

Two-day PI Planning agenda

Day One Agenda		Day Two Agenda	
Business context	8:00 – 9:00	Planning adjustments	8:00 – 9:00
Product/Solution Vision	9:00 – 10:30	Team breakouts	9:00 – 11:00
Architecture Vision and development practices	10:30 – 11:30	Final plan review and lunch	11:00 – 1:00
Planning context and lunch	11:30 – 1:00	ART PI Risks	1:00 – 2:00
Team breakouts	1:00 – 4:00	PI confidence vote	2:00 – 2:15
Draft plan review	4:00 – 5:00	Plan rework if necessary	2:15 – ???
Management review and problem-solving	5:00 – 6:00	Planning retrospective and moving forward	After commitment

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2.2 The Solution Vision

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What is a Solution Vision?

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 benefit?
- ▶ What nonfunctional requirements (NFRs), such as performance, reliability, platforms, and so on, does the Solution deliver?

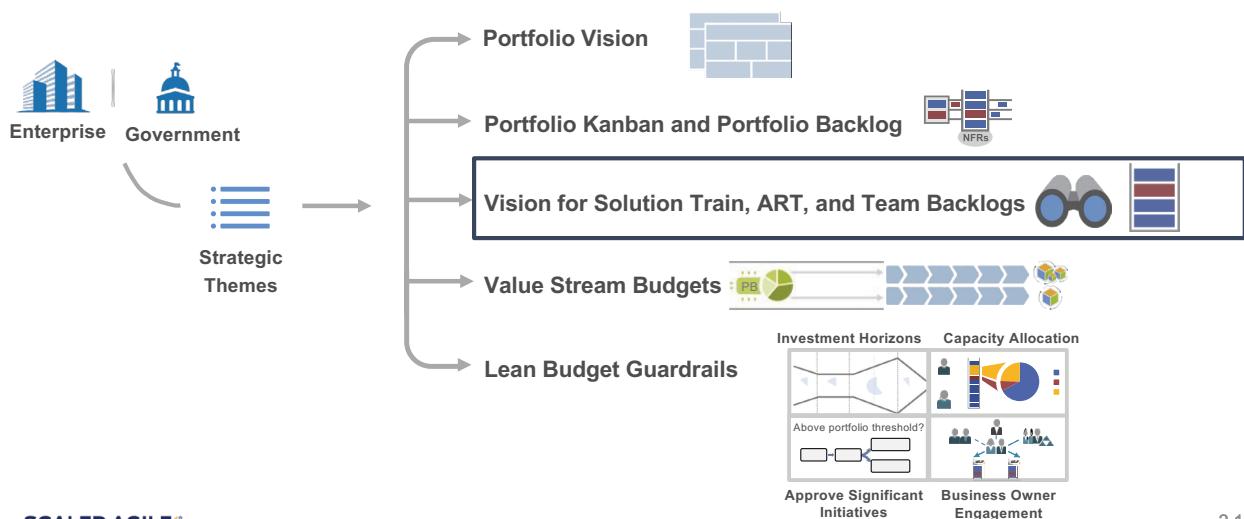


Common formats

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

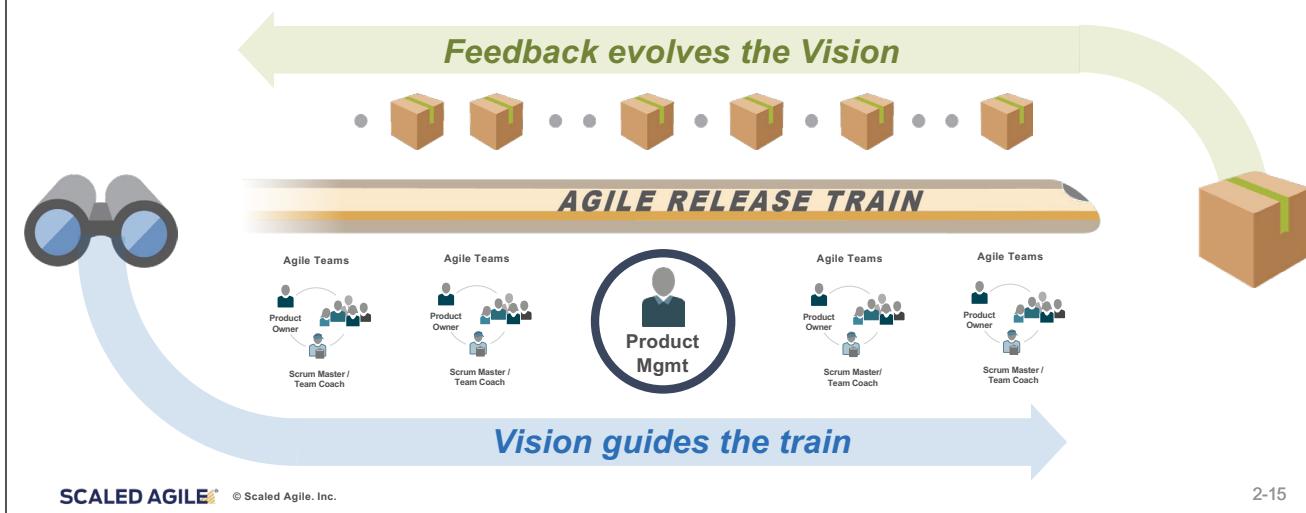
Influence of Strategic Themes

Strategic Themes influence the Solution Vision



Product Management creates the Vision for the ART

Product Owners contribute to the Vision, which evolves from Customer feedback.



Express the future state as a Vision

A long view:

- ▶ How will our portfolio of future Solutions solve the larger Customer problems?
 - ▶ How will these Solutions differentiate us?
 - ▶ What is the future context within which our Solutions will operate?
 - ▶ What is our current business context, and how must we evolve to meet this future state?

Vision: A postcard from the future



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

Result: Everyone starts thinking about how to apply their strengths in order to get there.

Reference: Heath and Heath, *Switch*

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 Video: TTC All Hands

Duration
5 min





<https://bit.ly/Video-TTCAllHands>

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 Discussion: Strategic Themes for the Van Program

Duration
5 min



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

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

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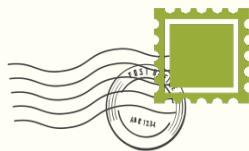
Postcard from the future for the Van Maintenance Advisor



Dear Terrific Transport

Thank you for creating the Van Maintenance Advisor. Maintenance schedules customized to each van have reduced our repair costs, increased driver safety, and increased revenue because our vans are on the road more and function reliably.

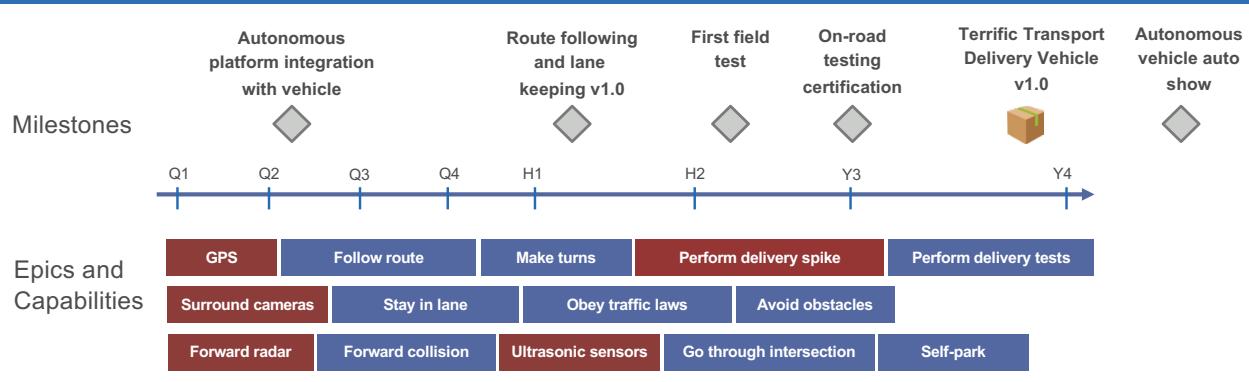
—Local Courier Services, Inc.



To: Terrific Transport Corporation

2.3 Solution and PI Roadmaps

Solution Roadmaps provide a multiyear view



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PI Roadmaps are shorter term with more fidelity

Annual automotive suppliers' event

GPS integrated with vehicle prototype

Camera integration with vehicle prototype

- PI 1**
- Selection of mapping software
 - Front camera
 - Radar components
 - Install communications on mule
 - Uncommitted objectives —**
 - Send real-time status

Committed

- PI 2**
- GPS
 - Rear camera
 - Follow straight path
 - Detect fixed obstacles

Forecast

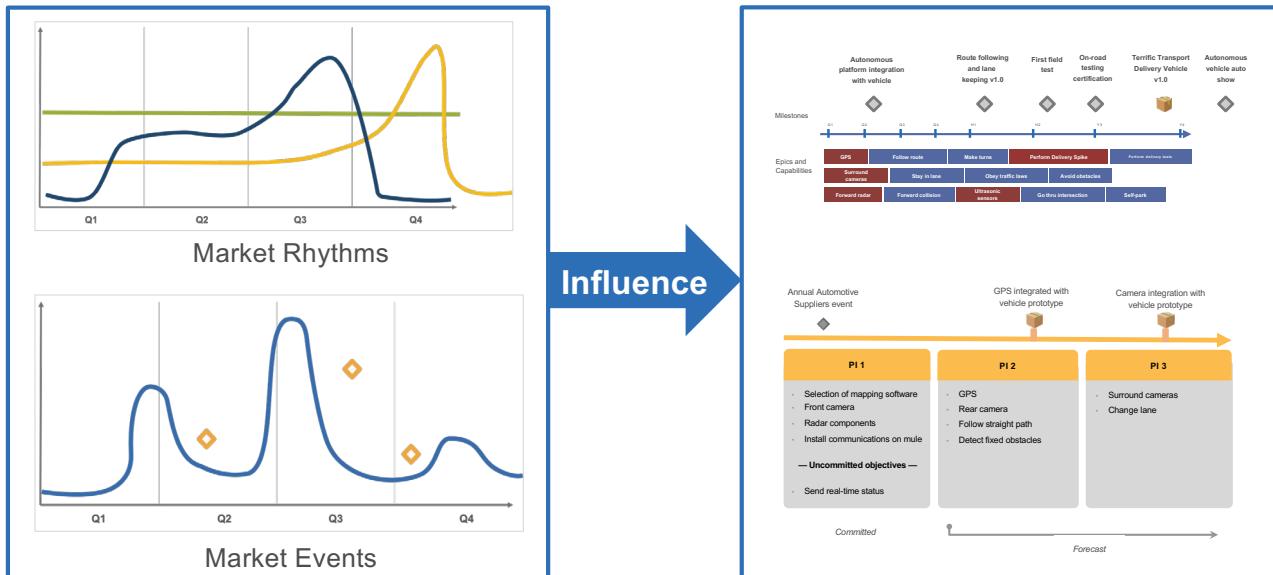
PI 3

- Surround cameras
- Change lane

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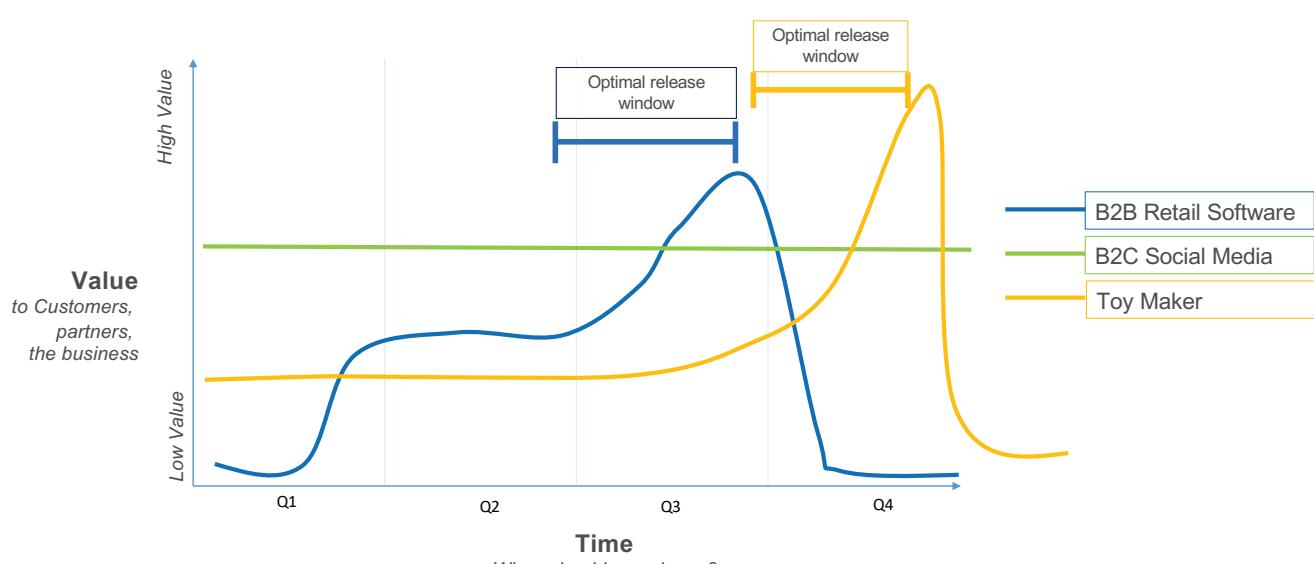
Market dynamics influence Solution and PI Roadmaps



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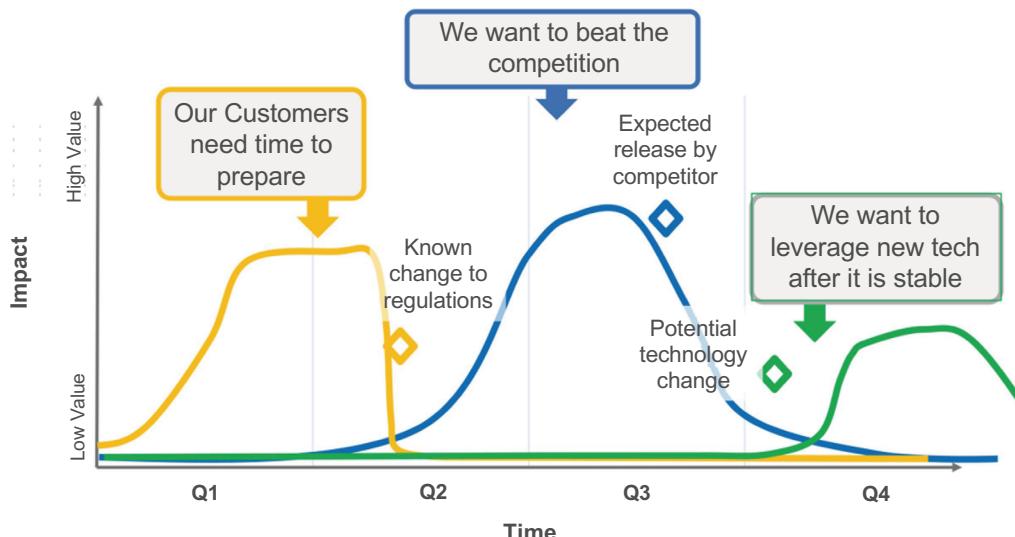
Market rhythms are cyclical and predictable



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Market events are ad-hoc and often unpredictable



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Activity: Consider market rhythms for optimum release timing

The Van Maintenance Advisor requires new hardware. 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.



Approximately 1/3 of your van Customers are serving the local retail market while 1/3 are serving the medical specimen market.

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Activity: Consider market rhythms for optimum release timing

Prepare
5 min

Share
10 min



- ▶ **Step 1:** In your groups, draw a market rhythms chart for an entire year. Add a line for each market segment considering rhythms that may impact each market.

Example rhythms to consider:

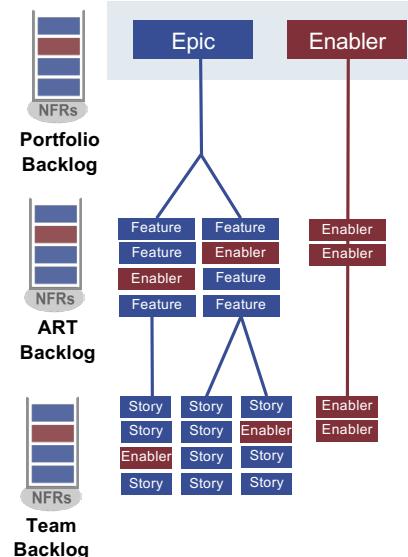
- Holiday shopping, flu season, and so on

- ▶ **Step 2:** Identify key times to release the new hardware while minimizing disruptions to Customers.
- ▶ **Step 3:** Be prepared to share with the class.

2.4 Customer-centric Features

Summary of SAFe requirements

- ▶ **Epic** - An Epic is a container for a significant Solution development initiative that captures the more substantial investments that occur within a portfolio.
- ▶ **Feature** - A Feature is a service that fulfills a stakeholder need. Each Feature includes a name, a benefit hypothesis, and acceptance criteria. A Feature is sized or split, as necessary, to be delivered by an ART in a PI.
- ▶ **Story** - A Story is a short description of a small piece of desired functionality. A Story is written from the perspective of the user.
- ▶ **Enabler** - 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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Creating Epics to fulfill the Vision

Epic Hypothesis Statement	
Funnel entry date	May 18 th
Epic name	TTC Supplemental Insurance
Epic Owner	Pat Bakker
Epic description	<p>Develop a Solution to allow Customers to purchase supplemental insurance for packages.</p> <p>For merchants</p> <p>Who want to provide additional insurance for high-value packages,</p> <p>The supplemental insurance coverage</p> <p>Is an optional upgrade</p> <p>That increases the standard coverage for packages.</p> <p>Unlike our standard insurance offering,</p> <p>Our Solution provides additional coverage against theft and natural disaster.</p>
Business outcomes	10% increase in NPS score, 5% increase in revenue in the next 120 days following the launch
Leading indicators	5% of policies in Beta testing group agreed to upgrade to supplemental policies following the MVP launch
Nonfunctional requirements	Offering must be scalable to all delivery regions



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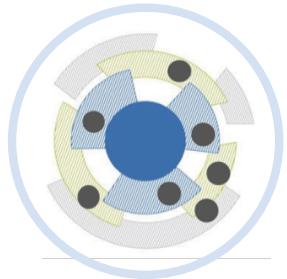
Design Thinking tools support creating Features



Customer Journey Maps



Personas

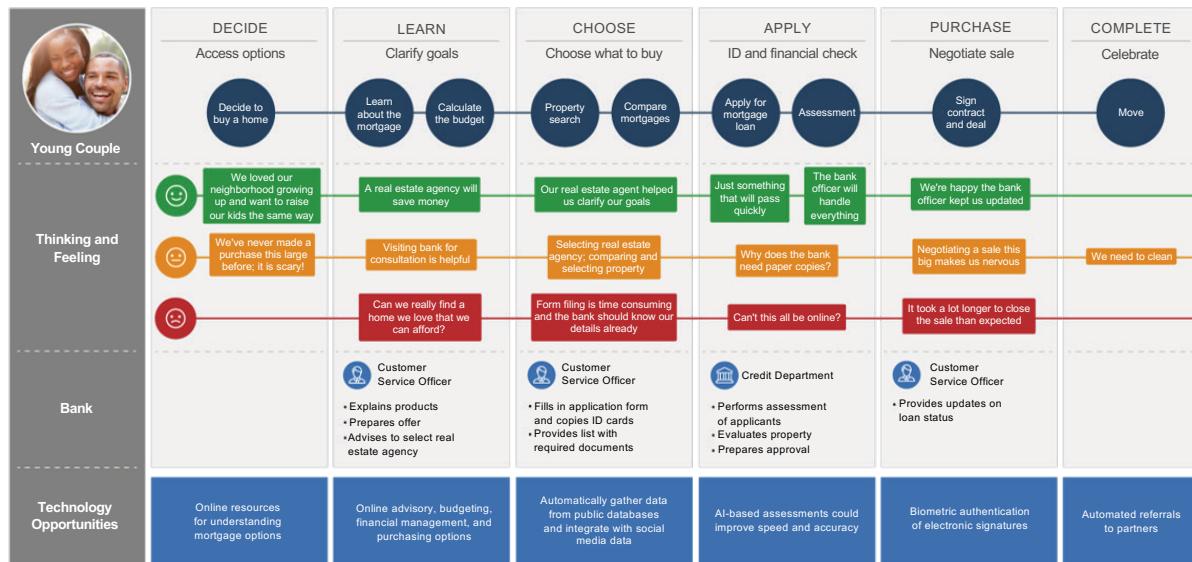


Whole-Product Thinking

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Use journey maps to design the end-to-end Customer experience



2-32

Personas help understand Customers

Personas are characterizations of the people who might use your product.
Personas will:

- ▶ Convey the problems end users are facing in context, and key triggers for using the product
- ▶ Capture rich, concise information that inspires great products without unnecessary details



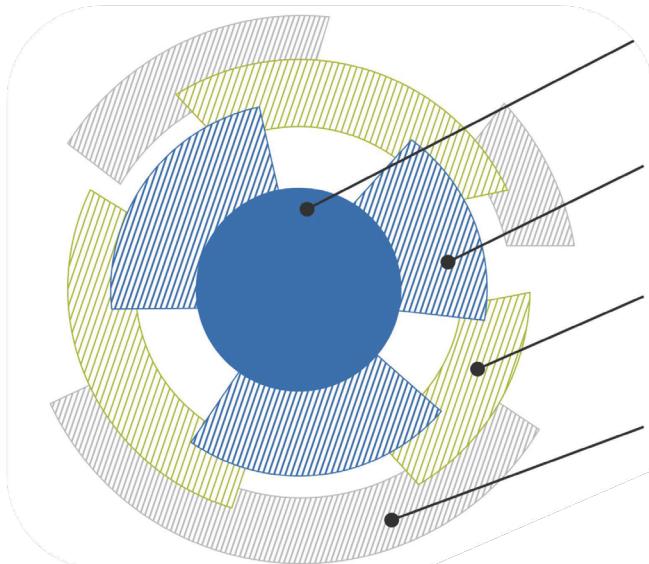
Mike the Fleet Manager

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 okay, 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 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.

Whole-product thinking creates a compelling reason to buy



Generic Product

Minimum to satisfy Customer

Expected Product

Features typically found in this type of product

Augmented Product

Features that differentiate this specific product from competitive or alternative products

Potential Product

Our Vision of future Capabilities that keep Customers

Reference: Levitt, "Marketing Success Through Differentiation—of Anything"



Video: Features in SAFe

Duration
5 min



<https://bit.ly/Video-FeaturesInSAFe>

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Activity: Feature storming

Prepare
10 min
Share
5 min



- ▶ **Step 1:** With your group, break down, or decompose, the example Epic by identifying as many Features as possible. Keep the Customer in mind as you write your Features.
- ▶ **Step 2:** Be prepared to share with the class.

Examples

Feature

Browse available options online

Feature

Create insurance packages for purchase

Epic

Develop a Solution to allow TTC Customers to purchase supplemental insurance for packages

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Analysis and refinement ensure Features are ready for implementation

Features may start as a one sentence overview with more details added in refinement meetings and during the PI Planning preparation.



Feature

In-service software update



Feature

In-service software update

Benefit hypothesis:
Reduced errors, faster upgrades, increased automation



Feature

In-service software update

Benefit hypothesis:

Reduced errors, faster upgrades, increased automation

Acceptance criteria:

- Roll back an update
- Provide an audit trail of all updates
- Ensure enabled services are running after the update



Activity: Feature refinement



- ▶ **Step 1:** With your group, take one of the Features that you have created in the previous activity. Refine the Feature 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.

Example

Feature description:

- Supplemental insurance coverage

Benefit hypothesis:

- Protects the value of packages from loss or damage during delivery

Acceptance criteria:

- Option available any time prior to shipping
- Accessible via website and mobile app
- Integrated with Order Management System

Relative estimating

- ▶ Agile Teams use Story points and relative estimating to quickly arrive at size estimates for 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

Features are implemented by Stories

- ▶ Stories are small increments of value that can be developed in days and are relatively easy to estimate
- ▶ Story form of user voice captures role, activity, and goal
- ▶ Features fit in one PI for one ART; Stories fit in one Iteration for one team



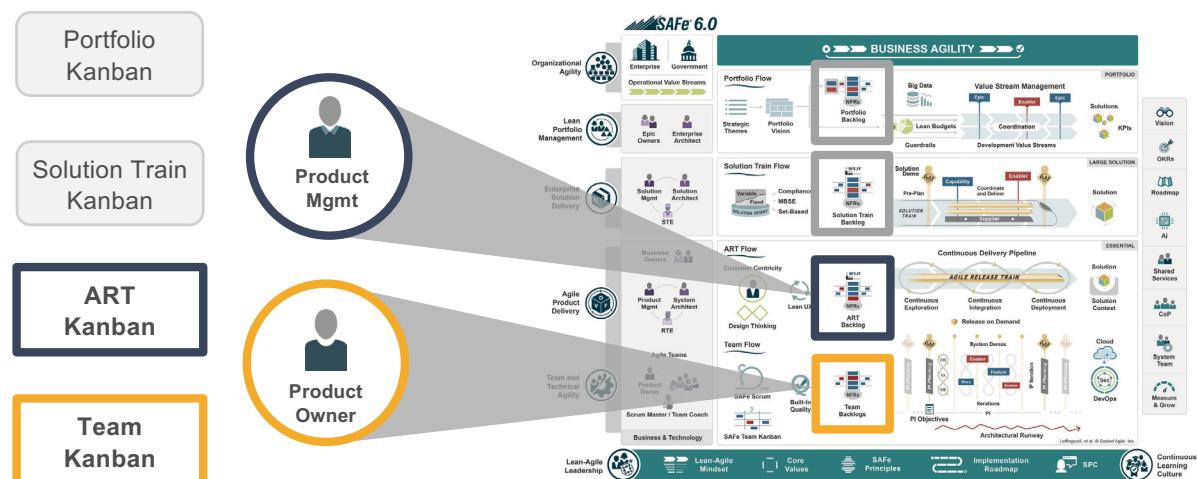
Feature	Enabler Story	User Story
In-service software update Benefit hypothesis: Reduced errors, faster upgrades, increased automation	Set up notification infrastructure	As a Fleet Manager, I want a notification before a van needs service so that I can balance service requests.

2.5 ART Backlog and Kanban

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SAFe has multiple, connected backlogs and Kanban systems

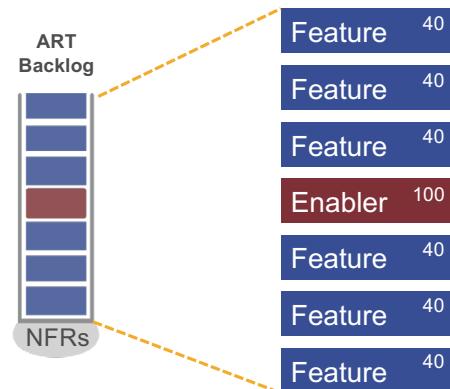


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Features are managed through the ART Backlog

The ART Backlog is the holding area for upcoming Features that will address user needs and deliver business benefits for a single ART.

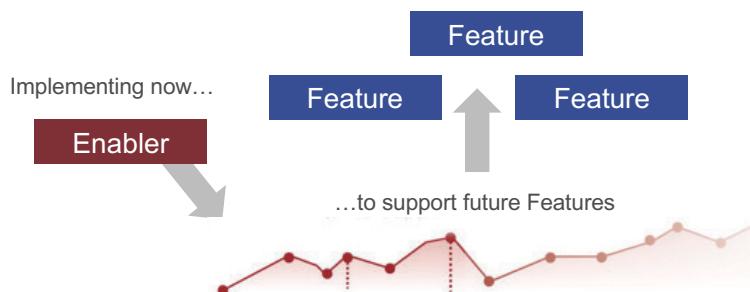


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Partner with System Architects

- ▶ Support Enabler items that provide needed Architectural Runway
- ▶ Work with System Architects to identify Enablers that will enable delivery of future business functionality

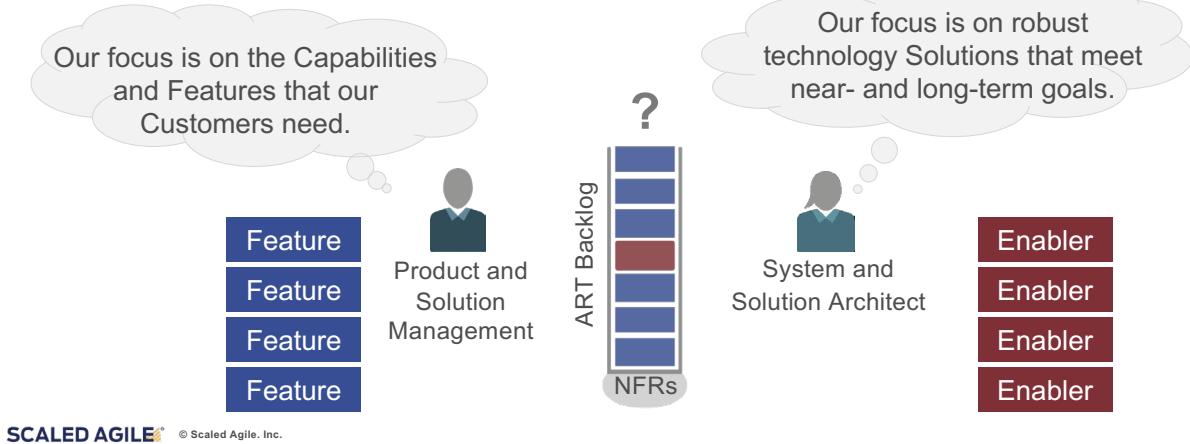


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How much architecture?

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

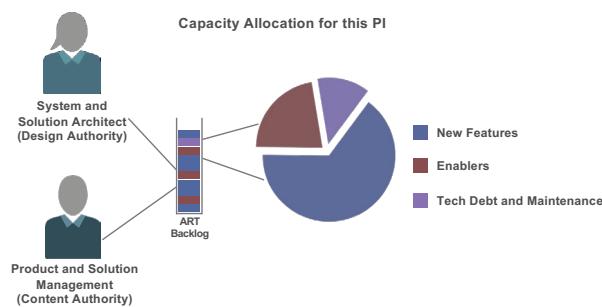


2-45

Capacity allocation

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 versus 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 ART 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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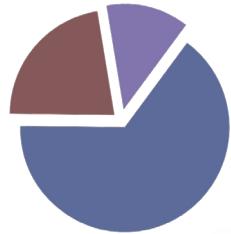
2-46



Activity: Draft your capacity allocation policy



- ▶ **Step 1:** Individually, consider how you would use capacity allocation in your organization
- ▶ **Step 2:** Draft a capacity allocation policy for your ART that you discuss with your key stakeholders
- ▶ **Step 3:** Be prepared to share with the class



Activity: Draft your capacity allocation policy

To discuss:

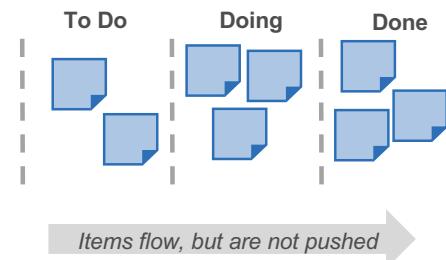
Discussing:

Good enough:

Actions:

Kanban summarized

- ▶ Visual tool for monitoring and managing workflow
- ▶ Columns represent steps in the work process
- ▶ Work items (Features, Enablers, Stories, Epics, and Capabilities) flow 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



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2-48

The ART Kanban facilitates flow through the Continuous Delivery Pipeline

Funnel	Analyzing	Ready	Implementing	Validating on Staging	Deployment to Production	Releasing	Done
2	6	4	5	6	4	3	5
All new ideas welcome	<ul style="list-style-type: none"> • Benefit hypothesis • Calculate WSJF • WIP limited 	<ul style="list-style-type: none"> • Features approved by Product Management • Continuous WSJF prioritization • WIP limited 	<ul style="list-style-type: none"> • Features decomposed into Stories • Teams define, build and validate the Solution • WIP limited 	<ul style="list-style-type: none"> • Features integrated and deployed to staging • Features demonstrated and approved by Product Management • WIP limited 	<ul style="list-style-type: none"> • Finish deployment testing of Features • Features deployed to production, and sometimes toggled off • WIP limited 	<ul style="list-style-type: none"> • Features released to Customers incrementally or all at once • Benefit hypothesis evaluated • WIP limited 	

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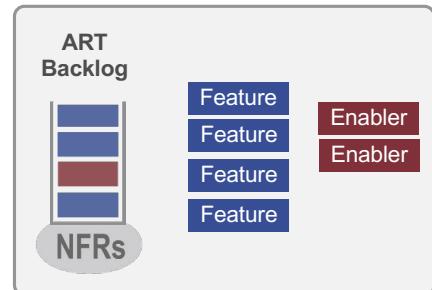
2-49

Prioritize Features for optimal ROI

In a flow system, job sequencing is the key to improving economic outcomes.

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

- ▶ The cost of delay in delivering value
- ▶ The cost to implement the valuable thing



"If you only quantify one thing, quantify the cost of delay."

—Donald G. Reinertsen, *The Principles of Product Development Flow*

Prioritization anti-patterns



HiPPO - The 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 - The decision is made based exclusively on profit, without considering other factors.

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

Role

I'm the Product Manager, so I should do it!



Product Mgmt

Components of cost of delay

User-business value



Relative value to the Customer or business

- They prefer this over that
- Revenue impact?
- Potential penalty or other negative impact?

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 and opportunity enablement



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?
- Enable new business opportunities?

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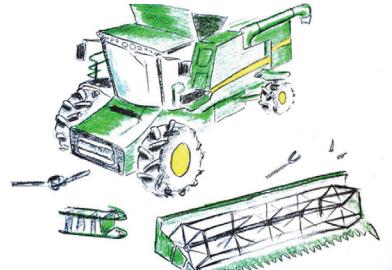
2-52

Example with equal cost of delay: Which job first?

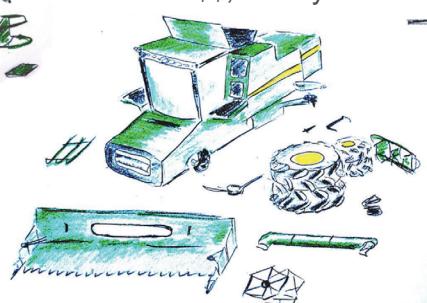
A \$\$, 1 day



B \$\$, 3 days



C \$\$, 10 days

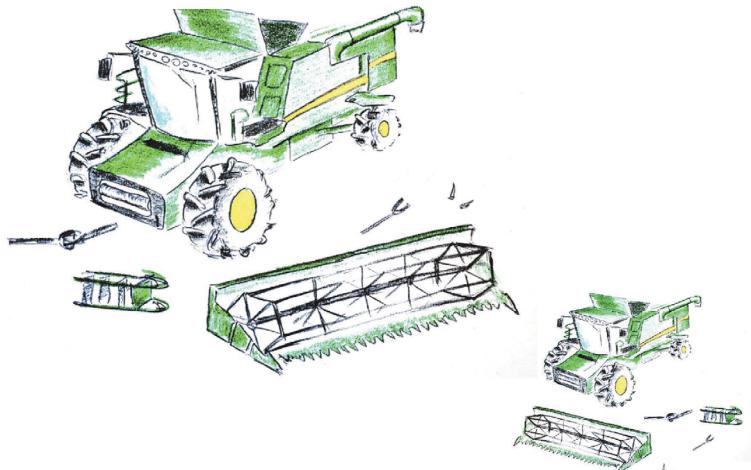


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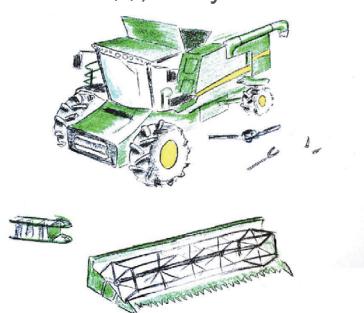
2-53

Example with equal duration: Which job first?

A \$\$\$, 3 days



B \$\$, 3 days



C \$, 3 days

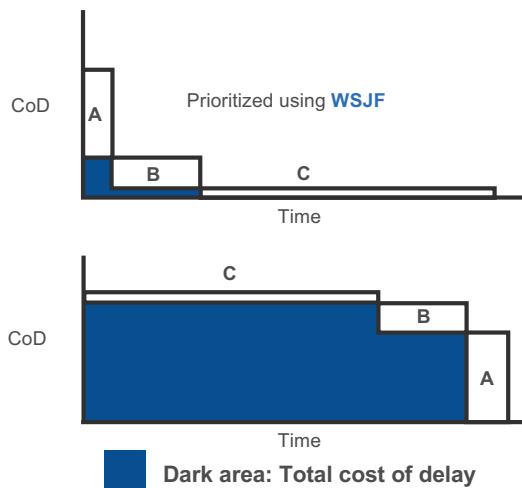


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General case: Any cost of delay and duration

Give preference to jobs with a shorter duration and higher CoD, using WSJF.



$$\text{WSJF} = \frac{\text{Cost of delay}}{\text{Job duration (Job size)}}$$

Feature	Duration	Cost of delay	WSJF
A	1	10	10
B	3	3	1
C	10	1	0.1

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Calculate WSJF with relative estimating

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 Management, POs, and System Architects

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



Activity: Prioritizing the ART Backlog

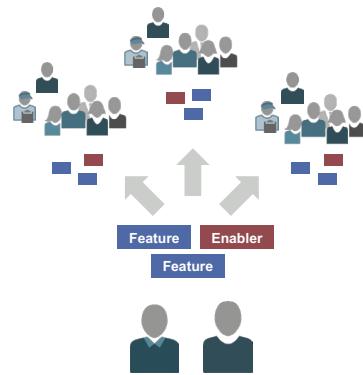


- ▶ **Step 1:** With your group, select three Features from the 'Feature storming' activity and prioritize them using WSJF.
- ▶ **Step 2:** Complete one column at a time. Start by selecting the smallest item and labeling it as '1.' Each column of the template must have at least one item labeled '1.'
- ▶ **Step 3:** Be prepared to share your WSJF prioritization.

How much preparation is enough?

Too much preparation and too little preparation can cause problems.

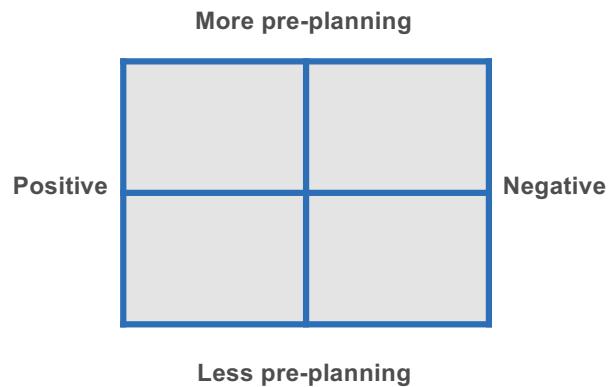
- ▶ More preparation may be needed if creating entirely new Features or the Architectural Runway
- ▶ Too much preparation can inhibit exploration, interaction, and emergent designs/Solutions during PI Planning
- ▶ Ongoing socialization of Features and Enablers, as well as adequate backlog refinement,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



Discussion: Just enough pre-planning

Duration
5 min

- ▶ **Step 1:** As a class, discuss how the amount of pre-planning that you do can have positive outcomes and negative outcomes
- ▶ **Step 2:** Consider how the Lean-Agile Mindset and SAFe practices influence and enable PI Planning preparedness





Action Plan: Preparing for PI Planning

Duration
5 min

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

- ▶ Imagine you are contributing to the Vision for your next PI. What would you need to do?
- ▶ How would market rhythms and events affect your Roadmap?



Action Plan

Preparing for PI Planning

Lesson review

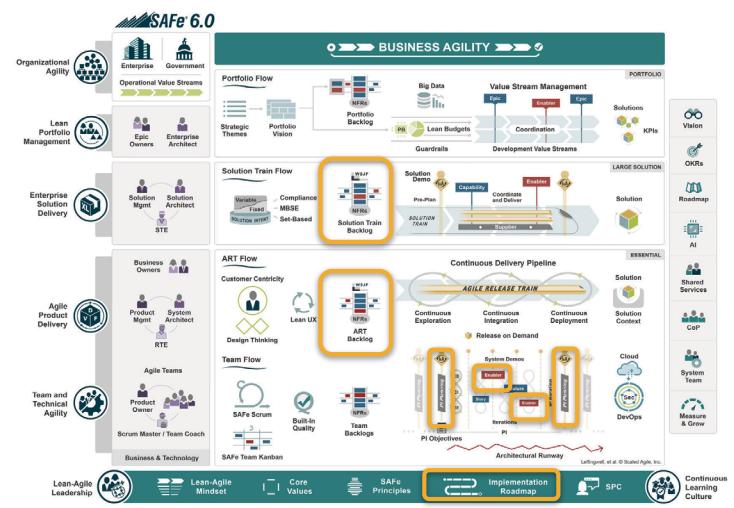
In this lesson, you:

- ▶ Summarized PI Planning
- ▶ Explained the Solution Vision
- ▶ Illustrated how to forecast work through Roadmaps
- ▶ Planned beneficial Features
- ▶ Identified how to manage the ART Backlog and Kanban

Articles used in this lesson

Read these Framework articles to learn more about topics covered in this lesson

- ▶ "PI Planning"
<https://scaledagileframework.com/pi-planning/>
- ▶ "SAFe Implementation Roadmap"
<https://scaledagileframework.com/implementation-roadmap/>
- ▶ "ART and Solution Train Backlogs"
<https://scaledagileframework.com/art-and-solution-train-backlogs/>
- ▶ "Features and Capabilities"
<https://scaledagileframework.com/features-and-capabilities/>



Continue your SAFe journey with the following resources:

Watch this six-minute video, <i>Preparation for PI Planning</i> to help you prepare for PI Planning. https://bit.ly/Video-PIPlanningPrep	Watch this 10-minute video <i>WSJF</i> playlist, including <i>An Overview of WSJF</i> and <i>Calculating WSJF to Prioritize the ART Backlog</i> , to learn more about how to use WSJF to prioritize work. https://bit.ly/Playlist-WSJF
Use the <i>Feature Storming and Refining</i> Collaborate template to decompose Epics into Features and refine those Features in preparation for PI Planning. https://bit.ly/Template-FeatureRefining	Use the <i>Creating an Epic Hypothesis Statement</i> Collaborate template to capture, organize, and communicate critical information about an Epic. https://bit.ly/Template-EpicHypothesisStatement
Sign up for the Agile Product Management course to learn more about using Design Thinking, fueling Continuous Exploration through innovation, and defining a Vision, strategy, and Roadmap to satisfy existing Customers and attract new ones. https://bit.ly/SAI-APM	

References

- Heath, Chip and Dan Heath. *Switch: How to Change Things When Change Is Hard*. New York: Broadway Books, 2010. 76.
- Levit, Theodore. "Marketing Success Through Differentiation—of Anything." *Harvard Business Review*. 1980. <https://hbr.org/1980/01/marketing-success-through-differentiation-ofanything>.
- Reinertsen, Donald G. *The Principles of Product Development Flow: Second Generation of Lean Product Development*. Redondo Beach: Celeritas 2009. 31.

Lesson 2 notes

Enter your notes below. If using a digital workbook, save your PDF often so you don't lose any of your notes.

Lesson 3

Leading PI Planning

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



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Lesson Topics

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

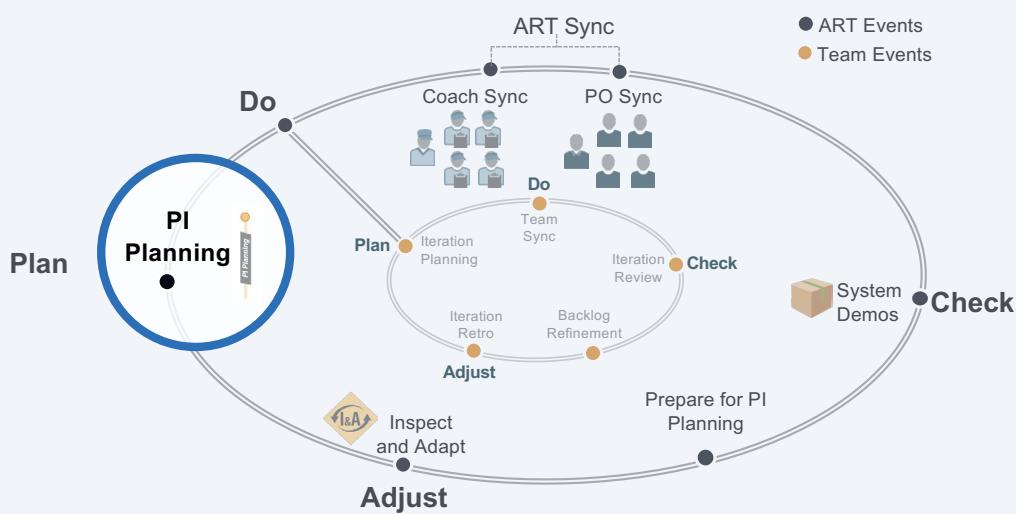


Learning objectives

At the end of this lesson, you should be able to:

- ▶ Demonstrate how to communicate the Vision
- ▶ Plan PI Objectives
- ▶ Explain how to organize and manage dependencies
- ▶ Summarize how to analyze risks

Leading PI Planning



3.1 Communicate the Vision

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What POs and Product Management do during PI Planning – day one

- ▶ Communicate:
 - The Vision
 - 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

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

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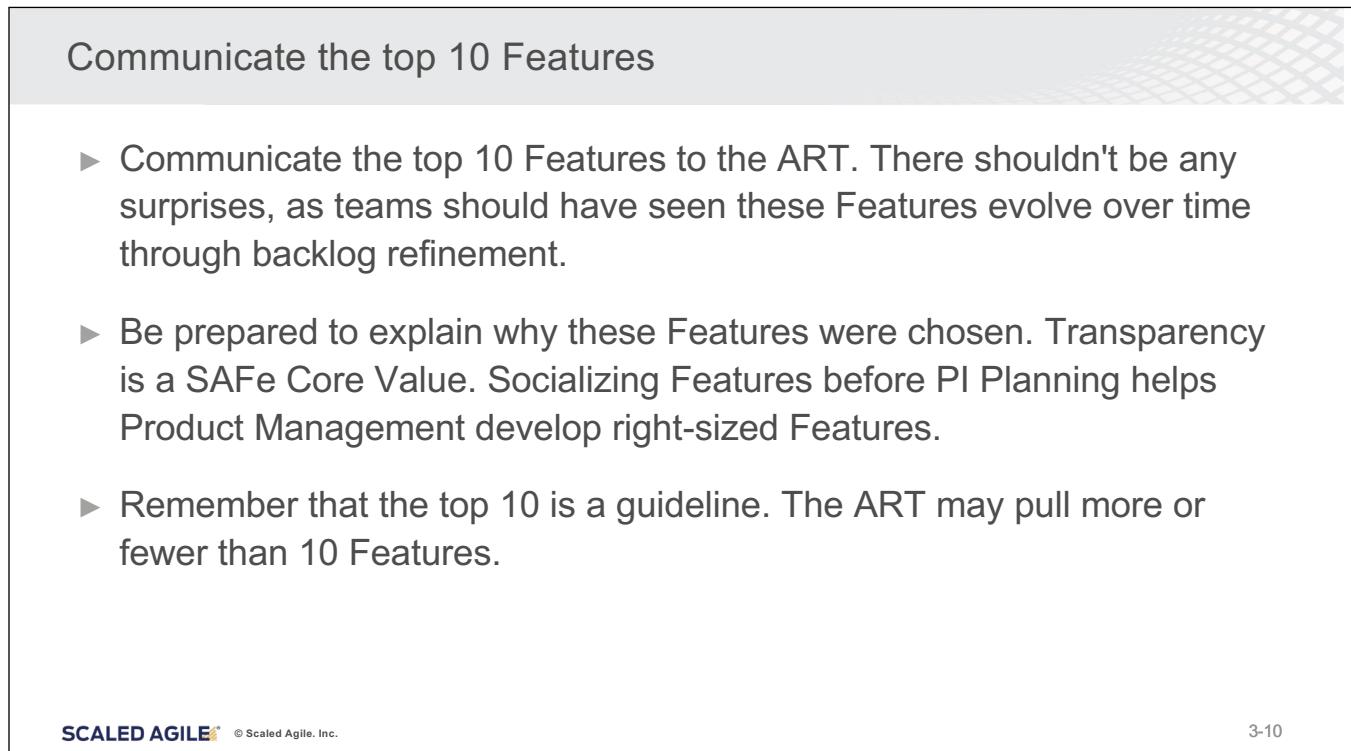
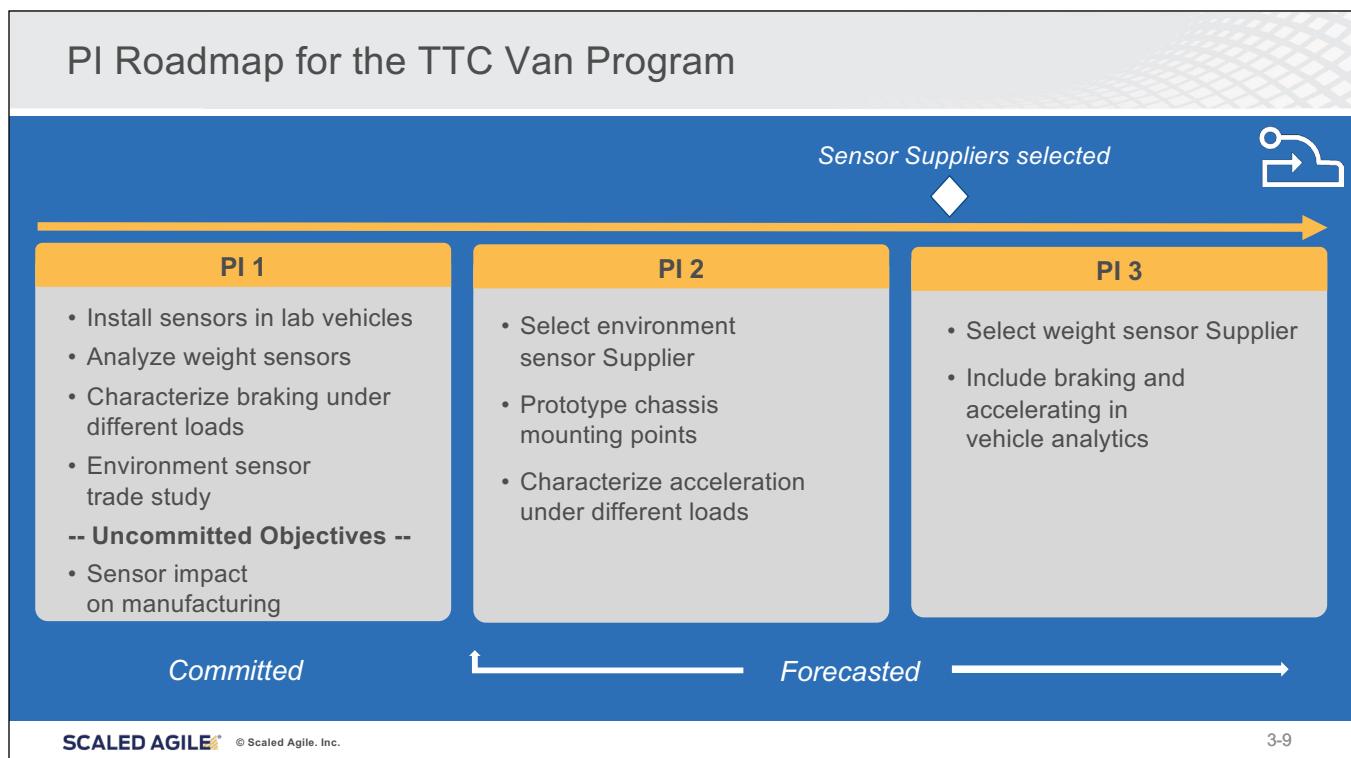
3-6

Communicate the Vision

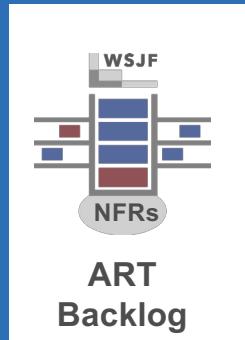
- ▶ Present to the ART how the Vision aligns with Strategic Themes
- ▶ Prepare materials so that each team can see the Vision
- ▶ Provide user personas to illustrate how the Vision improves the experiences of your Customers
- ▶ Explain the importance of NFRs
- ▶ Relate the Vision to Strategic Themes and Solution context

Communicate the PI Roadmap

- ▶ Show how the PI Roadmap in this PI helps fulfill the Vision
- ▶ Communicate the PI Roadmap as part of your Vision to assist in PI Planning activities
- ▶ Describe how the PI Roadmap supports key Epics and Milestones



TTC Van Program top 10 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
10. Research chassis mounting methods

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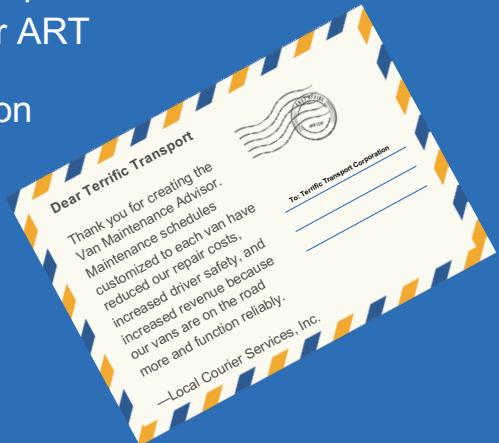
3-11



Activity: Communicate the Vision



- ▶ **Step 1:** In your groups, act as Product Management and use the TTC Van Solution Vision, PI Roadmap, and top 10 Features to communicate the Van Solution Vision to your ART
- ▶ **Step 2:** Plan a creative delivery for your Vision
- ▶ **Step 3:** Be prepared to share your Vision



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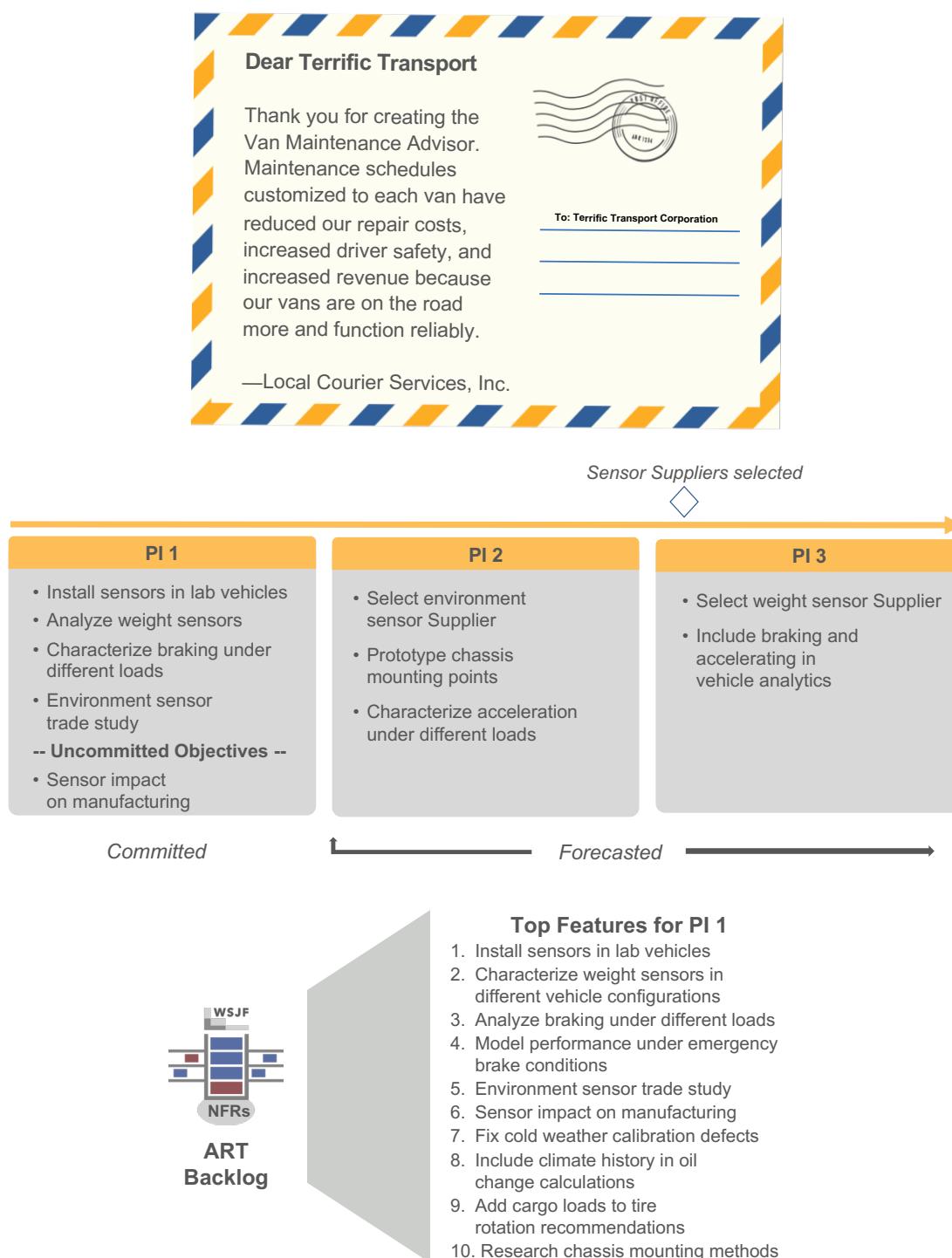
3-12

Activity: Communicate the Vision

Step 1: In your groups, act as Product Management and use the TTC Van Solution Vision, PI Roadmap, and top 10 Features to communicate the Van Solution Vision to your ART

Step 2: Plan a creative delivery for your Vision

Step 3: Be prepared to share your Vision



Support team breakouts

- ▶ Team breakouts are a time for Agile Teams to work on planning how they will deliver Features in upcoming Iterations
- ▶ POs lead this activity with their respective teams
- ▶ Product Management supports teams and provides additional insights and guidance

Present draft plans and participate in management review

- ▶ Teams present their draft plans with draft PI Objectives, potential risks, and dependencies during the draft plan review.
- ▶ At the end of day one, the RTE facilitates the management review and problem-solving meeting.
- ▶ Management negotiates scope changes and resolves other issues by making planning adjustments. The planning adjustments are presented at the start of day two.





Discussion: Addressing issues during management review and problem-solving

Duration
10 min



During PI Planning, the team that is spiking Enabler Stories for sensor impact on manufacturing realizes they are also the best equipped team to work on the Feature to install sensors in lab vehicles.

However, they do not believe they have capacity for both Features.

- ▶ **Step 1:** What is the core issue the team is raising?
- ▶ **Step 2:** Discuss solutions Product Management can present to resolve those issues.

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3.2 Establish PI Objectives

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What POs and Product Managers do during PI Planning – day two

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

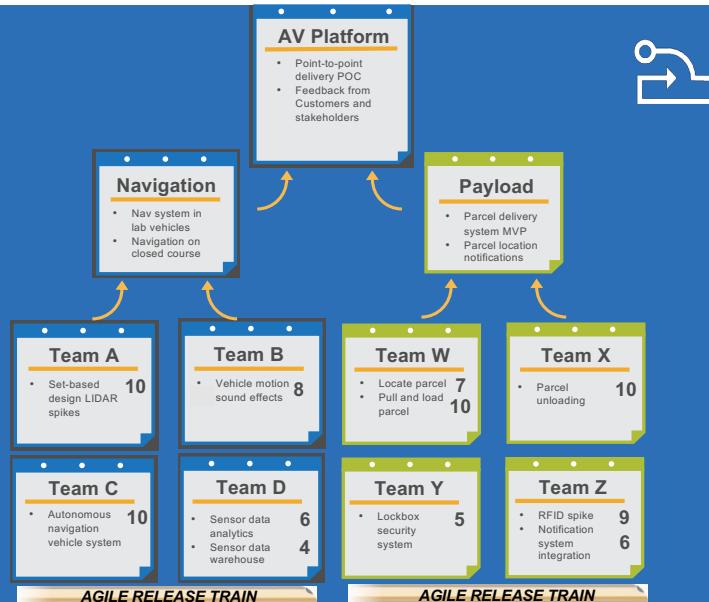
Planning adjustments	8:00 – 9:00
Team breakouts	9:00 – 11:00
Final plan review and lunch	11:00 – 1:00
ART PI Risks	1:00 – 2:00
PI confidence vote	2:00 – 2:15
Plan rework if necessary	2:15 – ???
Planning retrospective and moving forward	After commitment

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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
- ▶ Are built largely from the bottom-up, as the teams estimate and identify them during PI Planning
- ▶ Should reflect what is important to the business as well as other stakeholders



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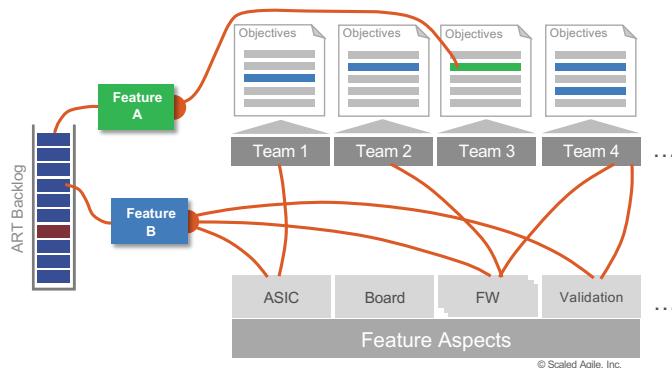
Why do we use PI Objectives?

- ▶ **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. Commitment to PI Objectives allows the team and the Product Owner 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 PI Objectives.

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Distinguish Features from PI Objectives



- ▶ PI Objectives often relate directly to Features
- ▶ Some Features can be delivered by individual teams; others require collaboration
- ▶ In addition to Features and inputs to Features, other team objectives will appear

Focus on outcomes - During PI Planning, teams should be asking, "Is our goal to complete the listed Features, or is our goal to provide the outcomes desired by those Features?"

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Tips for writing effective team PI Objectives

- ▶ Remove jargon so that PI Objectives are 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 an action verb
M	Measurable	Descriptive, Yes/No, quantitative, a range
A	Achievable	Within 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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Create alignment with PI Objectives

- ▶ Objectives are business summaries of what each team intends to deliver in the upcoming PI
- ▶ They often directly relate to intended Features in the backlog
- ▶ Other examples:
 - Aggregation of a set of Features
 - A Milestone, such as a trade show
 - An Enabler Feature supporting the implementation
 - A major refactoring

Objectives for PI 1	BV	AV
1. Show routing calculations between the five most frequent destinations	—	—
2. Navigate autonomously from distribution center to the most frequent destination	—	—
3. Parallel park for a delivery	—	—
4. Return to the distribution center after delivery	—	—
5. Include traffic data in route planning	—	—
6. Recall a delivery that is already in progress	—	—
Uncommitted Objectives		
7. Spike: Reduce GPS signal loss by 25%	—	—
8. Demonstrate real-time rerouting to avoid delays (e.g., accident, construction)	—	—

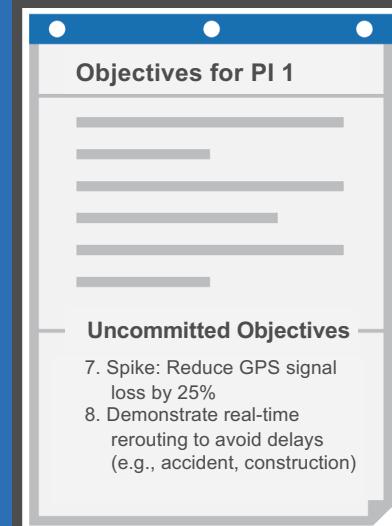
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Maintain predictability with uncommitted objectives

Uncommitted objectives help improve the predictability of delivering business value.

- ▶ Uncommitted objectives are planned and aren't extra things teams do "just in case they have time"
- ▶ Uncommitted objectives are not included in the commitment, to make the commitment more reliable
- ▶ If a team has low confidence in meeting a PI Objective, the PI Objective should be 'uncommitted'
- ▶ If an objective has many unknowns, consider moving it to 'uncommitted,' and put in early spikes
- ▶ Uncommitted objectives count when calculating load



Considerations when assigning business value

Consideration	Description
Regulatory value	Legal or infrastructure functionality that, if not deployed, can result in fines, revenue loss, or damage to the Enterprise brand
Commercial value	Product/service functionality that brings new revenue 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, proofs of concept (POCs), and research spikes

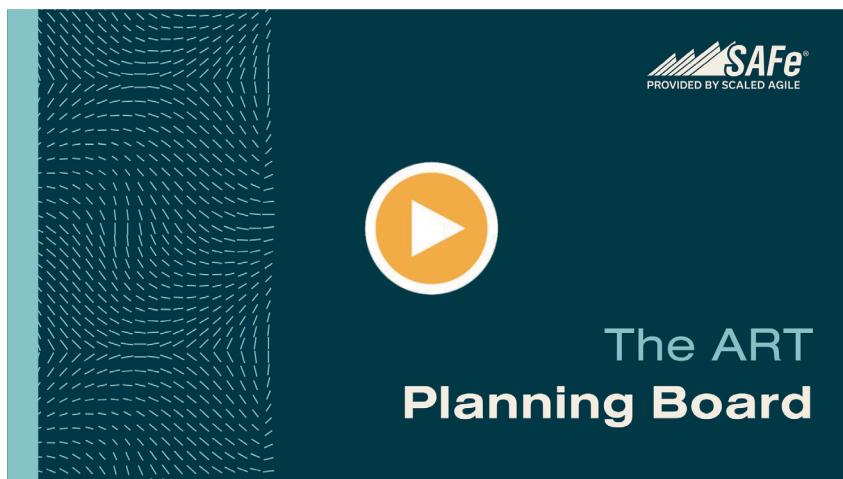
3.3 Manage dependencies

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Video: PI Planning: The ART Planning Board

Duration
10 min

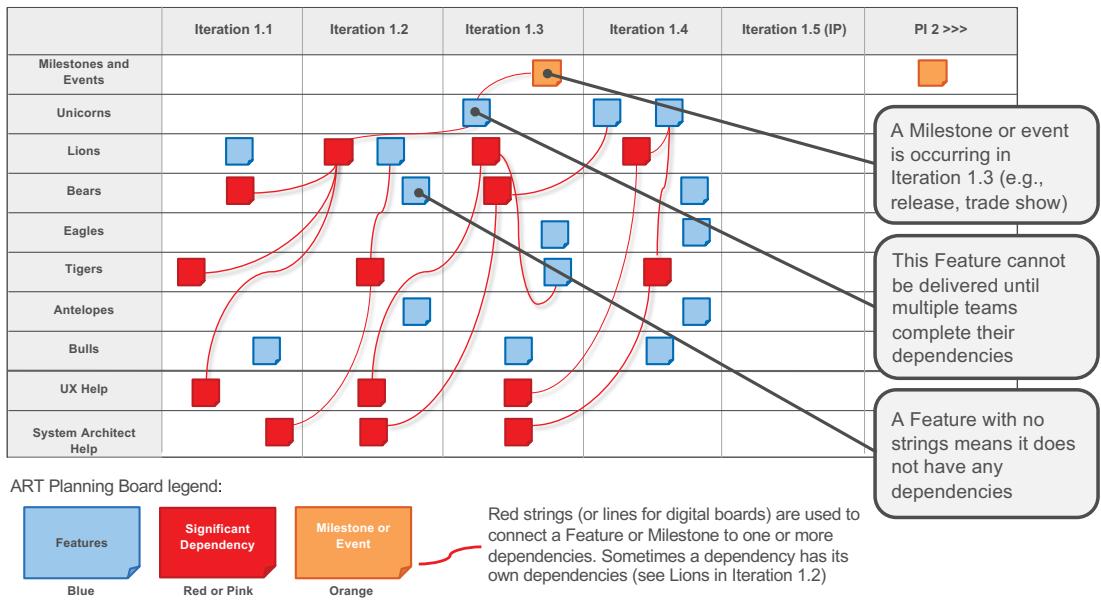


<https://bit.ly/Video-ARTPlanningBoard>

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Using an ART Planning Board to visualize work



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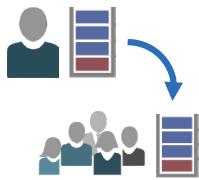
Strategies for managing dependencies

Challenge	Potential Strategy
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

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PI Planning can reveal opportunities to release value sooner



Business priorities

1	Feature
2	Feature
3	Feature
4	Enabler
5	Feature
6	Feature
7	Feature
8	Feature
9	Feature

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



Product Management can accept this sequencing or ask the team to retain the original sequencing based on other factors.

Team analysis

3	Feature
4	Enabler
1	Feature
2	Feature
9	Feature
5	Feature
6	Feature
7	Feature
8	Feature

3-29

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Activity: Identify dependency issues and resolve them

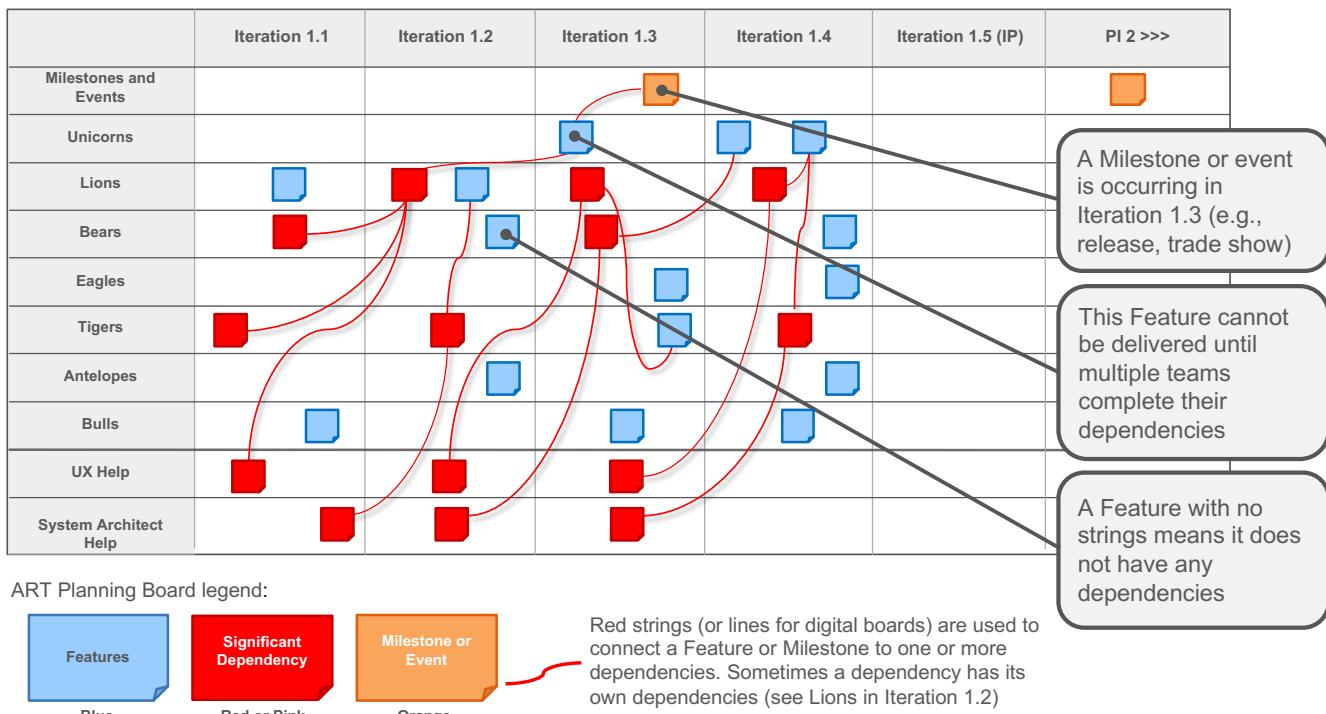


- ▶ **Step 1:** With your groups, review the ART Planning Board
 - What potential issues do you see?
 - Who should POs and Product Management collaborate with to help minimize dependencies and address the issues identified?
- ▶ **Step 2:** Be prepared to share

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3-30

Activity: Identify dependency issues and resolve them



Step 1: With your groups, review the ART Planning Board

What potential issues do you see?

Who should POs and Product Management collaborate with to help minimize dependencies and address the issues identified?

Step 2: Be prepared to share

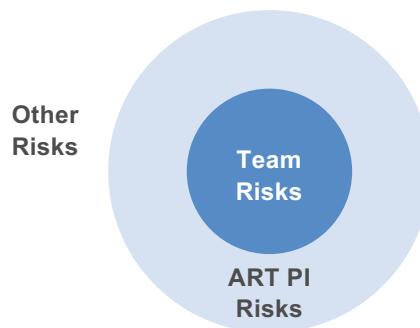
3.4 Manage risks

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Types of risks

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



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Building the final plan

- ▶ All teams review the final plans
- ▶ Business Owners are asked whether they accept the plans
 - If so, the plan is accepted
 - If not, the plans stay in place, and the teams continue planning after the review



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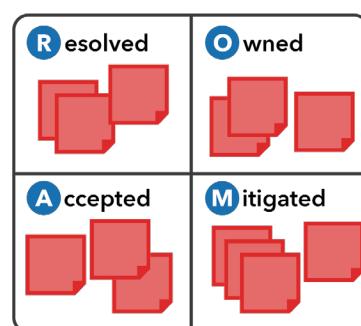
3-33

Addressing ART PI Risks

After all plans have been presented, any remaining ART PI Risks and impediments are discussed and categorized.

ROAMing risks:

- ▶ **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 a plan to adjust as necessary.



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Confidence vote

After dependencies are resolved and risks are addressed, a confidence vote is taken by each team and the ART.

A commitment with two parts:

1. Teams agree to do everything in their power to meet the agreed upon objectives
2. If facts indicate that an objective is not achievable, teams agree to escalate immediately so that corrective action can be taken



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Action Plan: Leading PI Planning



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

- ▶ What are some strategies you could use to develop PI Objectives with your team?
- ▶ List some things you can do to improve your team's ability to manage dependencies during PI Planning.

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Action Plan

Leading PI Planning

Lesson review

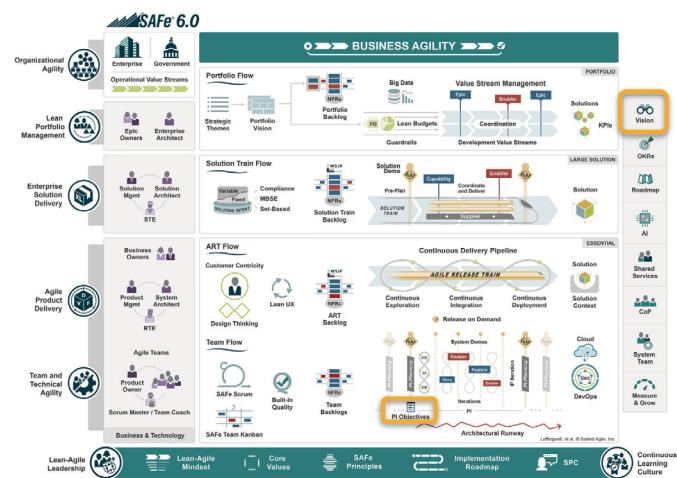
In this lesson, you:

- ▶ Demonstrated how to communicate the Vision
- ▶ Planned PI Objectives
- ▶ Explained how to organize and manage dependencies
- ▶ Summarized how to analyze risks

Articles used in this lesson

Read these Framework articles to learn more about topics covered in this lesson

- ▶ "Vision"
<https://www.scaledagileframework.com/vision/>
- ▶ "PI Objectives"
<https://www.scaledagileframework.com/pi-objectives/>



Continue your SAFe journey with the following resources:

Watch the four-video playlist, <i>Introduction to PI Planning</i> , to review the PI Planning process. https://bit.ly/Playlist-PIPlanning	Download and share <i>Pre-ILT SMART Objectives</i> for guidance in writing PI Objectives that are more effective by making them specific, measurable, achievable, relevant, and time-bound. https://bit.ly/Studio-SMARTObjectivesPDF
Learn how business value is assigned to PI Objectives by watching the three-minute video, <i>Assigning Business Value During PI Planning</i> . https://bit.ly/Video-AssigningBVPiplanning	

Lesson 3 notes

Enter your notes below. If using a digital workbook, save your PDF often so you don't lose any of your notes.