Step 1:** With your group, select three Features you created and decompose these Features into Stories
- ▶ **Step 2:** Write these Stories in the User Story format:
 - As a (user role) I want (activity) so that (business value).



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Notes:

Decompose Features into Stories

Instructions: With your group, select three Features you created and decompose these Features into Stories. Write these Stories in the User Story format:
As a (user role) I want (activity) so that (business value).

Story: As a Fleet Manager, I can search my fleet so that I can find vans that need maintenance. Vans that are overdue or need a safety recall are highlighted.

Story: As a Fleet Manager, I can review safety recalls so that I can prioritize the maintenance schedules of my fleet.

As a (user role)

I want to (activity)

So that (business value)

As a (user role)

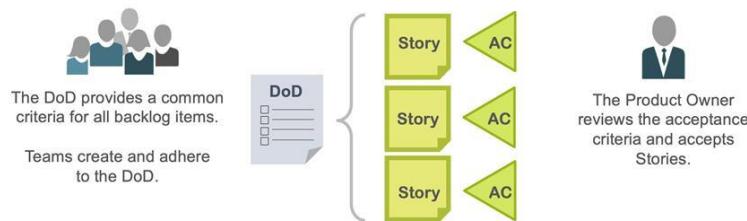
I want to (activity)

So that (business value)

When is a Story complete?

A Story is complete when it:

- ▶ Satisfies the definition of done (DoD) and
- ▶ Is accepted by the Product Owner



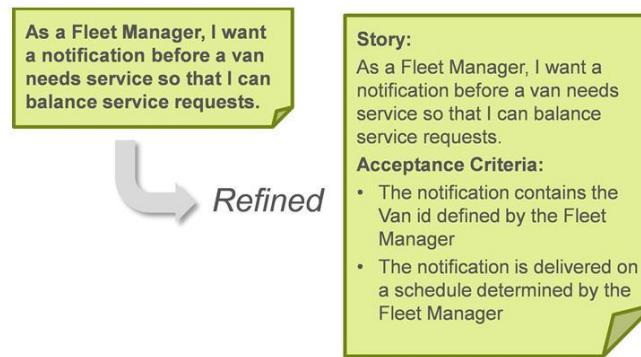
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Notes:

Stories have acceptance criteria

- ▶ Acceptance criteria provide the details of the Story from a testing point of view
- ▶ Acceptance criteria are created by the team and the PO as Stories are refined



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Notes:

4.1 Apply User Stories

Write acceptance criteria using behavior-driven development (BDD)

- ▶ Behavior is often first described in general terms, which can be ambiguous
- ▶ Specific examples of behavior provide a better understanding
- ▶ The examples can directly become tests, or they can lead to specific behaviors which then are transformed into tests



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Notes:

When written as BDD, acceptance criteria can serve as tests

- ▶ Acceptance criteria for a scenario
 - More generic, like an outline

Given a van associated with a maintenance schedule
When the van is due for a maintenance activity
Then a notification is sent to the designed user
- ▶ Example of scenario, which can be an acceptance test
 - Specific pass/fail, may uncover additional details that are required for acceptance

Given a van and an oil maintenance schedule •----- Setup
When the van is due for an oil change in the next month •-- Event
Then a text message is sent to the Fleet Manager •---- Outcome/Test

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Notes:



Activity: Write acceptance criteria

Prepare
10 min

Share
10 min

- ▶ **Step 1:** With your group, write acceptance criteria in the Given-When-Then format for three Stories you have created.
- ▶ **Step 2:** Make sure the acceptance criteria are testable.
- ▶ **Step 3:** Discuss with your group:
 - Did writing acceptance criteria in the Given-When-Then format identify the need for any additional details?

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Notes:

Write Acceptance Criteria

Instructions: With your group, write acceptance criteria in the Given-When-Then format for three Stories you have created. Make sure the acceptance criteria are testable.

#1

As a Fleet Manager, I want a notification before a van needs service so that I can balance service requests.

As a (user role)

I want to (activity)

So that (business value)

#2

Refined...

Story: As a Fleet Manager, I want a notification before a van needs service so that I can balance service requests.

Acceptance Criteria:

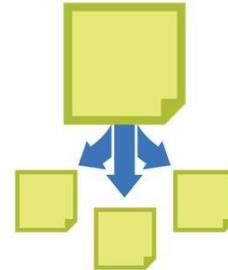
- The notification contains the Van ID defined by the Fleet Manager
- The notification is delivered on a schedule determined by the Fleet Manager.

Acceptance Criteria:

When Stories are too big to fit into an Iteration, they are split

Stories are split using the same techniques as decomposing Features

- | | |
|---|---|
| <p>1 Workflow steps</p> <p>2 Business rule variations</p> <p>3 Major effort</p> <p>4 Simple/complex</p> <p>5 Variations in data</p> | <p>6 Data entry methods</p> <p>7 Defer system qualities</p> <p>8 Operations</p> <p>9 Use case scenarios</p> <p>10 Break out a spike</p> |
|---|---|



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Notes:



Activity: Split Stories

Prepare
10 min

Share
10 min

- ▶ Choose a Story from the ones you created that may not fit into an Iteration and, with your table group, split it.
- ▶ How can you ensure that split Stories provide end-user value?

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Notes:

Split Stories

Instructions: Choose a Story from the ones you created that may not fit into an Iteration and, with your table group, split it.

Discuss: How can you ensure that split Stories provide end-user value?

As a (user role)
I want to (activity)
So that (business value)

Acceptance Criteria:

Use story maps to capture workflows

- ▶ A story map is a design thinking tool that captures the workflow of a user and the Stories that support the workflow
- ▶ Story maps help teams
 - Design workflows
 - Manage the improvement of the product over time by showing how successive Stories can improve the Stories
 - Validate that the Stories in the backlog support all the steps needed by the user to accomplish their objective

Notes:

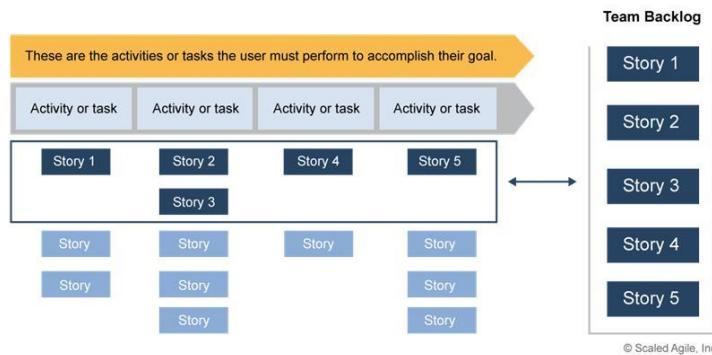
Structuring your story map



Notes:

Story maps feed the backlog

- ▶ **Quality:** Each Story in the backlog must be completed with quality
- ▶ **Value:** All the selected Stories in the story map must be completed to create value because if a Story is missed, the user cannot complete her workflow



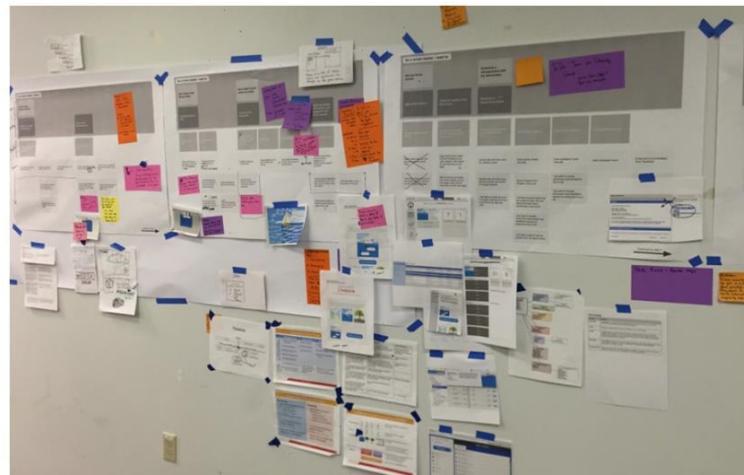
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Notes:

Example: A large Story map for a complex workflow

Story maps can be simple, illustrating just a few steps, or quite large, illustrating many steps.

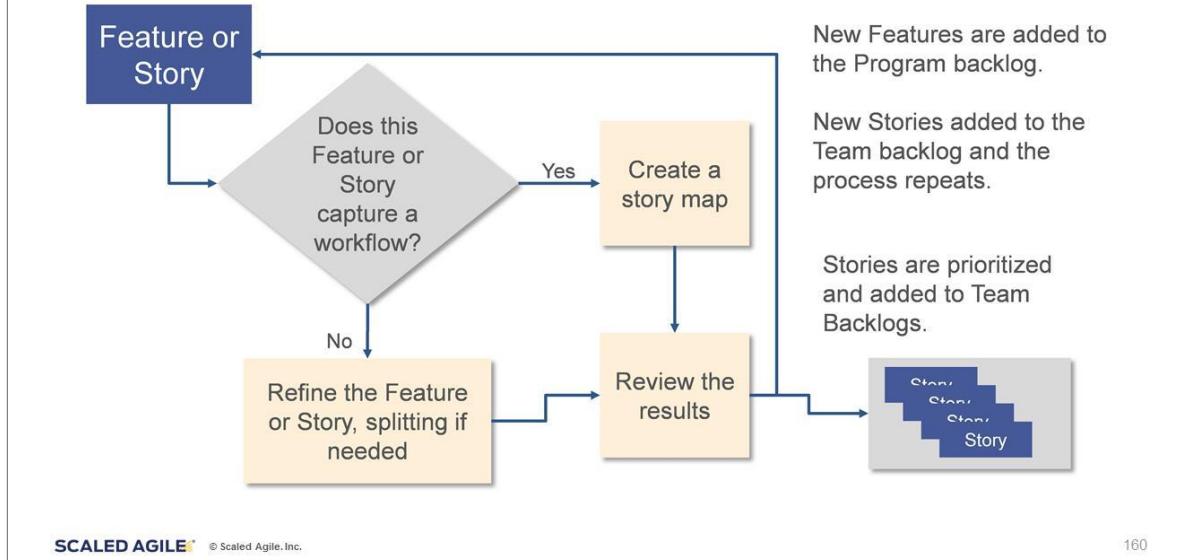


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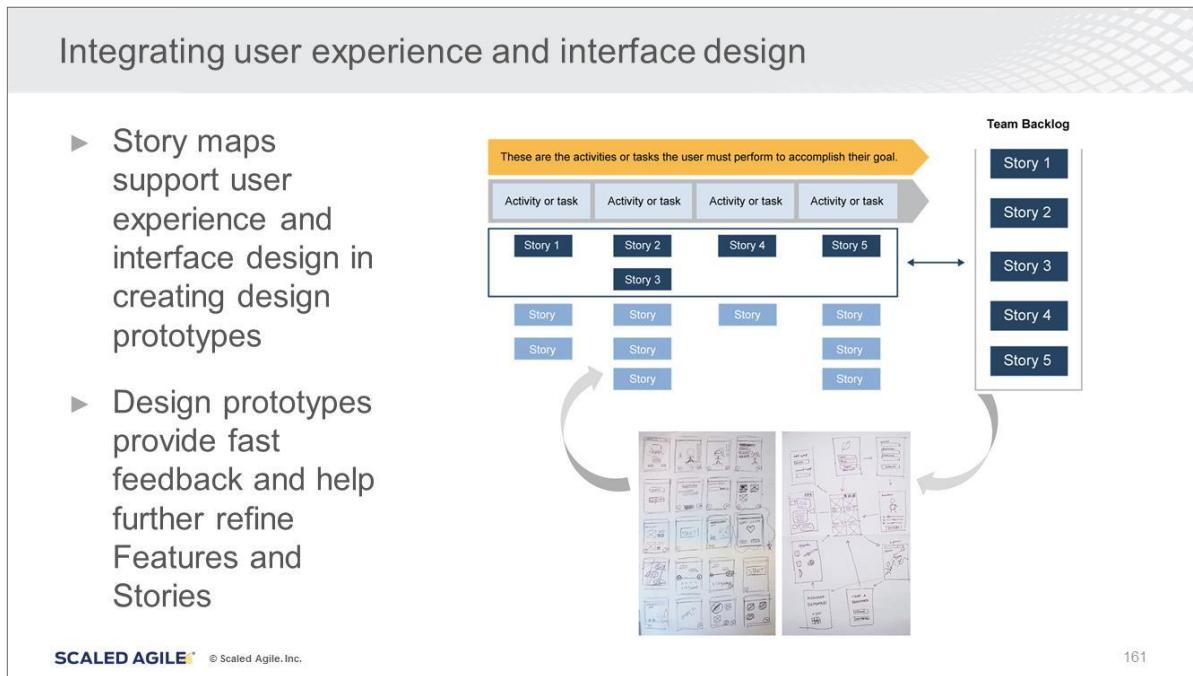
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Notes:

When should you use a story map?



Notes:



Notes:



Activity: Develop a Story map

Prepare
10 min

Share
5 min

- ▶ Story maps are useful even when there are a small number of steps in the workflow.
- ▶ Step 1: With your group, create a Story map for this Story and answer these questions:
 - What are the main tasks?
 - What is the minimum number of Stories required to accomplish the user's goal?
 - What Stories can make the user's workflow easier?
- ▶ Step 2: Be prepared to share with the class.

As a Fleet Manager, I want to add a newly purchased vehicle to my fleet so that I can establish its maintenance schedules and identify any required safety recalls before putting the vehicle into service.

Notes:

4.2 Plan the Iteration

Notes:

4.2 Plan the Iteration

Video: Running an effective SAFe Iteration Planning Meeting

Duration
5 min

The thumbnail features a blue background with a white play button icon. The title 'Running an Effective SAFe® Iteration Planning Meeting' is centered above the play button. Below the title, the Scaled Agile logo is visible, followed by the text 'Provider of SAFe®'. A green and yellow bar is at the bottom.

<https://vimeo.com/299054038/ae429609f1>

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Notes:



Video link: <https://vimeo.com/299054038/ae429609f1>

4.2 Plan the Iteration

Product Owners lead Iteration Planning

Iteration planning refines the Iteration plans created during PI Planning

Iteration Planning Preparation → Iteration Planning → Iteration Planning Outputs

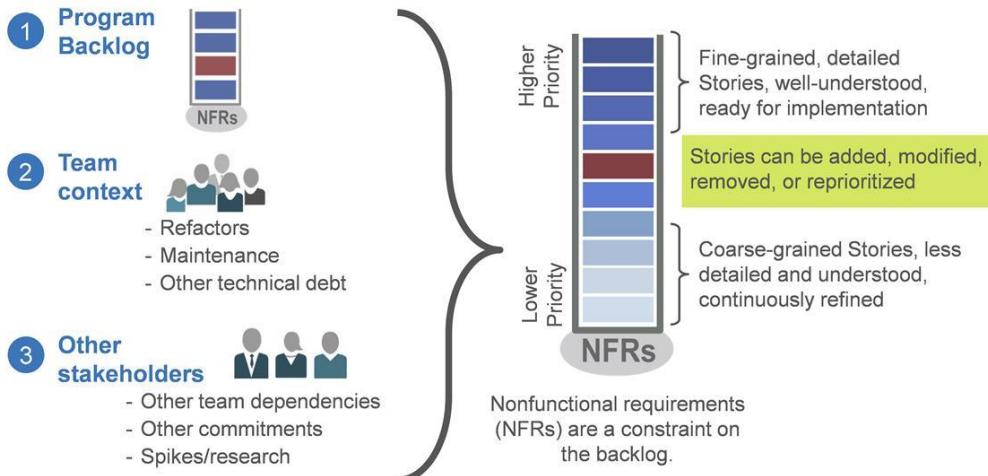


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Notes:

The PO ensures the Team Backlog captures all the work



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Notes:

Sequencing Stories

- ▶ Primary economic prioritization happens in the Program Backlog. Agile Teams sequence work for efficient execution of business priorities.
- ▶ The Product Owner and the team sequence work based on:
 - Story priorities inherited from Program Backlog priorities
 - Events, Milestones, releases, and other commitments made during PI Planning
 - Dependencies with other teams
 - Local priorities
 - Capacity allocations for defects, maintenance, and refactors
- ▶ Initial sequencing happens during PI Planning
- ▶ Adjustments happen at Iteration boundaries

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Notes:

Iteration Planning flow

1 Establishing capacity



2 Story analysis and estimating



3 Detailing Stories



4 Developing Iteration goals



5 Committing to Iteration goals



Iteration Planning

- Timebox: Four hours or less
- This meeting is **by** and **for** the team
- SMEs may attend as required

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Notes:

Establishing capacity

- ▶ Team applies capacity allocation to the Team Backlog
- ▶ Team quantifies capacity to perform work in the upcoming Iteration
- ▶ Each team member determines their availability, acknowledging time off and other potential duties
- ▶ The PO, in collaboration with the team, selects the highest priority backlog items for each ‘slice’ of the capacity allocation to implement in an Iteration

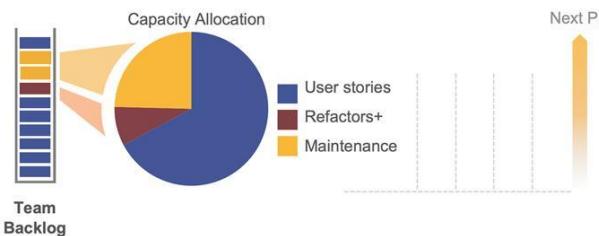
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Notes:

Capacity allocation for a healthy balance

- ▶ By having capacity allocation defined, the Product Owner doesn't need to prioritize unlike things against each other
- ▶ Once the capacity allocation is set, the PO and team can prioritize like things against each other



Capacity allocation

- Helps alleviate velocity degradation due to technical debt
- Keeps existing Customers happy with bug fixes and enhancements
- Can change at Iteration or PI boundaries

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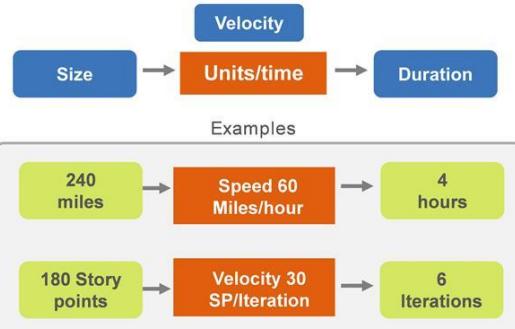
Notes:

Using size to estimate duration

Establish velocity by looking at the average output of the last iterations.

Definition of Velocity

Velocity is the number of story points accepted in the iteration.
Always use the average velocity for the most recent iterations.



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Notes:

Establishing capacity before historical data exists

- ▶ For every full-time developer and tester on the team, give the team 8 points (adjust for part-timers)
- ▶ Subtract 1 point for every team member vacation day and holiday
- ▶ Find a small Story that would take about a half day to develop and a half day to test and validate, and call it a 1
- ▶ Estimate every other Story relative to that one
- ▶ Never look back (don't worry about recalibrating)



Example: Assuming a 7-person team composed of 3 developers, 2 testers, 1 Product Owner, and 1 Scrum Master, with no vacations, etc.

Exclude Scrum Master and Product Owner from the calculation.

Estimated Capacity = 5 X 8 pts = 40 pts/Iteration

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Notes:

Story analysis and estimation

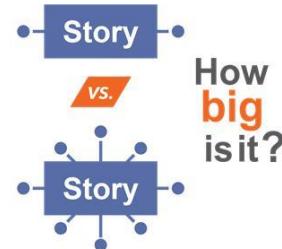
- ▶ The Product Owner presents Stories in order of priority
- ▶ Each Story
 - Is discussed and analyzed by the team
 - Has its acceptance criteria refined
 - Is estimated
- ▶ The process continues until the estimation of the Stories has reached the capacity of the team

Notes:

Estimate Stories with relative Story points

Compared with other Stories, an 8-point Story should take relatively four times longer than a 2-point Story.

- ▶ A Story point is a singular number that represents:
 - Volume: How much is there?
 - Complexity: How hard is it?
 - Knowledge: What do we know?
 - Uncertainty: What's not known?
- ▶ Story points are relative. They are not connected to any specific unit of measure.



Notes:

Use Estimating Poker for fast, relative estimating

Steps

- 1 Each estimator gets a deck of cards
- 2 A Story is read
- 3 Estimators privately select cards
- 4 Cards are turned over
- 5 The team discusses differences
- 6 The team re-estimates

Mike Cohn, *Agile Estimating and Planning*, 2005

► Estimating Poker combines expert opinion, analogy, and disaggregation for quick but reliable estimates

► All team members participate



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Notes:

PO provides clarification for estimation

Agile Teams estimate Stories; POs provide clarification, but do not estimate the work.

- Usually occurs during the backlog refinement event
- Increases accuracy by including all perspectives
- Builds understanding
- Creates shared commitment

Estimation performed by a manager, Architect, or select group negates these benefits.



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Notes:

How much time to spend estimating?

A little effort helps a lot. A lot of effort only helps a little.



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Notes:



Activity: Estimate Stories

Prepare
10 min

Share
5 min

- ▶ **Step 1:** With your table group, use the Estimating Poker cards to estimate the Stories you previously created.
- ▶ **Step 2:** Share with the class:
 - Where do you find challenges when engaged in Story estimation?
 - Are you as a team aligned around the combination of qualities that represent a Story point (volume, complexity, knowledge, uncertainty)?

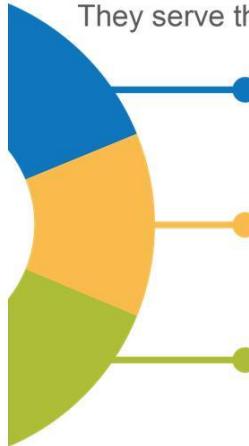
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Notes:

Iteration goals

Iteration goals provide clarity, commitment, and management information. They serve three purposes:



Align team members to a common purpose

Align Program Teams to common PI Objectives and manage dependencies

Provide continuous management information

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Notes:

Iteration goals: Examples

Software Example

Iteration Goals

1. Finalize and push last name search and first name morphology
2. Index 80% of remaining data
3. Other Stories:
 - Establish search replication validation protocol
 - Refactor artifact dictionary schema

Business Example

Iteration Goals

1. Roll out the GDPR incident report procedures
2. Prepare for external audit
3. Obtain approvals for financial report

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Notes:

Commit to the Iteration goals

Team commitments are not just to the work. They are committed to other teams, the program, and the stakeholders.

A team meets its commitment:

By doing everything they said they would do,

- or -

in the event that it is not feasible, they must immediately raise the concern.

Commitment

Too much holding to a commitment can lead to burnout, inflexibility, and quality problems.



Adaptability

Too little commitment can lead to unpredictability and lack of focus on results.

Notes:

Tips for effective Iteration planning

Best approaches

- Maintain timebox
- Ensure that the team commits to the Iteration goals
- Verify that the PO or other managers don't influence the team to overcommit
- Challenge the team to exceed their previous accomplishments
- Ensure that improvement items from the retrospective are put into effect
- Ensure time is allocated for technical debt activities

Common anti-patterns

- Delving too deep into technical discussions
- Commitment is unrealistic
- Capacity and load are exactly the same
- Scrum Master is more focused on a technical role than a facilitator's role
- The team under commits due to fear of failure
- No time is reserved for support activities

Notes:

4.3 Manage flow with the Team Kanban

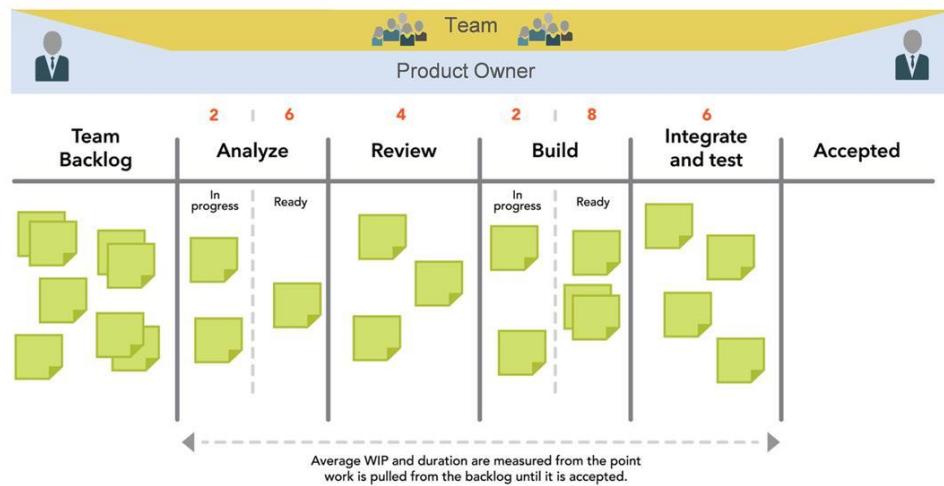
4.3 Manage flow with the Team Kanban

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Notes:

The Team Kanban promotes collaboration and facilitates flow



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Notes:

 Video: Running an effective SAFe Daily Stand-up (DSU)

Duration




<https://vimeo.com/289123257/0de749d63e>

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Notes:



Video link: <https://vimeo.com/289123257/0de749d63e>

Product Owners and the DSU

- ▶ As members of the Agile Team, Product Owners should attend the DSU
- ▶ POs should listen carefully to any impediments that they can resolve immediately during the meet-after
- ▶ POs should be ready to clarify Story intent and acceptance criteria
- ▶ POs sometimes unintentionally interfere with the DSU, so don't feel bad if your Scrum Master provides helpful advice
- ▶ The PO should be attentive for opportunities to release value or engage stakeholders based on the team's progress

Notes:



Discussion: PO's role in the DSU



In your work as a Product Owner for TTC, you often attend trade shows and industry conferences to support your sales and marketing team, identify industry trends, and assess competitive offerings. You know that you will be gone for two weeks attending a trade show and visiting a few key Customers.

How should you and the team handle your absence in the DSU?

Notes:

4.4 Continuously refine the backlog

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Notes:

The backlog refinement event

- ▶ Timebox: 1 – 2 hours
- ▶ Helps the team reconsider new Stories prior to Iteration planning
- ▶ Provides time to identify dependencies and issues that could impact the next Iteration
- ▶ Ensures that the PO has a ready backlog for Iteration Planning
- ▶ Agile Team members are in attendance and actively engaged; subject matter experts and other teams' members are invited as needed

Sample Backlog Refinement Event Agenda

1. The PO presents the set of candidate Stories for the next Iteration
2. The team discusses whether the set of candidate Stories should be reduced or increased; Stories are added or removed
3. The PO guides the team through the candidate Stories one by one:
 - a) The team discusses each Story, estimates it, and splits it if necessary
 - b) The PO clarifies or supplements the acceptance criteria
 - c) The team identifies dependencies on other teams
4. Action items are summarized for all Stories that still require external input or action

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Notes:

4.4 Continuously refine the backlog

Sample Backlog Refinement Event Agenda

1. The PO presents the set of candidate Stories for the next Iteration
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3. The PO guides the team through the candidate Stories one by one:
 - a) The team discusses each Story, estimates it, and splits it if necessary
 - b) The PO clarifies or supplements the acceptance criteria
 - c) The team identifies dependencies on other teams
4. Action items are summarized for all Stories that still require external input or action

Tips for more effective backlog refinement

Best approaches

- Maintain timeboxes
- Maintain the right level of a deep backlog vs ready backlog for two Iterations
- Make sure all the team members participate
- Invite the right subject matter experts
- Hold the event at regular intervals

Common anti-patterns

- Arriving to the Iteration with non-ready Stories
- Not doing the backlog refinement consistently
- Team sees Stories for the first time during Iteration or PI Planning
- Feature estimations impact Story estimation

Notes:

4.5 Participate in the Iteration Review and Retrospective

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Notes:

4.5 Participate in the Iteration Review and Retrospective

Video: How to run an effective SAFe Iteration review meeting

Duration
5 min

The thumbnail features a blue background with white text. At the top, it says 'How to Run an Effective SAFe® Iteration Review Meeting'. Below that is a yellow play button icon. At the bottom left, it says 'SCALED AGILE® Provider of SAFe®'.

<https://vimeo.com/309353242/e486372f18>

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Notes:



Video link: <https://vimeo.com/309353242/e486372f18>

Iteration Reviews measure team progress

Attendees are the team and its stakeholders.

1. How we did on the Iteration

- ▶ Did we meet the goals?
- ▶ Story by Story review

2. How we're doing on the PI

- ▶ Review of PI Objectives
- ▶ Review remaining PI scope and reprioritize if necessary

Notes:

Iteration Review guidelines

- ▶ **Timebox:** 1 to 2 hours
- ▶ **Preparation:** Review preparation should be limited to 1 to 2 hours. Minimize presentation. Work from the repository of Stories.
- ▶ **Attendees:** If a major stakeholder cannot attend, the Product Owner should follow up individually.

Sample Iteration Review Agenda

1. Review business context and Iteration goals
2. Demo and solicit feedback for each story, spike, refactor, and NFR
3. Discuss Stories not completed and why
4. Identify risks and impediments
5. Revise Team Backlog and team PI Objectives as needed

Notes:

4.5 Participate in the Iteration Review and Retrospective

Confirm completion of all required activities against the DoD

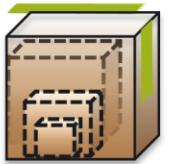
Team Increment	System Increment	Solution Increment	Release
<ul style="list-style-type: none">▪ Stories satisfy acceptance criteria▪ Acceptance tests passed (automated where practical)▪ Unit and component tests coded, passed, and included in the Build-Verify-Test (BVT)▪ Cumulative unit tests passed▪ Assets are under version control▪ Engineering standards followed▪ NFRs met▪ No must-fix defects▪ Stories accepted by Product Owner	<ul style="list-style-type: none">▪ Stories completed by all teams in the ART and integrated▪ Completed features meet acceptance criteria▪ NFRs met▪ No must-fix defects▪ Verification and validation of key scenarios▪ Included in build definition and deployment process▪ Increment demonstrated, feedback achieved▪ Accepted by Product Management	<ul style="list-style-type: none">▪ Capabilities completed by all trains and meet acceptance criteria▪ Deployed/installed in the staging environment▪ NFRs met▪ System end-to-end integration, verification, and validation done▪ No must-fix defects▪ Included in build definition and deployment/transition process▪ Documentation updated▪ Solution demonstrated, feedback achieved▪ Accepted by Solution Management	<ul style="list-style-type: none">▪ All capabilities done and meet acceptance criteria▪ End-to-end integration and solution V&V done▪ Regression testing done▪ NFRs met▪ No must-fix defects▪ Release documentation complete▪ All standards met▪ Approved by Solution and Release Management

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Notes:

4.5 Participate in the Iteration Review and Retrospective

			
Team Increment	System Increment	Solution Increment	Release
<ul style="list-style-type: none"> Stories satisfy acceptance criteria Acceptance tests passed (automated where practical) Unit and component tests coded, passed, and included in the Build-Verify-Test (BVT) Cumulative unit tests passed Assets are under version control Engineering standards followed NFRs met No must-fix defects Stories accepted by Product Owner 	<ul style="list-style-type: none"> Stories completed by all teams in the ART and integrated Completed features meet acceptance criteria NFRs met No must-fix defects Verification and validation of key scenarios Included in build definition and deployment process Increment demonstrated, feedback achieved Accepted by Product Management 	<ul style="list-style-type: none"> Capabilities completed by all trains and meet acceptance criteria Deployed/installed in the staging environment NFRs met System end-to-end integration, verification, and validation done No must-fix defects Included in build definition and deployment/transition process Documentation updated Solution demonstrated, feedback achieved Accepted by Solution Management 	<ul style="list-style-type: none"> All capabilities done and meet acceptance criteria End-to-end integration and solution V&V done Regression testing done NFRs met No must-fix defects Release documentation complete All standards met Approved by Solution and Release Management

What to do when a Story isn't done

- ▶ **Split it?** - “Well, now that I see it, I’ve realized that I only really need part of it. The rest is a new Story that we can work on later.”
- ▶ **Continue it?** - “I still need this, and it’s still my top priority. Can we finish it in the next iteration?”
- ▶ **Delay it?** - “This is important to me, but we’ve discovered it’s huge. I’d prefer that we focus on other Stories with better ROI.”
- ▶ **Abandon it?** - “If it’s going to be this hard to build, it’s not worth it for me anymore. It’s just too expensive to justify the value I’d get.”

Notes:

Update Metrics during Iteration Review to track progress

Functionality	Iteration 1	Iteration 2	Quality and test automation
# Stories (loaded at beginning of Iteration)			% SC with test available/test automated
# accepted Stories (defined, built, tested, and accepted)			Defect count at start of Iteration
% accepted			Defect count at end of Iteration
# not accepted (not achieved within the Iteration)			# new test cases
# pushed to next Iteration (rescheduled in next Iteration)			# new test cases automated
# not accepted: deferred to later date			# new manual test cases
# not accepted: deleted from backlog			Total automated tests
# added (during Iteration; should typically be 0)			Total manual tests
			% tests automated
			Unit test coverage percentage

Notes:

Relentless improvement

Agile Teams continuously adapt to new circumstances and improve the methods of value delivery

- ▶ Understand where you are
- ▶ Foster the culture of improving everywhere
- ▶ Use retrospectives as summary points but not as limitations
- ▶ Support continuous learning
- ▶ Actively engage with other Scrum Masters to drive improvement on the ART



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Notes:



Video: How to Run an Effective SAFe Iteration Retrospective

Duration
4 min



<https://vimeo.com/289517223/5216eafdf0>

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Notes:



Video link: <https://vimeo.com/289517223/5216eaf10>

Improving everywhere

Ask questions to reflect and address every area that surfaces as a constraint to the team's performance.

Examples

Move from manual to automated testing

Communication with remote teams, subject matter experts, etc.

The team's skill set

Preparing and running the demo

Nonfunctional requirements (NFR) testing

More efficient and disciplined design sessions

Notes:

Iteration Retrospective

- ▶ **Timebox:** 1 to 1.5 hours
- ▶ **Attendees:** Just the Agile Team
- ▶ **Preparation:** Pick 1 – 2 things that can be done better or preserved in the next Iteration. Enter improvement items into the team backlog.

At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly. —Agile Manifesto

Sample Agenda

Part 1: Quantitative

1. Review the improvement backlog items targeted for this Iteration. Were they all accomplished?
2. Did the team meet the goals (yes/no)?
3. Collect and review the agreed to Iteration print Metrics

Part 2: Qualitative

1. What went well?
2. What didn't?
3. What we can do better next time?
What can we preserve?

Notes:

4.6 Support DevOps and Release on Demand

Notes:

Video: What is DevOps?

Duration
2 min

The thumbnail features a portrait of Morgan Campbell, a man with a beard and short hair, wearing a dark button-down shirt. To his right, the text 'What is DevOps?' is displayed in large, bold, white letters. Below it, 'with Morgan Campbell' is written in a smaller white circle containing a play button icon. At the bottom right, the Scaled Agile logo is visible.

<https://vimeo.com/342037390/3a25026214>

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Notes:

Video link: <https://vimeo.com/342037390/3a25026214>

Video: The Continuous Delivery Pipeline

Duration
5 min



Continuous Delivery Pipeline
with Morgan Campbell

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<https://vimeo.com/342037858/f10a115479>

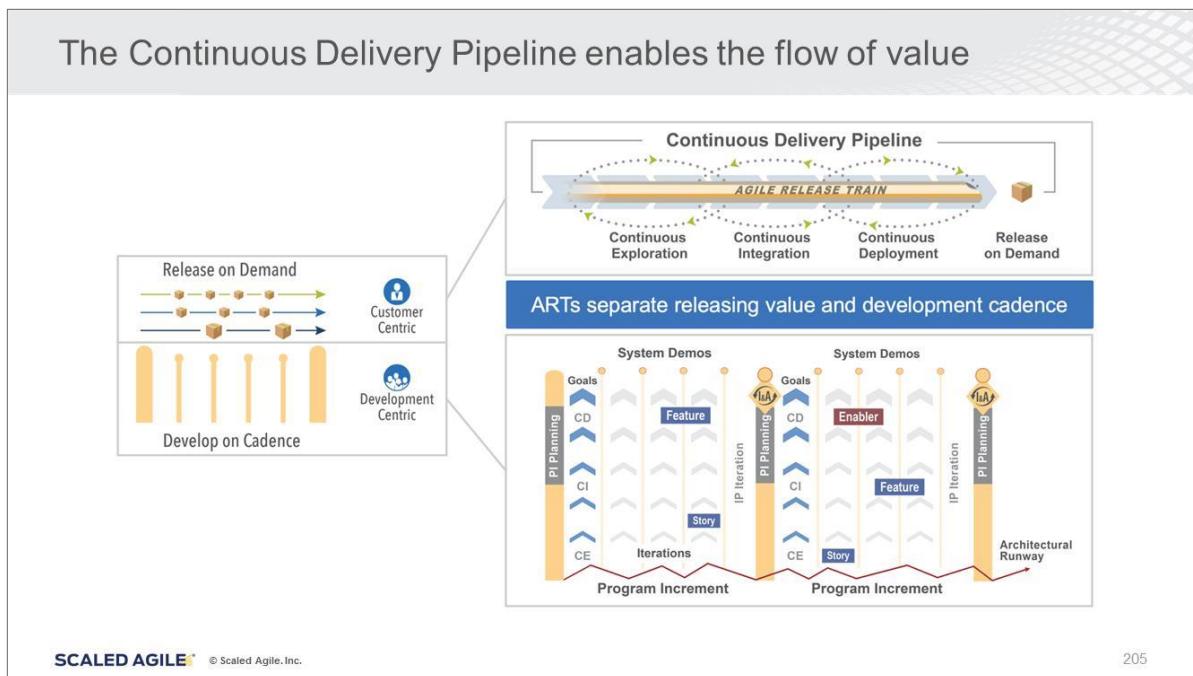
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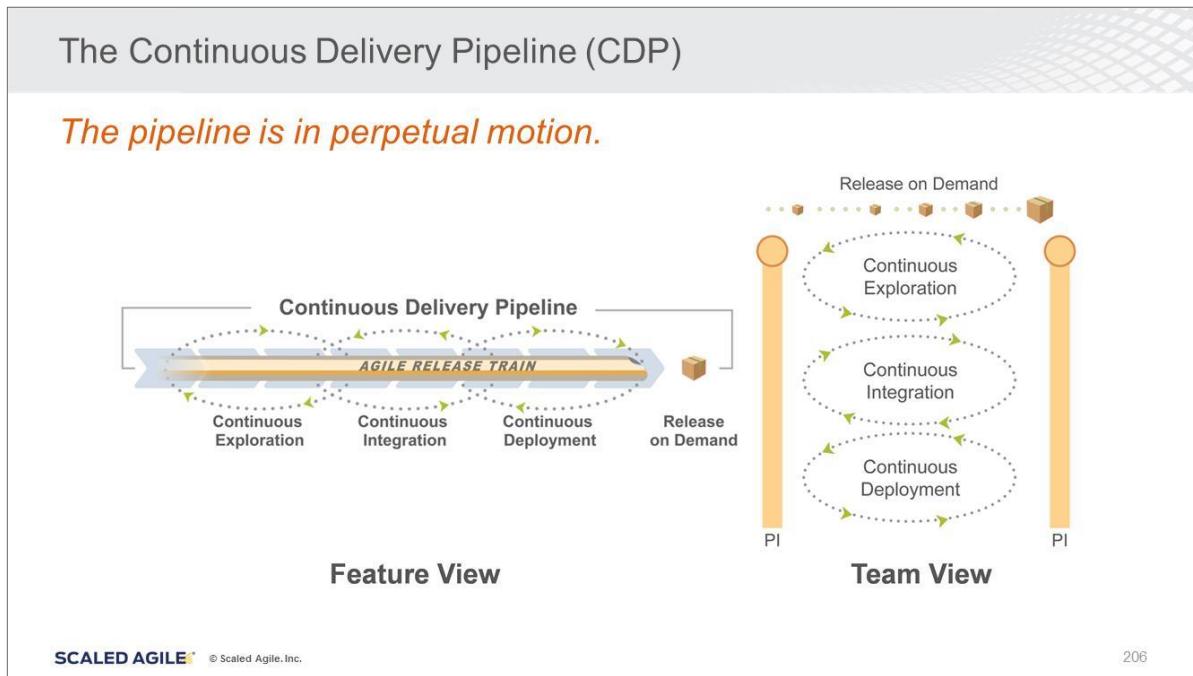
Notes:



Video link: <https://vimeo.com/342037858/f10a115479>



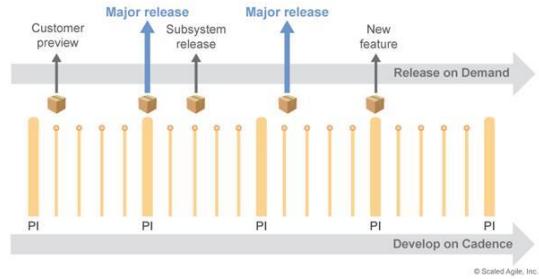
Notes:



Notes:

Release on Demand

- ▶ Expose ‘dark’ Features to Customers based on market readiness
- ▶ Releasing should be low risk, instantaneous, and reversible
- ▶ POs / PMs need to collaborate with Architects to create the appropriate Enablers:
 - Blue/green infrastructure
 - Canary releases
 - Feature toggles
 - A/B testing



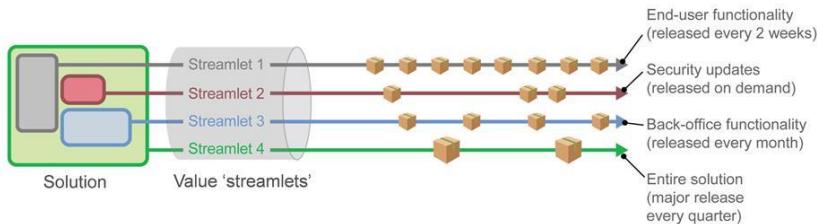
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Notes:

Decouple release elements

- ▶ POs/PMs work with Architects to identify which parts of the Solution may require different release strategies
- ▶ Architects design sub-systems for independent build, test, deploy, and release



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Notes:



Discussion: How can you support the CDP?

Duration
8 min

- ▶ The TTC Van Maintenance Advisor is a complex Solution that includes components that operate in the van, a web application, and a smart phone application.
- ▶ Should all components be released at the same time? If not, why not?
- ▶ How might the Solution Context for each of these components impact their respective Continuous Delivery Pipelines?

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Notes:



Action Plan: Executing Iterations

Duration
5 min

On the Action Plan page in your workbook, answer the following questions:

- ▶ What are two specific actions you can take to improve how you create and manage Stories?
- ▶ Where might you be able to apply story maps?
- ▶ How can you improve your participation in all the Iteration events?

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Notes:



Product Owner / Product Manager Action Plan

Lesson 4: Executing Iterations



What are two specific actions you can take to improve how you create and manage Stories?

Where might you be able to apply story maps?

How can you improve your participation in all the Iteration events?

Lesson review

In this lesson, you:

- ▶ Explored how to apply User Stories and story maps
- ▶ Reviewed how to plan the Iteration
- ▶ Discovered how to manage flow with the Team Kanban
- ▶ Reviewed how to continuously refine the backlog
- ▶ Explored how POs participate in Iteration Reviews and Retrospectives
- ▶ Discovered how POs and PMs support DevOps and Release on Demand

Notes:

Lesson 4 notes



Enter your notes below:

Lesson 5

Executing the PI

Learning Objectives:

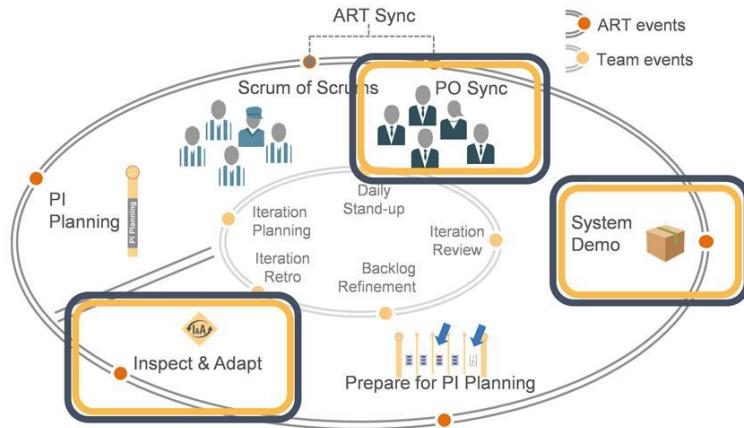
- 5.1 Participate in the PO sync
- 5.2 Participate in the System Demo
- 5.3 Innovate throughout the PI
- 5.4 Inspect and Adapt



SAFe® Course Attending this course gives students access to the SAFe Product Owner/Product Manager exam and related preparation materials.

Executing the PI

POs and PMs remain engaged throughout PI execution.



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Notes:

5.1 Participate in the PO sync

5.1 Participate in the PO sync

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Notes:

Programs respond to change through sync meetings

- ▶ The PO sync provides visibility into how well the ART is progressing toward meeting the program PI Objectives
- ▶ It provides an opportunity to assess any scope adjustments
- ▶ Facilitated by the RTE or Product Management
- ▶ Participants: PMs, POs, other stakeholders and SMEs as necessary
- ▶ Weekly or more frequently, 30 – 60 min.
- ▶ POs communicate adjustments to their teams after the sync

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Notes:

5.1 Participate in the PO sync



Discussion: Enabling alignment across the ART with sync meetings

Duration
10 min

- ▶ Think about the various sync meetings that are part of SAFe (Daily Stand Up, Scrum of Scrums, PO sync, ART sync, Architect sync).
- ▶ How can you leverage these sync meetings as a PO or PM to ensure alignment across the ART? What kinds of issues and opportunities might you bring up and what kinds of potential solutions might you offer to resolve them?

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Notes:

5.2 Participate in the System Demo

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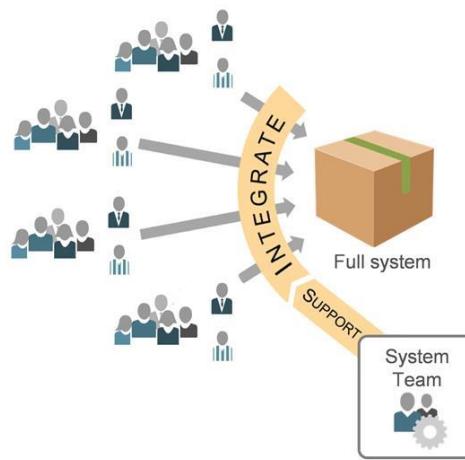
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Notes:

System Demos occur every two weeks

Demonstrate the full system to stakeholders every Iteration.

- ▶ Happens after the teams' Iteration reviews (may lag by as much as one Iteration)
- ▶ Demo occurs from the staging environment or the nearest proxy
- ▶ Product Owners and Product Managers lead the demo
- ▶ Attendees include Business Owners, executive sponsors, Customers, and Customer proxies



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Notes:

5.2 Participate in the System Demo

Recommended System Demo agenda

5 min:	Briefly review the business context and the PI Objectives
5 min:	Briefly describe each new Feature before demoing
25 min:	Demo each Feature Frame each Feature in the context of how a Customer or persona will gain benefit from this Feature or how the Feature will create business value
15 min:	Identify current risks and impediments
10 min:	Open discussion of questions and feedback, summarized progress
Apply the meet-after pattern to keep the System Demo focused.	

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Notes:

Tips for effective Team and System Demos

Best approaches	Common anti-patterns
Maintain timebox	A lot of time is spent preparing for the demo
Ensure that the team commits to the Iteration goals	Demo is mainly talk/slides as opposed to working software and/or hardware
Verify that the PO or other managers don't influence the team to overcommit	PO sees things for the first time in the Team Demo
Challenge the team to exceed their previous accomplishments	System Demo is not done because "the Team Demo is enough"
Ensure that the improvement items from the retrospective are put into effect	Team members are not invited to the System Demo to save time
Ensure time is allocated for technical debt activities	Demos are not interesting or relevant to Program-level stakeholders
	Using test data

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Notes:

5.3 Innovate throughout the PI

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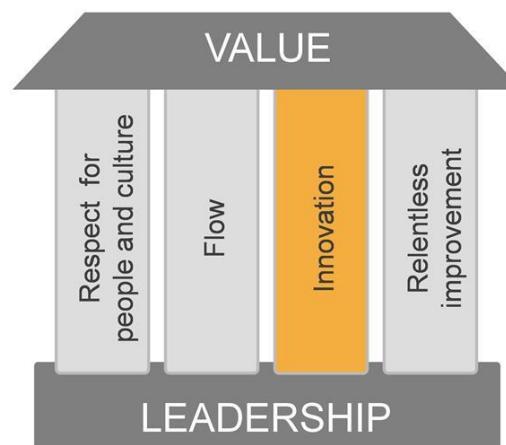
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Notes:

Innovation is part of the Lean-Agile Mindset

One of the four pillars of SAFe's Lean-Agile Mindset is innovation.

- ▶ Customers want the next thing that will improve their lives, but they may not know what that is
- ▶ Producers innovate; Customers validate
- ▶ Create time for innovation, exploration, and creativity
- ▶ Avoid succumbing to the tyranny of the urgent
- ▶ Enable education and learning



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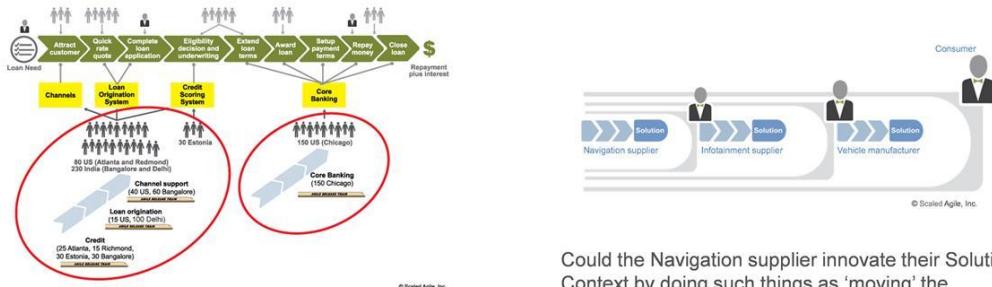
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Notes:

5.3 Innovate throughout the PI

Innovation occurs in the development Value Streams

Value Stream innovation refers to the innovations we create in the design and implementation of Value Streams and the Solution Context.



Can we **innovate** in how a customer completes and submits his loan application?

Could the Navigation supplier innovate their Solution Context by doing such things as 'moving' the navigation system from the console display directly into the steering wheel or into a heads-up display?

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Notes:

Innovative ideas come from many sources

Internal sources

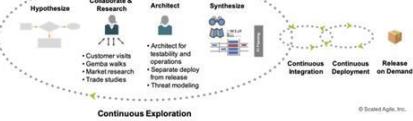


External sources



Customer Requests

Competitors

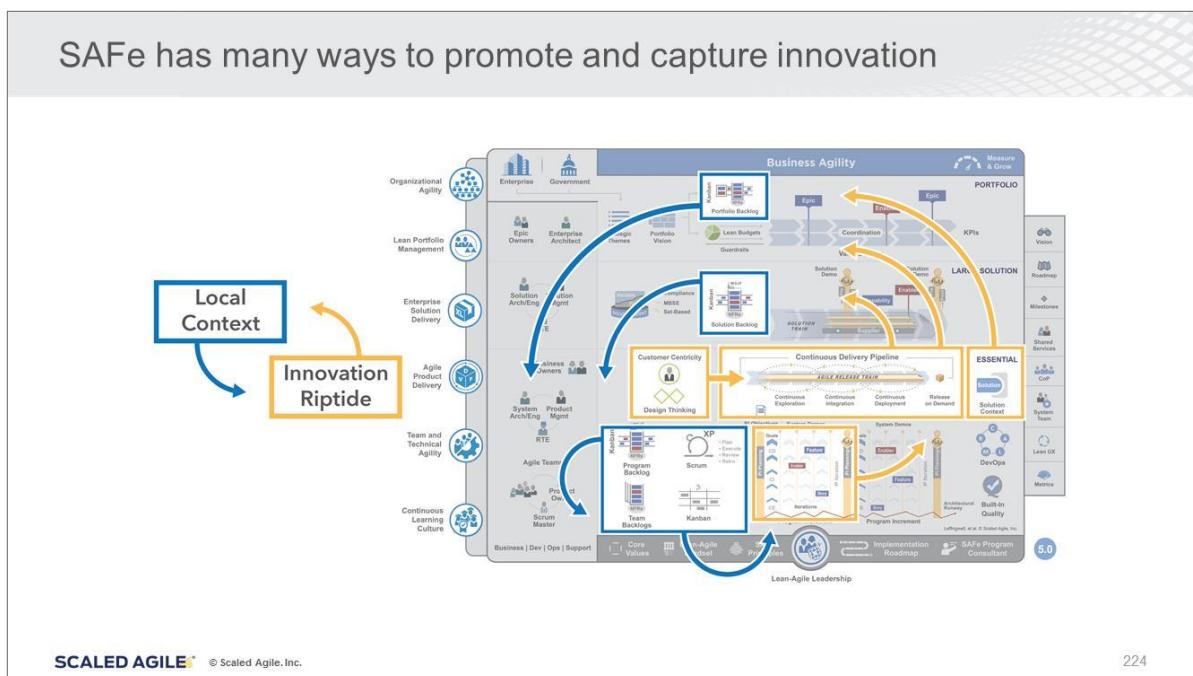


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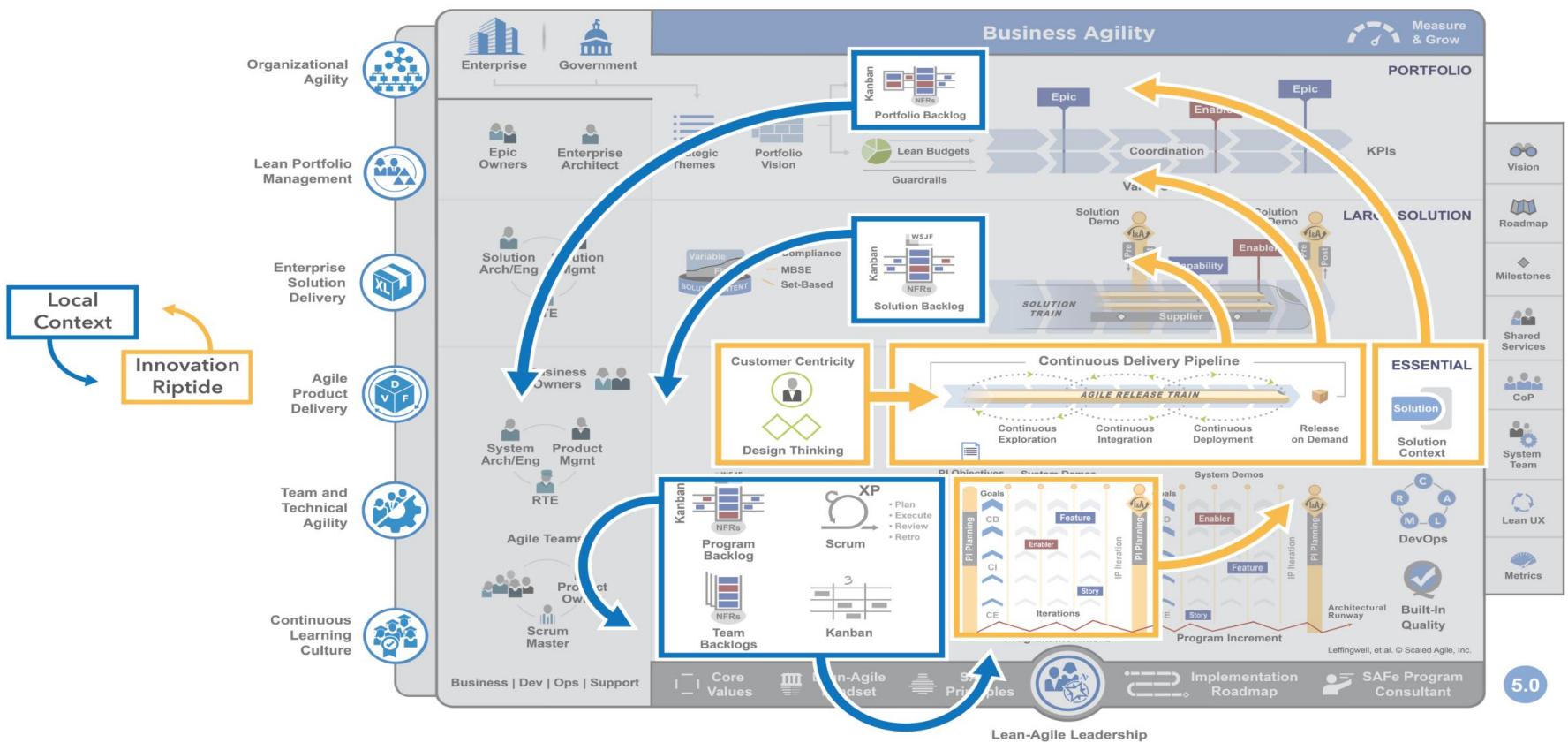
Notes:

5.3 Innovate throughout the PI



Notes:

5.3 Innovate throughout the PI



The Innovation and Planning Iteration provides time for innovation

Provide sufficient capacity margin to enable cadence.

— Don Reinertsen,
Principles of Product
Development Flow

Definitions

Innovation: Opportunity for innovation spikes, hackathons, and infrastructure improvements

Planning: Provides for cadence-based planning and is an estimating guard band for cadence-based delivery

Common anti-patterns

Planning work for the IP Iteration in PI Planning

Leaving testing or bug fixing to the IP Iteration

Leaving integration of the whole system to the IP Iteration

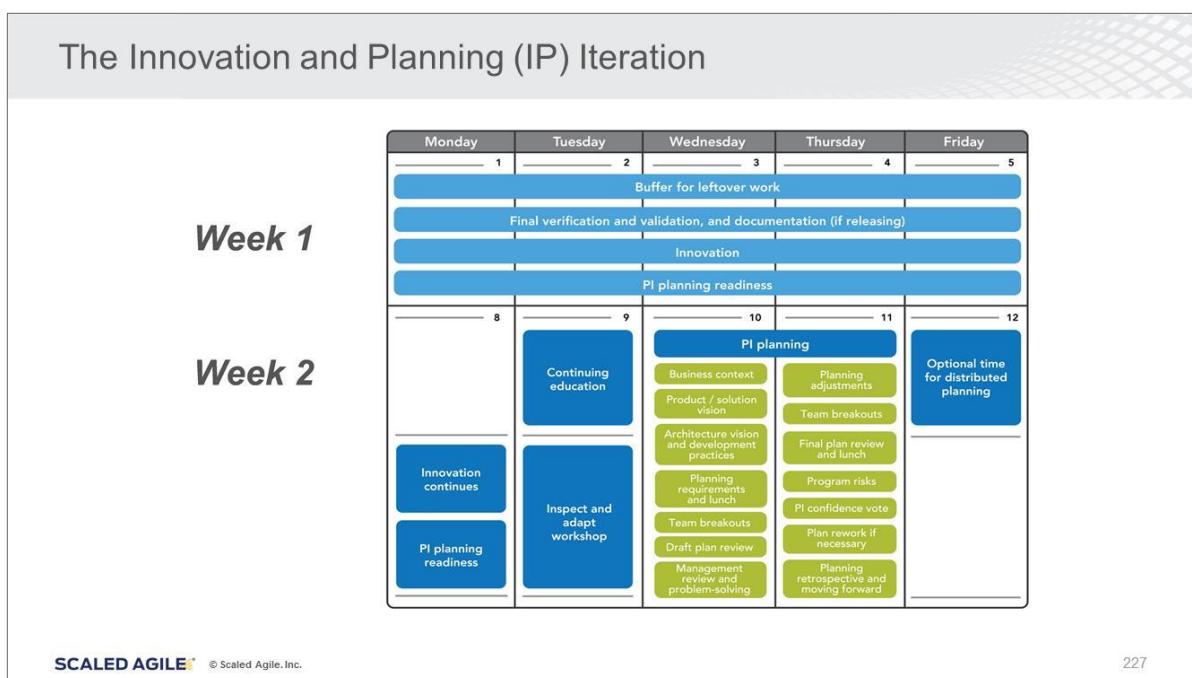
Notes:

Leverage the Innovation and Planning Iteration

In SAFe, the Innovation and Planning (IP) Iteration occurs every Program Increment (PI) and serves multiple purposes:

- ▶ Provides an estimating buffer for meeting PI Objectives
- ▶ Provides dedicated time for innovation, continuing education, PI Planning, and Inspect and Adapt (I&A) events

Notes:



Notes:

Monday	Tuesday	Wednesday	Thursday	Friday
1	2	3	4	5
	Buffer for leftover work			
	Final verification and validation, and documentation (if releasing)			
	Innovation			
		PI planning readiness		
8	9	10	11	12
	Continuing education	PI planning	Optional time for distributed planning	
		Business context Product / solution vision	Planning adjustments Team breakouts	
		Architecture vision and development practices	Final PI plan review and lunch	
		Planning requirements and lunch	Program risks	
		Team breakouts	PI confidence vote	
		Draft plan review	Plan rework if necessary	
		Management review and problem-solving	Planning retrospective and moving forward	
		Innovation continues	Inspect and adapt workshop	
		PI planning readiness		

Organize a hackathon

- ▶ A hackathon is a one or two-day event in which teams get to work on new ideas that are often added to the Program Kanban
- ▶ Two key guidelines balance creativity and focus:
 1. People can work on whatever they want, with whomever they want, so long as the work reflects the mission of the company
 2. The teams demo their work to others at the end of the hackathon

Notes:

Organize a Supplier showcase

- ▶ A Supplier showcase is a structured demo from an internal or external Supplier designed to help your teams better leverage the products or services offered by the Supplier
- ▶ Supplier showcases help teams:
 - Reduce work by better leveraging the Supplier's product ("Did you know that our API provides automatic routing? Here's how it works...")
 - Enable Architects and POs/PMs to identify Enablers and improve Roadmaps
- ▶ Supplier showcases help Suppliers by providing them direct feedback on what they need to supply to the teams

Notes:

Explore some spikes

- ▶ A spike is an exploration Enabler Story designed to gain the knowledge necessary to reduce the risk of a technical approach, better understand a requirement, or increase the reliability of a Story estimate
- ▶ While spikes can be added to Team Backlogs at any time during a PI to reduce risk; they are commonly used to explore new ideas or determine feasibility of Epics
- ▶ Spikes increase learning within the team

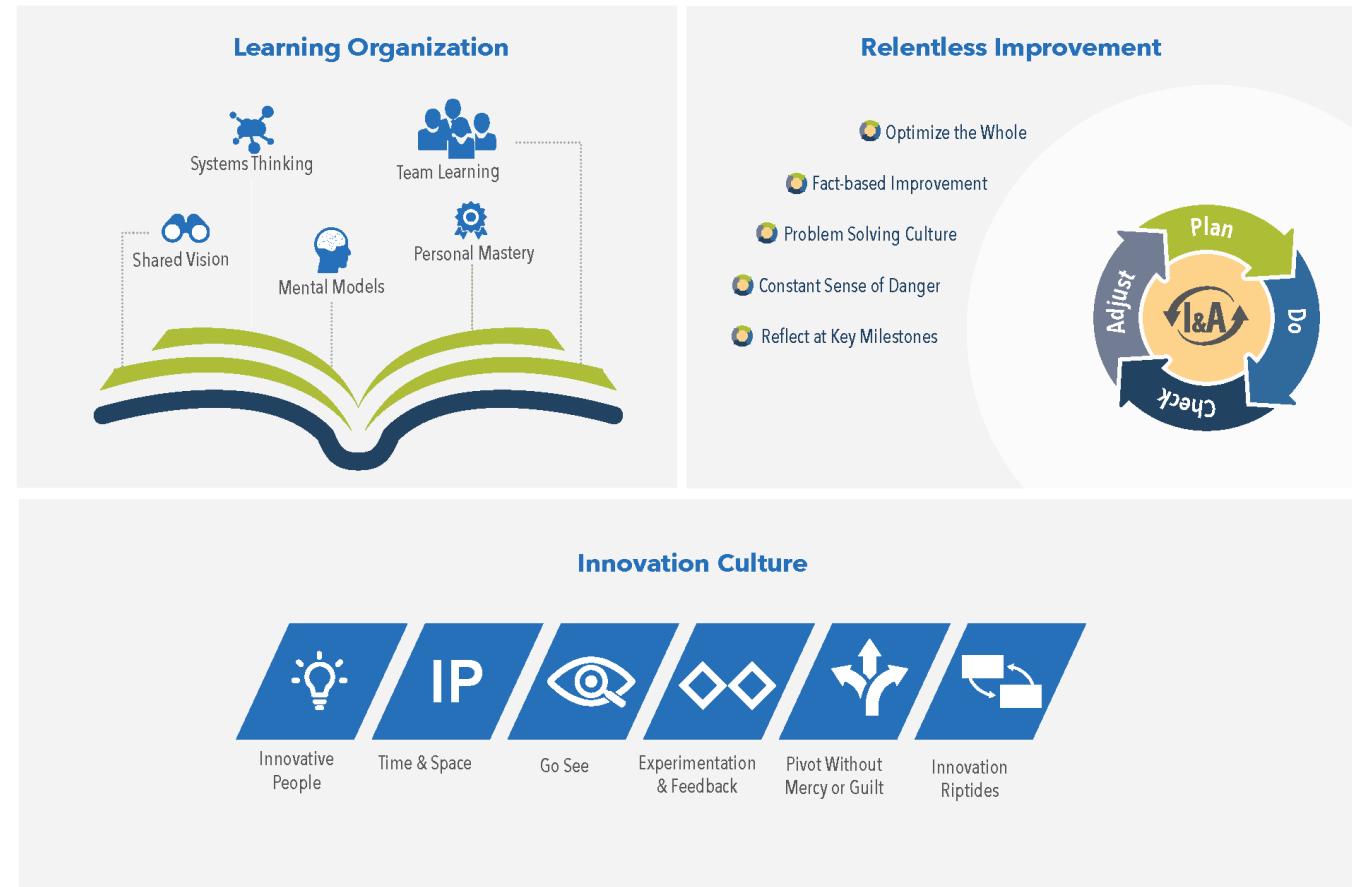
Notes:

Continuous Learning Culture



Notes:

Continuous Learning Culture



5.4 Inspect and Adapt

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Notes:

Inspect and Adapt (I&A) overview

1

PI System Demo shows the Solution's current state to program stakeholders
(45 – 60 minutes)

2

Quantitative measurement
(45 – 60 minutes)

3

Retrospective and problem-solving workshop
(1.5 – 2 hours)



I&A Suggested Timebox  3-4 hours

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Notes:

5.4 Inspect and Adapt

PI System Demo

- ▶ At the end of the PI, teams demonstrate the current state of the Solution to the appropriate stakeholders
- ▶ The agenda follows the pattern of the System Demo in the Iterations but is differentiated as the last System Demo of the current PI
- ▶ Often led by Product Management, POs, and the System Team
- ▶ Attended by Business Owners, program stakeholders, Product Management, RTE, Scrum Masters, and teams



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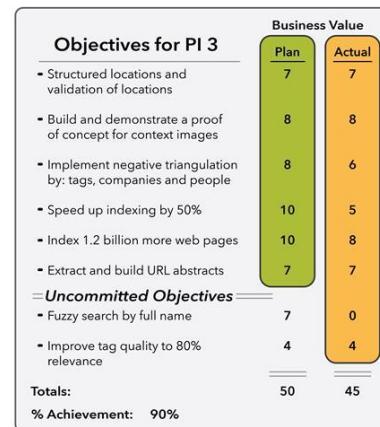
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Notes:

Team predictability measures for program performance reporting

As part of the PI System Demo, teams compare planned vs. actual business value.

- ▶ Teams meet with their Business Owners to self-assess the business value they achieved for each objective
- ▶ Each team's planned vs. actual business value is then rolled up to the Program Level in the program predictability measure



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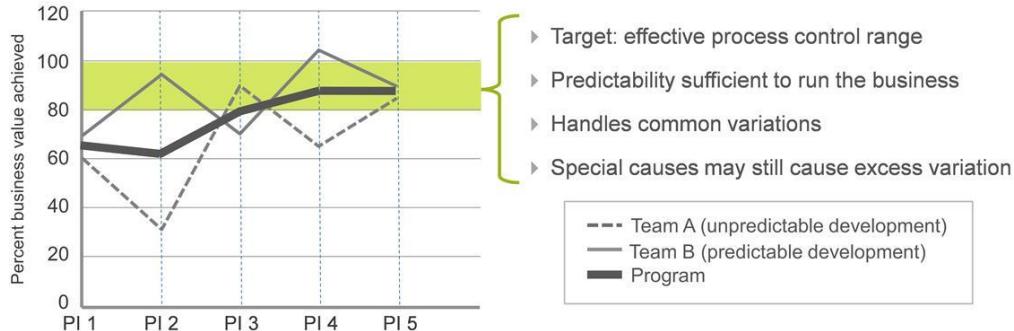
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Notes:

Program predictability measure

The program predictability measure shows whether achievements fall into an acceptable process control band.



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Notes:

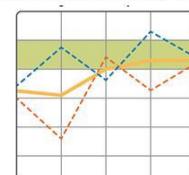
Team performance assessment

- ▶ All teams' PI Objectives were assigned a business value from 1 to 10
- ▶ Review and rate your PI achievements:
 - How well did you do against your stated objectives, including (a) timeliness, (b) content, and (c) quality?
 - Scale: 1 to 10, max being maximum total business value
- ▶ Average these across all objectives and give yourself a program percent achievement score

Team PI Performance Report

Objectives for PI 3	Business Value	
	Plan	Actual
• Set clear goals	8	8
• Build a backlog of user stories	8	8
• Implement structured locations and categories	8	8
• Implement negative triangulation	10	5
• Implement negative triangulation	10	8
• Speed up indexing by 50%	7	7
• Index 1.2 billion more web pages	10	8
• Extract and build URLs abstracts	7	5
• Uncommitted Objectives	4	4
Total	50	45
% Achievement:	90%	

Program Predictability Measure



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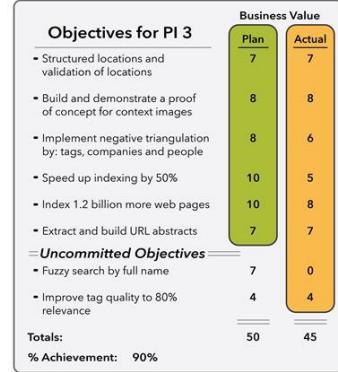
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Notes:

5.4 Inspect and Adapt

Team PI performance report

- ▶ Planned total does not include uncommitted objectives
- ▶ Actual total includes uncommitted objectives
- ▶ % Achievement = Actual total/Planned total
- ▶ A team can achieve greater than 100% (as a result of uncommitted objectives achieved)
- ▶ Effort required for uncommitted objectives is included in the load (i.e., not extra work the team does on weekends)
- ▶ Individual team totals are rolled up to determine the program predictability measure



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Notes:

Program performance Metrics

Functionality	PI 1	PI 2	PI 3
Program velocity			
Predictability measure			
# Features planned			
# Features accepted			
# Enablers planned			
# Enablers accepted			
# Stories planned			
# Stories accepted			
Quality			
Unit test coverage %			
Defects			
Total tests			
% automated			
# NFR tests			

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- ▶ Collect and discuss any other program Metrics that the team has agreed to collect.
- ▶ Product Managers and Product Owners use this data to ensure that overall quality measures are maintained.

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Notes:

Video: The Retrospective and Problem-Solving Workshop Overview

Duration
4 min



Inspect & Adapt:
The Retrospective and
Problem Solving
Workshop Overview

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<https://vimeo.com/351678406/ce4e8a1cfa>

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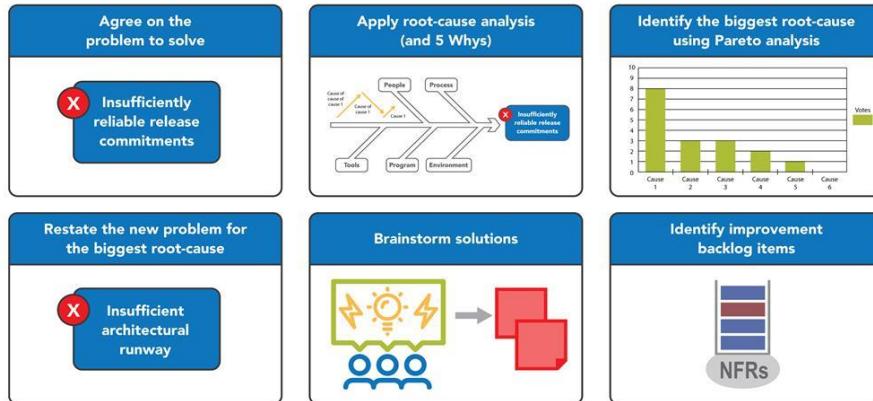
Notes:



Video link: <https://vimeo.com/351678406/ce4e8a1cfa>

Problem-solving workshop

After a short retrospective, teams systematically address the larger impediments that are limiting velocity by using root cause analysis.

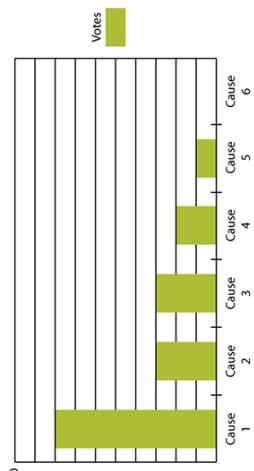


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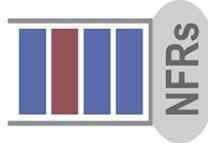
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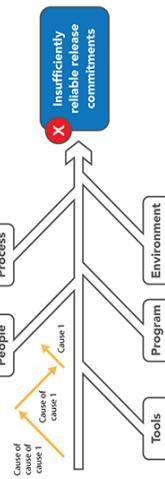
Identify the biggest root-cause using Pareto analysis



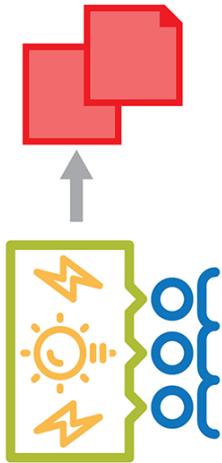
Identify improvement backlog items



Apply root-cause analysis (and 5 Whys)



Brainstorm solutions



Agree on the problem to solve

X Insufficiently reliable release commitments

Restate the new problem for the biggest root-cause

X Insufficient architectural runway



Activity: Retrospective

Prepare
10 min

Share
15 min

- ▶ Individually, write what you will start doing, stop doing, and continue doing when you return to your workplace as a result of this course.
- ▶ Place your ideas on the appropriate sheet.
- ▶ Share any big ideas or breakthrough moments you had during class that you plan to bring back to the workplace.

Notes:

POPM Retrospective Activity

Instructions: Individually, write what you will start doing, stop doing, and continue doing when you return to your workplace as a result of this course. Place your ideas on the appropriate column. Share any big ideas or breakthrough moments you had during class that you plan to bring back to the workplace.

Start	Stop	Continue



Action Plan: Executing the PI



On the Action Plan page in your workbook, answer the following questions:

- ▶ How might you change your participation in and collaboration around the PO sync, System demo, and Inspect and Adapt workshop?
- ▶ What kinds of innovation opportunities would you like to encourage and make time for with your Agile Team?
- ▶ What kinds of metrics do you plan to start collecting and reviewing during your Inspect and Adapt workshops?

Notes:



Product Owner / Product Manager Action Plan

Lesson 5: Executing the PI

Monday	Tuesday	Wednesday	Thursday	Friday
1	2	3	4	5
Buffer for leftover work				
		Final verification and validation, and documentation (if releasing)		
		Innovation		
		PI planning readiness		
8	9	10	11	12
Innovation continues	Continuing education	PI planning		Optional time for distributed planning
PI planning readiness	Inspect and adapt workshop	<ul style="list-style-type: none">Business contextProduct / solution visionArchitecture vision and design review practicesPlanning retrospective and lunchTeam breakoutsFinal plan review and lunchProgram risksPI confidence votePlan rework if necessaryPlanning retrospective and moving forward		

How might you change your participation in and collaboration around the PO sync, System demo, and Inspect and Adapt workshop?

What kinds of innovation opportunities would you like to encourage and make time for with your Agile Team?

What kinds of metrics do you plan to start collecting and reviewing during your Inspect and Adapt workshops?

Lesson review

In this lesson, you:

- ▶ Reviewed how POs participate in the PO sync
- ▶ Explored how POs and PMs participate in the System Demo
- ▶ Examined how to innovate throughout the PI
- ▶ Reviewed how to conduct an Inspect and Adapt workshop

Notes:

Lesson 5 notes



Enter your notes below:

Lesson 6

Becoming a Certified SAFe Professional

Learning Objectives:

6.1 Becoming a Certified SAFe Professional



SAFe® Course Attending this course gives students access to the SAFe Product Owner/Product Manager exam and related preparation materials.

Make the most of your learning



Access the SAFe Community Platform

Manage your member profile, continue your learning with toolkits and videos, and access communities of practice and the member directory



Prepare Yourself

Extend your SAFe knowledge and prepare for certification with your learning plan, course workbook, study materials, and practice test before your exam



Become a Certified SAFe Professional

Demonstrate your validated knowledge, skills, and mindset to participate in SAFe methods



Showcase Your SAFe Credentials

Use your digital badge to view global insights, track market labor data, and see where your skills are in demand

Notes:



Video: Become a Certified SAFe Professional

Duration
3 min

Continue to build on the foundation of SAFe learning you began in class by studying and taking the certification exam.

Earning this certification demonstrates and establishes your new knowledge.

Certification details at:

<https://www.scaledagile.com/certification/about-safe-certification/>



<https://vimeo.com/307578726>

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Notes:



Video link: <https://vimeo.com/307578726>



About SAFe certification: <https://www.scaledagile.com/certifications/about-safe-certification/>

6.1 Becoming a Certified SAFe Professional



Video: Welcome to the SAFe Community Platform

Duration
5 min

Want to learn more about the next steps on your SAFe Journey?

Access the SAFe Community Platform and discover all the SAFe resources available for your use!



<https://vimeo.com/201877314>

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Notes:



Video link: <https://vimeo.com/201877314>

Certification Exam Sample Questions

These sample questions provide examples of the format and type of questions to expect on the exam (these are not the actual exam questions). Performance on the sample questions is NOT an indicator of the performance on the exam, and it should NOT be considered an assessment tool. A web-enabled version of the sample questions are now available in a flashcard style format (internet required). Use the link below to access the sample question bank and begin preparing for certification.

To get started:

1. Click the link below
2. A browser window will open with the sample questions site
3. Click "Start"
4. Use the left-side menu to scroll and select your course
5. Click "Start" to access the sample questions



Sample questions: <http://bit.ly/3aqP4O>

Lesson 6 notes



Enter your notes below:

Appendix 1

Glossary



SAFe Glossary:

Visit the Scaled Agile Framework site (scaledagileframework.com/glossary) to download glossaries translated into other languages