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## Activity: Introductions and connections

Duration



- ▶ **Step 1:** Find someone in the room you've never met (not at your table) and introduce yourself.
- ▶ **Step 2:** Discuss the perceptions and questions you have about Lean-Agile, DevOps, and SAFe:
  - How familiar are you with Agile?
  - Do you have similar perceptions and questions?
  - Do you have similar roles?

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Notes:

## Logistics

- ▶ Class times
- ▶ Breaks
- ▶ Lunch
- ▶ Restrooms
- ▶ Accessing Wi-Fi
- ▶ Working agreements

Notes:



## Lesson 1

# Advancing Lean-Agile in Government

### Learning Objectives:

- 1.1 Recognize the problem to be solved
- 1.2 Review the state of Lean-Agile adoption
- 1.3 Know the basic constructs of SAFe and the Implementation Roadmap



SAFe Authorized Course - Attending this course gives students access to the SAFe Government Practitioner exam and related preparation materials.

### 1.1 Recognize the problem to be solved

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Notes:

“ Those who master large-scale software delivery will define the economic landscape of the 21<sup>st</sup> century.

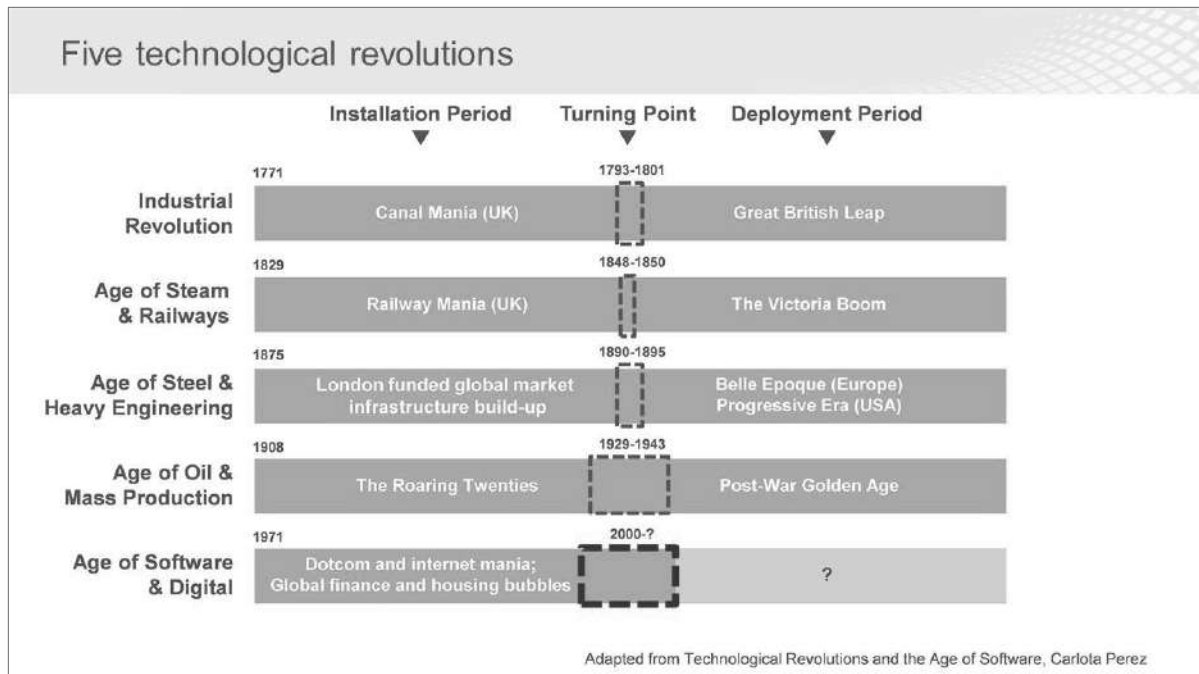
—Mik Kersten



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Notes:

## 1.1 Recognize the problem to be solved



Notes:

### Are we at the turning point?

- ▶ “BMW Group’s CEO expects that in their future more than half of its R&D staff will be software developers.” —Mik Kersten, Project to Product
- ▶ Amazon and Whole Foods Merger to Introduce Cross-Platform Selling and Lower Prices (Forbes, August 2017)
- ▶ The market cap of Tesla (\$43B market cap, \$21B revenue) now exceeds the market cap of Ford (\$36.2B market cap, \$160B revenue) 8:1 value ratio (September 2019)
- ▶ Apple is now the biggest watchmaker in the world (Investopedia 2019)



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Notes:

## Competing in the Age of Software



The problem is not with our organizations realizing that they need to transform; the problem is that organizations are using managerial frameworks and infrastructure models from past revolutions to manage their businesses in this one.

—Mik Kersten

Notes:

## Rethinking the organization



The world is now changing at a rate at which the basic systems, structures, and cultures built over the past century cannot keep up with the demands being placed on them.

—John P. Kotter

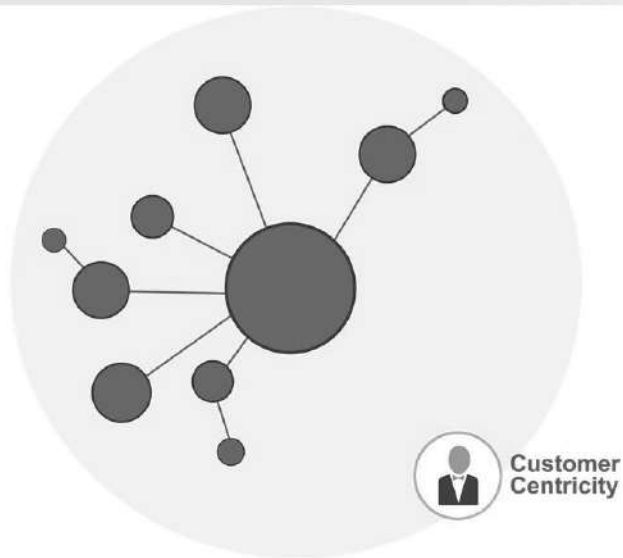


Notes:



## 1.1 Recognize the problem to be solved

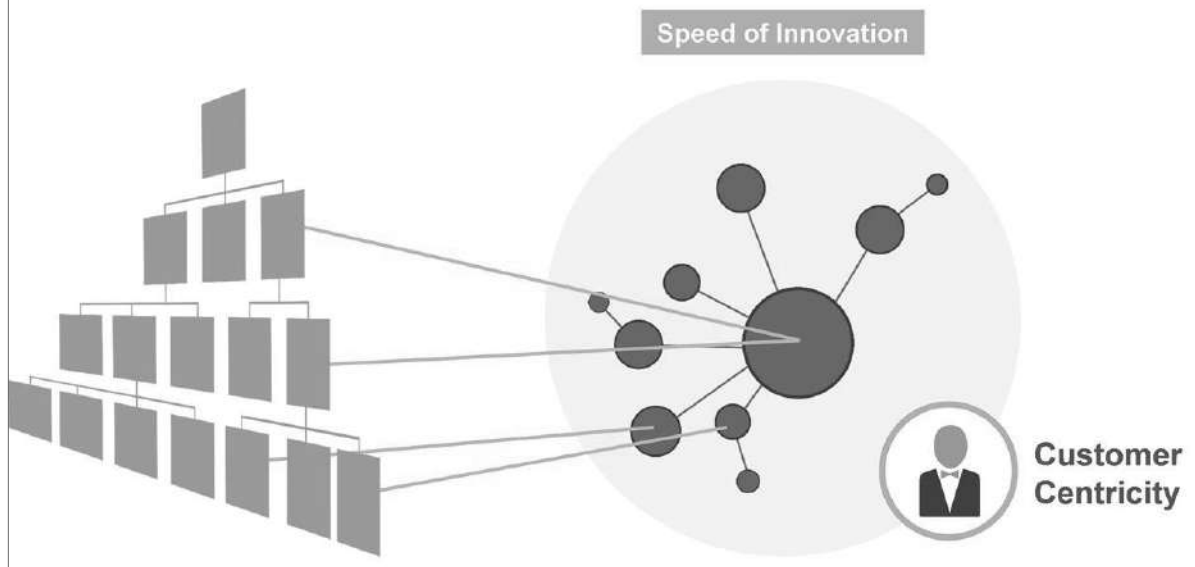
We started with a network



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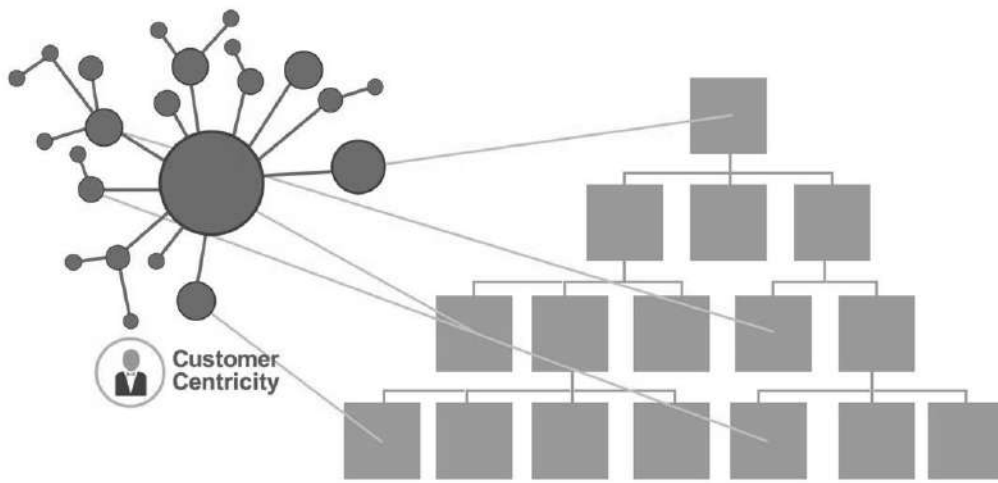
Notes:

We add hierarchy for stability and execution



Notes:

Guess what happens?



Notes:

“ The solution is not to trash what we know and start over but instead to reintroduce a second system—one which would be familiar to most successful entrepreneurs.

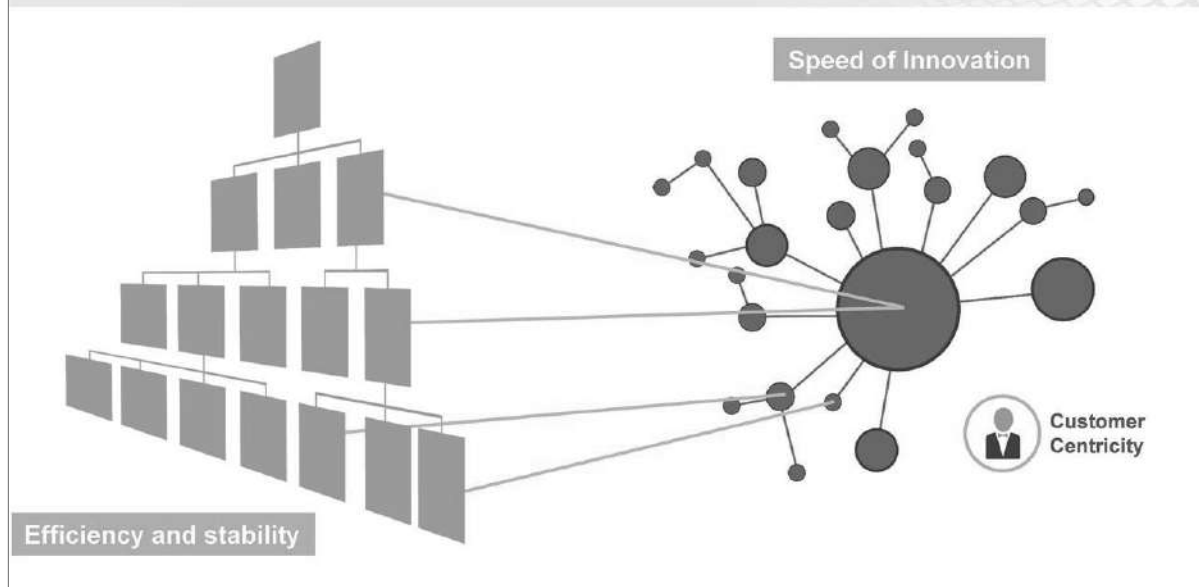
You need a dual operating system.

—John P. Kotter

Notes:

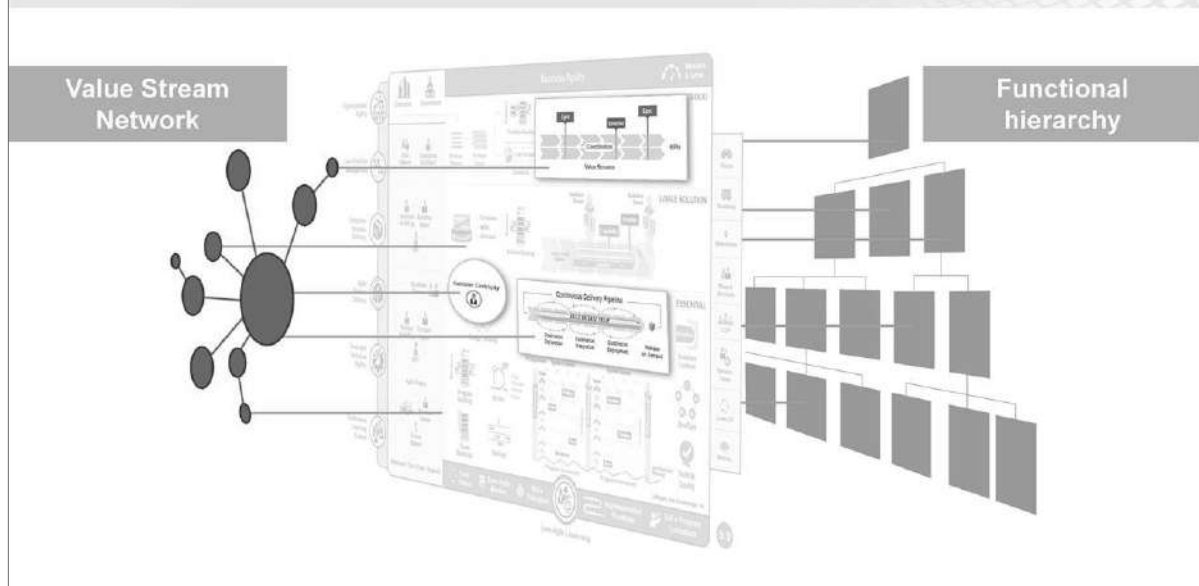
## 1.1 Recognize the problem to be solved

We need a dual operating system for business agility



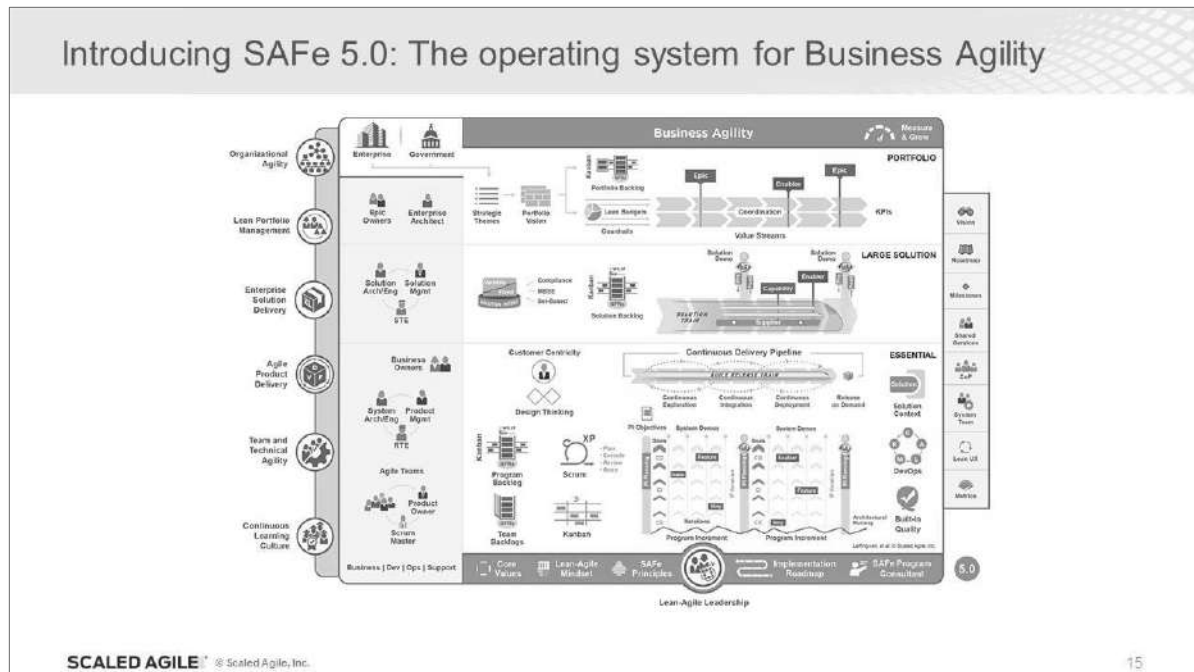
Notes:

And we have just such an operating system at our fingertips



Notes:

## 1.1 Recognize the problem to be solved



Notes:

**SAFe 5.0 brings the focus back to what it takes to bring great solutions to citizens as well as civil servants and operators in the field.**

Notes:

Achieving a state of **business (mission) agility** means that the entire organization—*not just development*—is engaged in continually and proactively delivering innovative solutions at the speed of the need.

Notes:

“SAFe 5.0 is a monumental release that I am convinced will be key in helping countless enterprise organizations succeed in their shift from project to product

—Mik Kersten



Notes:

## 1.1 Recognize the problem to be solved


Business Agility requires technical agility and a business-level commitment to product and value stream thinking.

And it requires that **everyone** involved in delivering **business solutions** use Lean and Agile practices.



Notes:

## 1.1 Recognize the problem to be solved



Discussion: Bringing your programs into the Age of Software

Prepare

5 min

Share

5 min

- ▶ **Step 1:** Think about the implications of the Age of Software and the Dual Operating System to your program.
  - What changes are needed in your mission critical systems to meet these challenges?
  - Are your current technology development processes sufficient to meet these challenges?
- ▶ **Step 2:** Share your top three Age of Software disruptions impacting your program with other learners at your table. Prepare a consolidated list using a flip chart. Highlight factors common to multiple learners at the table.
- ▶ **Step 3:** Be prepared to share your results.

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Notes:

### 1.2 Review the state of Lean-Agile adoption

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Notes:

Choose your context



UNITED STATES



LOCAL CONTEXT

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Notes:



### 1.2 Local Context

**Scaled Agile will not test any content in this context section.**



LOCAL CONTEXT

Notes:

### State of Agile adoption – local context specific

Notes:

### State of Agile adoption – local context specific

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Notes:

### State of Agile adoption – local context specific

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State of Agile adoption – local context specific

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Return to tested material



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Notes:

Welcome back to the tested content



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Notes:



### The management challenge

*It is not enough that management commit themselves to quality and productivity, they must know what it is they must do. Such a responsibility cannot be delegated ...and if you can't come, send no one.*

—W. Edwards Deming, adapted from *Out of Crisis*

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Notes:

## 1.3 Know the basic constructs of SAFe and the Implementation Roadmap

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Notes:

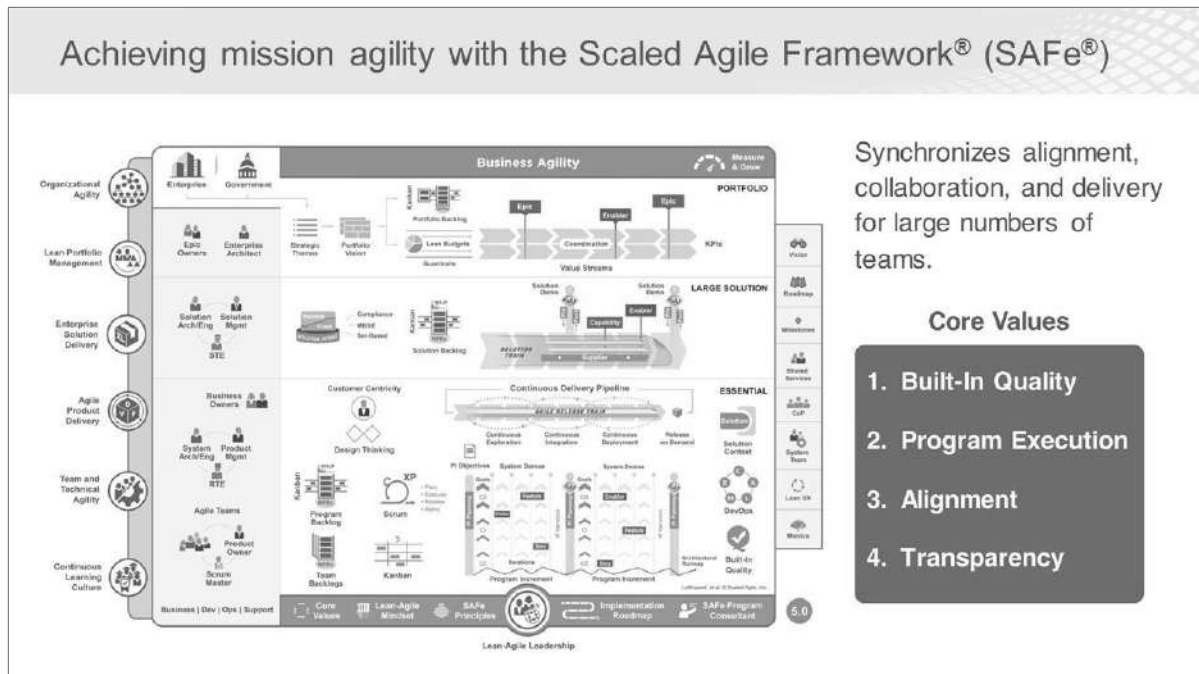
*The world's leading framework for enterprise agility.*

**SAFe® for Lean Enterprises is a knowledge base of proven, integrated principles, practices, and competencies for achieving business agility by implementing Lean, Agile, and DevOps at scale.**

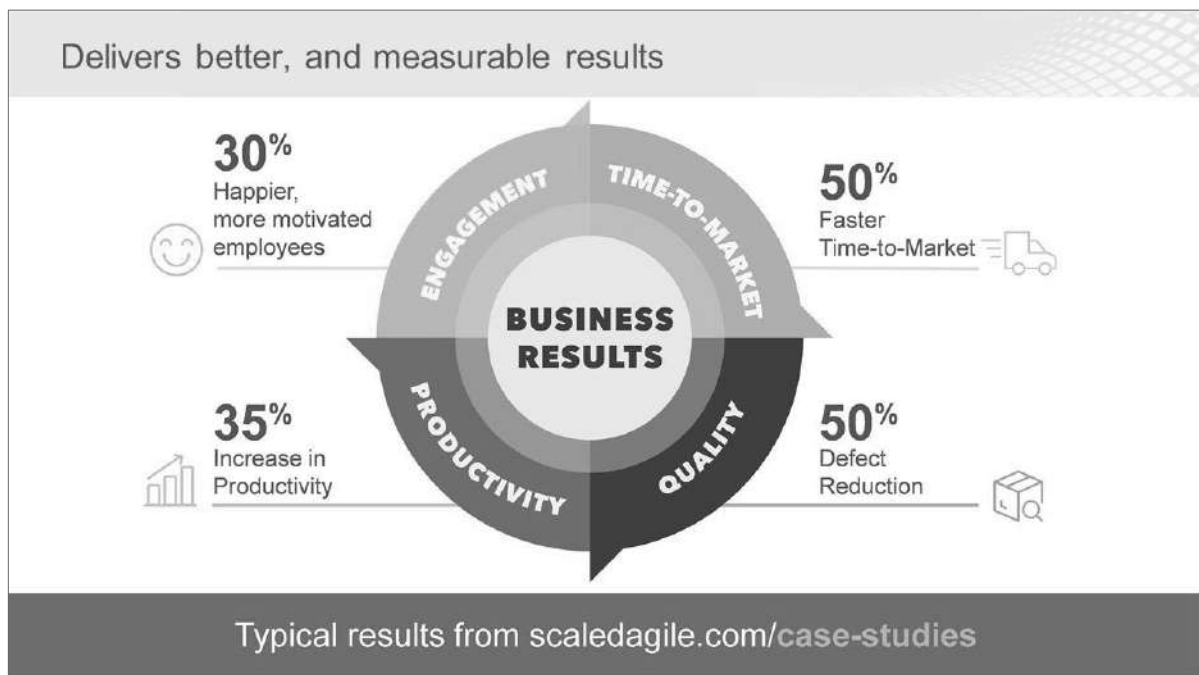
 <http://www.scaledagileframework.com/>

Notes:

## 1.3 Know the basic constructs of SAgE and the Implementation Roadmap



Notes:

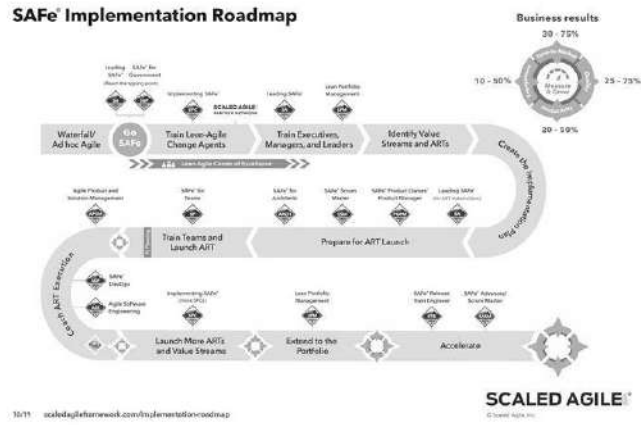


Notes:

### 1.3 Know the basic constructs of SAFe and the Implementation Roadmap

## Adopting Enterprise Lean-Agile is a journey

The SAFe Implementation Roadmap guides successful transformations.




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Notes:



## 1.3 Know the basic constructs of SAFe and the Implementation Roadmap



Activity: You are here

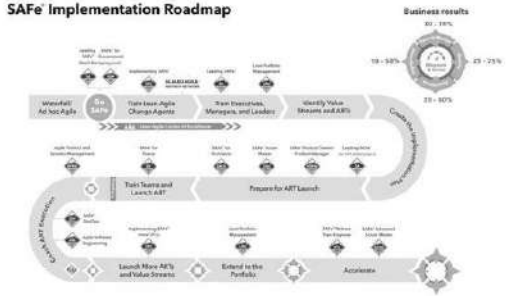
Prepare  
5 min

Share  
3 min

Successful transition to Lean-Agile is a journey, and the Implementation Roadmap helps guide the process with SAFe.

- Write your name on the “You Are Here” cutout included in your student packet and place it on the roadmap poster.
- Find a new partner and share where your agency is in the Agile journey.

**SAFe Implementation Roadmap**



The diagram illustrates the SAFe Implementation Roadmap as a winding path. It begins with a 'YOU ARE HERE' location marker. The path is divided into several stages, each with associated activities and outcomes. The final stage is 'Business results', which is represented by a circular gauge showing a range from 25% to 95%.

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Notes:



## Action Plan: Advancing Lean-Agile in Government



- ▶ **Step 1:** How does your organization plan to implement the network (SAFe) alongside the hierarchy?
- ▶ **Step 2:** What effects might you witness in your organization from a SAFe transformation on quality, program execution, alignment, and transparency?



Notes:

### Lesson review

In this lesson you:

- ▶ Recognized the problem to be solved
- ▶ Reviewed the state of Agile adoption in the public sector
- ▶ Explained the basic constructs of SAFe
- ▶ Applied the Implementation Roadmap

Notes:

## Lesson 2

# Embracing a Lean-Agile Mindset

### Learning Objectives:

- 2.1 Embrace the Lean mindset
- 2.2 Support the Agile Manifesto



SAFe Authorized Course - Attending this course gives students access to the SAFe Government Practitioner exam and related preparation materials.



Video: What is a Lean-Agile Mindset?

Duration

3 min

# What is a Lean-Agile Mindset?



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Provider of SAFe

<http://bit.ly/2BB5FWo>

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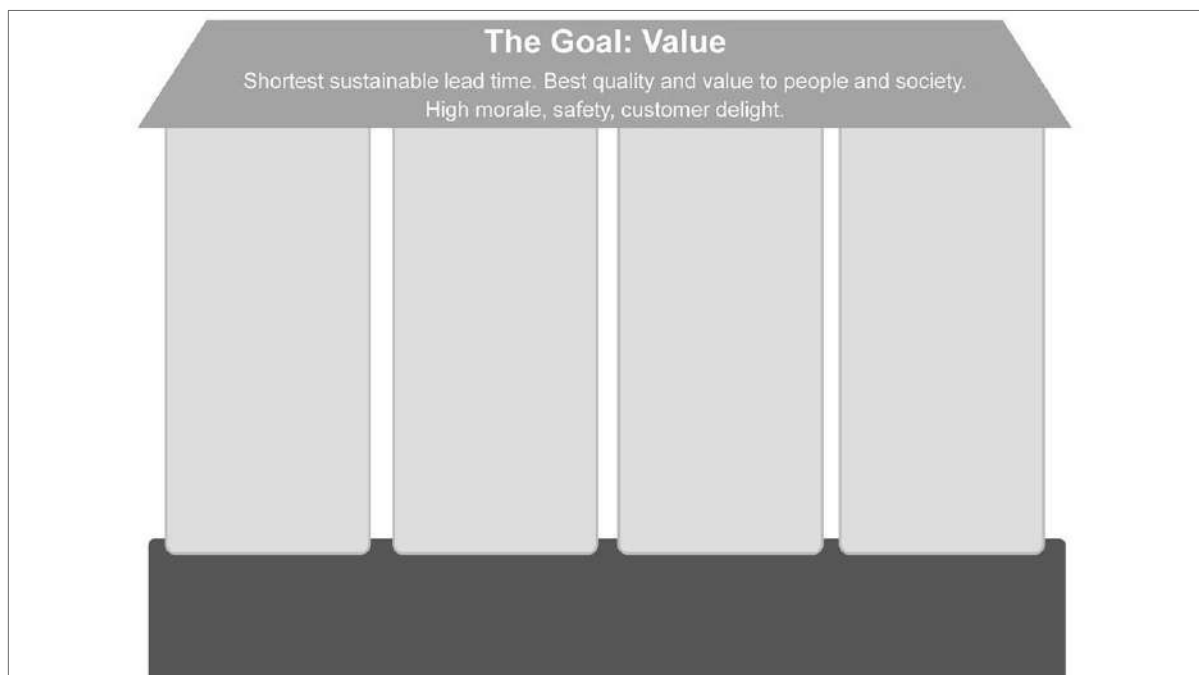
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### 2.1 Embrace the Lean mindset

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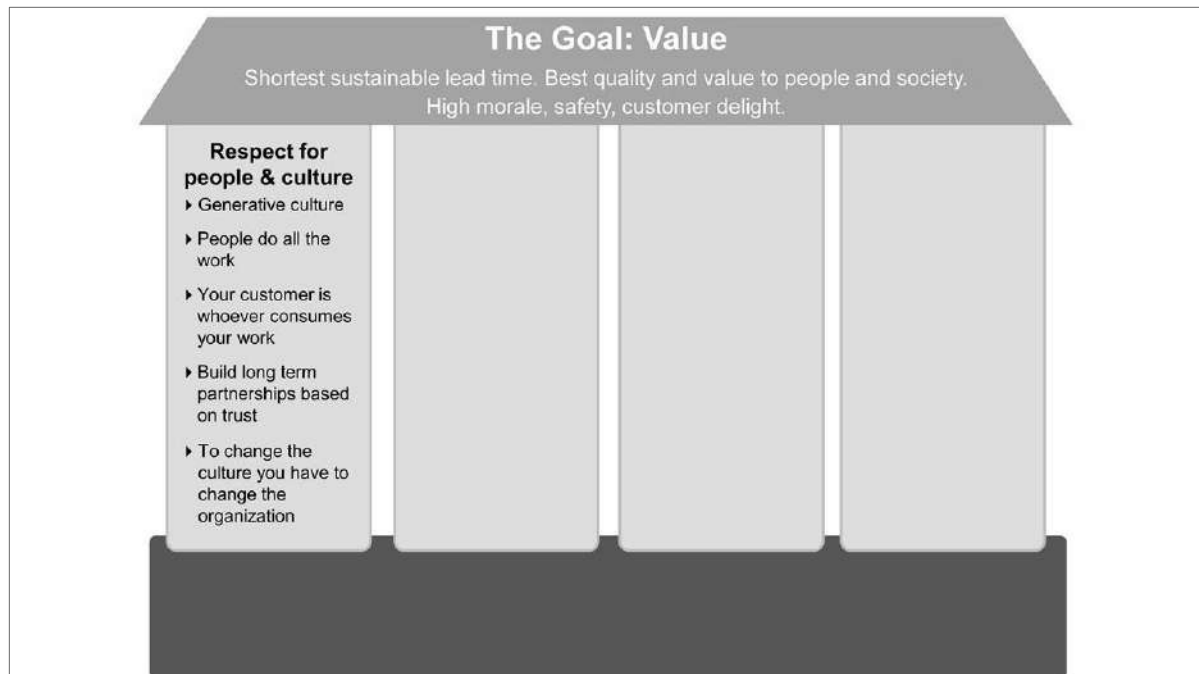
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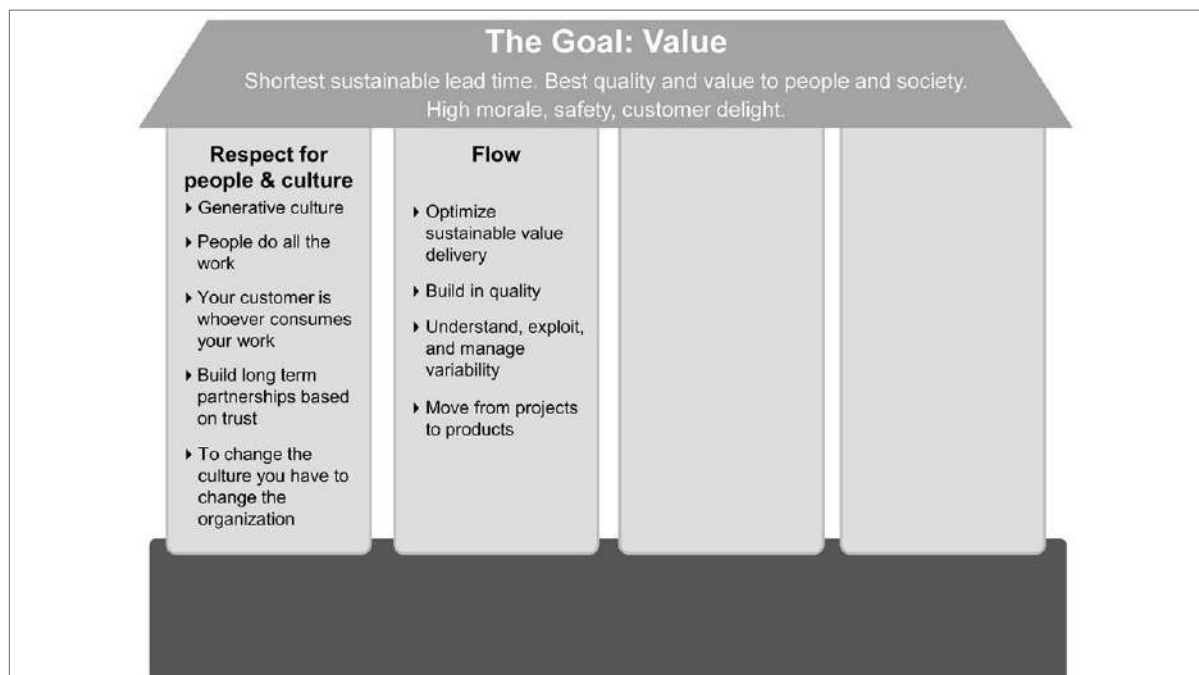


Notes:

## 2.1 Embrace the Lean mindset

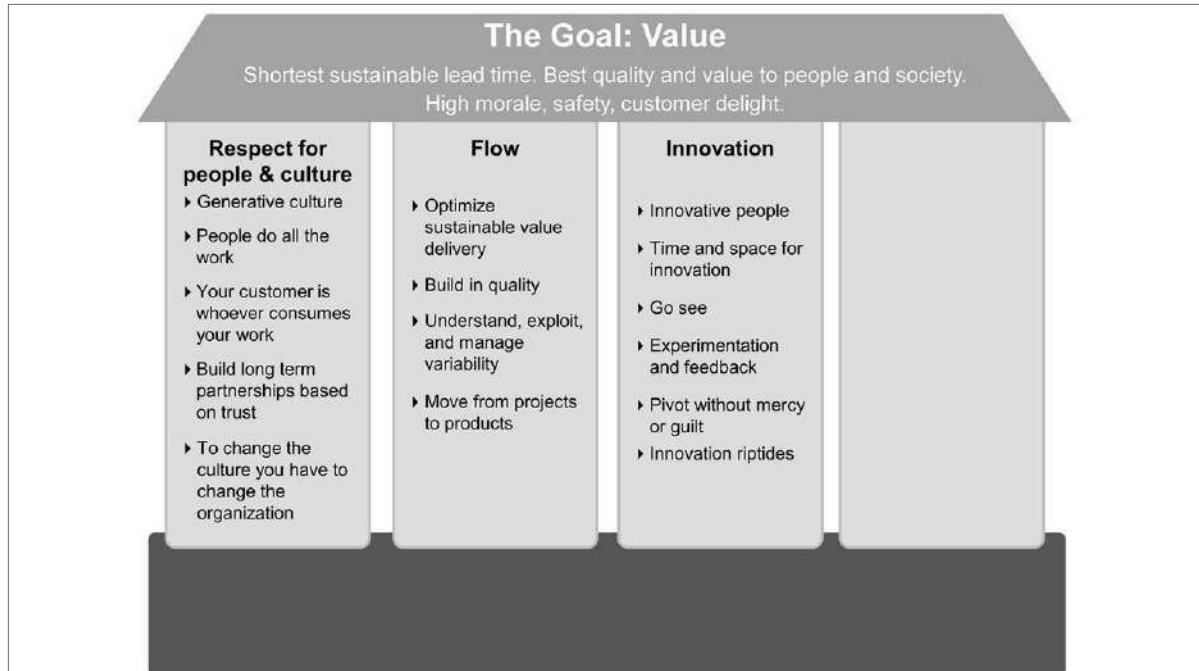


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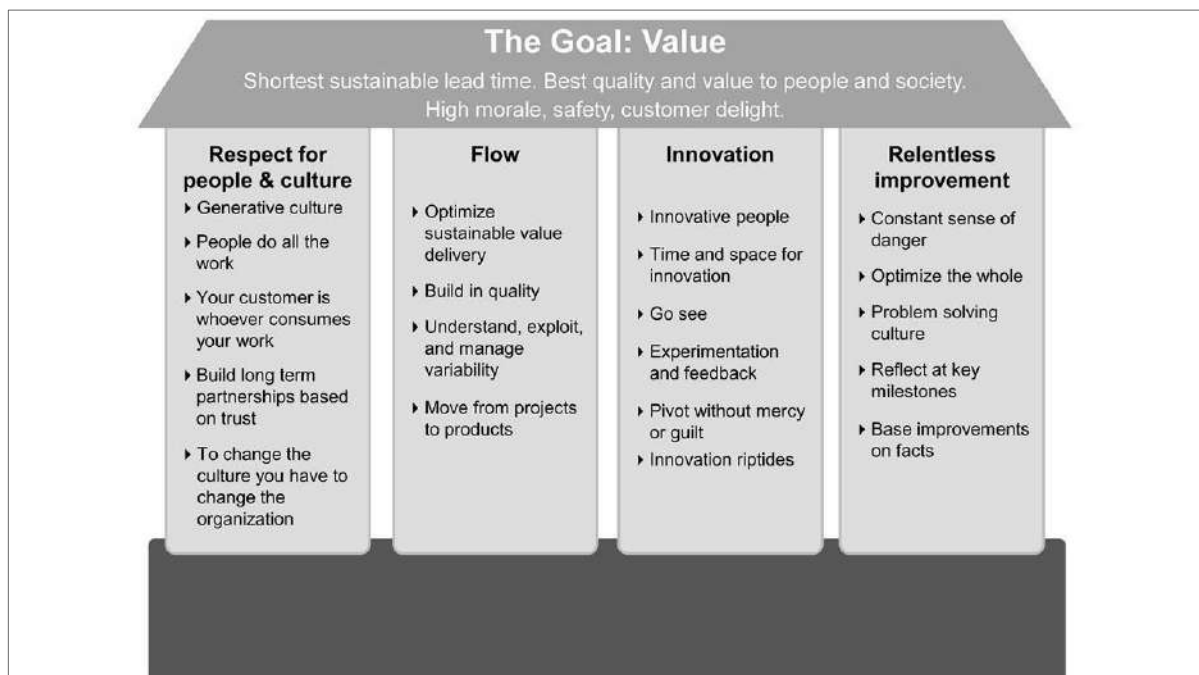


Notes:

## 2.1 Embrace the Lean mindset



Notes:




Notes:

## 2.1 Embrace the Lean mindset



Notes:



**Activity: Assessing your organization's Lean mindset**

**Prepare**  
5 min

- ▶ **Step 1:** Assess where your organization stands in embracing a Lean mindset.
- ▶ **Step 2:** Connect with someone at your table and discuss the results of the self-assessment. Do you have similar low or high scores?

	(low)	1	2	3	4	(high)
Value delivery	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Respect for people and culture	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Flow	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Innovation	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Relentless improvement	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Leadership	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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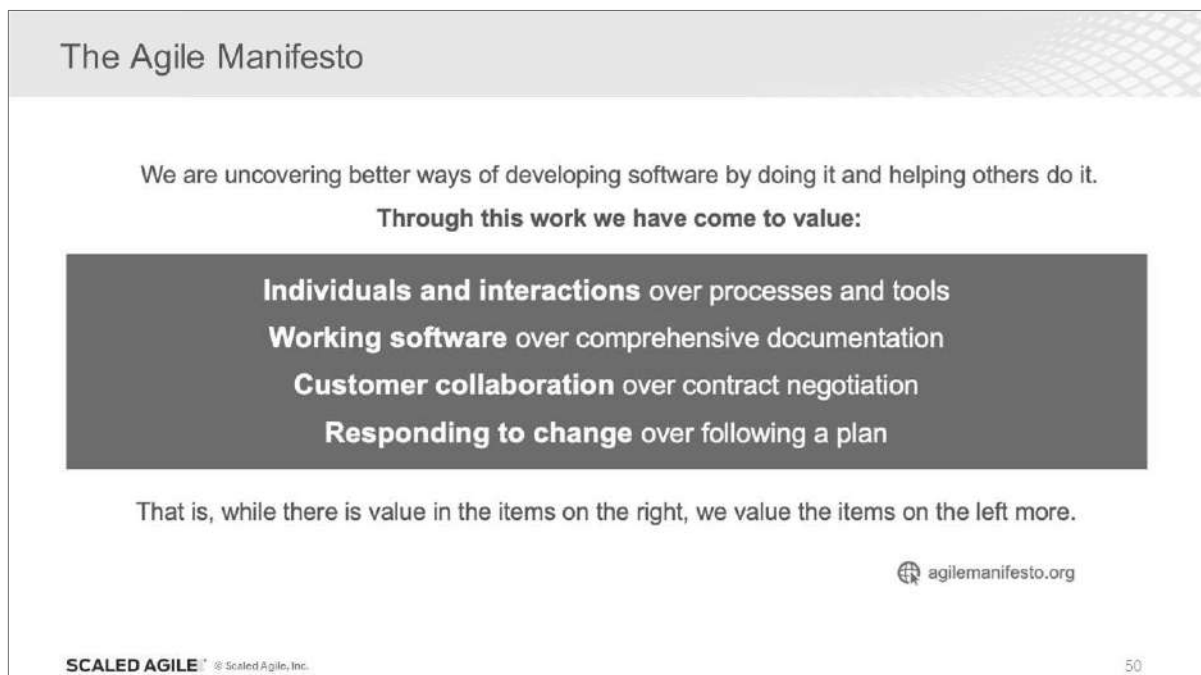
48

Notes:





Notes:



Notes:

### The Principles of the Agile Manifesto

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.

 [agilemanifesto.org/principles.html](https://agilemanifesto.org/principles.html)

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Notes:

### The Principles of the Agile Manifesto


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.

 [agilemanifesto.org/principles.html](https://agilemanifesto.org/principles.html)

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Notes:



Discussion: Agile principles in Government

Prepare  
5 min

Share  
5 min

- ▶ **Step 1:** Review the principles behind the Agile Manifesto
- ▶ **Step 2:** Select one principle at each table
- ▶ **Step 3:** Categorize as:
  - Works as-is
  - Requires rethinking in the Government context
- ▶ **Step 4:** Share your findings with the class

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Notes:



## Action Plan: Embracing a Lean-Agile Mindset



- **Step 1:** Review the assessment you did of your organization's Lean mindset. What can your organization do to improve your scores?
- **Step 2:** Review the principles in the Agile Manifesto. Which ones are most important for your organization to improve upon and what kinds of things can be done to improve upon them?



Notes:

## Lesson review

In this lesson you,

- Explored the House of Lean as the foundation of a Lean-Agile Mindset
- Reviewed how to apply and support the values and principles of the Agile Manifesto while building large systems in the Government context

Notes:

## Lesson 3

# Understanding SAFe Principles

### Learning Objectives:

- 3.1 #1 Take an economic view
- 3.2 #2 Apply systems thinking
- 3.3 #3 Assume variability; preserve options
- 3.4 #4 Build incrementally with fast, integrated learning cycles
- 3.5 #5 Base milestones on objective evaluation of working systems
- 3.6 #6 Visualize and limit WIP, reduce batch sizes, and manage queue lengths
- 3.7 #7 Apply cadence, synchronize with cross-domain planning
- 3.8 #8 Unlock the intrinsic motivation of knowledge workers
- 3.9 #9 Decentralize decision-making
- 3.10 #10 Organize around value



SAFe Authorized Course - Attending this course gives students access to the SAFe Government Practitioner exam and related preparation materials.

## 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

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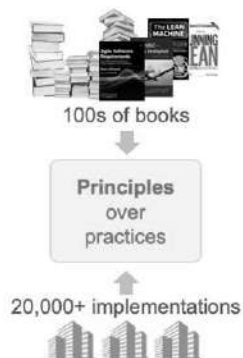
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Notes:

## Why the focus on principles?

*A common disease that afflicts management and the world over is the impression that, "Our problems are different." They are different, to be sure, but the principles that will help to improve quality of product and service are universal in nature.*

—W. Edwards Deming



- ▶ A Lean-Agile transformation will deliver substantial benefits
- ▶ However, it is a significant change and every implementation is different
- ▶ Leaders should understand why the practices work; it's part of 'knowing what it is they must do'
- ▶ If a practice needs to change, understanding the principles will assure the change moves the Enterprise in the right direction

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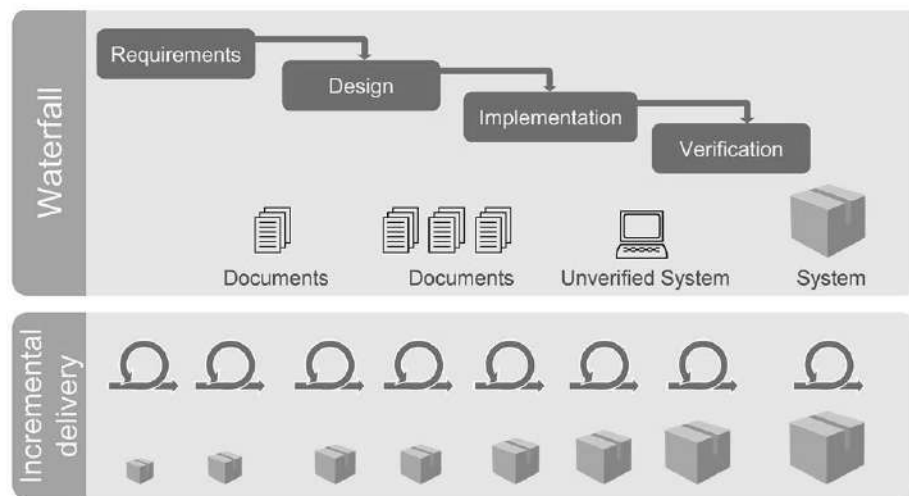
## #1 Take an economic view

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Notes:

### Agile economics: Deliver early and often



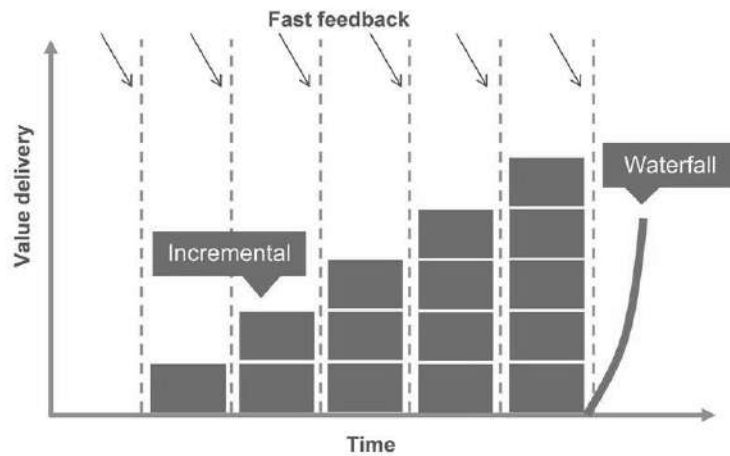
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Notes:

#### Deliver value incrementally with fast feedback and learning

- ▶ Incremental development enables earlier value delivery
- ▶ Fast feedback and adjustment provides better fit for use and fit for purpose
- ▶ Mission value decreases the longer the release of value is delayed




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Notes:





### Activity: Accelerating value delivery

Prepare  

5

min

Share  

3


min

► **Step 1:** Consider that your backlog has three Features. Each will take the entire team one month and delivers one unit of value.

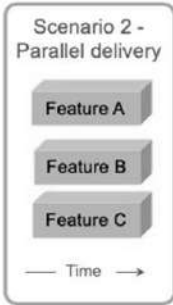
► **Step 2:** Plot the value delivery of serial and simultaneous/parallel implementation scenarios for delivering the Features.

- Note: Assume 20% task switching overhead for each team member in Scenario 2
- Hint: Plot the serial case first

Scenario 1 - Serial delivery



Scenario 2 - Parallel delivery

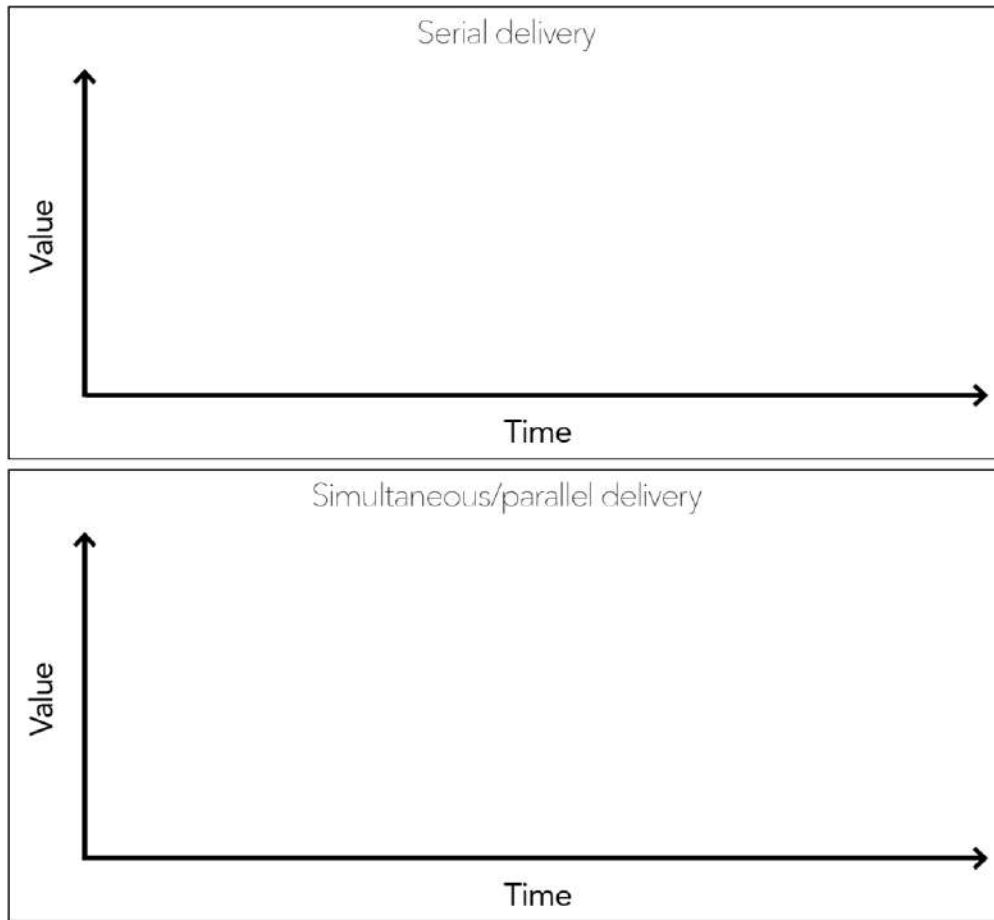


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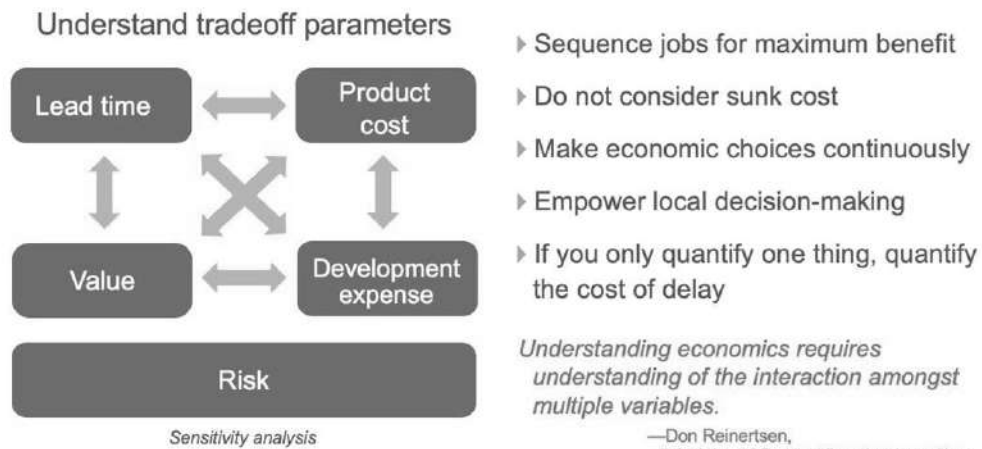
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Notes:

### 3.1 #1 Take an economic view



#### Base decisions on principles of lean economics



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Notes:

### #2 Apply systems thinking

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Notes:



***A system must be managed. It will not manage itself.***

*Left to themselves, components become selfish, independent profit centers and thus destroy the system...*

*The secret is cooperation between components toward the aim of the organization.*

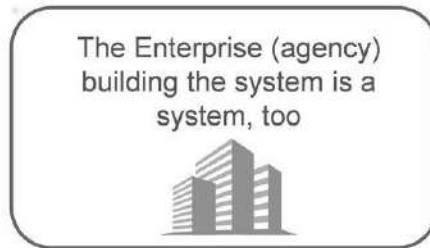
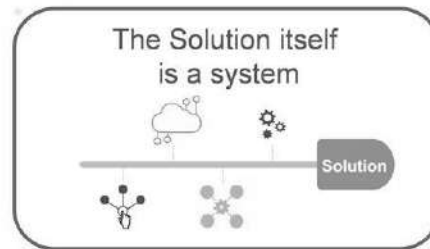
*—W. Edwards Deming*

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Notes:

### Aspects of systems thinking

- ▶ Optimizing a component does not optimize the system
- ▶ For the system to behave well as a system, a higher-level understanding of behavior and architecture is required
- ▶ The value of a system passes through its interconnections
- ▶ A system can evolve no faster than its slowest integration point



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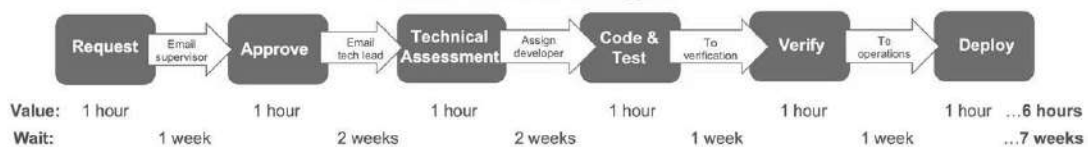
Notes:

### Optimize the full Value Stream

*We are reducing the timeline by reducing the non-value added wastes.*  
—Taiichi Ohno (paraphrased)

- ▶ Most problems with your process will surface as delays
- ▶ Most of the time spent getting Solutions deployed is a result of these delays
- ▶ Reducing delays is the fastest way to reduce time to Capability delivery


#### Focus on the delays!



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Notes:



Discussion: Identifying delays

Prepare  
5 min

Share  
3 min

- ▶ **Step 1:** Identify three delays from your context and write them down.
- ▶ **Step 2:** Write down what you think might be some potential causes for the delays.
- ▶ **Step 3:** Think about how systems thinking relates to finding possible solutions for the delays. Who is ultimately responsible for the optimization of the full Value Stream?
- ▶ **Step 4:** Share your insights with the class.

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Notes:

## 3.2 #2 Apply systems thinking

Delay #1:

Potential cause:

Delay #2:

Potential cause:

Delay #3:

Potential cause:

## #3 Assume variability; preserve options

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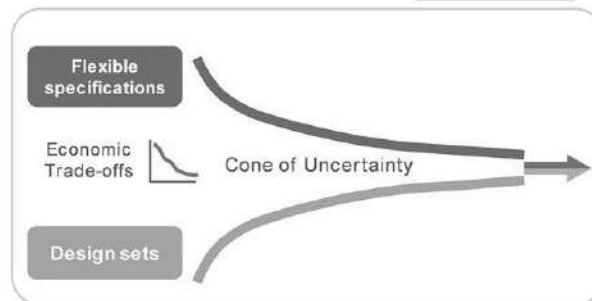
68

Notes:

### Development occurs in an uncertain world

- ▶ You cannot possibly know everything at the start
- ▶ Requirements must be flexible to make economic design choices
- ▶ Designs must be flexible to support changing requirements
- ▶ Preservation of options improves economic results

*Aggressively evaluate alternatives. Converge specifications and solution set.*  
—Allen Ward

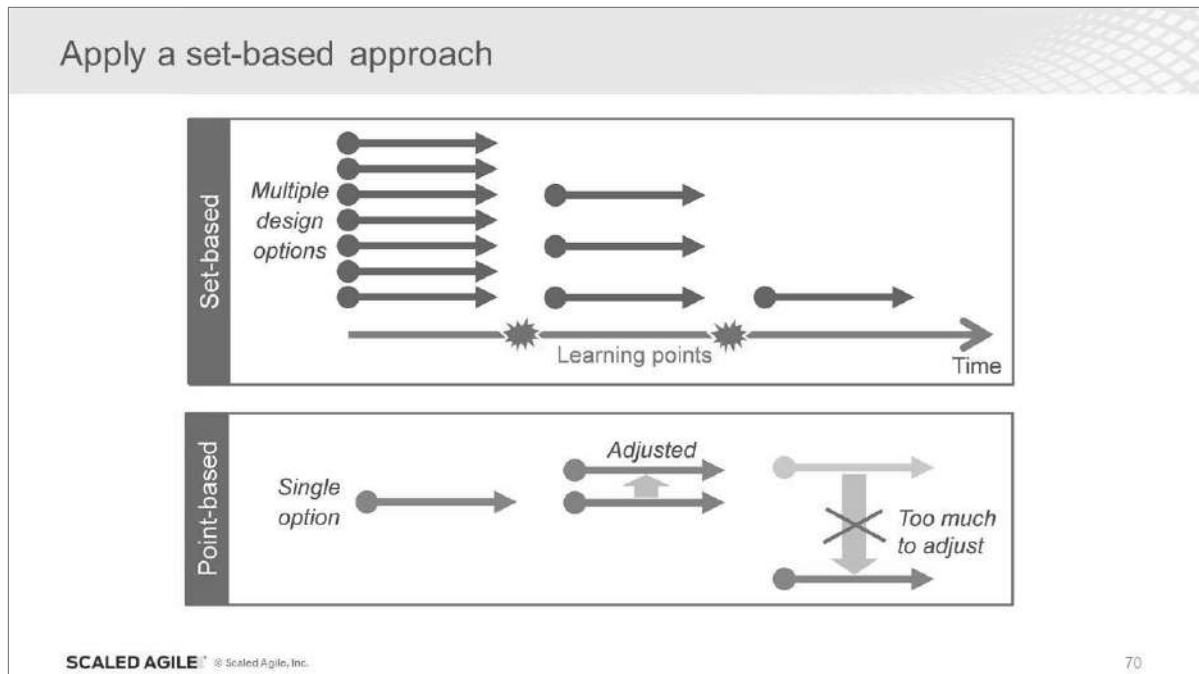


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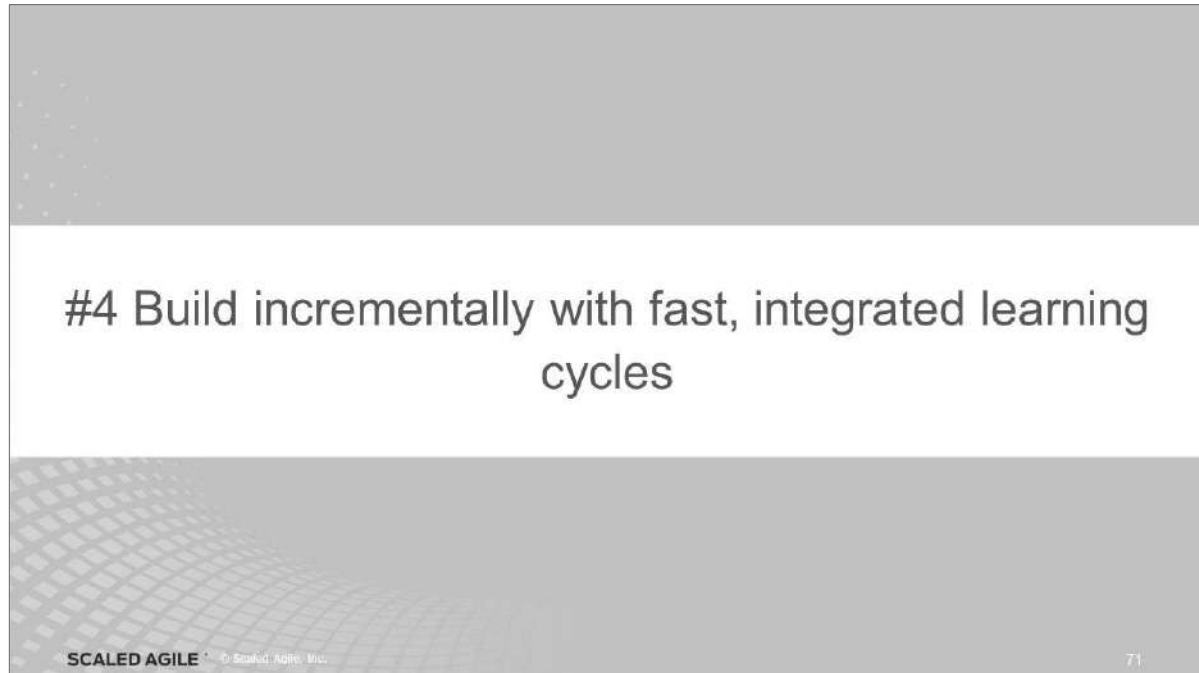
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Notes:





Notes:



Notes:



Notes:

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

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Notes:

### The problem of phase-gate milestones

- ▶ Force design decisions too early; encourages false-positive feasibility
- ▶ Assume a 'point' solution exists and can be built correctly the first time
- ▶ Create huge batches and long queues. Centralize requirements and design in program management



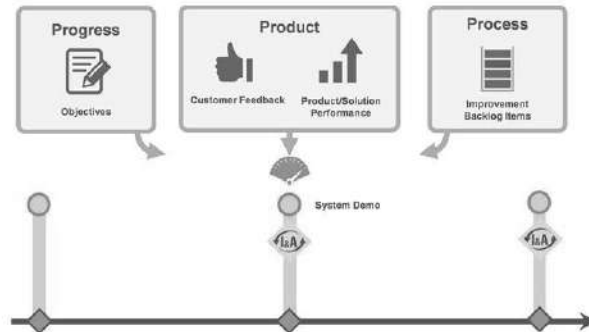
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Notes:

#### Applying objective milestones

Systems can be measured, assessed, and evaluated by the relevant stakeholders frequently, and throughout the solution development life cycle.



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Notes:

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

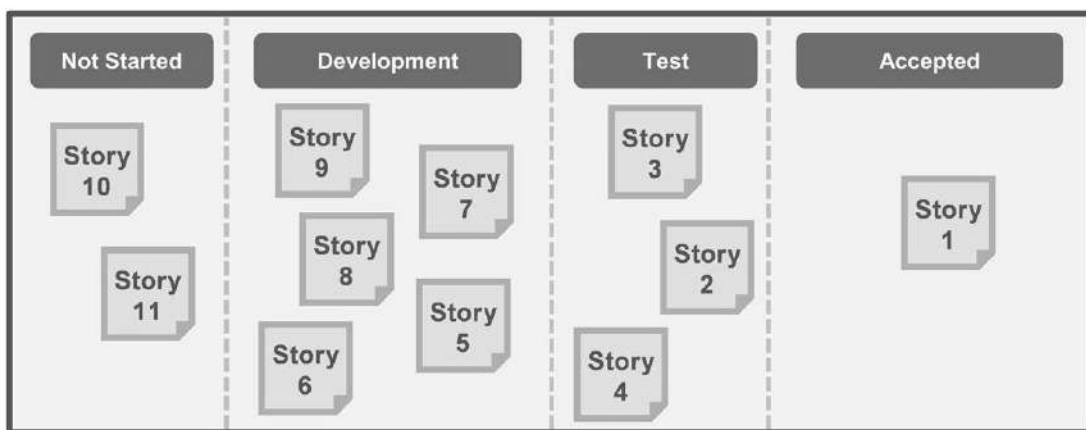
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Notes:

One team's big visible information radiator (BVIR)

How is this team doing? How do you know that?



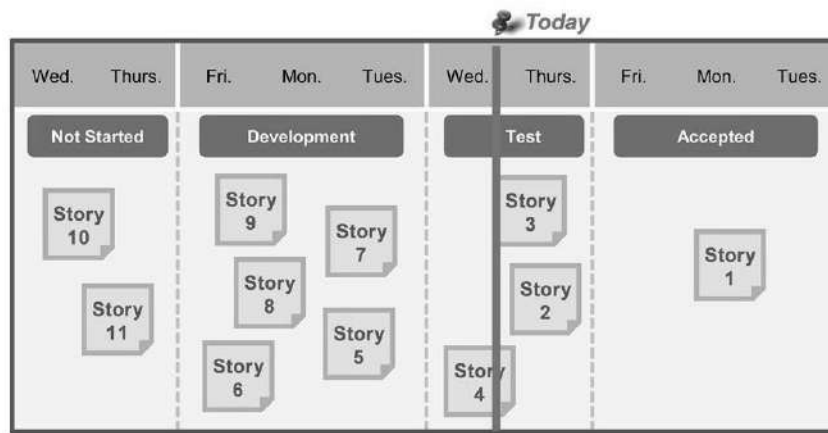
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Notes:

Visualize to increase understanding

Now how do you think they are doing?



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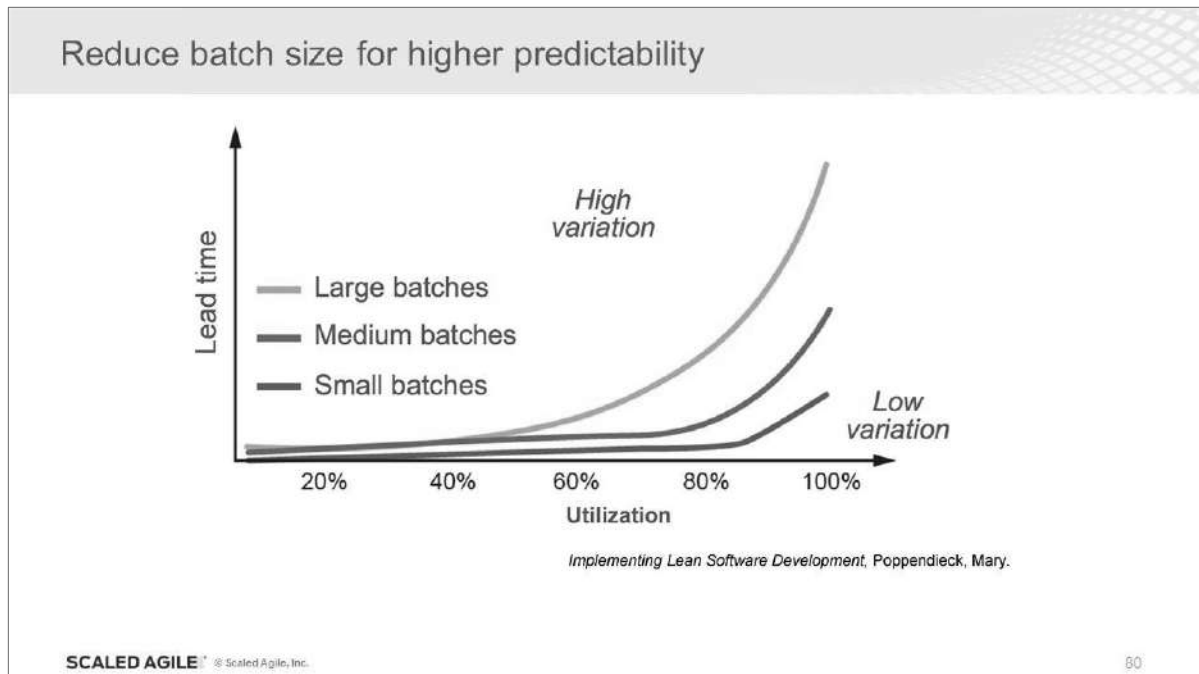
78

Notes:

Reduce batch size

Notes:

### 3.6 #6 Visualize and limit WIP, reduce batch sizes, and manage queue lengths



Notes:

Video: Execute work using a large batch size

Duration: 1 min

Process #1

0:00

<https://tinyurl.com/y7h8rdb4>

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Notes:

### 3.6 #6 Visualize and limit WIP, reduce batch sizes, and manage queue lengths



Video: Execute work using a small batch size

Duration  
2 min



Part 2: <http://bit.ly/2F9HFtC> and Part 3: <http://bit.ly/2oEFQPI>


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Notes:

### The importance of small batches

- ▶ Large batch sizes increase variability
- ▶ High utilization increases variability
- ▶ Severe project slippage is the most likely result



- ▶ Small batches go through the system faster with lower variability, greater predictability, and higher quality
- ▶ The most important batch is the handoff batch

*Principles of Product Development Flow, Reinertsen, Don*

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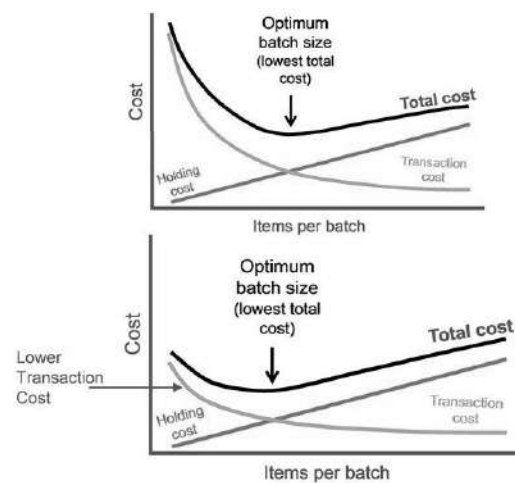
Notes:



### Finding optimum batch size

Optimum batch size is an example of a U-curve optimization.

- ▶ Total costs are the sum of holding costs and transaction costs
- ▶ Higher transaction costs shift optimum batch size higher
- ▶ Higher holding costs shift batch size lower
- ▶ Reducing batch size:
  - ▶ Increases predictability
  - ▶ Accelerates feedback
  - ▶ Reduces rework
  - ▶ Lowers cost
- ▶ Batch size reduction benefits are often underestimated



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Notes:

### Manage queue lengths

Notes:

#### Long queues are bad

Email from a client service organization:

*Thank you for contacting us.*



*We are experiencing increased volumes and apologize in advance for the delay. Our goal is to contact you within ...*

**Long queues create:**

Longer cycle times

Increased risk

More variability

Lower quality

Less motivation

*Principles of Product Development Flow, Don Reinertsen*

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Notes:

#### Reduce queue lengths

##### ► Understand Little's Law

- Faster processing time decreases wait
- Shorter queue lengths decrease wait

##### ► Control wait times by controlling queue lengths:

- WIP limits, small batches, defer commitments

$$W_q = \frac{L_q}{\lambda}$$

Average wait time = average queue length divided by average processing rate

**Example** - Given average processing speed of 10 Features per quarter and a committed set of 30 Features, a new Feature will experience approximate wait time of:

$$\frac{30 \text{ items}}{10 \text{ items/Q}} = 3Q$$

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Notes:

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

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Notes:

## Cadence and synchronization

### Cadence

- › Converts unpredictable events into predictable occurrences and lowers cost
- › Makes waiting times for new work predictable
- › Supports regular planning and cross-functional coordination
- › Limits batch sizes to a single interval
- › Controls injection of new work
- › Provides scheduled integration points

**Note:** Delivering on cadence requires scope or capacity margin

### Synchronization

- › Causes multiple events to happen simultaneously
- › Facilitates cross-functional tradeoffs
- › Provides routine dependency management
- › Supports full system and integration and assessment
- › Provides multiple feedback perspectives

**Note:** To work effectively, design cycles must be synchronized

*Principles of Product Development Flow, Don Reinertsen*  
*The Lean Machine, Dantier Ootserwall*

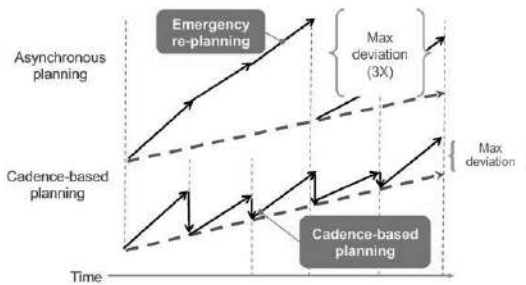
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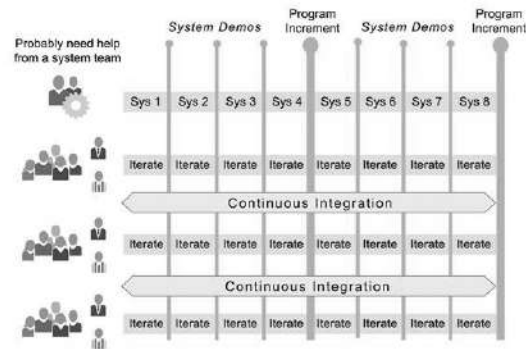
Notes:

#### Synchronize to assure delivery

Cadence-based planning limits variability to a single interval.



This system is sprinting



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Notes:

#### Synchronize with cross-domain planning

*Future product development tasks can't be pre-determined. Distribute planning and control to those who can understand and react to the end results.*

—Michael Kennedy, Product Development for the Lean Enterprise

- ▶ All stakeholders are face-to-face, (but typically are in multiple locations)
- ▶ Management sets the mission with the minimum possible constraints
- ▶ Requirements and design happen
- ▶ Important stakeholder decisions are accelerated
- ▶ Teams create and take responsibility for plans



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Notes:

# #8 Unlock the intrinsic motivation of knowledge workers

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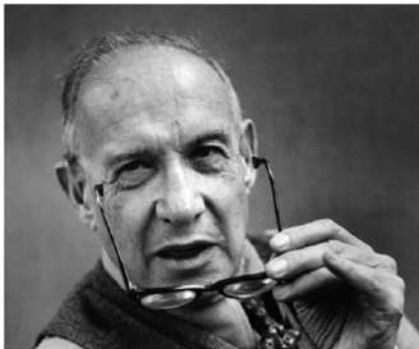
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Notes:

## On managing knowledge workers

*Workers are knowledge workers if they know more about the work they perform than their bosses.*

—Peter Drucker



Used with permission from The Drucker Institute at Claremont Graduate University

- ▶ Workers themselves are most qualified to make decisions about how to perform their work.
- ▶ The workers must be heard and respected for management to lead effectively.
- ▶ Knowledge workers have to manage themselves. They need autonomy.
- ▶ Continuing innovation has to be part of the work, the tasks, and the responsibilities of knowledge workers.

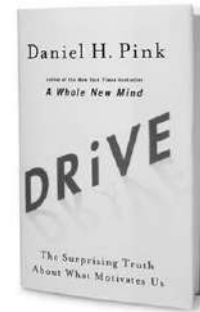
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Notes:

### Unlocking intrinsic motivation with Autonomy, Mastery, and Purpose

- ▶ *Autonomy* is the desire to be self-directing, and have control over what we work on, how we do our work, and who we work with
- ▶ *Mastery* is the urge to get better at what we do and improve our personal and team skills
- ▶ *Purpose* is the desire to do something that matters and has meaning



Notes:



Notes:

### Decentralize decision-making

Define the mission logic behind a decision; empower others to actually make them.

Centralize	De-centralize everything else
<b>Infrequent</b> - Not made very often and usually not urgent (ex: internationalization strategy)	<b>Frequent</b> - Routine, everyday decisions (ex: Team and Program Backlog)
<b>Long-lasting</b> - Once made, it is highly unlikely to change (ex: common technology platform)	<b>Time critical</b> - High cost of delay (ex: point release to Customer)
<b>Significant economies of scale</b> - Provides large and broad economic benefit (ex: compensation strategy)	<b>Require local information</b> - Specific and local technology or Customer context is required (ex: Feature criteria)

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Notes:

### 3.9 #9 Decentralize decision-making



Video: What is leadership? With David Marquet

Duration

10 min




[https://youtu.be/OqmdLcyES\\_Q](https://youtu.be/OqmdLcyES_Q)

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Notes:



Activity: Applying a thinking tool for decision-making

Prepare

7 min

- ▶ **Step 1:** Consider three significant decisions you are currently facing. Write them down in the table provided in your workbook.
- ▶ **Step 2:** Rate each decision based on the frequency, time criticality and economies of scale, assigning the value of 0 to 2
- ▶ **Step 3:** Add the total values: **0-3 = centralize** | **4-6 = decentralize**

1 Consider three significant decisions you are currently facing.  
 2 Rate each item using the table below.  
 3 Would you centralize or decentralize?

Decision	Frequent? Y=2 N=0	Time critical? Y=2 N=0	Economies of scale? Y=0 N=2	Total

▶ Scale: 0 to 2 (low to high)  
 ▶ Then add the total: 0 to 3 = centralize | 4 to 6 = decentralize

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Notes:



### 3.9 #9 Decentralize decision-making

SIGNIFICANT DECISIONS:

- 1.
- 2.
- 3.

Decision	Frequent? Y=2 N=0	Time Critical Y=2 N=0	Economies of scale? Y=0 N=2	Total

# #10 Organize around value

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Notes:

## Organize around value

- ▶ Most enterprises are organized around functional expertise for efficiency
- ▶ The digital age requires speed in responding to the needs of customers with new and innovative solutions
- ▶ Coordination amongst all functional areas, with their incumbent dependencies, handoffs, waste and delays, is insufficient for competitive environments
- ▶ Business Agility demands that enterprises organize around **value** to deliver more quickly
- ▶ When mission and citizen demands change rapidly, the agency must quickly and seamlessly reorganize around that new value flow



*The solution is not to trash what we know and start over but instead to reintroduce a second system [that] adds needed agility and speed while the old one, which keeps running, provides reliability and efficiency — a dual operating system...*

*-- Dr. John Kotter*

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Notes:



## Action Plan: Understanding SAFe Principles



- **Step 1:** Individually identify three actions you can take to model and advocate SAFe Principles in your enterprise.



Notes:

## Lesson review

In this lesson, you have started a journey to understand and know how to apply SAFe Lean-Agile principles, including:

- #1 Take an economic view
- #2 Apply systems thinking
- #3 Assume variability; preserve options
- #4 Build incrementally with fast, integrated learning cycles
- #5 Base milestones on objective evaluation of working systems
- #6 Visualize and limit WIP, reduce batch sizes, and manage queue lengths
- #7 Apply cadence, synchronize with cross-domain planning
- #8 Unlock the intrinsic motivation of knowledge workers
- #9 Decentralize decision-making
- #10 Organize around value

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Notes:



## Lesson 4

# Creating High-Performing Teams and Programs

### Learning Objectives:

- 4.1 Create high-performing Agile Teams
- 4.2 Continuously deliver value with Agile Release Trains
- 4.3 Provision the key ART roles
- 4.4 Coordinate and integrate multiple ARTs and Suppliers



SAFe Authorized Course - Attending this course gives students access to the SAFe Government Practitioner exam and related preparation materials.

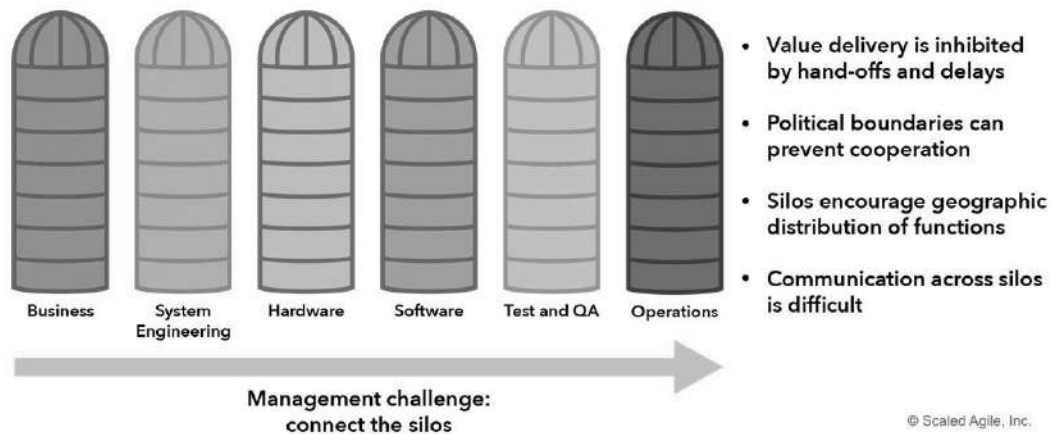
### 4.1 Create high-performing Agile Teams

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Notes:

#### Value doesn't follow silos



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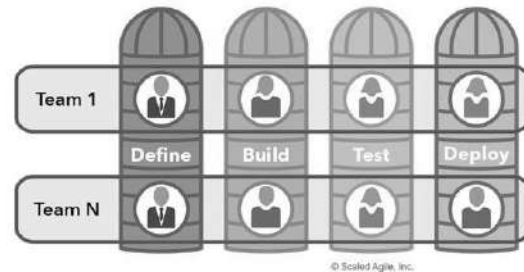
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Notes:

### Build cross-functional Agile Teams

- ▶ Agile Teams are cross-functional, self-organizing entities that can *define*, *build*, *test* (and if possible *deploy*) a Feature or component
- ▶ Optimized for communication and delivery of value
- ▶ Deliver value every two weeks (most common Iteration length)



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Notes:

### Agile Teams power the train



Scrum Master

- ▶ Coaches the Agile Team and facilitates team meetings
- ▶ Removes impediments; protects the team from outside influence
- ▶ Attends scrum of scrums meetings; coordinates with other teams



Product Owner

- ▶ Defines and accepts Stories
- ▶ Acts as the Customer for developer questions
- ▶ Works with Product Management to plan Program Increments (PI)
- ▶ Available to the development team (critical requirement)




Development Team

- ▶ Creates and refines user stories and acceptance criteria
- ▶ Defines/builds/tests/delivers user stories
- ▶ Develops and commits to team PI Objectives and Iteration plans
- ▶ Consists of five to eleven members

Notes:

## 4.1 Create high-performing Agile Teams



Discussion: Forming Agile Teams

Prepare  
5 min

Share  
2 min

- ▶ Are your programs' teams siloed (all developers, all testers, etc.) or cross-functional (development, testers, analysts, security engineers, etc.)?
- ▶ What roles are or will be filled by government personnel in your context? What roles are performed by contractors?

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Notes:



## 4.1 Create high-performing Agile Teams



### Discussion: Characteristics of high-performing teams

Duration



Have you ever been on a high-performing team? What was it like?



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Notes:

### Common attributes of high-performing teams


- ▶ Self-organizing
- ▶ Effective decision-making
- ▶ Open and clear communication
- ▶ Value diversity
- ▶ Mutual trust
- ▶ Healthy conflict
- ▶ Clear goals and purpose
- ▶ Concentration and focus
- ▶ Ownership and accountability
- ▶ Defined roles and responsibilities
- ▶ Coordinative and highly collaborative
- ▶ Positive atmosphere
- ▶ Effective timely feedback
- ▶ Sufficient resources for local control
- ▶ Success over 'failure avoidance'
- ▶ Abilities balanced with challenge
- ▶ High employee engagement
- ▶ Fun!

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Notes:

## 4.1 Create high-performing Agile Teams



Discussion: High-performing teams in government programs

Prepare  
5 min

Share  
3 min

- ▶ How can we build high-performing teams in a program with team members from government and multiple contractors?
- ▶ What are the common barriers and how can they be overcome?
- ▶ Who has the ability and authority to create an environment that allows government personnel and team members from multiple contractors to work together as unified high-performing teams?

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Notes:

### 4.2 Continuously deliver value with Agile Release Trains

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Notes:

#### Enterprise value delivery requires a team of teams

Today's rapidly changing world, marked by increased speed and dense interdependencies, means that organizations everywhere are now facing dizzying challenges, from global terrorism to health epidemics to supply chain disruption to game-changing technologies. These issues can be solved only by creating sustained organizational adaptability through the establishment of a team of teams.

- Gen. Stanley McChrystal (Ret.), Team of Teams: New Rules of Engagement for a Complex World



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Notes:

## 4.2 Continuously deliver value with Agile Release Trains

### ARTs continuously deliver value

- ▶ An ART is SAFe's 'team of teams' aligned to a Value Stream
- ▶ A virtual organization of 5 – 12 teams (50 – 125+ individuals)
- ▶ Synchronized on a common cadence, a Program Increment (PI)
- ▶ Aligned to a common mission via a single Program Backlog



Backlog

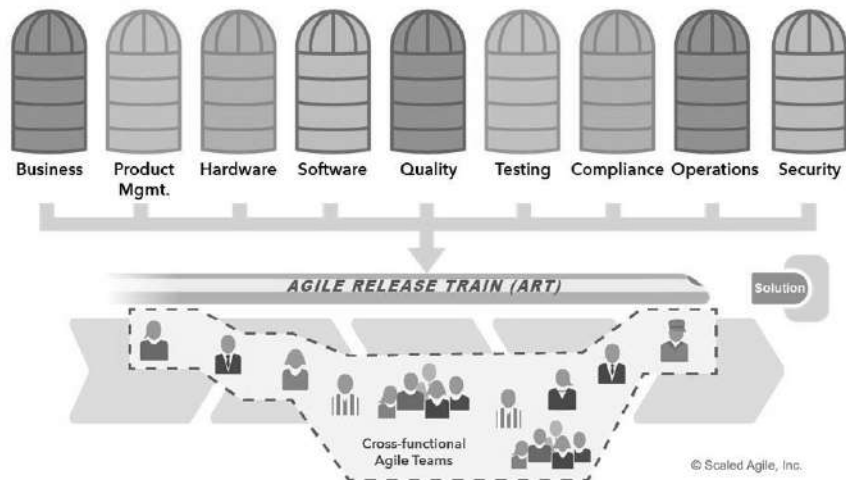


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Notes:

### ARTs are cross-functional



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Notes:

### 4.3 Provision the key ART roles

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Notes:

#### ART roles govern the train



Release Train Engineer (RTE) acts as the chief Scrum Master for the ART



Product Management owns, defines, and prioritizes the Program Backlog



System Architect/Engineer provides architectural guidance and technical enablement to the teams on the train



The System Team provides processes and tools to integrate and evaluate assets early and often



Business Owners are key stakeholders on the Agile Release Train

Notes:


### Existing organizational activities are still important

- ▶ ARTs are virtual organizations
- ▶ ART roles are a set of responsibilities and do not necessarily map to formal job descriptions (e.g. an analyst can be a Scrum Master)
- ▶ This does not minimize the issues of new duties beyond the government or union job description - anticipate and negotiate those changes early!
- ▶ Other roles (government program manager, development manager, contractor's program manager, contracting officer, etc.) are still important in supporting and empowering the ART even though they are not represented on the Big Picture
- ▶ While Lean-Agile change agents are reshaping existing operational processes, ARTs should understand and respect those past processes



Notes:

## 4.3 Provision the key ART roles



**Activity: To include, or not to include?...That is the question**

**Prepare**  
5 min

**Share**  
2 min

Think of all the domains and disciplines it takes to deliver systems and digital solutions in your agency. Write those role names into one of the boxes provided in your workbook. Some example roles are listed to consider.

- ▶ What roles are on the ART, which might be a shared service, and which would continue as-is but support indirectly?
- ▶ What functions might be overlooked?
- ▶ What functions would seldom or never be appropriate to include in an ART?
- ▶ What traditional roles might map directly to a SAFe role?
- ▶ Circle the roles that will continue to perform as they do today.
- ▶ Star the roles that will be the most difficult to reconcile.

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Notes:



## 4.3 Provision the key ART roles

Think about your own agency, and write each title on the left into one of the rows on the right where you think it belongs:

Program Manager  
PMO  
Branch Chief  
Architect  
Development Manager  
Contracting Officer  
COR  
COTR  
Business Analyst  
DBA  
Infrastructure Engineer  
Operations Specialist  
Financial Analyst  
IV&V  
Testing & QA  
Information Security  
UX Specialist  
Systems Engineer

ON the ART

**AGILE RELEASE TRAIN**

Shared Services to the ART

OFF the ART (but still supporting the ART)

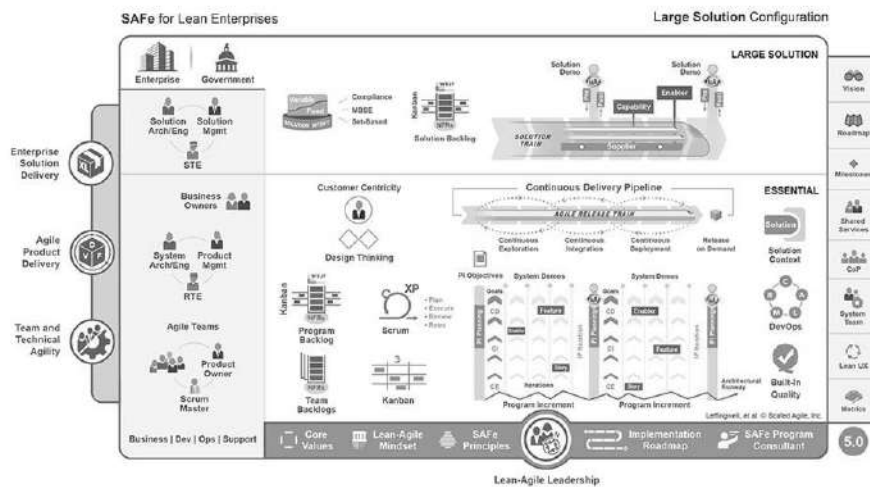
# 4.4 Coordinate and integrate multiple ARTs and Suppliers

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Notes:

## Large Solution SAgE is used to coordinate multiple ARTs



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Notes:

### ARTs power the Solution Train

- ▶ Each ART within a Solution Train contributes to the development of a large Solution
- ▶ Solution Management, Solution Architect/Engineering, and the Solution Train Engineer foster the coordination and delivery of value
- ▶ Large complex applications, ERPs, and physical systems (planes, satellites, etc.) are examples of government programs that are Large Solutions



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Notes:

### Suppliers play a key role in large Solution development



- ▶ Suppliers often play a key role in Solution development. The overall Value Stream's agility is dependent on both Government and Suppliers' agility.
- ▶ Lean-Agile suppliers are either integrated into the ART (contracted teams, staff aug) or are treated as another ART, participating in all Solution Train events.
- ▶ Suppliers functioning as separate ARTs may work in traditional methodologies against Milestones, but are expected to attend Pre- and Post-PI Planning, Solution Demo, and Solution Train Inspect and Adapt.
- ▶ SAFe agencies and programs working with Suppliers that have also adopted SAFe produce better outcomes (common language, planning cadence, metrics, etc.).

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Notes:


### Solution Train roles guide the Solution

Solution Management, Solution Train Engineer, and Solution Architect/Engineering share much of the responsibility for the success of a Solution Train.

- ▶ **Solution Management** has content authority over Capabilities and Solution Intent
- ▶ **Solution Architect/Engineering** provides technical leadership for evolving architectural Capabilities of the entire Solution
- ▶ **Solution Train Engineer (STE)** facilitates and guides the work of all ARTs and Suppliers in the Value Stream



Notes:



Discussion: Working with Suppliers

Prepare  
5 min

Share  
3 min

- ▶ Suppliers can be integrated with government and other Suppliers into an ART, or they can be treated as a separate ART on a Solution Train.
- ▶ At your table, brainstorm the benefits and challenges to each alternative above. Be prepared to share your results with the class.

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Notes:



## Action Plan: Creating High-Performing Teams and Programs



- ▶ **Step 1:** What does the roadmap look like for your organization to get to a place where you have high-performing teams?
- ▶ **Step 2:** What does the roadmap look like for your organization to get to a place where your Agile Release Trains organized around value?
- ▶ **Step 3:** How can you bring Suppliers into your SAFe structure and how can you get them aligned with your cadence?



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Notes:

### Lesson review

In this lesson you:

- ▶ Explained how to form high-performing cross-functional Agile Teams
- ▶ Demonstrated how to continuously deliver value with Agile Release Trains
- ▶ Identified the key ART and Solution Train roles
- ▶ Learned how to coordinate and integrate multiple ARTs and Suppliers

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Notes:

## Lesson 5

# Planning with Cadence and Synchronization

### Learning Objectives:

- 5.1 Prepare to experience PI Planning
- 5.2 Create and review draft PI plans
- 5.3 Finalize plans and establish business value
- 5.4 Review final plans and commit to a set of PI Objectives




SAFe Authorized Course - Attending this course gives students access to the SAFe Government Practitioner exam and related preparation materials.

### 5.1 Prepare to experience PI Planning


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Notes:



Video: The Power of PI Planning





<https://youtu.be/EF0yGq9XCrA>

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Notes:



### What is PI Planning?

Program Increment (PI) Planning is a cadence-based, face-to-face event that serves as the heartbeat of the Agile Release Train (ART), aligning all the teams on the ART to a shared mission and Vision.

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



PI Planning



Agile Team

Notes:

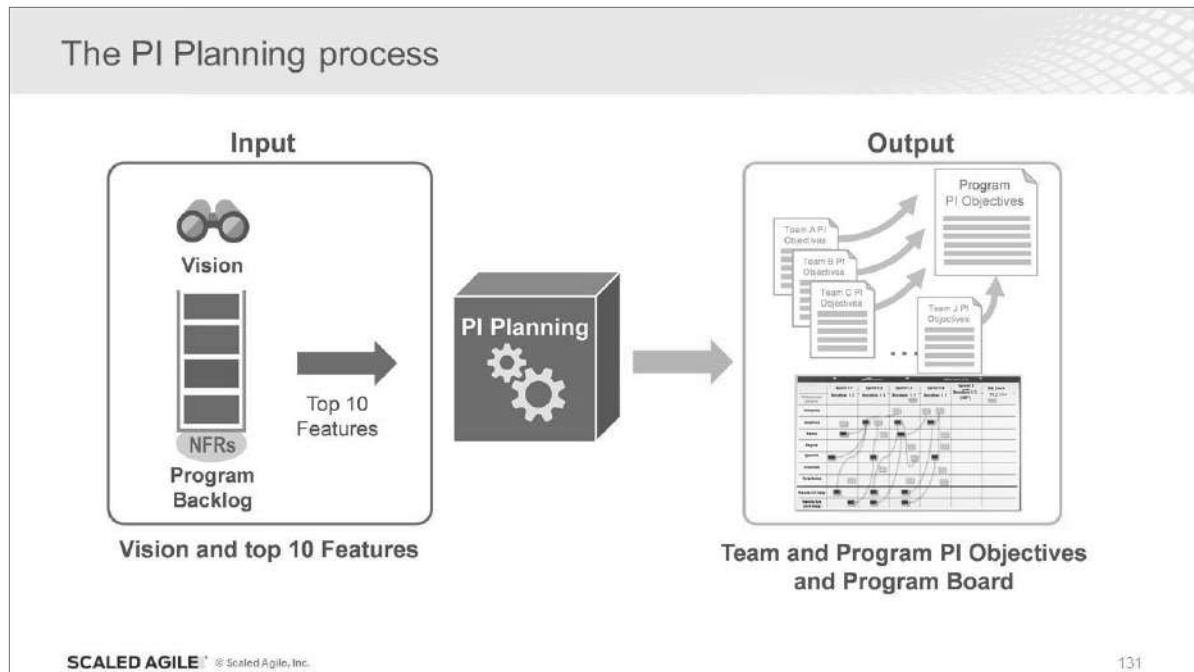
### The benefits of PI Planning

- ▶ Establishing face-to-face communication across all team members and stakeholders
- ▶ Aligning development to business goals with the business context, Vision, and Team/Program PI Objectives
- ▶ Identifying dependencies and fostering cross-team and cross-ART collaboration
- ▶ Providing the opportunity for 'just the right amount' of architecture and Lean User Experience (UX) guidance
- ▶ Matching demand to capacity, eliminating excess work in process (WIP)
- ▶ Fast decision making



Notes:

## 5.1 Prepare to experience PI Planning



Notes:

Align to a mission with PI Objectives

Objectives are business summaries of what each team intends to deliver in the upcoming PI.

They often map directly to the Features in the backlog ... but not always.

For example:

- ▶ Aggregation of a set of Features, stated in more concise terms
- ▶ A milestone like a release
- ▶ An Enabler Feature needed to support the implementation
- ▶ A major refactoring

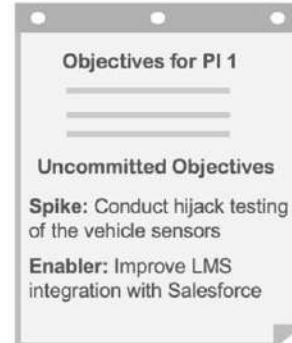
Objectives for PI 1		Business Value	Actual Value
<b>Structured location and validation of locations</b>			
• Navigate autonomously from distribution center to top 5 most frequent destinations		—	—
• Park at 1 building that requires parallel parking		—	—
• Reduce GPS signal loss by 25%		—	—
• Add feature to temporarily flag and avoid specific route segments		—	—
<b>Uncommitted Objectives for PI 1</b>			
• Spike: conduct hijack testing of the vehicle LIDAR system		—	—


Notes:

### Maintain predictability with uncommitted objectives

Uncommitted objectives help improve the predictability of delivering value

- ▶ They are planned, and aren't extra things teams do 'just in case you have time'
- ▶ They are not included in the commitment, thereby making the commitment more reliable
- ▶ If a team has low confidence in meeting a PI Objective, encourage them to move it to uncommitted
- ▶ If an item has many unknowns, consider moving it to uncommitted, and put in early spikes



 Uncommitted objectives do count in velocity/capacity.

Notes:

### Estimate Stories with relative Story points

- ▶ 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.



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

Notes:

## 5.1 Prepare to experience PI Planning

### Apply Estimating Poker for fast, relative estimating

#### Steps

- 1 Each estimator gets a deck of cards
- 2 A job 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



Notes:

### Prepare to experience a simulated PI Planning event

#### The flow of the simulation



You will be presented with the program Vision



You will be involved in planning two iterations considering Stories and Features



You will be drafting PI Objectives based on the program Vision and Features



You will be collaborating with the Business Owners to assign business value to the PI Objectives

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Notes:

### Outcomes of the PI Planning simulation

Actively participating in a simulated PI Planning event will enable you to:



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Notes:

### 5.2 Create and review draft PI plans

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Notes:

#### Simulation: PI Planning

- ▶ In this simulation, we will plan the first Program Increment (PI) for Autonomous Logistics & Cargo (ALC or Alice), a program within the Department of Government that will apply commercial innovations in autonomous delivery vehicles to support logistics in unique environments such as flight-lines, tarmacs, dock areas, and bases.
- ▶ The Alice Program recently completed a downselect where contractors demonstrated their prototype solutions. Terrific Transport and Viral Video were awarded contracts.
- ▶ Due to time constraints, only two of the typical five iterations will be planned



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Notes:

## 5.2 Create and review draft PI plans

### **Simulation description:**

The goal of this simulation is to practice the first day of PI Planning as part of a vendor or government team using an autonomous delivery vehicle exemplar. Each table will be organized as a separate team to create one part of the vehicle. Each team's planning requirements will be different, and you will all need to work together. Your team will experience common challenges found in a government-based programs environment with similar collaboration and dependencies. The simulation includes some government concerns, and it is a combination of software and hardware elements.

#### **Background information: Department of Government (DoG) Agency**

The DoG Agency wants to leverage advances in autonomous vehicles for logistical support. Large government facilities are slowed by getting supplies to the right location at the right time. The agency wants to leverage commercial advances in small, autonomous delivery vehicles.

#### **Background information: Autonomous Logistics & Cargo Program**

The Autonomous Logistics & Cargo (ALC or Alice) program has just completed a down-select process and our team was awarded. The award includes two commercial vendors, Terrific Transport and Viral Video. As part of the down-select, they together demonstrated an operational prototype (see video in Vision) that will be used for system level testing:

- Terrific Transport (TT) is a manufacture of small delivery vehicles
- Viral Video (VV) is a leading supplier for autonomous camera and sensor technology

### Simulation: The players – contractors

- ▶ Commercial provider of small, autonomous vehicles for local delivery of commercial goods (grocery, food, pharmacy)
- ▶ Uses a mobile app to request delivery and send/receive notifications and status
- ▶ Currently supports local deliveries with well marked streets and traffic signs
- ▶ Market-leading supplier of autonomous camera and sensor technology for autonomous vehicles
- ▶ Partnering to provide sensor expertise as needed for the program



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#### Background information: Contractors

Terrific Transports provides a commercial autonomous vehicle solution that target local merchants who want to better compete with online delivery retailers. Their solution allows local merchants to provide the same, at-home delivery that online retailers provide. Once requested on the app, the vehicle autonomously navigates to the retailer who puts the products into one or more bays and the vehicle, and then delivers the products to the merchant's customer. The current solution only supports local cities and neighborhoods with well marked streets and traffic signs.

Viral Video is a supplier to Terrific Transport for sensor and camera technology (LIDAR, RADAR, etc.) and is part of the Terrific Transport's proposal to the DoG agency.

#### Background information: Agile Release Train (ART) context

The program's organization is a Solution Train that consists of:

1. A Terrific Transport platform ART making modifications to the vehicle hardware platform
2. A combined Terrific Transport and Viral Video ART integrating Viral Video's technology to control Terrific Transport's delivery vehicle and perform missions
3. The continuous updates from Viral Video's commercial technology, which is treated as a Supplier to the Solution Train



### Simulation: Set the context

The Alice Program consists of 2 ARTS and a supplier:

- ▶ Vehicle Platform ART is modifying the base, physical vehicle to support additional cargo requirements
- ▶ Delivery Execution ART integrates Viral Video's sensor technology and is responsible for communication, autonomous control, calculating routes, and navigating the vehicle to destinations
- ▶ The program will continue to leverage Viral Video's commercial technology updates



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Notes:

### Simulation: Identify program roles

- ▶ Identify volunteers for all program roles. These volunteers will have additional responsibilities during the simulation.



Simulation role	Assigned to
Executive	Volunteer
Product Manager	Volunteer
System Arch/Eng/UX	Volunteer

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Notes:

## 5.2 Create and review draft PI plans


**Begin by assigning all volunteer roles for the simulation. Fill in your simulation role assignments:**

Executive

Product Manager

System Architect/Engineer/UX

Trainers will play the roles of RTE, Contracting Officer, etc.



### Simulation: Understand teams and roles

Prepare

3 min

- ▶ Your table is your team, give your team a name! Select a scrum master and a product owner. Write your team name, scrum master, and product owner names on a large post-it.
- ▶ Team 1 is on a separate contract working for Viral Video ('VV'), and all VV team members are sensor specialists.
- ▶ The rest of the teams are working for Terrific Transport ('TT'), and all TT team members are engineering specialists, except one person per team who is a GPS specialist. All TT teams: identify who will be your GPS specialist now.
- ▶ Instructors will simulate all external roles, including contracting officer, government or contractor program manager, etc.

1  
VIRAL VIDEO

2  
TERRIFIC TRANSPORT

3  
TERRIFIC TRANSPORT

4...  
TERRIFIC TRANSPORT

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Notes:

## 5.2 Create and review draft PI plans

To better manage risk, the Department of Government (DoG) agency has created separate contracts for each company in our Agile Release Train (ART). This simulation environment explores some of the typical challenges experienced with separate contract teams.

Name your team, and then see if your team represents Viral Video, or one of the Terrific Transport teams. Next, organize as follows.

**Viral Video Team 1 is on a separate contract working for Viral Video, all VV team members are sensor specialists:**

- 4 Sensor Engineers
- 1 Scrum Master
- 1 Product Owner

**Terrific Transport Team(s) 2, 3, or 4 (or more) are engineering specialists, except one person who is a GPS specialist:**

- 3-4 Team Engineers (includes two GPS engineers, one per team)
- 1 Scrum Master
- 1 Product Owner

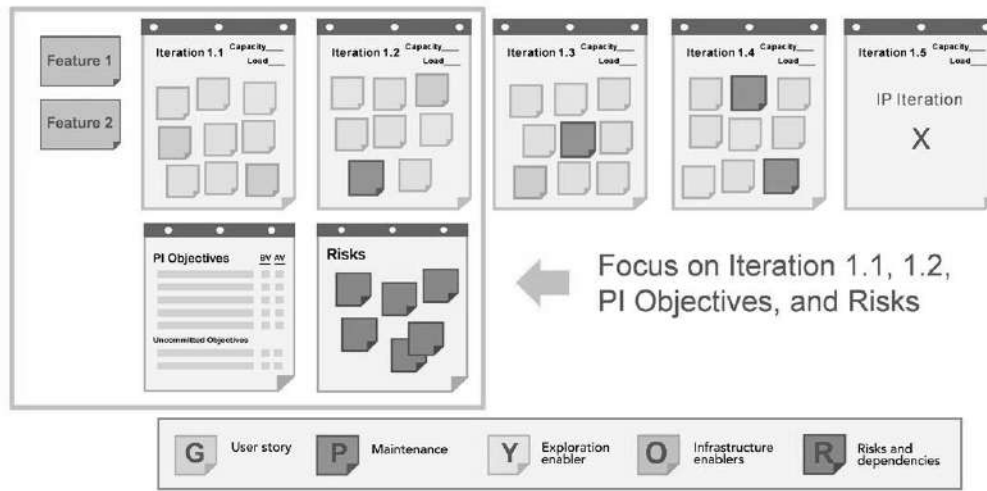
**Business Owners (Government GS) Team:**

- 1 Executive Product Manager
- 1 System Architect, a government employee
- 1 Product Manager, a government employee

**Trainer 1** will play the part of the Release Train Engineer.

**Trainer 2** will play the part of the Contracting Officer, and will provide activity inputs.

### Simulation: Planning requirements



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### Simulation: Calculating Iteration capacity

Calculating Iteration capacity before *velocity* is established:

- ▶ For every full-time development team member, 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. Call it a 1.
- ▶ Estimate every other Story relative to that one.
- ▶ Never look back (don't worry about recalibrating).



#### Example:

A 7-person team composed of 3 developers, 2 testers, 1 Product Owner, and 1 Scrum Master

*Exclude The Scrum Master, Product Owner, and vacation time from the calculation.*

**Calculated Capacity:**


**5 x 8 points = 40 points per Iteration**

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Notes:

## 5.2 Create and review draft PI plans



Simulation: Calculate initial capacity

Prepare 5 min

During this exercise, all Product Owners will meet with the Product Manager to select features from the backlog for their teams.


Following the instructions in your Workbook, calculate your team's starting capacity:

- ▶ Step 1: Calculate your estimated capacity for the next two, 2-week Iterations
- ▶ The first Iteration starts Monday
- ▶ Use your real availability
- ▶ Step 2: Each team should have their estimated capacity for two Iterations

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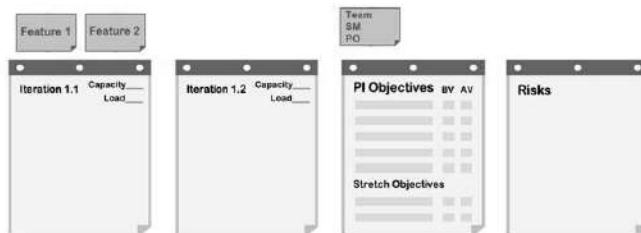
Notes:



Simulation: Set up your team area

Prepare 4 min

- ▶ Step 1: Set up team area as shown below. Use flip chart sheets for Iteration 1, and 2, PI Objectives and Risks.
- ▶ Step 2: Enter the capacity for each Iteration.



The diagram illustrates the setup of a team area using flip chart sheets. At the top, there are three labels: 'Feature 1', 'Feature 2', and 'Team SM PO'. Below these are four flip chart sheets. The first sheet is titled 'Iteration 1.1' and has fields for 'Capacity' and 'Load'. The second sheet is titled 'Iteration 1.2' and also has fields for 'Capacity' and 'Load'. The third sheet is titled 'PI Objectives' and has a table with columns 'av' and 'AV'. The fourth sheet is titled 'Risks'.

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Notes:

## 5.2 Create and review draft PI plans

### **Set up your team's Breakout #1 area for the simulation:**

- Arrange four flip chart sheets on a wall close to your team, and title them. Team inclusiveness is key in this process, have each team member participate.
- Place your team's 1-2 Features your team received from your Product Owner on the far, upper left. This will allow all teams to quickly view what you are working on, and to see if there is anything missing from the overall objectives.
- Set your team's capacity, take into consideration any PTO and holidays, take 1 point per day per person away from their total Iteration availability.
- Write the capacity into the upper right side of each iteration flip chart page.



## 5.2 Create and review draft PI plans

### Simulation: Why are we here? *(Presented by RTE)*

Alignment to a common mission!

We are here to gain alignment and commitment around a clear set of prioritized objectives. I will now review the agenda for the next two days of the PI Planning Event.



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Notes:

### Simulation: Day 1 agenda



8:00 ▶ 9:00	Business Context		▶ State of the business and upcoming objectives
9:00 ▶ 10:30	Product/Solution Vision		▶ Vision and prioritized Features
10:30 ▶ 11:30	Architecture Vision and development practices		▶ Architecture, common frameworks, etc. ▶ Agile tooling, engineering practices, etc.
11:30 ▶ 1:00	Planning context and lunch		▶ Facilitator explains planning process
1:00 ▶ 4:00	Team breakouts		▶ Teams develop draft plans and identify risks and impediments ▶ Architects and Product Managers circulate
4:00 ▶ 5:00	Draft plan review		▶ Teams present draft plans, risks, and impediments
5:00 ▶ 6:00	Management review and problem solving		▶ Adjustments made based on challenges, risks, and impediments

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Notes:



### PI Planning Day 1 Team Events

**Business Context** – A senior executive/line-of-business owner describes the current state of the business and presents a perspective on how well existing solutions are addressing current Customer needs.

**Product/Solution Vision** – Product Management presents the current program vision (typically represented by the next top 10 upcoming Features) and highlights any changes from the previous PI planning meeting, as well as any forthcoming Milestones.

**Architecture Vision and development practices** – System Architect/Engineering presents the architecture vision. Also, a senior development manager may introduce Agile-supportive changes to development practices, such as test automation, DevOps, Continuous Integration, and Continuous Deployment, which are being advanced in the upcoming PI.

**Planning context and lunch** – The Release Train Engineer presents the planning process and expected outcomes of the meeting.

**Team Breakout #1** – In the breakout, teams estimate their capacity for each iteration and identify the backlog items they will likely need to realize the Features. Each team creates their draft plans, visible to all, iteration by iteration. During this process, teams identify risks and dependencies and draft their initial team PI objectives. The PI objectives typically include ‘stretch objectives,’ which are goals built into the plan (e.g., Stories that have been defined and included for these objectives), but are not committed to by the team because of too many unknowns or risks. Stretch objectives are not extra things to do in case there is time. Instead, they increase the reliability of the plan and give management an early warning of goals that the ART may not be able to deliver. The team also adds the Features to the program board.

## 5.2 Create and review draft PI plans

### Simulation: Day 2 agenda



Presented by RTE

8:00 - 9:00	Planning adjustments		Planning adjustments made based on previous day's management meeting
9:00 - 11:00	Team breakouts		<ul style="list-style-type: none"><li>Teams develop final plans and refine risks and impediments</li><li>Business Owners circulate and assign business value to team objectives</li></ul>
11:00 - 1:00	Final plan review and lunch		Teams present final plans, risks, and impediments
1:00 - 2:00	Program risks		Remaining program-level risks are discussed and ROAMed
2:00 - 2:15	PI confidence vote		Team and program confidence vote
2:15 - ???	Plan rework if necessary		If necessary, planning continues until commitment is achieved
After commitment	Planning retrospective and moving forward		<ul style="list-style-type: none"><li>Retrospective</li><li>Moving forward</li><li>Final instructions</li></ul>

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Notes:

### Simulation: Business context – Program Vision

*Presented by Executive:*

- ▶ Poor supply and distribution at government installations slow our mission execution and effectiveness. The Alice Program will leverage commercial autonomous vehicle technology to support government logistics.
- ▶ Terrific Transport and Viral Video were awarded contracts for their prototype performance as shown in the video. We will build on this successful prototype for the Alice program.
- ▶ There will be an agency demo in Iteration 3.

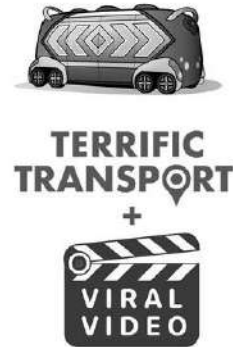
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Notes:

### Simulation: Business context – Program Vision (cont.)

#### *Presented by Executive*

- ▶ Alice program must support our unique needs:
  - Speed delivery to personnel needing supplies
  - Support our unique conditions with unmarked roads, varying types of obstacles, poor road condition, and less controlled operational space than commercial delivery
  - Enable larger and heavier cargo on the platform
- ▶ Our agency needs to validate this approach by quickly fielding and demonstrating an operational, end-to-end solution



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Notes:

### Simulation: Vision for Program Execution ART

*Presented by the Product Manager:* Our Program Vision supports the Alice mission to get the right supplies to the right location at the right time. To support this mission, our ART must:

- ▶ Enable the vehicle to handle the unique conditions found at government installations while maximizing commercial off-the-shelf components and capabilities
- ▶ Speed the end-to-end delivery time by utilizing optimal routes and minimizing the idle time at both cargo pickup and cargo drop-off
- ▶ Optimize sizable fleets of vehicles at large installations to ensure balanced coverage across the entire installation
- ▶ Support any physical changes by the Vehicle Platform ART that may impact vehicle control as well as physical sensor/camera mounting

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## 5.2 Create and review draft PI plans

### Simulation: Features and Enablers for PI1

*Presented by the Product Manager:*

Priority	Contract	Feature	Description	Team #
1	VV	Avoid obstacles and follow unmarked routes	Make vehicle follow virtual roads based on GPS location in addition to following roads marked by lines, avoiding obstacles	
2	TT	Request delivery	Request a delivery on the mobile app	
3	TT	Parallel park	At destination, locate appropriate parallel parking space and park there	
4	TT	Notify delivery arrival	Notify recipient of pending arrival via smartphone app	
5	TT	Fleet management	Manage a fleet of autonomous vehicles deployed at a government facility	
6	TT	Smooth driving with fully loaded vehicle	Eliminate erratic movements and smooth acceleration and turning when vehicle is fully loaded	
7	TT	Obey unique lane markings	Detect and obey unique road markings found in government installations	
8	TT	Avoid obstacles unique to government installations	Characterize sensor's ability to detect and process obstacles unique to government installations	

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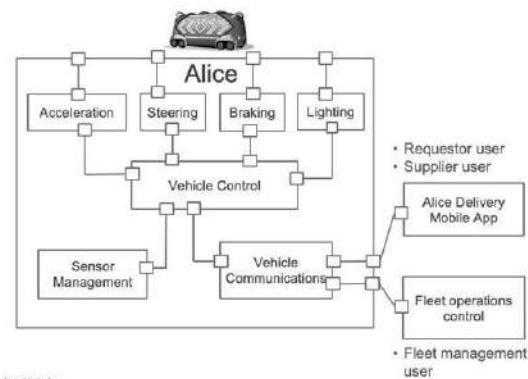
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Notes:

### Simulation: Alice logical architecture

*Presented by the System Architect:*

- ▶ Alice program must support our unique needs:
  - Speed delivery to personnel needing supplies
  - Support our unique conditions with unmarked roads, varying types of obstacles, poor road conditions, and less controlled operational space than commercial delivery
  - Enable larger and heavier cargo on the platform
- ▶ Our agency needs to validate this approach by quickly fielding and demonstrating an operational, end-to-end solution



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Notes:

### Simulation: Development practices *(Presented by the System Architect)*

- ▶ We support the following development environments:
  - Embedded engineers use a common IDE with the embedded Linux SDK provided by our Viral Video suppliers
  - Mobile development will be performed on Android Studio and Xcode
  - All teams must upgrade their IDEs to latest version this PI for stability
- ▶ We have a test track the prototype delivery vehicle teams can use for end-to-end testing and to validate readiness for the upcoming demo

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Notes:

### Simulation: Planning guidance *(Presented by the RTE)*


Expect this first PI Planning to feel a bit chaotic. Future PI Planning meetings will become more routine.

- ▶ **Product Owners** – You have the content authority to make decisions at the user story level.
- ▶ **Scrum Masters** – Your responsibility is to manage the timebox, the dependencies, and the ambiguities. There will be a scrum of scrums called in the middle of the breakout.
- ▶ **Team** – Your responsibility is to define user stories, plan them into the Iteration, and work out interdependencies with other teams.

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Notes:



Simulation: Team breakout #1

Duration  
45 min

You will be planning a short Program Increment with two Iterations.

- ▶ **Step 1:** Pick up a Feature from the Product Manager
- ▶ **Step 2:** Review stories provided (for simulation purposes only)
- ▶ **Step 3:** Load the stories into the Iterations
- ▶ **Step 4:** Write the PI Objectives using clear statements
- ▶ **Step 5:** Identify the uncommitted objectives
- ▶ **Step 6:** Identify any Program Risks and dependencies (using the red sticky notes)
- ▶ Note: Don't forget the demo in Iteration 3!

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Notes:

### Team Breakout #1 simulation:

1. Get a Feature (or two) from the Product Owner.
2. Identify your team's Stories based on your Feature, write or tape only one Story per sticky note. Use the correct color stickies using the color guide below Estimate your team's Story points, write the Story points on each sticky note.
3. Load your Stories into the correct iterations by placing the sticky notes on the flip chart paper. Add up all of the team Story points and write the load total under the capacity number in the upper right side of each flip chart.
4. Identify and write out your PI Objectives.
5. Identify your Stretch Objectives.
6. Identify your Program Risks and dependencies based on your plans using red sticky notes.




<b>G</b>	User story	<b>P</b>	Maintenance	<b>Y</b>	Exploration enabler	<b>O</b>	Infrastructure enablers	<b>R</b>	Risks and dependencies
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### Simulation: Scrum of scrums (SoS) sync

Duration




- ▶ **Step 1:** Observe the SoS sync, conducted by the RTE.
- ▶ **Step 2:** Each team's Scrum Master provides the team's current status and addresses the questions from the RTE.
- ▶ **Step 3:** The RTE holds a 'Meet After' after the sync (limited to 1 to 2 topics for this simulation).

SoS Sync Question	Team 1	Team 2	...
Have you identified the capacity for each iteration in the PI?			
Have you identified most of the Stories for the first two iterations and begun estimating?			
Have you begun resolving dependencies with other teams?			
Are you discussing trade-offs and conflicting priorities with your Business Owners?			
Have you identified any program risks?			
Will you be ready to start writing PI Objectives in the next 15 minutes?			
Is there anything you need to discuss with other Scrum Masters? If so, stay for the 'Meet After'			

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Notes:



### Simulation: Draft plan review

Duration



- ▶ **Step 1:** Present the summary of your team's first two iterations and one or more draft PI Objectives
- ▶ **Step 2:** Make sure that you have included the following:
  - Capacity and load for each iteration
  - Draft PI Objectives
  - Program risks and impediments

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Notes:

### 5.3 Finalize plans and establish business value

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Notes:

#### Management review and problem solving

At the end of the first day, management meets to make adjustments to scope and objectives based on the day's planning.

##### ? Common questions during the managers' review:

- ▶ What did we just learn?
- ▶ Where do we need to adjust Vision?  
Scope? Team assignments?
- ▶ Where are the bottlenecks?
- ▶ What features must be de-scoped?
- ▶ What decisions must we make between now and tomorrow to address these issues?



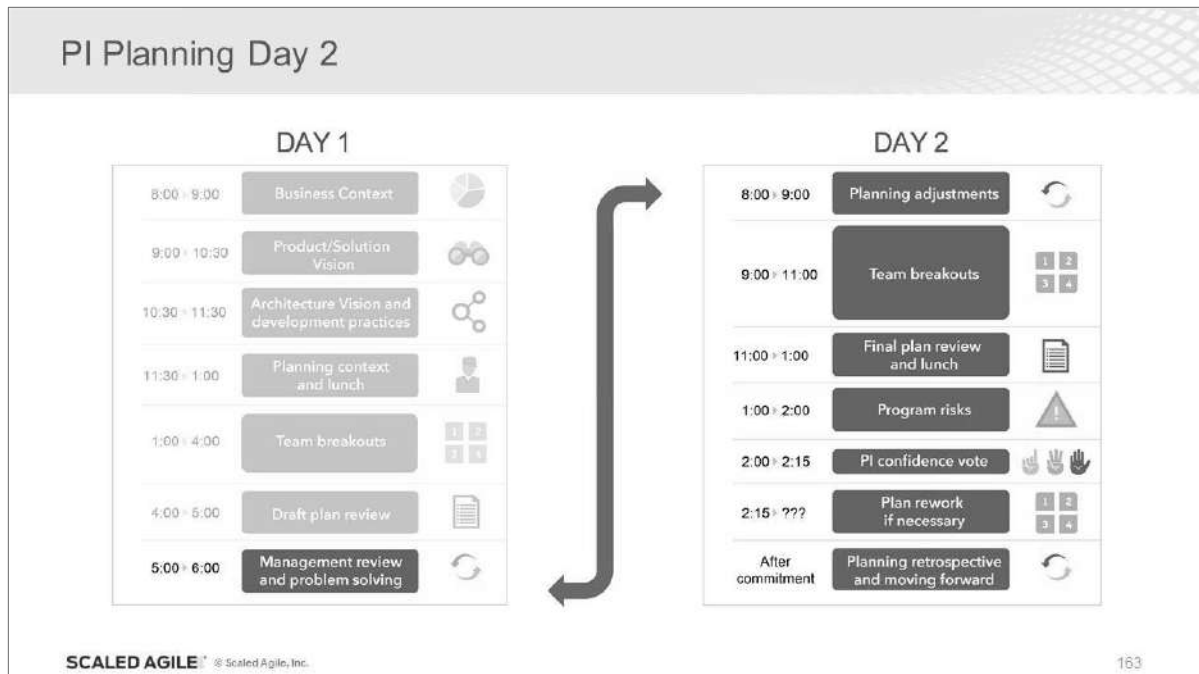
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Notes:



## 5.3 Finalize plans and establish business value



Notes:

**Planning adjustments** - The next day, the meeting begins with managers describing any changes to planning scope and resources.

**Team breakouts #2** - Teams continue planning based on their agenda from the previous day, making the appropriate adjustments. They finalize their objectives for the PI, to which the Business Owners assign business value.

**Final plan review and lunch** - During this session, all teams present their plans to the group. At the end of each team's time slot, the team states their risks and impediments, but there is no attempt to resolve them in this short timebox. If the plan is acceptable to the customers, the team brings their program PI objective sheet and program risk sheet to the front of the room so that all can see the aggregate objectives unfold in real time.

**Program risks** - During planning, teams have identified program-level risks and impediments that could impact their ability to meet their objectives. These are resolved in a broader management context in front of the whole train.

**Confidence vote** - Once program risks have been addressed, teams vote on their confidence in meeting their program PI objectives. Each team conducts a 'fist of five' vote. If the average is three fingers or above, then management should accept the commitment. If it's less than three, the team reworks the plan. Any person voting two fingers or fewer should be given an opportunity to voice their concern. This might add to the list of risks, require some re-planning, or simply be informative.

**Plan rework** - If necessary, teams rework their plans until a high confidence level can be reached. This is one occasion where alignment and commitment are valued more highly than adhering to a timebox.

**Planning retrospective and moving forward** - Finally, the RTE leads a brief retrospective for the PI planning event to capture what went well, what didn't, and what can be done better next time.

### Make planning adjustments

Based on the previous day's management review and problem-solving meeting, adjustments are discussed.

#### Possible changes:

- ▶ Business priorities
- ▶ Adjustment to Vision
- ▶ Changes to scope
- ▶ Movement of people



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Notes:

### Team breakout #2

- ▶ Based on new knowledge—and a good night's sleep—teams work to create their final plans:
- ▶ In the second team breakout, Business Owners circulate and assign business value to PI Objectives from low (1) to high (10)
- ▶ Teams finalize the Program Increment plan
- ▶ Teams also consolidate program risks, impediments, and dependencies
- ▶ Uncommitted objectives provide the capacity and guard band needed to increase cadence-based delivery reliability

Objectives for PI 1		Business Value	Actual Value
<b>Structured location and validation of locations</b>			
• Navigate autonomously from distribution center to top 5 most frequent destinations		10	
• Park at 1 building that requires parallel parking		8	
• Reduce GPS signal loss by 25%		7	
• Add feature to temporarily flag and avoid specific route segments		7	
<b>Uncommitted Objectives for PI 1</b>			
• Spike: conduct hijack testing of the vehicle LIDAR system		5	

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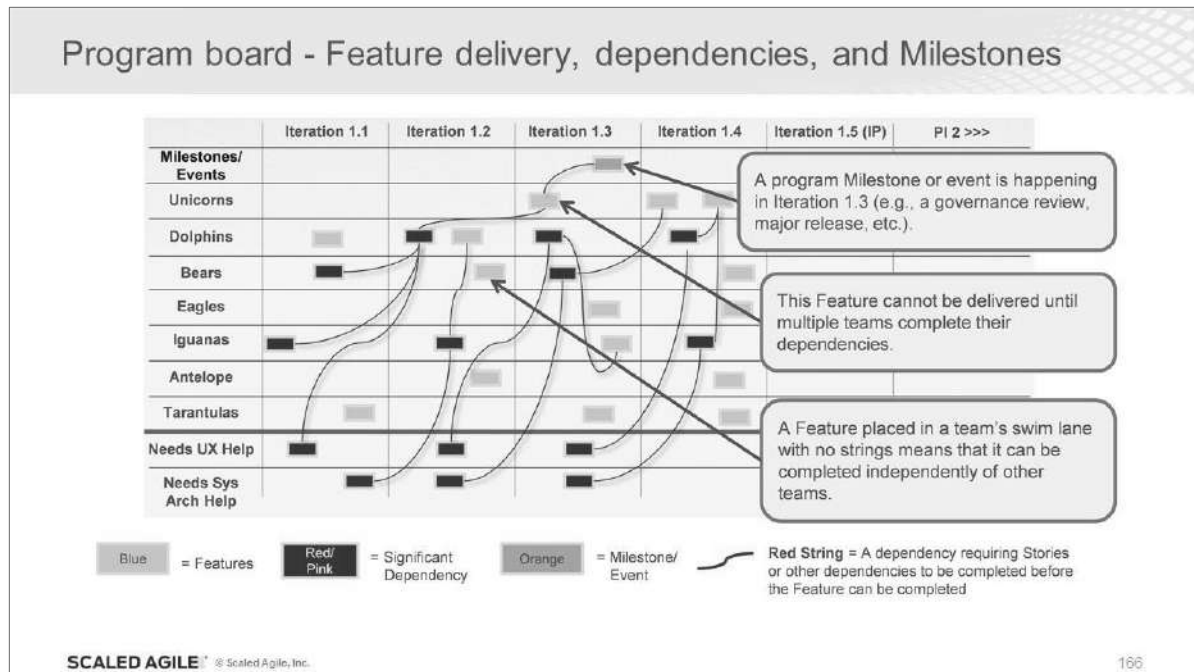
Notes:

### **Setting Business Value**

As objectives are finalized during PI planning, Business Owners collaboratively assign business value to each of the team's individual objectives in a face-to-face conversation.

The value of this particular conversation with the team cannot be overstated, as it communicates the strategy and context behind these weighting decisions. Business Owners use a scale from 1 (lowest) to 10 (highest).

Business value is assigned, not calculated, and serves as an input to execution considerations. Many of the team's objectives provide direct and immediate value to the solution.



Notes:

### The Program Board

- Each team has a row, or lane on the Program Board, and will place Features in their row when they think the Features will be done.
- Make sure that Features, milestones, and dependencies are visible to the train.
- The red dependencies can be part of one Story or many, but they represent a significant dependency on that Feature being completed.
- If a Feature can be completed by a team on their own independently then there is no need to place a red dependency.
- The red string represents risk, dependencies and opportunities for improvement in the system.
- Follow a few of the Features through from bottom to top, do you see variances?
- What happens if a string is going backwards and the dependency is on the board after the estimated Feature completion?

## 5.4 Review final plans and commit to a set of PI Objectives

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Notes:

### Final plan review

Teams and Business Owners peer-review all final plans



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Notes:

### Building the final plan

- ▶ Final plans are collected at the front of the room
- ▶ Final plans are reviewed by all teams
- ▶ Business Owners are asked whether they accept the plan
- ▶ If so, the team's plan and program risk sheet are brought to the front of the room
- ▶ If not, the plans stay in place and the team continues planning after the review



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Notes:

### Addressing program risks

After all plans have been presented, remaining program risks and impediments are discussed and categorized.

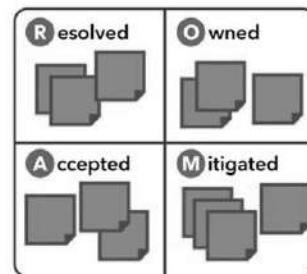
#### ROAMing risks:

**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 plan to adjust as necessary.



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Notes:

### Confidence vote: Team and program levels

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

#### A commitment with two parts:

1. Teams agree to do everything in their power to meet the agreed-to objectives
2. In the event that fact patterns dictate that it is simply not achievable, teams agree to escalate immediately so that corrective action can be taken



No confidence



Little confidence



Good confidence



High confidence



Very high confidence



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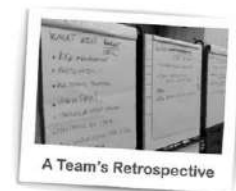
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Notes:

### Run a planning meeting retrospective

Add the items below to your Program Backlog and take action.


The PI Planning event will evolve over time. Ending with a retrospective will help continuously improve it.



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Notes:



Discussion: Simulation debriefing

Discuss  
10 min

- ▶ Step 1: Think about your experience during the PI Planning simulation.
- ▶ **Step 2:** Share the most exciting moments and some new insights. What have you learned?



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Notes:

What makes PI Planning so effective?

- It is the seminal, cadence-based synchronization point of the Agile Release Train
- PI Planning is the heartbeat of the ART
- Helps build the social network that the ART depends on
- Aligns development to the business through team and program objectives and interaction with Business Owners
- Provides the opportunity for 'just the right amount' of Architecture and UX guidance
- Matches demand to capacity, eliminates excess WIP

What did you experience in this simulation?

How could this process benefit your own agency?





## Action Plan: Planning with Cadence and Synchronization



- ▶ **Step 1:** What does your organization need to be able to conduct PI Planning?
  - ▶ What roles need to be filled?
  - ▶ Do you have an SPC to coach your organization?
  - ▶ Do they have access to toolkits to assist with ART launches and PI Planning?
  - ▶ How is your structure - are you organized around value? Do you have cross-functional teams?
- ▶ **Step 2:** How will you address any push-back against PI Planning as an in-person event, conducted on a regular cadence?



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Notes:

### Lesson review

In this lesson you:

- ▶ Prepared to experience PI Planning
- ▶ Created and reviewed draft PI plans
- ▶ Finalized plans and established business value
- ▶ Reviewed final plans and committed to a set of PI Objectives

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Notes:



## Lesson 6

# Supporting Program Execution

### Learning Objectives:

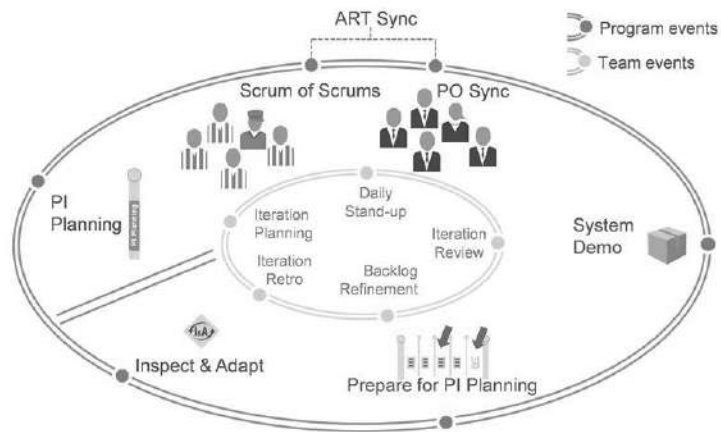
- 6.1 Guide innovation and exploration for programs and large solutions
- 6.2 Manage flow of value
- 6.3 Update the Program Vision and Roadmap
- 6.4 Define system attributes with Features
- 6.5 Set priorities through backlog refinement
- 6.6 Engage in key SAFe events



SAFe Authorized Course - Attending this course gives students access to the SAFe Government Practitioner exam and related preparation materials.

## Program events drive the train

Program events create a closed loop system to keep the train on the tracks.



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Notes:

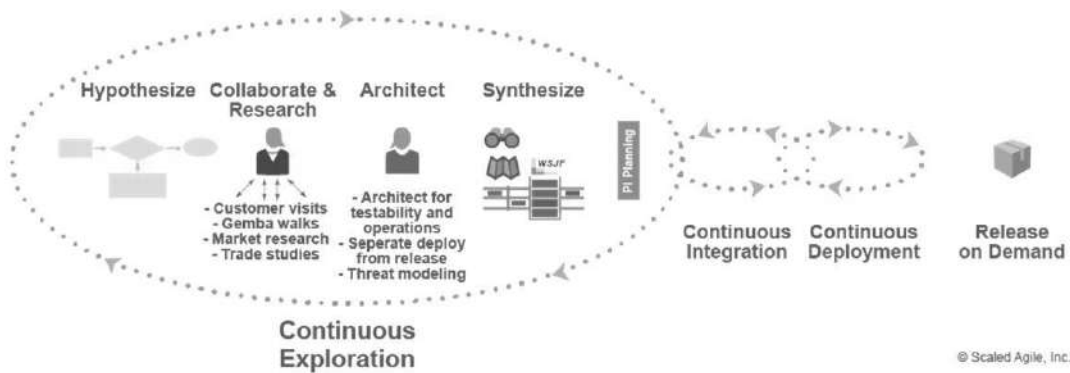
## 6.1 Guide innovation and exploration for programs and large solutions

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Notes:

### Flow of mission value requires continuous exploration



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Notes:

### Start with Customer Centricity



All customer-centric enterprises deliver whole-product solutions that are designed with a deep understanding of customer needs.

Customer-centric businesses generate:

- greater profits
- increased employee engagement
- more satisfied customers.



Customer-centric governments and nonprofits create:

- the resiliency, sustainability, and alignment needed to fulfill their mission.

Notes:

### Apply Design Thinking



#### Why Design Thinking?

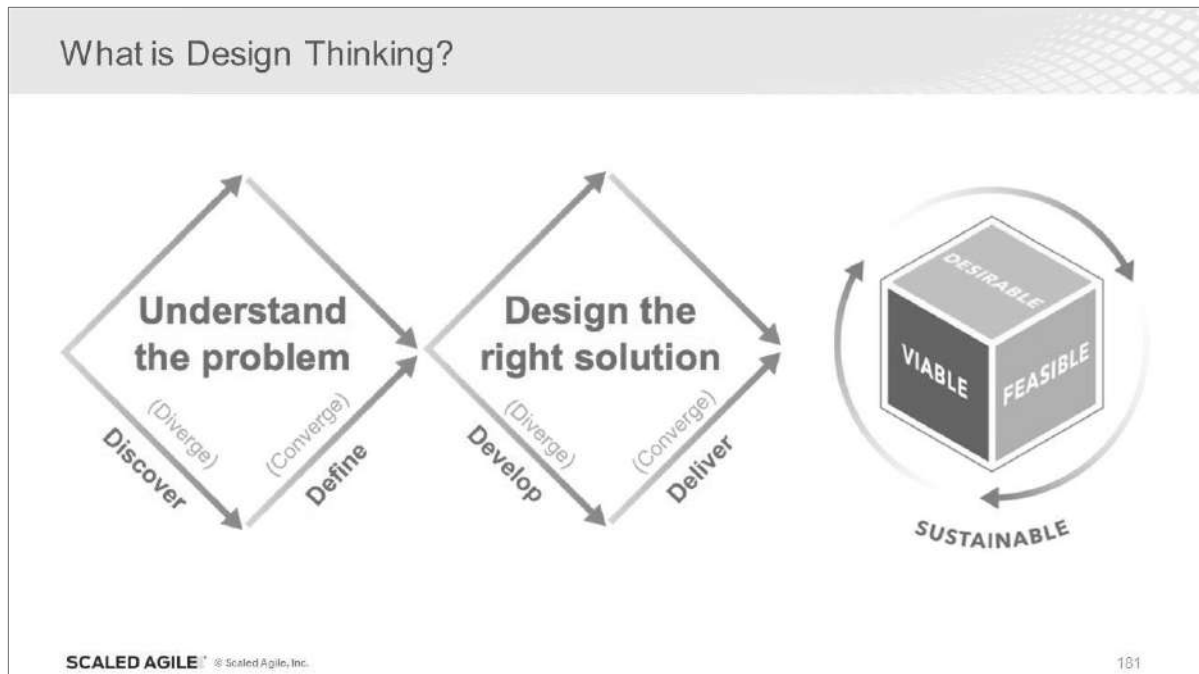
- ▶ Address the needs of the user instead of just meeting the requirements
- ▶ Delight the customer, create more successful and sustainable businesses

#### What is Design Thinking?

- ▶ A customer centric development process and the application of specific tools.



Notes:



Notes:

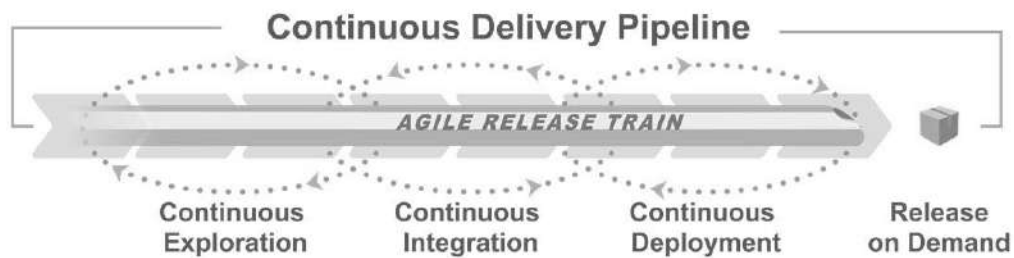
### 6.2 Manage flow of value

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Notes:

#### Invest in the Continuous Delivery Pipeline



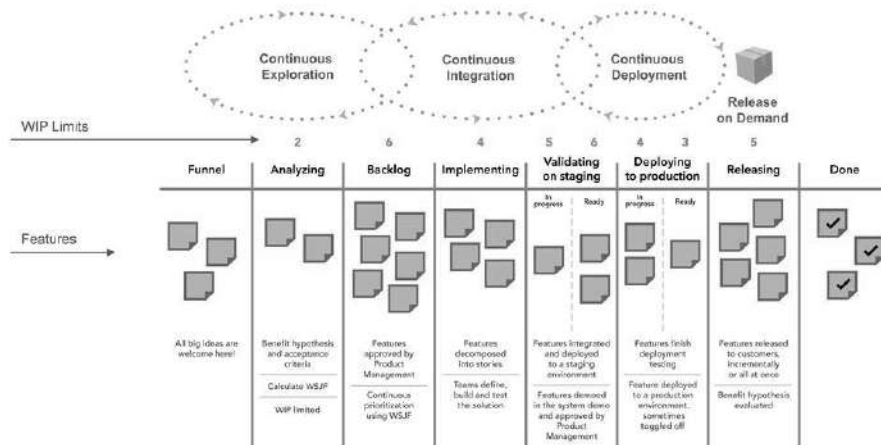
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Notes:



### Manage flow of value with the Program Kanban



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Notes:

### Protect the IP Iteration to sustain flow

Facilitate reliability, Program Increment readiness, planning, and innovation

- Innovation: Opportunity for innovation, hackathons, and infrastructure improvements
- Planning: Provides for cadence-based planning
- Estimating guard band for cadence-based delivery



*Provide sufficient capacity margin to enable cadence.*

—Don Reinertsen, *Principles of Product Development Flow*

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Notes:

### Lead the organization to embrace DevOps (CALMR)

- ▶ **C**ulture - Establish a culture of shared responsibility for development, deployment, and operations.
- ▶ **A**utomation - Automate the Continuous Delivery Pipeline.
- ▶ **L**ean flow - Keep batch sizes small, limit WIP, and provide extreme visibility.
- ▶ **M**easurement - Measure the flow through the pipeline. Implement application telemetry.
- ▶ **R**ecovery - Architect and enable low-risk releases. Establish fast recovery, fast reversion, and fast fix-forward.



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Notes:

### 6.3 Update the Program Vision and Roadmap

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Notes:

#### Vision inspires action and motivates knowledge workers

Provided during the leader briefings on Day 1 of PI Planning to convey the longer-term context:

- ▶ How will our future solution solve the larger citizen and/or operator problems?
- ▶ How will it be better than current or alternative options?
- ▶ What is the future context that our solutions will operate in?
- ▶ What is our current mission 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.

[1]Switch: How to Change Things When Change Is Hard, Heath and Heath, Broadway Books, 2010

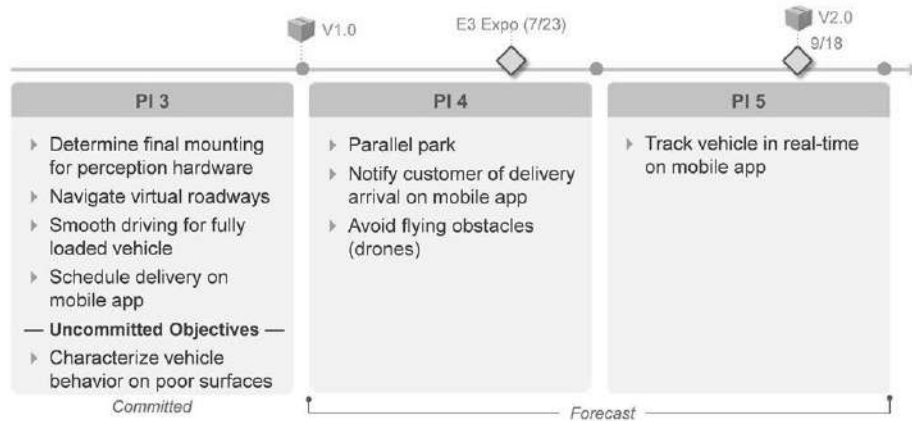
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Notes:

### Roadmap enables forecasts of program Capabilities

The Roadmap shows the delivery of Features over time.



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Notes:

### 6.4 Define system attributes with Features

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Notes:

#### The ART backlog contains Features

##### Example:

*Multi-factor authentication*

##### Benefit hypothesis

Enhanced user security will reduce risk of a system data breach

##### Acceptance criteria

1. USB tokens as a first layer
2. Password authentication second layer
3. Multiple tokens on a single device
4. User activity log reflecting both authentication factors

- ▶ Feature is an industry-standard term that describes a specific system behavior
- ▶ Benefit hypothesis justifies Feature implementation cost, and provides business perspective when making scope decisions
- ▶ Acceptance criteria is typically defined during Program Backlog refinement
- ▶ Reflect functional and nonfunctional requirements
- ▶ Fits into one PI

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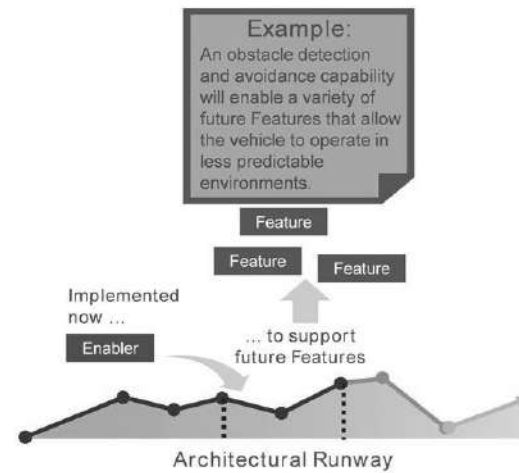
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Notes:

### Architect for releasability

Architectural Runway is existing code, hardware components, etc., that enable near-term business Features.

- ▶ Enablers build up the runway
- ▶ Features consume it
- ▶ Architectural Runway must be continuously maintained
- ▶ Use capacity allocation (a percentage of train's overall capacity in a PI) for Enablers that extend the runway




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Notes:

## 6.4 Define system attributes with Features



Activity: Describe a Feature

Prepare  
7 min

Share  
3 min

- ▶ **Step 1:** Identify three Features from a context represented at your table.
- ▶ **Step 2:** What are the benefit hypotheses for these features?
- ▶ **Step 3:** Can you provide examples for some of the acceptance criteria?
- ▶ **Step 4:** Share one of your examples with the class.

Example:

**Feature:** Follow unmarked, virtual roads

**Benefit Hypothesis:** Make vehicle follow virtual roads based on GPS location in addition to following roads marked by lines

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Notes:

Feature:	Benefit Hypothesis:	Acceptance Criteria:



Notes:

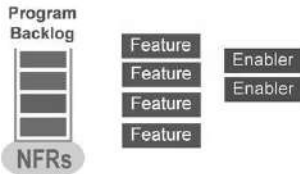
### Prioritize Features for optimal ROI

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:


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

*If you only quantify one thing, quantify the Cost of Delay.*  
— Donald G. Reinertsen, *Principles of Product Development Flow E3*



The diagram shows a "Program Backlog" on the left, represented by a vertical stack of four rectangles. To its right is a column of four "Feature" boxes. To the right of the "Feature" boxes is a column of two "Enabler" boxes. Below the "Program Backlog" is a circle labeled "NFRs".

#### WSJF Done Right with Dean Leffingwell



<https://tinyurl.com/kpmjnuk>  
21:00

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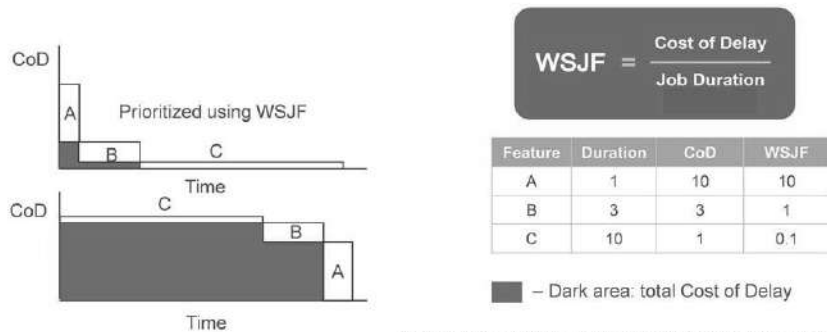
Notes:



## 6.5 Set priorities through backlog refinement

### 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):



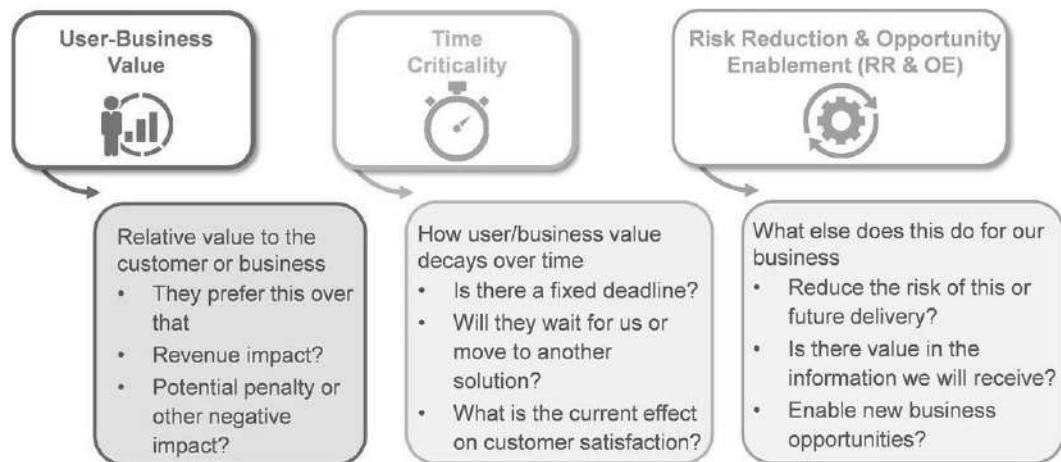
Adapted from *The Principles of Product Development Flow*, Donald G. Reinertsen

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Notes:

### Components of cost of delay



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Notes:

### Calculate WSJF with relative estimating

- ▶ To calculate WSJF, teams need to estimate cost of delay (CoD) and 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, 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:

## 6.5 Set priorities through backlog refinement



Activity: Calculating WSJF

Prepare  
7 min

Share  
3 min

► **Step 1:** Prioritize your three Features using WSJF

► **Step 2:** Share some insights from this activity with the class

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

Scale for each parameter: 1, 2, 3, 5, 8, 13, 20

Note: Do one column at a time, start by picking the smallest item and giving it a '1.'

There must be at least one '1' in each column!

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Notes:

## 6.5 Set priorities through backlog refinement

Use WSJF for maximum economic outcomes; if you can quantify only one thing, quantify the cost of delay. WSJF provides a model to reason about priorities and align stakeholders to the best economic outcomes. Relative estimating works for prioritization; no absolute ROI calculations are required (these are often useless). Always take an economic view, and ignore sunk costs. Economic choices must be made continuously, therefore, use decision rules to decentralize economic control.

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

Scale for each parameter: 1, 2, 3, 5, 8, 13, 20

Note: Do one column at a time, start by picking the smallest item and giving it a '1.'

There must be at least one '1' in each column!

### 6.6 Engage in key SAFe events

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Notes:

#### ART Sync is used to coordinate progress

Programs coordinate dependencies through sync meetings



##### Scrum of Scrums (SoS)

- ▶ Visibility into progress and impediments
- ▶ Facilitated by RTE
- ▶ Participants: Scrum Masters, other select team members, SMEs if necessary
- ▶ Weekly or more frequently, 30 – 60 minutes
- ▶ Timeboxed and followed by a 'Meet After'

ART Sync



##### PO Sync

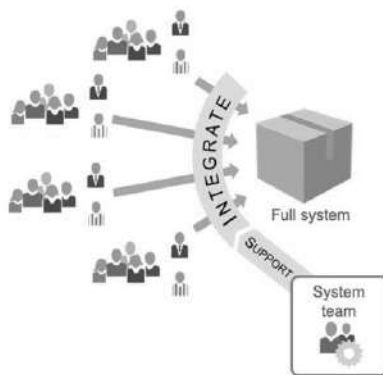
- ▶ Visibility into progress, scope, and priority adjustments
- ▶ Facilitated by RTE or PM
- ▶ Participants: PMs, POs, other stakeholders, and SMEs as necessary
- ▶ Weekly or more frequently, 30 – 60 minutes
- ▶ Timeboxed and followed by a 'Meet After'

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Notes:

### Iteration System Demos are objective evidence of integration



Attendance is ART leadership, business owners, customers, system team members, other team members as needed

- ▶ Features are functionally complete or 'toggled' so as not to disrupt demonstrable functionality
- ▶ New Features work together, and with existing functionality
- ▶ Happens at the end of each iteration (may lag by as much as one iteration in programs with manual integration and testing)
- ▶ Demo from a staging environment, resemble production as much as possible



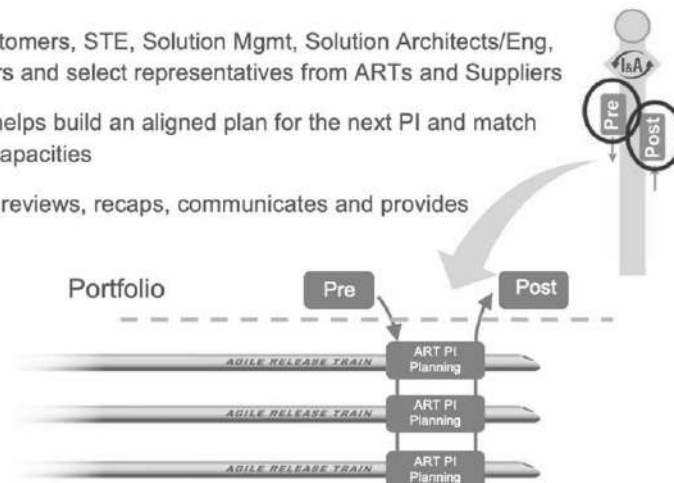
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Notes:

### Pre- and post-PI Planning meetings for Large Solutions

- ▶ Typically attended by Customers, STE, Solution Mgmt, Solution Architects/Eng, Solution Train stakeholders and select representatives from ARTs and Suppliers
- ▶ Pre-PI Planning meeting helps build an aligned plan for the next PI and match solution demand to ART capacities
- ▶ Post-PI Planning meeting reviews, recaps, communicates and provides feedback



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Notes:

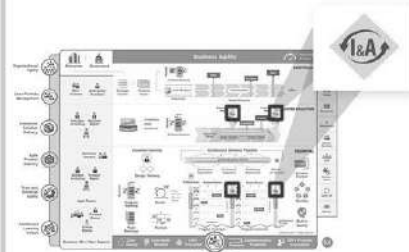
### Improving results with Inspect and Adapt event

#### Three parts of Inspect and Adapt:

1. The PI System Demo
2. Quantitative and Qualitative Measurement
3. Problem-Solving Workshop

**Timebox:** 3 – 4 hours per PI

**Attendees:** Teams and stakeholders



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Notes:

### Step 1: PI System Demo and Solution Demo

At the end of the PI, teams demonstrate the current state of the system to the appropriate stakeholders.

- ▶ Often led by Product Management, POs, and the System Team
- ▶ Attended by Business Owners, program stakeholders, Product Management, RTE, Scrum Masters, and teams
- ▶ Solution Demos provide the equivalent process for Solution Trains
  - Attended by high profile stakeholders
  - Guides further investment decisions



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Notes:

## Step 2: Program performance assessment

## How did we do?

- ▶ Program predictability is the first and most important program measure to make visible during I&A
- ▶ Business owners typically collaborate with teams to do the scoring before the report in I&A
- ▶ Challenges with predictability are good candidates to focus on during the problem solving workshop
- ▶ Additional Metrics that are critical to program success are also shown during this timebox

Suggested timebox during actual I&A: 45 – 60 minutes

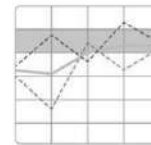


See the Metrics article for additional performance measures

## Team PI performance report

Objective	Planned	Actual
Structured location and validation of locations	10	10
Navigate autonomously from distribution center to top 5 most frequent destinations	8	8
Park at 1 building that requires parallel parking	7	7
Reduce GPS signal loss by 25%	7	4
Add feature to temporarily flag and avoid specific route segments	5	4

## Program predictability measure



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Notes:

## Step 2 (cont.): Program performance reporting

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

- ▶ 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

Objectives for PI 1	BV	AV
1. Show routing calculations between the 5 most frequent destinations	10	10
2. Navigate autonomously from distribution center to the most frequent destination	8	8
3. Parallel park for a delivery	7	5
4. Return to the distribution center after delivery	10	8
5. Include traffic data in route planning	7	7
6. Recall a delivery that is already in progress	7	6
7. Reduce GPS signal loss by 25%	2	2
<b>Uncommitted Objectives</b>		
8. Demonstrate real-time rerouting to avoid delays (e.g., accident, construction)	5	5

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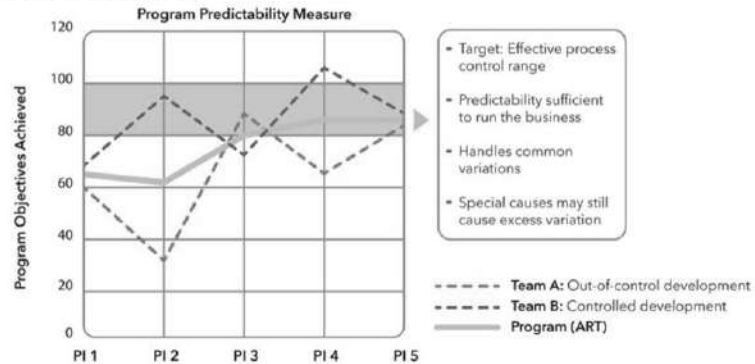
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Notes:



### Step 2 (cont.): Quantitative and qualitative measurement

The Program Predictability Measure shows whether achievements fall into an acceptable process control band.



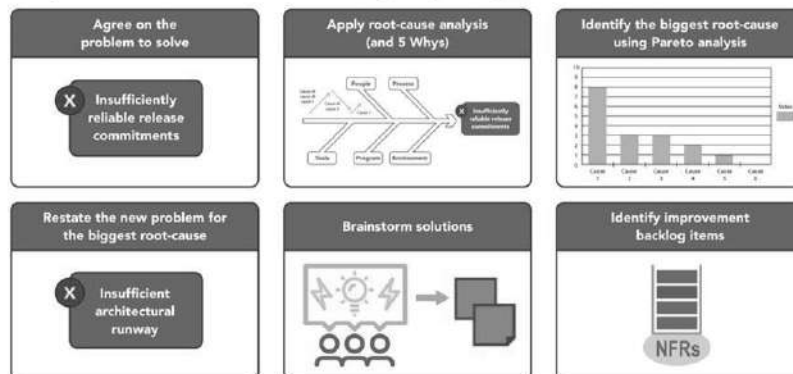
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Notes:

### Step 3: The problem-solving workshop (ART and Solution Train)

Teams conduct a short retrospective, then systematically address the larger impediments that are limiting capacity.

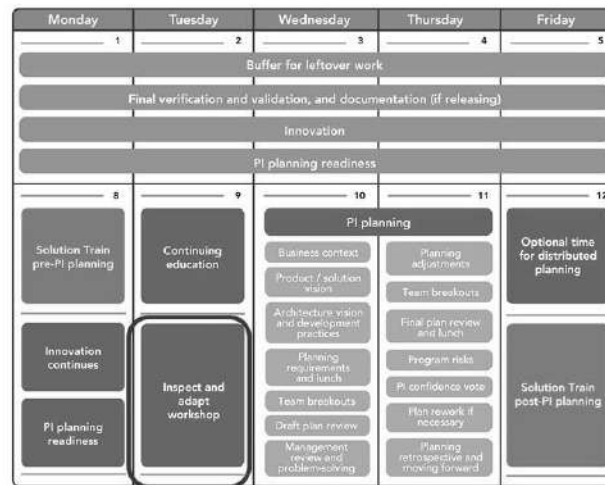


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Notes:


### Inspect & Adapt occurs during the IP iteration



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Notes:



Discussion: The value of the IP Iteration

Prepare  
5 min

Share  
3 min

- ▶ Consider the outcomes of each IP Iteration in SAFe:
  - Measuring progress through demos of working software/systems
  - Accountability and transparency through open discussion of ART Metrics
  - Relentless program improvement through the problem-solving workshop
  - Creating, aligning, and committing to the objectives and plan for the next PI
  - Consistent opportunity for innovation, collaboration, and professional growth
  - Predictable delivery of working features, on cadence, every PI that we committed to in PI Planning
- ▶ Which of these elements of the IP iteration could provide the most immediate benefit to your program or agency?

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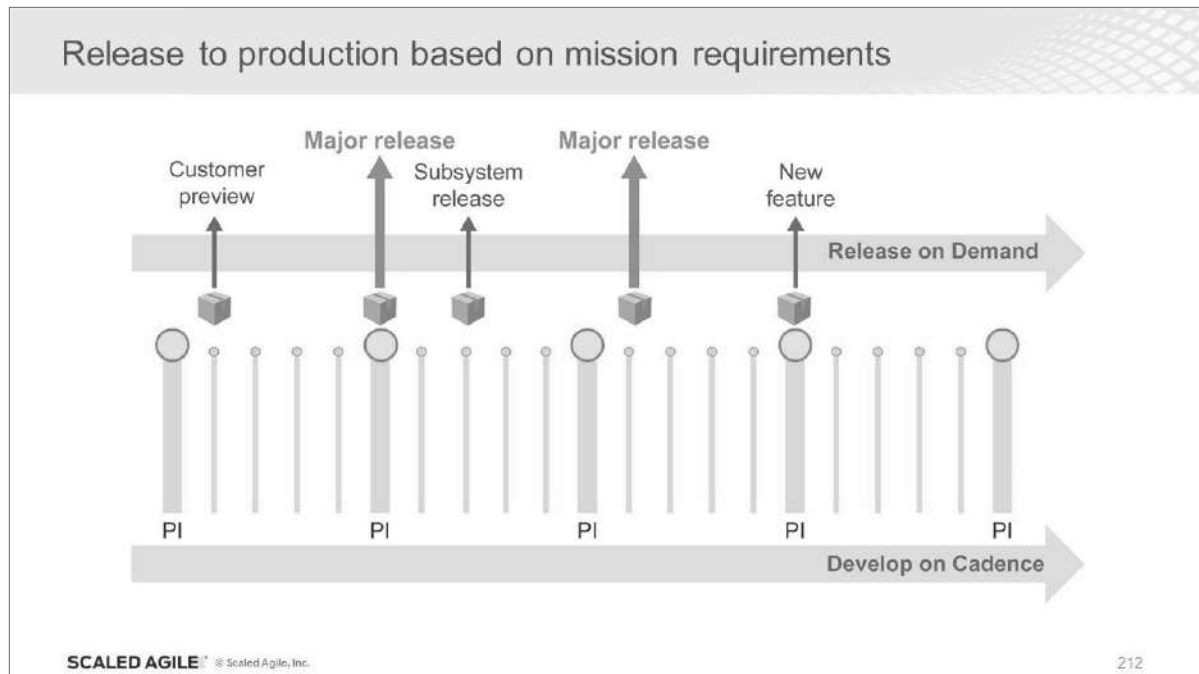
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Notes:

Why is it important for large, complex programs to have frequent and predictable integrations and demonstrations of working systems?

Which elements could provide the most immediate benefit to your program or agency?

Prepare to share with the class.



Notes:



## Action Plan: Supporting Program Execution



- ▶ **Step 1:** How can your organization improve its exploration and innovation capacity?
- ▶ **Step 2:** How can your organization use design thinking tools and what other things can it do to become more customer-centric?
- ▶ **Step 3:** How can you improve your organization's prioritization process?
- ▶ **Step 4:** What SAFe Program Increment events does your organization currently conduct?
- ▶ **Step 5:** What can you do to encourage the organization to conduct all PI events?



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Notes:

### Lesson review

In this lesson you:

- ▶ Provided input and oversight to program exploration and innovation
- ▶ Ensured continuous flow of mission value and program performance
- ▶ Guided the program with Vision and Roadmap tools
- ▶ Created Features that define system functionality
- ▶ Prioritized the sequence of value delivery
- ▶ Provided leadership and engagement during critical SAFe events

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Notes:



## Lesson 7

# Mapping the Path to Agency and Program Agility

### Learning Objectives:

- 7.1 Map the journey to agency/program Agility
- 7.2 Build large programs to align with agency strategy
- 7.3 Transition from projects to Lean flow of Epics
- 7.4 Adopt Lean Budgeting aligned to Value Streams
- 7.5 Apply Lean estimating and forecasting with cadence-based development
- 7.6 Modify acquisition practices to enable Lean-Agile development and operations
- 7.7 Build in quality and compliance
- 7.8 Adapt governance practices to support Agility and Lean flow of value



SAFe Authorized Course - Attending this course gives students access to the SAFe Government Practitioner exam and related preparation materials.



Notes:

Traditional waterfall thinking is embedded in legacy processes

*“Any notion that we are mandated to apply a single-pass, waterfall model to development is an industry myth, one which has likely been perpetuated by our own waterfall past (‘We have always done it this way.’) and our existing quality management system, and not because the regulations make us do it.”*

*—Dean Leffingwell*



Achieving Agility in Government programs requires a willingness to challenge the status quo and the courage to champion change in legacy thinking and processes.

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Notes:



### Take a journey to the summit!

- ▶ The transition to Lean-Agile principles and practices is a long journey of incremental steps
- ▶ Every agency and program has different starting points in contracting, governance, etc...
- ▶ The goal, or summit, is continuous and rapid flow of value with high quality
- ▶ The path for government programs has unique obstacles to agility such as traditional budgeting, contracting, and governance
- ▶ This lesson provides success patterns for mapping your path to overcome those obstacles
- ▶ Remember the journey is never done!




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Notes:

## 7.1 Map the journey to agency/program Agility



**Activity: How do delays impact mission outcomes?**

Prepare  
5 min

Share  
3 min

- ▶ Using the space in your workbook, list three examples from your experience where current practices in budgeting, forecasting, acquisition, quality, compliance or governance negatively impacted a program due to delays in the flow of value.
- ▶ What was the impact to the agency mission? How could these processes be adjusted to support agility and flow? Discuss your examples at your table.

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Notes:

List three examples where traditional budgeting/forecasting, acquisition, quality/compliance or governance models negatively impacted a program due to delays in the flow of value.

What was the impact to the agency mission?

How could these processes be adjusted to support agility and flow?

Example	Impact	Adjust for agility & flow

## 7.2 Build large programs to align with agency strategy

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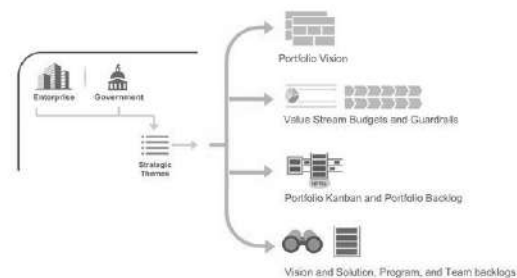
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Notes:

### Strategic Themes influence what gets built

Strategic Themes are differentiating, specific, and itemized mission objectives that connect a portfolio to the strategy of the agency.

- ▶ Provide context for decision-making, inputs to the vision, budget, and backlogs
- ▶ Adjust ART and Value Stream funding to track changing strategic priorities
- ▶ Assist with Epic evaluation and decision-making
- ▶ Influence each Program Vision and Roadmap




Examples of Strategic Themes for a federal civilian agency:

- ▶ Create a 'one-stop shop' for all citizen-facing services
- ▶ Increase and simplify self-service options

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Notes:



Discussion: Agency strategies and technology development

Duration  
10 min

- ▶ What current agency strategies in your organization require technology development to implement?
- ▶ Does the agency's current allocation of technology dollars and resources align to these strategies?

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Notes:

### 7.3 Transition from projects to a Lean flow of Epics

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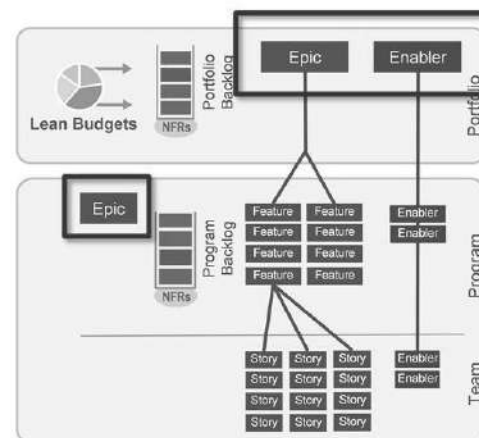
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Notes:

#### Transition from projects to a backlog of Epics

Epics are Enterprise initiatives sufficiently substantial in scope to warrant analysis, understanding ROI, a Lean business case, and approval.

- ▶ Business Epics (blue) are system attributes that are customer- or operator-facing
  - Example: mobile app for managing veterans' benefits
- ▶ Enabler Epics (red) enable solutions to address business needs
  - Example: cloud platform with services to support mobile
- ▶ Epics are developed and analyzed in flow, visualized and tracked using Kanban
- ▶ Budget, track, prioritize Epics and use SAFe processes vs. projects and traditional project management



*Epics can be created within a program or as an agency portfolio initiative*

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Notes:

## Epic hypothesis statement template

Template


Epic Hypothesis Statement	
<b>For</b>	<customers>
<b>who</b>	<do something>
<b>the</b>	<solution>
<b>is a</b>	<something – the “how”>
<b>that</b>	<provides this value>
<b>Unlike</b>	<competitor, current solution, or non-existing solution>
<b>our solution</b>	<does something better – the “why”>
<b>Business Outcome Hypothesis</b>	•
<b>Leading Indicators</b>	• (early innovation accounting measures)
<b>NFRs</b>	•

Example

Epic Hypothesis Statement	
<b>For</b>	Military veterans
<b>who</b>	want simple, fast access to veteran benefits and services
<b>the</b>	Our Vets website
<b>is a</b>	internet portal
<b>that</b>	provides integrated single authentication to all veteran services
<b>Unlike</b>	existing disparate sites with multiple logins and conflicting data
<b>our solution</b>	provides an easy one-stop shop for our honored veterans
<b>Business Outcome Hypothesis</b>	• self-service to benefits will increase • lead time for benefits and services delivery will decrease • customer satisfaction among veterans will increase
<b>Leading Indicators</b>	• completed self-service transaction rates • call-in volume for agent assisted service
<b>NFRs</b>	• available on all common platforms • four 9's reliability and access 24/7 (no maintenance windows) • accessible to the visually impaired

Notes:

## 7.3 Transition from projects to Lean flow of Epics



Activity: From projects to Epics

Prepare  
7 min

Share  
3 min

- **Step 1:** At your table, identify an existing 'big batch' project from one of your contexts.
- **Step 2:** Create an Epic that could replace part or all of the scope of the project using the Epic hypothesis template in your workbook.

Epic Hypothesis Statement	
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">
<hr/>	
Business Outcome Hypothesis	•
Leading Indicators	• (early innovation accounting measures)
NFRs	•

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Notes:

Writing a concise Epic Value Statement takes thought but sets the stage for understanding and analysis. The anticipated outcome for Epics are an important part of the Epic analysis. It is used to validate that implementation is complete and successful. Nonfunctional requirements can cover a wide range of issues that are not covered by functional requirements and are an important part of the Epic analysis.

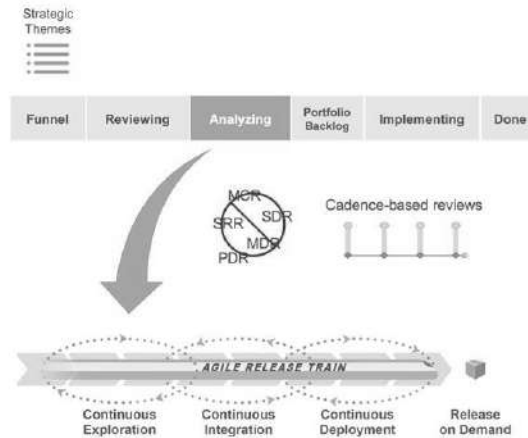
With your team, draft one Epic on your flip chart for presentation, using the Epic Value Statement format.

## 7.3 Transition from projects to Lean flow of Epics

### Epics can start as rapid exploratory prototypes

*Think big. Start small. Scale fast.—Eric, Ries, The Startup Way*

- ▶ Transition multiple committees and reviews into a cross-domain review board, a single point of accountability
- ▶ Form cross-domain prototype teams to explore new capabilities
- ▶ Establish feasibility through rapid experiments
- ▶ Apply governance using innovation accounting, metered funding, and cadence-based reviews



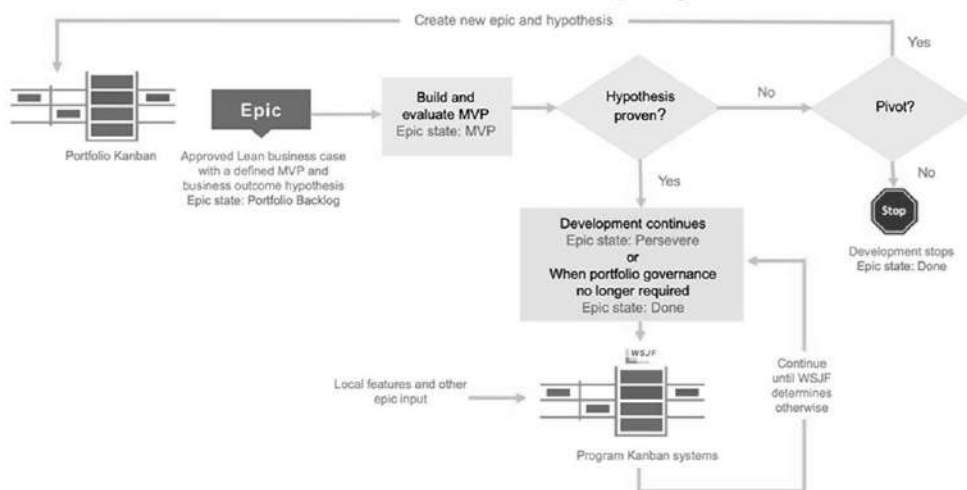
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Notes:

### Lean startup cycle reduces waste and enables fast learning

#### SAFe Lean Startup Cycle



Notes:





### Discussion: From projects to Epics

Duration



Discuss the implications of shifting from projects to Epics in the government context.

- ▶ What do you see as the greatest benefit?
- ▶ Beyond normal resistance to change and 'we've always done it this way' mindsets, what are the biggest barriers to shifting from projects to Epics and how can they be overcome?

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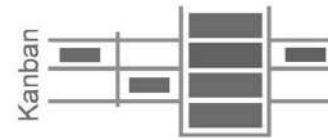
Notes:

## 7.3 Transition from projects to Lean flow of Epics

### Govern Epic flow with Kanban

The Kanban system manages the flow of Epics by:

- ▶ Making the largest mission initiatives visible and predictable
- ▶ Bringing structure to analysis and decision making
- ▶ Providing WIP limits to avoid overloading the organization's existing capacity for taking on big initiatives
- ▶ Helping prevent unrealistic expectations
- ▶ Helping drive collaboration amongst the key stakeholders
- ▶ Providing a transparent and quantitative basis for economic decision-making

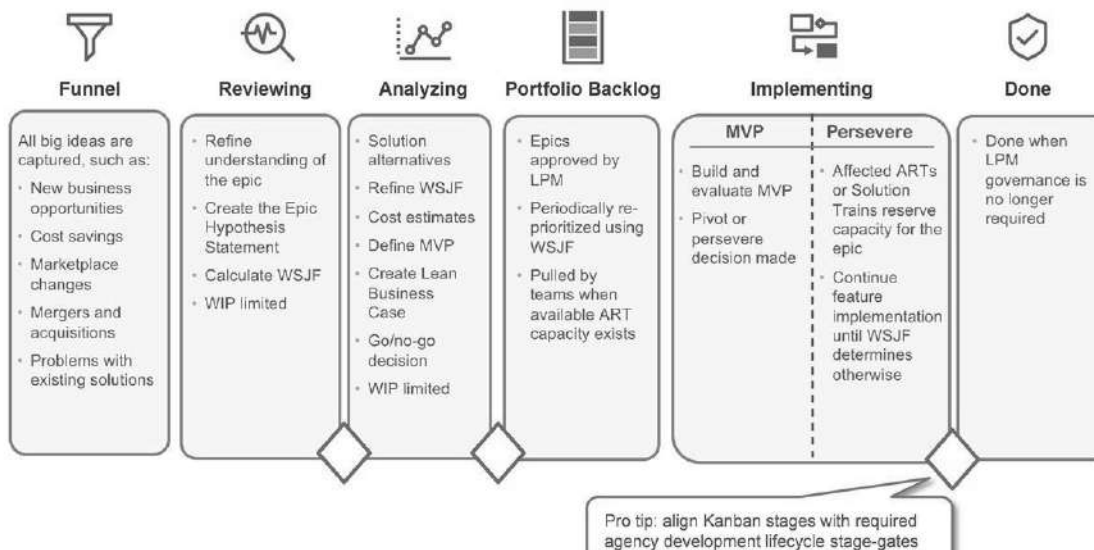


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Notes:

### Prototypical Kanban for managing Lean flow of Epics

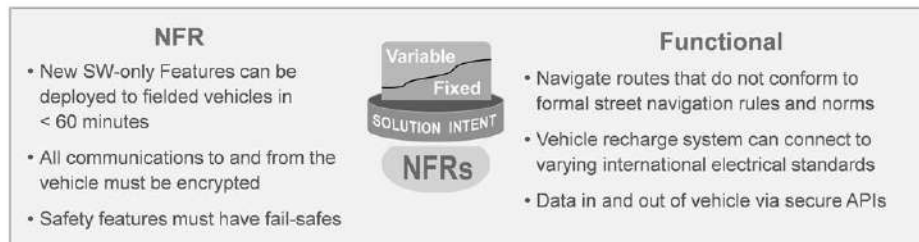


Notes:

### Define Epic requirements to keep options open

*"Development is more dependent on what needs to be learned than on what tasks must be completed to exit a gate." –Alan Ward*

- ▶ Use language of intent instead of shall statements to allow solution flexibility
- ▶ Define variable requirements that give teams flexibility for implementation
- ▶ Ensure backlogs aggressively evaluate alternatives and validate assumptions



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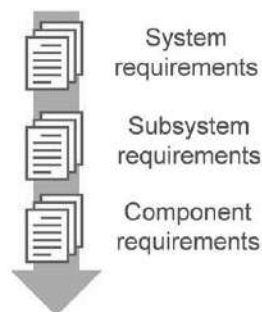
Notes:

### Take a Lean-Agile approach to requirements

Requirements are the invariant, permanent system characteristics that evolve over time. Backlogs contain the work to realize requirements.

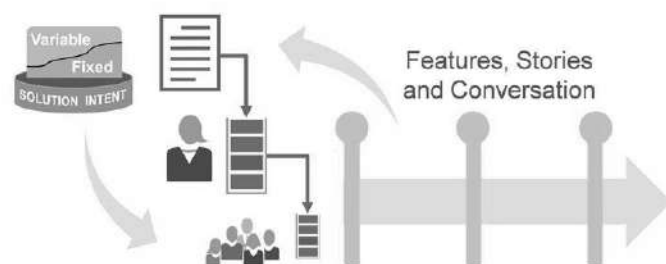
#### Traditional approach

- Detailed up-front by the 'experts'
- Communicated via documents
- Slow to learn and adapt



#### Lean-Agile approach

- Detailed in flow by the people doing the work
- Communicated face-to-face
- Quickly adapt to new knowledge



Notes:

### 7.4 Adopt Lean budgeting aligned to Value Streams

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Notes:

#### The challenge of project-based budgeting

Traditional project-based budgeting creates overhead, friction, and lowers capacity.

Agencies often view requirements through the lens of large waterfall implementations with fragmented project budgets. These budgets frequently contain wasteful, fixed features the agency 'might need' which drive up costs and delay the acquisition process.

##### Results in:

- ▶ Slow, complex budgeting process
- ▶ Utilization-based planning and execution
- ▶ Low program throughput
- ▶ Loss of system knowledge when teams leave en masse when contracts end
- ▶ Moving people to the work

Cost overruns lead to variance analysis, blame game, resource scrambling, and re-budgeting, adding to cost of delay



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Notes:

### Align funding to Value Streams vs. projects

Funding Value Streams provides for full control of spending, with:

- ▶ No costly, delay-inducing project cost variance analyses
- ▶ No resource reassignments
- ▶ No blame game for project overruns
- ▶ Better visibility and control of the technology spend



Most Government programs can be viewed as Value Streams that provide long-lived Capabilities and services to citizens and operators year-over-year.

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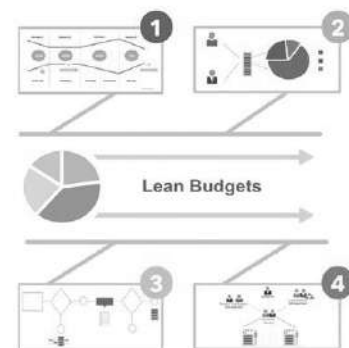
Notes:

### Establish Lean Budget Guardrails to maintain strategic alignment

Guardrails help balance near-term opportunities with long-term strategy, ensuring that large investments are approved, and that investments in technology, infrastructure, and maintenance aren't routinely ignored.

#### There are four Lean Budget Guardrails

- 1 Guide investments by horizons
- 2 Apply capacity allocation to optimize value and solution integrity
- 3 Approve significant initiatives
- 4 Continuous business owner engagement



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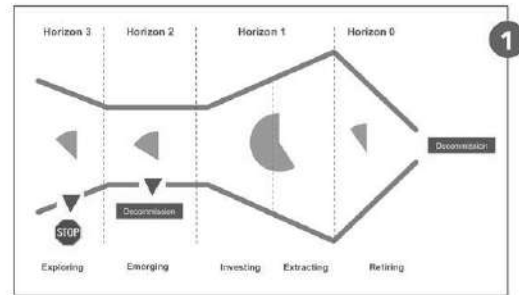
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Notes:

## 7.4 Adopt Lean Budgeting aligned to Value Streams

### Guide investments by horizon

- ▶ *Horizon 3 (Exploring)*: Investment for new potential solution
- ▶ *Horizon 2 (Emerging)*: Solutions that have emerged from horizon three
- ▶ *Horizon 1*: Desired state where solutions deliver more value than their cost:
  - Investing: Solutions that require significant ongoing investment
  - Extracting: Stable solutions that deliver great value with minimal new investment
- ▶ *Horizon 0 (Retiring)*: Investment to decommission solutions



The example allocations shown in this figure were suggested in the Harvard Business Review article located at <https://hbr.org/2012/05/managing-your-innovation-portfolio>

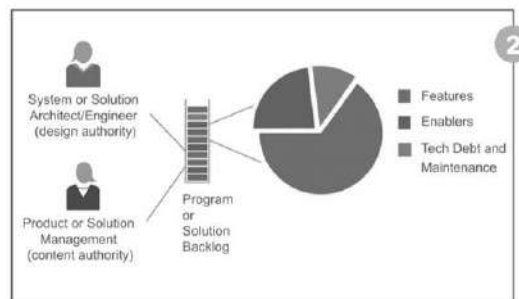
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Notes:

### Apply capacity allocation

- ▶ Determine what percentage of the ARTs total capacity can be allocated for new features, enablers, and technical debt for an upcoming PI
- ▶ Each Value Stream should develop explicit policies for managing capacity allocation
- ▶ The amount of capacity allocated will change periodically based on the context



Example capacity allocation categories: Adapt these categories or add new ones as needed.

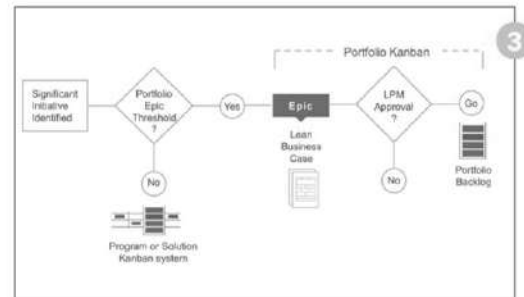
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Notes:

### Approve significant investments

- ▶ Each significant initiative is tested against the portfolio Epic threshold, which is established by LPM
- ▶ Below threshold: Epic goes into the funnel of the appropriate program or Solution Kanban systems
- ▶ Above threshold: Epic enters the Portfolio Kanban system for review and approval
- ▶ All Epics require a Lean business case



The portfolio Epic threshold is defined by the LPM function to determine which Epics are a portfolio concern. Examples include forecasted cost, number of PIs, strategic importance to the portfolio, or a combination of these.

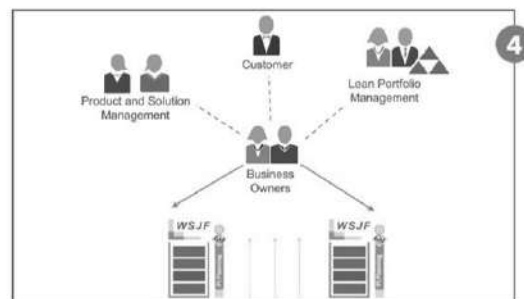
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Notes:

### Continuous Business Owner engagement

- ▶ Business Owners ensure that the priorities of the ARTs and Solution Trains are in alignment with the portfolio
- ▶ Verify that investments are spent on the right things at the right time
- ▶ Business Owners actively engage by:
  - Communicating the Portfolio Vision
  - Assisting in the preparation for the upcoming PI
  - Attending PI Planning
  - Attending Inspect and Adapt




Business Owners are a small group of stakeholders who have the primary business and technical responsibility for governance, compliance, and return on investment for the ART's solution

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Notes:



Discussion: What if it doesn't all get built?

Prepare  
5 min

Share  
3 min

If a government system is built from a backlog of Features that are always prioritized, what are the implications if the least important Features are not developed within the planned time and cost constraints (assuming the MVP has been achieved).

- ▶ How does this thinking compare to current project-based budgeting?
- ▶ What positive outcomes could result from of this new approach?
- ▶ What challenges would need to be overcome?

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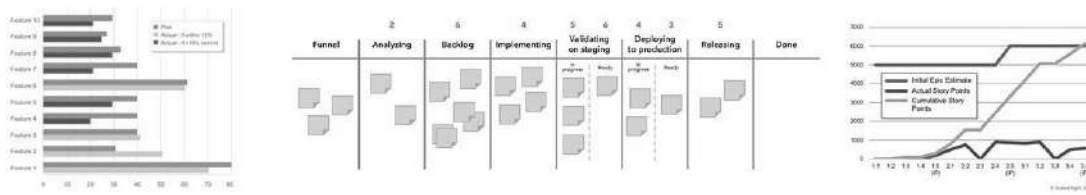
Notes:



## 7.4 Adopt Lean Budgeting aligned to Value Streams

### Use Agile Metrics to track program spend and flow of value

- ▶ Features are built and maintained by long-lived teams of teams (ARTs) that have a relatively steady labor burn rate.
- ▶ Features within the ART are budgeted based on estimated % of capacity (based on Story points) required to deliver to 'done.' Actual costs are derived from actual capacity consumed.
- ▶ Agile best practices provide a variety of visualization, tracking, and reporting tools (Feature progress charts, Kanban boards, burn-up charts, etc.) so that fiscal governance can be maintained.



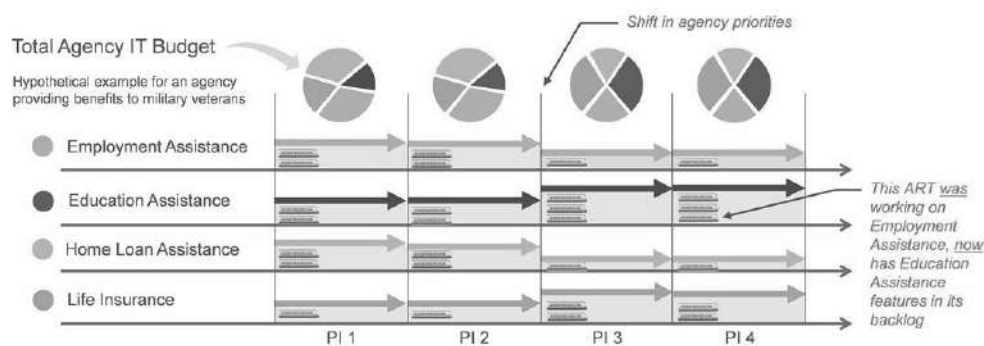
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Notes:

### Exercise fiscal governance with dynamic budgeting

Agile financial governance enables budgets to be adjusted dynamically to meet changing mission needs. Reprioritize by adjusting the ART backlog(s), not by moving people around—keep high performing teams together!



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Notes:

### Addressing segregation of funding concerns

- ▶ IT programs are funded through government budgetary authorities
- ▶ Some funding authorizations are earmarked for specific types of work, windows of time, etc...
- ▶ Expenditures must be tracked to ensure they are used for their appropriated purpose
- ▶ Funds may need to be tracked based on multiple criteria such as:
  - Time (one year, multiple year, no limit)
  - Availability (current, expired, closed, cancelled)
  - Type (new development, maintenance, construction, etc.)



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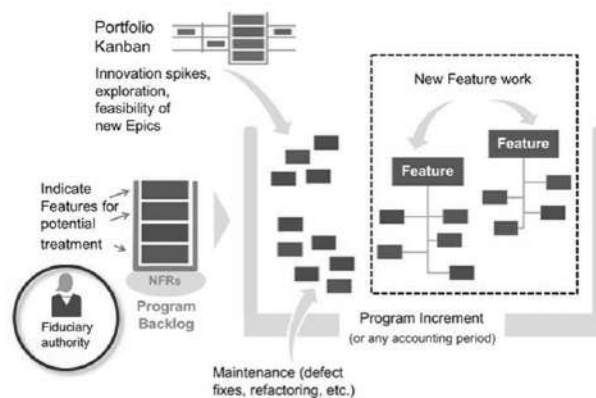
Notes:

### Tracking funds expenditure in the Program Backlog

- ▶ Include fiduciary authorities in backlog refinement
- ▶ Tag backlog items based on assessment of funding categories
- ▶ Used fixed cost per ART per PI and effort required to complete the backlog item to derive cost


*Example:*

\$2M / PI - Features delivered this PI = 425 points  
125 points – Maintenance features = 125/425 = \$588,235  
300 points – New development features = 300/425 = \$1,411,764



A mature SAFe-friendly Agile lifecycle management (ALM) tool is highly recommended for managing funding authority concerns

Notes:



Activity: What color is your Feature?

Prepare  
5 min

Share  
3 min

- ▶ The worksheet below lists Features in the backlog for your ART. Each is categorized for you as New Development or Maintenance work, and has a number indicating planned and actual Story points.
- ▶ Your ART has a consistent burn rate of \$3.2M (or equivalent currency) per each 13-week PI. All of the Features on the list below are 'done-done' and accepted by the PM.
- ▶ Calculate the planned and actual New Development and Maintenance expenditures to report for this program for this past PI.

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Notes:

What color is your Feature?

- Your ART backlog is categorized for you as RDT&E or O&M work.
- Your ART has a consistent burn rate of \$3.2M per each 13-week PI.
- All of the Features on the list below are 'Done-Done' and accepted by the PM.
- Calculate the planned and actual RDT&E and O&M expenditures to report for this program for the past PI.

Use the next page to make your calculations for the following:

1. Decide which column the Features resides, based on each Feature description.
2. Secondly, sum the columns at end of the sections.

## 7.4 Adopt Lean Budgeting aligned to Value Streams

FEATURES	PLANNED	ACTUAL	RDT&E	O+M
1. Add proximity sensors in the vehicle cargo area that can collect IoT data from package.	200	230	_____	_____
2. Add real-time GPS tracking of each ALC vehicle in the user and admin portal pages.	150	120	_____	_____
3. Prototype alternatives for extending the vehicle operating range.	40	40	_____	_____
4. Refactor route control feature to address loss of signal issues with GPS satellites.	100	150	_____	_____
5. Add Bi-directional weight conversion for packages between Imperial and Metric units.	20	20	_____	_____
6. Conduct ALC vehicle log analysis to identify the most frequent navigation errors.	40	20	_____	_____
7. Add route optimization enhancement to integrate with external traffic APIs (Google, Waze, etc.).	150	200	_____	_____
8. Integrate with major carrier APIs for package data of shipments coming from these carriers.	200	160	_____	_____
9. Demo next version of onboard ALC software to DoT regulators prior to release to production.	40	20	_____	_____
10. Test airless tires submitted by industry for safety and overall performance vs. standard tires.	80	80	_____	_____
		Total	_____	_____
		Total \$	\$3.2M	_____
	Total RDT&E and O+M		_____	_____

### 7.5 Apply Lean estimating and forecasting with cadence-based development

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Notes:

#### Estimating and forecasting on government programs

- ▶ SAFe enhances agency *adaptability*, providing faster response to changing conditions from both internal and external forces
- ▶ Yet, the agency and its stakeholders need to plan some sense of the future
- ▶ Estimating must:
  - Be fast, as efficient as possible, and reasonably accurate
  - Support 'what if' analysis of various implementation scenarios
- ▶ Traditional work breakdown structure to task-level estimating binds the teams to waterfall practices



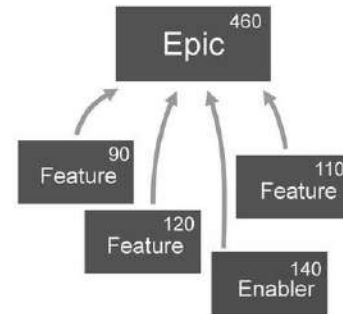
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Notes:

### Estimating Epics in SAFe

- ▶ Epics are broken down into potential Features during the Kanban analysis stage
- ▶ Potential Features are estimated in Story points
  - Typically performed at the PM-System Architect level, based on history, prototyping, and relative size
  - Individual teams are engaged as necessary
- ▶ Feature estimates are aggregated back into the Epic estimate as part of the Lean business case

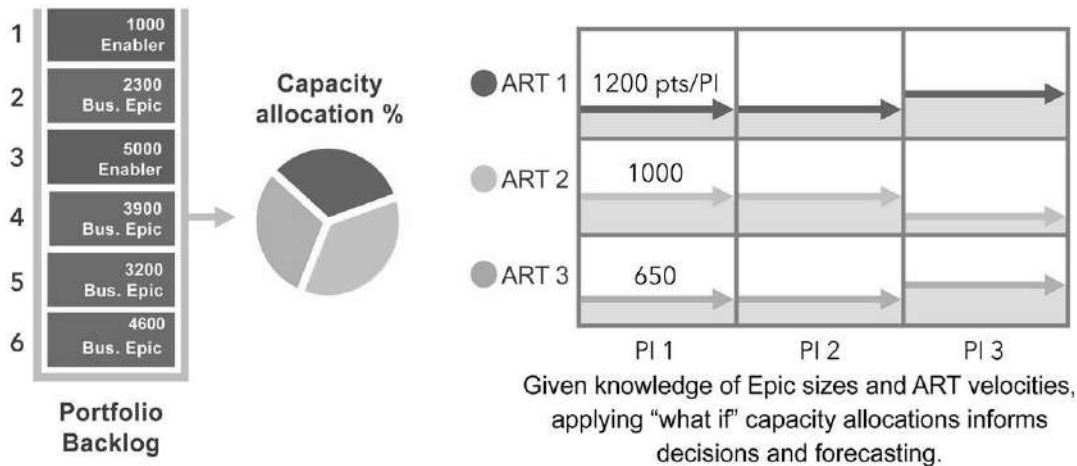


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Notes:


### Forecasting from the backlog



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Notes:




### Activity: Lean forecasting


Prepare




Share

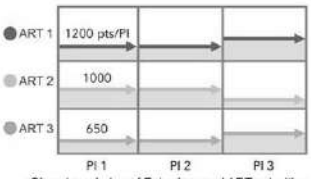


- ▶ ART 2 has the skills to complete the top Epic in the backlog.
- ▶ They can only dedicate 50% of their capacity to this Epic.
- ▶ What would they forecast for completing Epic 1?



Capacity allocation %





Given knowledge of Epic sizes and ART velocities, applying "what if" capacity allocations informs decisions and forecasting.

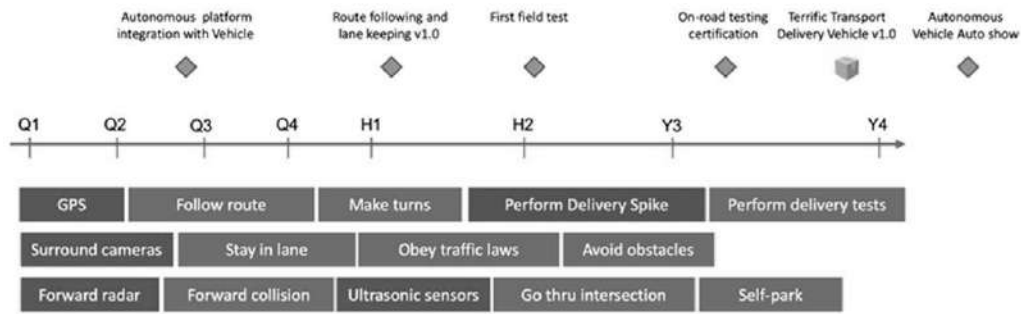
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Notes:

### Long-range forecasting within programs

- ▶ Some programs require long-range forecasts (e.g. weapons systems)
- ▶ For those programs, use a Solution Roadmap
- ▶ Re-evaluate cost, schedule, mission goals each PI

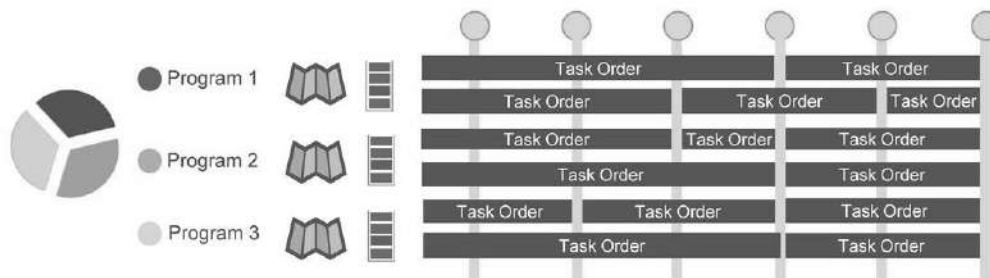


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Notes:

### Forecast with aligned Roadmaps across programs

- ▶ Align the entire organization on common a common cadence
- ▶ Shorter task orders aligned to PIs simplifies forecasting and contracting
- ▶ Maximize organization-level throughput across programs




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Notes:





Discussion: The ART of the possible

Prepare  
5 min

Share  
3 min

- ▶ What are the most significant benefits your agency and programs could realize using Lean Budgeting and forecasting?
- ▶ What are the most significant challenges and barriers?
- ▶ Brainstorm strategies at your table that could be used to overcome these anticipated barriers.

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Notes:

### 7.6 Modify acquisition practices to enable Lean-Agile development and operations

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Notes:

#### Challenges with current acquisition practices

- ▶ Traditional waterfall contracts can impede Lean-Agile adoption
  - Long acquisition cycles - need may be moot when a solution is delivered
  - Fixed point solutions - do not allow for unknowns and validated learning
  - Heavy artifact and process requirements that add little value
- ▶ Contracting officials often unfamiliar with the differences between traditional and Lean-Agile contract language
  - Traditional waterfall boilerplate contract templates that have a few Agile terms sprinkled in to make it 'Agile' are the worst of both worlds, and highly likely to fail

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Notes:

## 7.6 Modify acquisition practices to enable Lean-Agile development and operations

### Conflicting paradigms are the source of most challenges

Traditional Contracts	Lean-Agile Development
▶ Requirements defined upfront, changes strictly controlled	▶ Requirements change frequently to adjust for validated learning, market dynamics, etc.
▶ Assumes a point solution	▶ Begins with a hypothesis and arrives at an MVP solution incrementally and iteratively
▶ Large, infrequent releases	▶ Frequent delivery of value each iteration and PI
▶ Based on a foundation of compliance	▶ Based on a foundation of trust and transparency
▶ Quality through inspection and governance	▶ Quality built in through collaboration and automation
▶ 'Done' when the contractual terms are met	▶ 'Done' when MVP and most valuable features delivered and accepted by customer
▶ Built on controlling risk, protecting participating parties' interests, and covering every possible contingency	▶ Built on principles of Lean that aim to reduce delays, eliminate waste, reduce complexity, maximize value, based on maximizing mutual benefit

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Notes:

### The goals of a new procurement approach

#### *Customer collaboration over contract negotiation—Agile Manifesto*


- ▶ Optimize the economic value for all parties in the short- and long-term
- ▶ Provide adaptive responses to new requirements
- ▶ Provide continuous visibility and objective evidence of program performance
- ▶ Provide a measured approach to investment that can vary over time and stop when sufficient value has been achieved
- ▶ Offer the supplier near-term confidence of funding and sufficient notice when funding winds up, down or stops
- ▶ Motivate all parties to build the best solution possible within agreed-to economic boundaries
- ▶ Support Lean-Agile principles and practices

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Notes:

## 7.6 Modify acquisition practices to enable Lean-Agile development and operations



Activity: Lean-Agile contracting in practice

Prepare  
6 min

Share  
4 min

- **Step 1:** Review the two paragraphs from an actual government Agile contract from the U.S. in the workbook below.
- **Step 2:** Circle or highlight specific words and phrases that reflect the concepts of the new procurement approach described in this section.
- **Step 3:** Brainstorm at your table any additional language that could have been added to provide even stronger support for reinforcing a Lean-Agile collaborative approach.

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Notes:

US Customs and Immigration Services (USCIS)  
Flexible Agile Development Services II (FADSII)

### PERFORMANCE WORK STATEMENT

#### 1. OVERVIEW

FADS II will provide United States Citizenship and Immigration Services (USCIS) with a Flexible Agile Development capability to accomplish Information Technology (IT) development projects across USCIS. FADS II contractors will supply Agile development teams to participate in IT development projects using Scrum and other Agile and Lean processes. They will be part of an ecosystem, participating with federal employees and other contractors in a team-based Scaled Agile approach to deliver mission value frequently, cost-effectively, responsively, and with high quality. The Government will oversee the architecture and design of systems, the Agile methodologies to be used, product planning and the flow of requirements, and code integration and deployment; the FADS II contractors will be responsible for developing high-quality IT systems to work within those architectures and processes to meet the business requirements. USCIS is a leader in the federal government's movement to Agile and lean IT delivery approaches, and the FADS II contractors will participate in blazing new trails and innovating new ways to deliver government IT services.

## 7.6 Modify acquisition practices to enable Lean-Agile development and operations

### 4. FADS II VISION

FADS II will provide high-productivity Flexible Agile Development Services to help move USCIS toward its envisioned state of a technologically innovative, state-of-the-art, electronic and customer-centric architecture to support USCIS's mission. USCIS is a leader in the federal movement toward the adoption of Agile approaches and use of cloud services to support the IT development pipeline, and is a leader in the DHS movement toward open source frameworks for application development and production. FADS II contractors will participate in a team-based Agile environment. They will work alongside other teams of government contractors and federal employees to accomplish projects as assigned by USCIS. For some development efforts (notably ELIS), there will be a number of Agile teams from several contractors working in parallel in a collaborative environment. These development teams will be supplemented by separate contractor-supported teams responsible for Architecture and Design; Processes and Practices (methodology), Continuous Integration and Continuous Delivery (CI/CD), Testing, Quality Assurance and Training Development for fielded capability. The FADS II contractors will be expected to work with a technical architecture and design specified by the government, and to work within the Agile process and Systems Engineering Life Cycle (SELC) frameworks defined by the government team. Individual development teams will include government employees functioning as Product Owners and Subject Matter Experts. Teams may also have participation from Independent Validation & Verification (IV &V) testers. FADS II contractors are expected to work well in these team environments and demonstrate a highly collaborative and cooperative attitude.

### Choose your context



**UNITED STATES**



**LOCAL CONTEXT**

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Notes:

## 1.2 Local Context

**Scaled Agile will not test any content in this context section.**



LOCAL CONTEXT

Notes:

## Country-specific contracting guidance

Notes:

## 7.6 Modify acquisition practices to enable Lean-Agile development and operations

### Country-specific contracting guidance

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### Country-specific contracting guidance

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## 7.6 Modify acquisition practices to enable Lean-Agile development and operations

### Country-specific contracting guidance

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### Country-specific contracting guidance

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## 7.6 Modify acquisition practices to enable Lean-Agile development and operations

### Country-specific contracting guidance

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### Country-specific contracting guidance

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## 7.6 Modify acquisition practices to enable Lean-Agile development and operations

Return to tested material



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Welcome back to the tested content



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## 7.6 Modify acquisition practices to enable Lean-Agile development and operations

## 7.6 Modify acquisition practices to enable Lean-Agile development and operations

### Key elements to include in Lean-Agile Contracts using SAFe

✓	Product Vision	✓	Commitments to:
✓	Strategic Themes	▶	Engagement by key government personnel & decision makers
✓	Statement of Objectives	▶	Collaborative, transparent work environment
✓	Solution Intent	▶	Protecting time for innovation and planning
✓	Initial high-level backlog of well-formed Epics	▶	Ongoing investment in the Architectural Runway
✓	Non-Functional Requirements	▶	Performance measurement based on Lean-Agile metrics
✓	Draft Definitions of Done for each level	▶	Use PI events (backlog refinement, I&A, PI Planning) as replacement for legacy asynchronous milestone reviews

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Notes:

## 7.6 Modify acquisition practices to enable Lean-Agile development and operations



Practice Activity: Acquisition scenario

Prepare  
10 min

Share  
5 min

- ▶ Your agency's senior leadership wants to discuss acquiring Agile services to support a new, high-profile digital services initiative. They have invited you and the senior contracting officer to an informal meeting to discuss acquisition approaches.
- ▶ Your task is to explain the implications of Agile on the solicitation and contracting strategy. Is there an optimal contracting approach? Consider both a contracting and a delivery perspective.
- ▶ Prepare an outline for your briefing on a flip chart page and include specific recommendations for this acquisition activity.

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Notes:

Homework: Good patterns and anti-patterns for Lean-Agile contracts

Anti-Patterns	Good Patterns
<b>Documentation</b>	
▶ Continue to require traditional waterfall documents and plans that are rarely used and frequently out-of-date	▶ Streamline document deliverables to those that is truly valuable
▶ Require 'big bang' document deliverables upfront or at the end	▶ Create documents iteratively and collaboratively, then update throughout the development lifecycle based on validated learning
▶ Update and deliver documents only at specific phase gates or milestones	▶ Have the teams that build the system update the documents for the system iteratively as part of the Definition of Done
▶ Deliver static documents stored in file systems that are hard to access and find relevant information	▶ Use an online Solution Intent repository for maximum transparency and access to the most current information about the system
<b>Performance Management</b>	
▶ Measure progress through waterfall metrics, document deliverables, velocity, number of features, percent utilization	▶ Measure progress through delivery of working software and systems that fulfill PI Objectives, demonstrated at System Demos and I&A
<b>Working Relationship</b>	
▶ Government and contractors work at arms length, 'show me when you are done' mindset, emphasize separation of concerns over synergy	▶ Government and all supporting contractors work collaboratively and openly to build trust, transparency, and constructive interactions
▶ Create an adversarial 'win-lose' environment based on distrust among all parties and a focus on protecting each organization's own interests	▶ Write contracts that balance the needs of government and industry in a 'shared pain and gain' model

Recommended Reading: <http://www.agilemodeling.com/essays/agileDocumentation.htm>

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Notes:

### 7.7 Build in quality and compliance

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Notes:

#### Traditional 'at the end' quality and compliance

- ▶ Often results in late verification, validation, missed opportunities for compliance assessment, and delayed value delivery to the mission
- ▶ Can create a large bow wave of testing and compliance activity resulting in missed deadlines and windows for schedule compliance activities
- ▶ Despite best efforts, compliance with large batches and late feedback slows flow and results in worse outcomes and lower quality
- ▶ No way to leverage compliance knowledge to improve flow
- ▶ Late verification and authorization/accreditation creates delays in receiving authority to deploy, bow wave of re-work

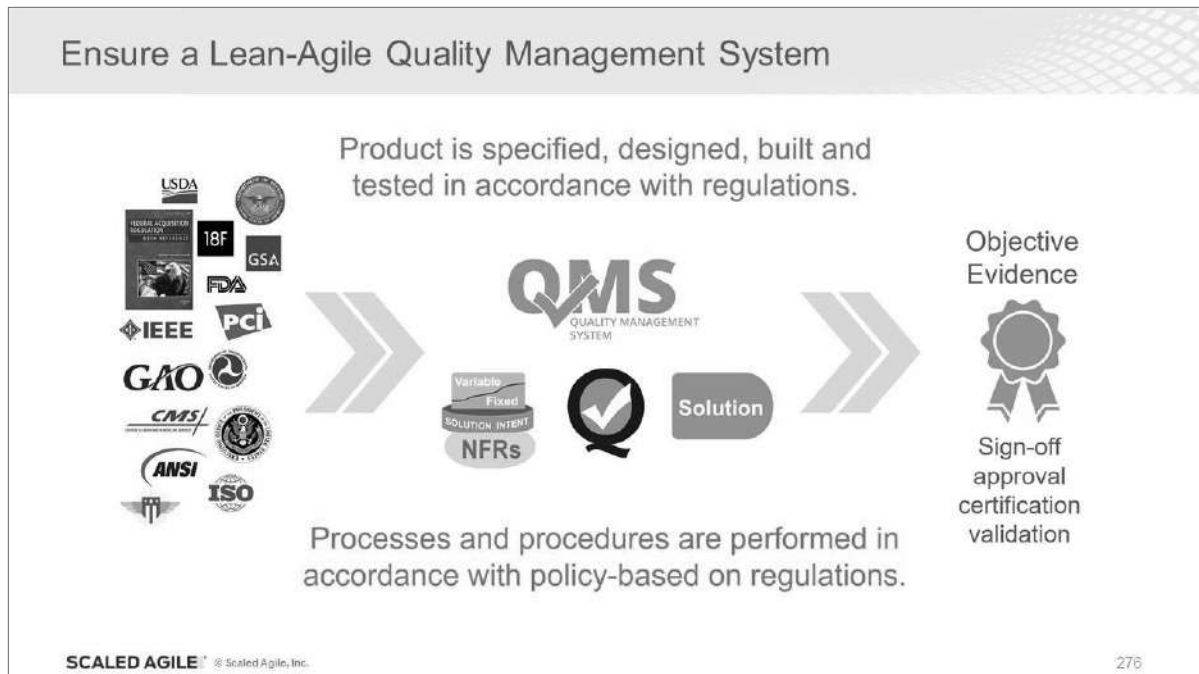


**Compliance**

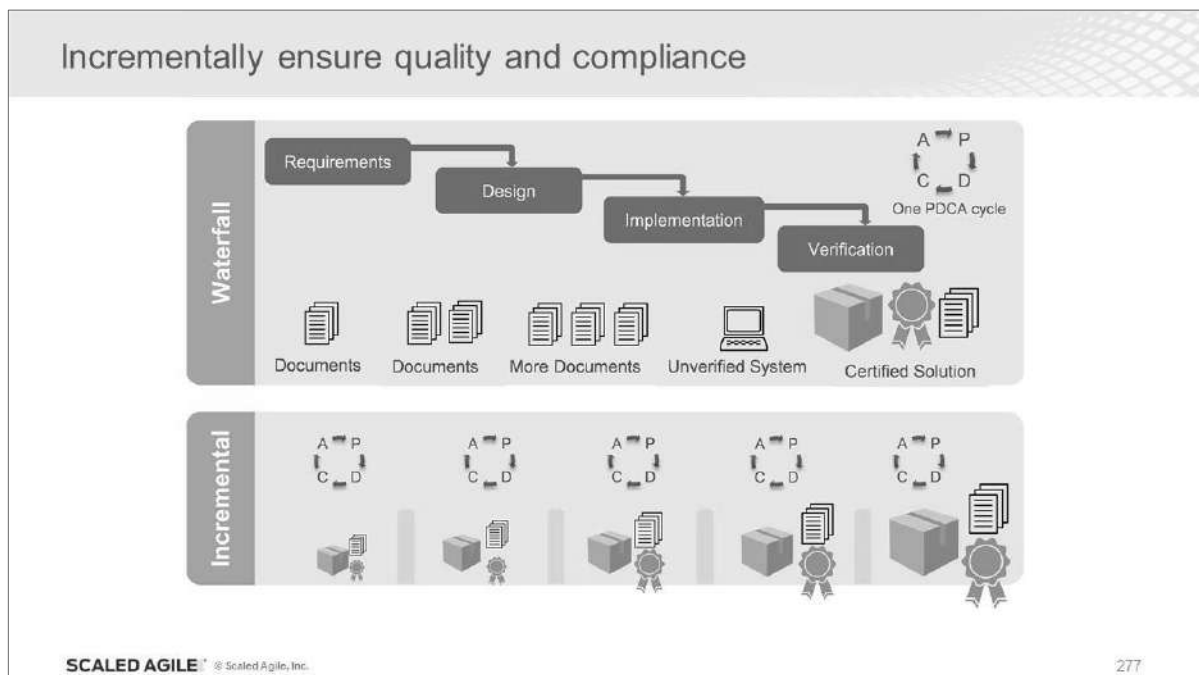
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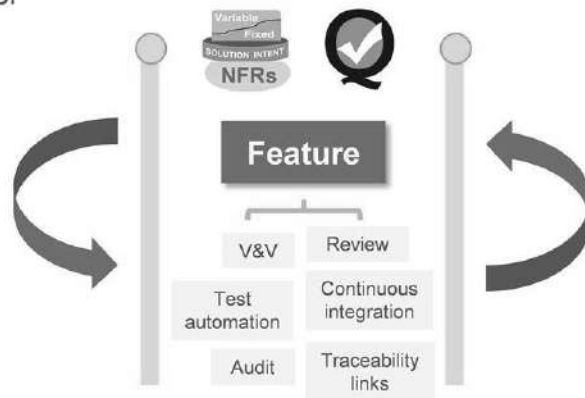


Notes:

### Perform V&V and compliance work as part of regular flow

*Reduce last sign-off activity from a large, extended event to a quick, boring, non-event.*

- ▶ Break compliance activities into smaller batches as part of automated tests or work items' definition of done
- ▶ Get visibility, transparency into assessment sooner
- ▶ Fast feedback continuously improves practices
- ▶ Place greater emphasis on user/operator validation in real time



Notes:

### Address security risks early and continuously

- ▶ Incorporate security in the visualization of the value stream, include security assessors and testers as part of the ART
- ▶ Add security as part of Cost of Delay calculation
- ▶ Build static and dynamic code analysis into coding standards
- ▶ Conduct cadence-based inspections vs. milestone-based inspections
- ▶ Implement DevSecOps - incorporate security concerns throughout the entire CI/CD pipeline, include security controls in automated tests
- ▶ Adopt sound security technical practices such as continuous monitoring
- ▶ Incorporate component architectures that have been pre-approved by security and satisfy common controls

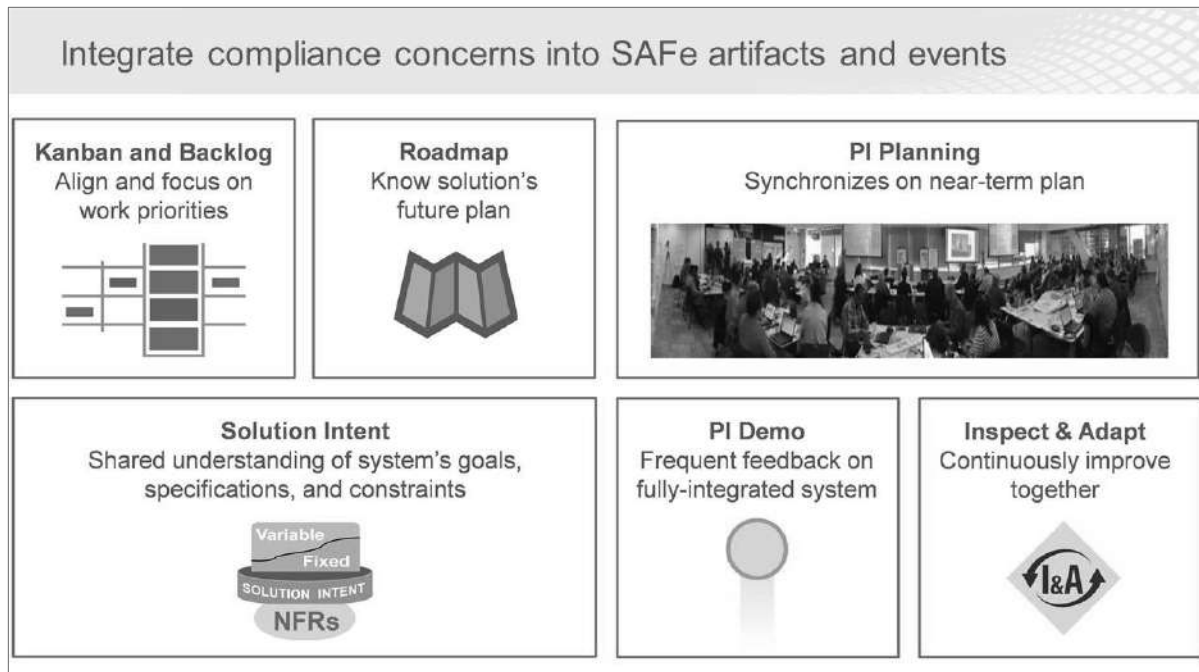


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Notes:





Notes:

### 7.8 Adapt governance practices to support Agility and Lean flow of value

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Notes:

#### A clear definition of governance

- ▶ A framework for decision making to ensure programs achieve desired mission outcomes
- ▶ For government software and systems programs, governance includes tracking multiple dimensions of program performance:
  - Objectives (required capabilities)
  - Constraints (time, cost, scope, quality)
  - Compliance (statutory, regulatory, best practice)

#### Eight Characteristics of Good Governance

Participatory

Consensus oriented

Accountable

Transparent

Responsive

Effective and efficient

Equitable and inclusive

Follows the rule of law

Source: United Nations

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Notes:

### Evolving to Lean-Agile governance

SAFe provides transformational patterns to transition to Lean-Agile governance practices.

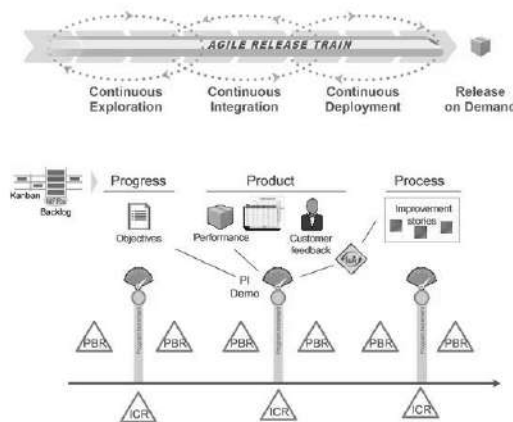
Traditional Approaches	Lean-Agile Approaches
► Plan everything (cost, schedule, etc.) in detail, up front	► Plan high-level up front, evolve details incrementally
► Absolute estimates up front, control variance	► Relative estimates, frequent updates based on learning
► Locked down requirements – prevent scope creep	► Requirements iteratively prioritized by stakeholders
► Centralized control – multiple infrequent stage gates	► Decentralized decision-making – reviews at each demo
► Detailed project plans and heavy supporting artifacts	► Lightweight business cases, backlogs, roadmaps, demos
► Centralized top-down, up front planning	► Decentralized, rolling-wave planning
► Work breakdown structure	► Agile estimating and planning
► Project-based funding and control	► Lean budgeting and self-managing Value Stream
► Waterfall Milestones and stage gates	► Objective, fact-based measures and milestones

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Notes:

### Streamline execution reviews - objective-based progress



*Use SDLC tailoring guidance to propose Lean-Agile alternatives to heavy phase-gate processes*

- Consolidate various execution reviews and document-based measures of progress with Incremental Capability Reviews (ICR) and Program Backlog Reviews (PBR).
- PBRs govern scope and priority.
- ICRs provide objective, cadence-based evidence of progress.
- IT systems strive for continuous delivery with automated reviews. Physical systems will still have some manual review processes.

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Notes:

### Open collaboration drives Lean-Agile governance

- ▶ Apply David Marquet's principle of 'embrace the inspectors' to promote transparency and continuous learning
- ▶ Build open, proactive, and positive relationships with those in authority over governance requirements – respect and protect their value
- ▶ Work collaboratively to build new models for program governance using SAFe constructs (cadence-based objective milestones, system demos, solution intent, etc.) to meet legitimate governance concerns



Marquet, L. David. *Turn the Ship around!: A True Story of Turning Followers into Leaders*. New York: Portfolio, 2019.

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Notes:



### Discussion: Applying Lean-Agile governance to your agency



- ▶ Do your agency's governance processes embrace Lean-Agile principles and practices?
- ▶ If not, is there a defined mechanism for submitting a tailoring plan describing how legacy governance requirements can be met using Lean-Agile and SAFe practices?
- ▶ What are the biggest obstacles to applying Lean-Agile governance to your programs, and what specific actions can you take to begin navigating through these challenges?

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Notes:

### SAFe and Earned Value Management

- ▶ Earned Value Management (EVM) uses integrated budget/schedule/scope plan
  - Objectively measures through EVM system (BCWS, BCWP, etc.)
  - Predicts using forward-looking indicators (TCPI, etc.)
- ▶ SAFe uses Agile metrics
  - Objectively measures through rollup of Epics, Features, and Stories
  - Predicts based on relative past performance (capacity) and future estimates
- ▶ SAFe and EVM can measure/predict at different levels of detail based on either:
  - Work being performed (WBS vs. Backlog structure), or
  - Organizational structure (OBS vs. SAFe teams/ARTs/Value Stream)

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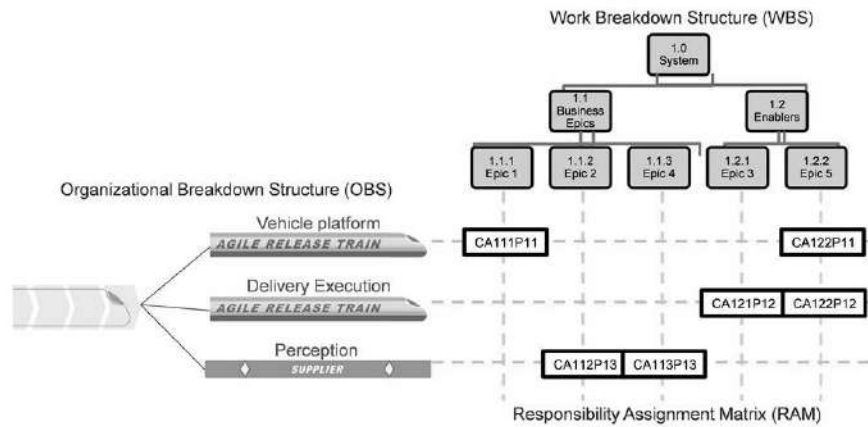
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Notes:

## 7.8 Adapt governance practices to support Agility and Lean flow of value

### Define control accounts based on work and organization

Define control at the intersection of work and organizational structures.

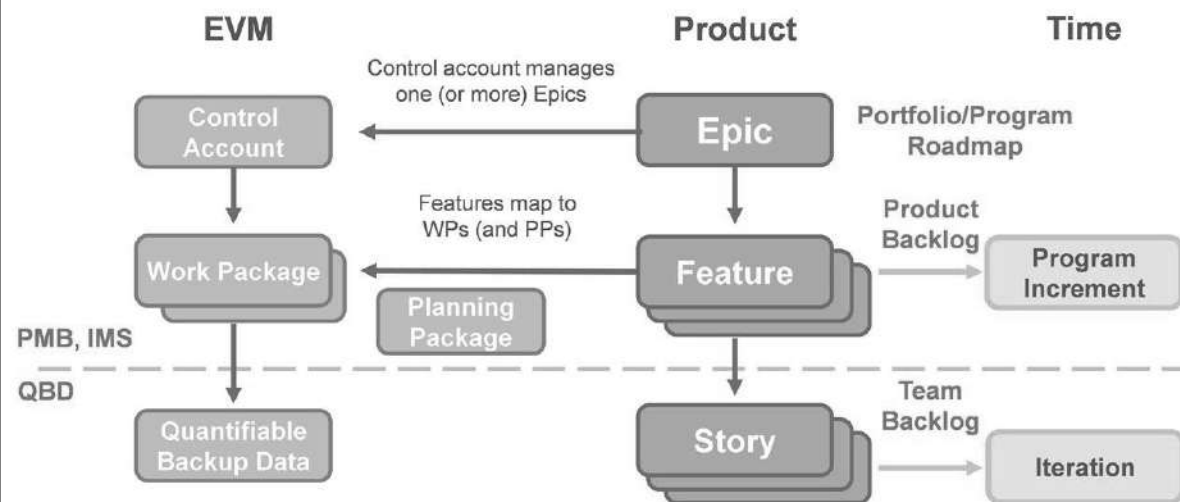


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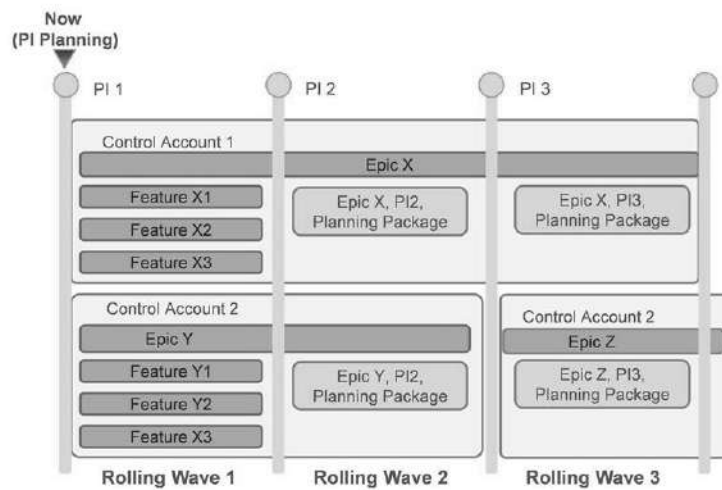
### Connect EVM and Agile structures



Notes:

### Align Rolling Wave Planning with PI Planning

- Forecast Epics over life of the program
- Use PI Planning to convert Planning Packages into Work Packages (Features)
- Teams do the planning!



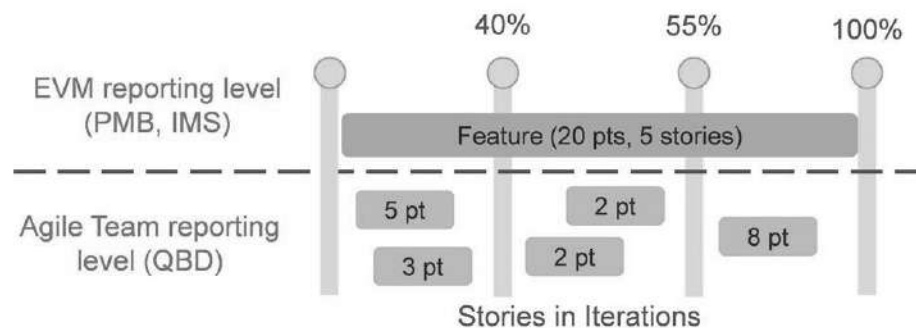
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Notes:

### Objectively measure progress with Agile rollout


- Stories roll up EVM reporting at the Feature level in each iteration
- May align reporting periods on iteration boundaries (e.g., every N iterations, or every PI)



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Notes:



Discussion: Applying EVM

Duration  
8 min

Given the explanation of how EVM can be adapted to work in concert with SAFe constructs:

- ▶ What questions or concerns remain about meeting EVM requirements on a SAFe program?
- ▶ Do you see these adaptations as adding value, or as just a way to 'check the box' for compliance where EVM is required?

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Notes:



What questions or concerns remain about meeting EVM requirements on a SAFe program?

Do you see these adaptations as adding value, or as just a way to 'check the box' for compliance where EVM is required?

### **Where to go next for Guidance on Agile EVM**

- U.S. Department of Defense, Office of Performance Assessment and Root Cause Analyses (PARCA)  
Agile and Earned Value Management: A Program Manager's Desk Guide, 2016  
(<https://goo.gl/bhkVWb>)
- National Defense Industrial Association (NDIA)  
Industry Practice Guide for Agile on Earned Value Management Programs, 2017  
(<http://www.ndia.org/divisions/ipmd/division-guides-and-resources>)
- Software Engineering Institute (SEI)  
Agile Metrics: Progress Monitoring of Agile Contractors, 2014 (<https://goo.gl/JiEuzT>)



## Action Plan: Mapping the Path to Agency and Program Agility



- ▶ **Step 1:** How does your organization plan to implement the network (SAFe) alongside the hierarchy?
- ▶ **Step 2:** What effects might you witness in your organization from a SAFe transformation on quality, program execution, alignment, and transparency?



Notes:

## Lesson review

In this lesson, you:

- ▶ Mapped the journey to agency/program Agility
- ▶ Built large programs to align with agency strategy
- ▶ Transitioned from projects to Lean flow of Epics
- ▶ Adopted Lean Budgeting aligned to Value Streams
- ▶ Applied Lean estimating and forecasting with cadence-based development
- ▶ Modified acquisition practices to enable Lean-Agile development and operations
- ▶ Built in quality and compliance
- ▶ Adapted governance practices to support Agility and Lean flow of value

Notes:

## Lesson 8

# Leading Successful Change

### Learning Objectives:

- 8.1 Lead by example
- 8.2 Adopt a Lean-Agile mindset
- 8.3 Lead the change to SAFe



SAFe Authorized Course - Attending this course gives students access to the SAFe Government Practitioner exam and related preparation materials.

## The Lean-Agile Leadership Competency



Notes:

# 8.1 Lead by example

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Notes:

## Leading by example

- ▶ Through their words and actions, leaders provide the organization with patterns of expected behaviors
- ▶ The aggregation of those patterns determines the organization's culture, whether good or bad

Pathological <i>Power-oriented</i>	Bureaucratic <i>Rule-oriented</i>	Generative <i>Performance-oriented</i>
Low cooperation	Modest cooperation	High cooperation
Messengers blamed	Messengers neglected	Messengers trained
Responsibilities shirked	Narrow responsibilities	Responsibilities shared
Collaboration discouraged	Collaboration tolerated	Collaboration encouraged
Failure leads to scapegoating	Failure leads to justice	Failure leads to improvement
Innovation crushed	Innovation leads to problems	Innovation implemented

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Notes:


### Leading by example

*Setting an example is not the main means of influencing others, it is the only means. — Albert Einstein*

- ▶ **Authenticity** requires leaders to model desired professional and ethical behaviors.
- ▶ **Emotional Intelligence** describes how leaders identify and manage their emotions and those of others through self-awareness, self-regulation, motivation, empathy, and social skills
- ▶ **Lifelong learning** depicts how leaders engage in ongoing, voluntary, and self-motivated pursuit of knowledge and growth, and they encourage and support the same in others
- ▶ **Growing others** encourages leaders to provide the personal, professional, and technical guidance and resources each employee needs to assume increasing levels of responsibility
- ▶ **Decentralized decision-making** moves the authority for decisions to where the information is



Notes:



Activity: Leading by example

Prepare

10 min

Share

10 min

- ▶ **Step 1:** The instructor will assign one aspect of leading by example to each table group
- ▶ **Step 2:** In your table group, refer to the table in your Student Workbook for additional guidance on how to emulate your assigned aspect of leading by example.
- ▶ **Step 3:** Compare and contrast a positive story where someone led by example using the aspect your team was assigned and a negative story where a leader did not use the items indicated in the aspect your team was assigned. Discuss the impact on the organization of each example.
- ▶ **Step 4:** Share your story with the class.

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Notes:

### Aspects of Leading by Example:

#### Authenticity:

Authenticity is the ability to “walk the talk” by being a role model of desired professional and ethical behaviors; acting with honesty, integrity, and transparency

Authentic leaders:

- ▶ Are true to themselves and what they believe in
- ▶ Engender trust through transparency and honesty
- ▶ Develop genuine connections with others
- ▶ Motivate others to achieve high levels of performance
- ▶ Are servant leaders focused on empowering others vs. personal success

#### Emotional intelligence:

Emotional intelligence is the collection of abilities used to identify, understand, control (self), and assess the emotions of yourself and others.

*Emotional intelligence accounts for 67% of the abilities needed to be a successful leader and is twice as important as technical proficiency or IQ.\**

Emotionally intelligent leaders are able to:

## 8.1 Lead by example

- ▶ Identify what they're feeling
- ▶ Interpret their emotions
- ▶ Understand how their emotions can impact others
- ▶ Regulate their own emotions
- ▶ Empathize with and manage others' emotions

\*Goleman, Daniel. (2005) *Working With Emotional Intelligence*. Bantam. Kindle Edition.

### Lifelong learning

Lifelong learning depicts how leaders engage in ongoing, voluntary, and self-motivated pursuit of knowledge and growth, and they encourage and support the same in others.

Dimensions of lifelong learning include:

- ▶ Formal and informal
- ▶ Learning versus training
- ▶ Diversity of approaches
- ▶ Interconnection between personal and professional development
- ▶ The role of critical reflection

### Growing others

Growing others is the ability to develop leaders by growing their competence and their confidence supported by organizational clarity.

Leaders grow other leaders by:

- ▶ Actively listening to individual needs, inputs
- ▶ Serving as a mentor/coach
- ▶ Challenging others to grow
- ▶ Investing in professional development
- ▶ Providing empathy and support
- ▶ Keeping communication open
- ▶ Celebrating each person's contribution

### Decentralized decision-making

Decentralized decision-making moves the authority for decisions to where the information is; prepares teams to make decentralized decisions by investing in their technical competence and by providing organizational clarity with decision guardrails.

When decentralizing decision-making, leaders should consider:



- ▶ **Control** - give control, don't take control
- ▶ **Competence** - give teams the tools they need to be technically competent
- ▶ **Clarity** - state the organization's goals clearly, openly, honestly, and frequently
- ▶ **Courage** - resist the urge to fall back into the leader-follower model; trust your team to deliver even in the face of adversity

### 8.2 Adopt a Lean-Agile mindset

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Notes:

#### What is a mindset?

A mindset is simply the mental lens through which we view the world around us... including how we view ourselves.

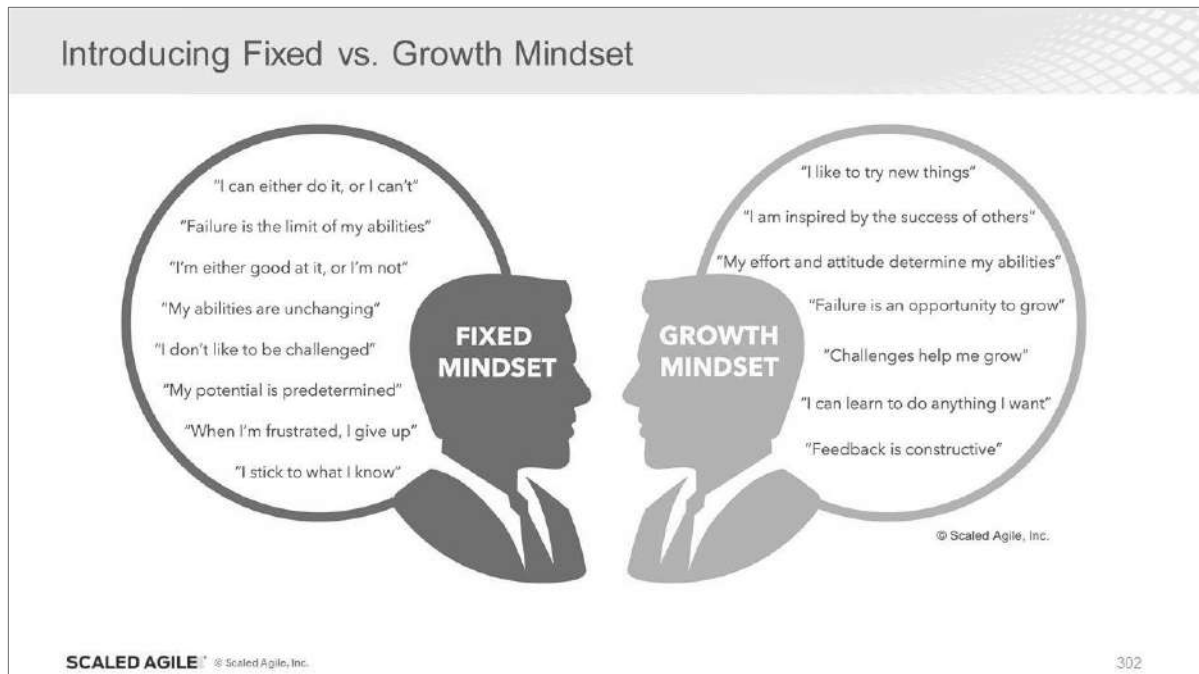
- ▶ Mindsets manifest as deeply held beliefs, attitudes, assumptions and influences
- ▶ Mindsets develop through:
  - Life experiences (personal and professional)
  - Formal learning (coursework, lectures, etc.)
  - Informal learning (books, videos, conversations, etc.)



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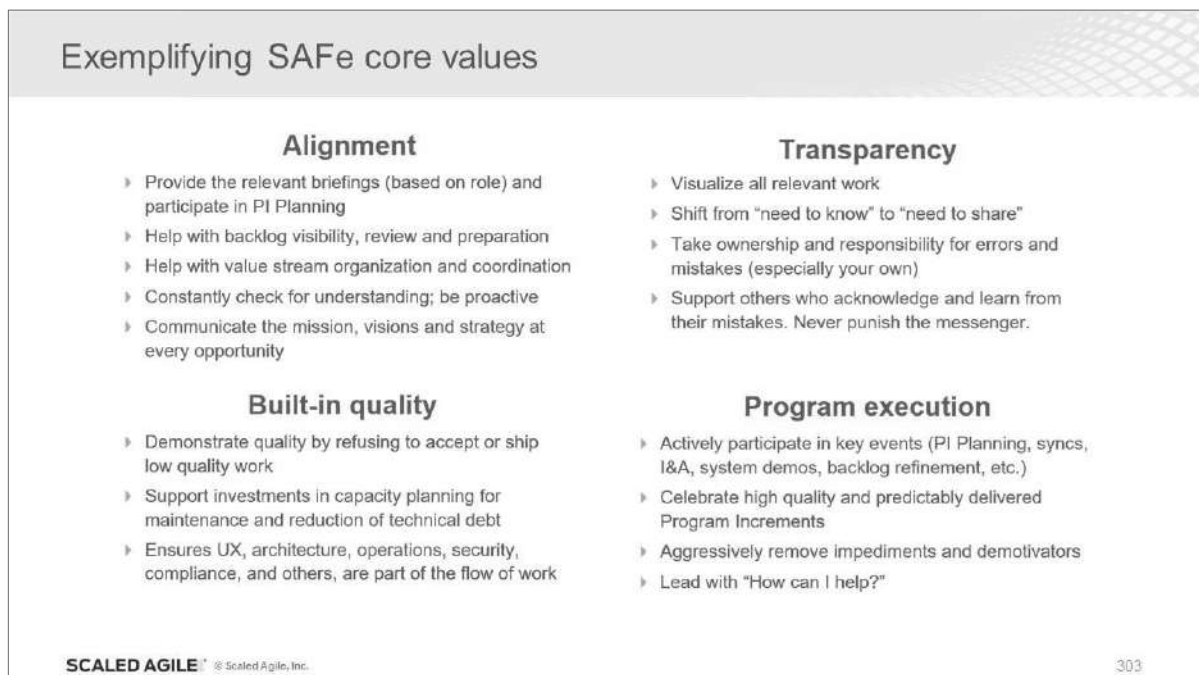
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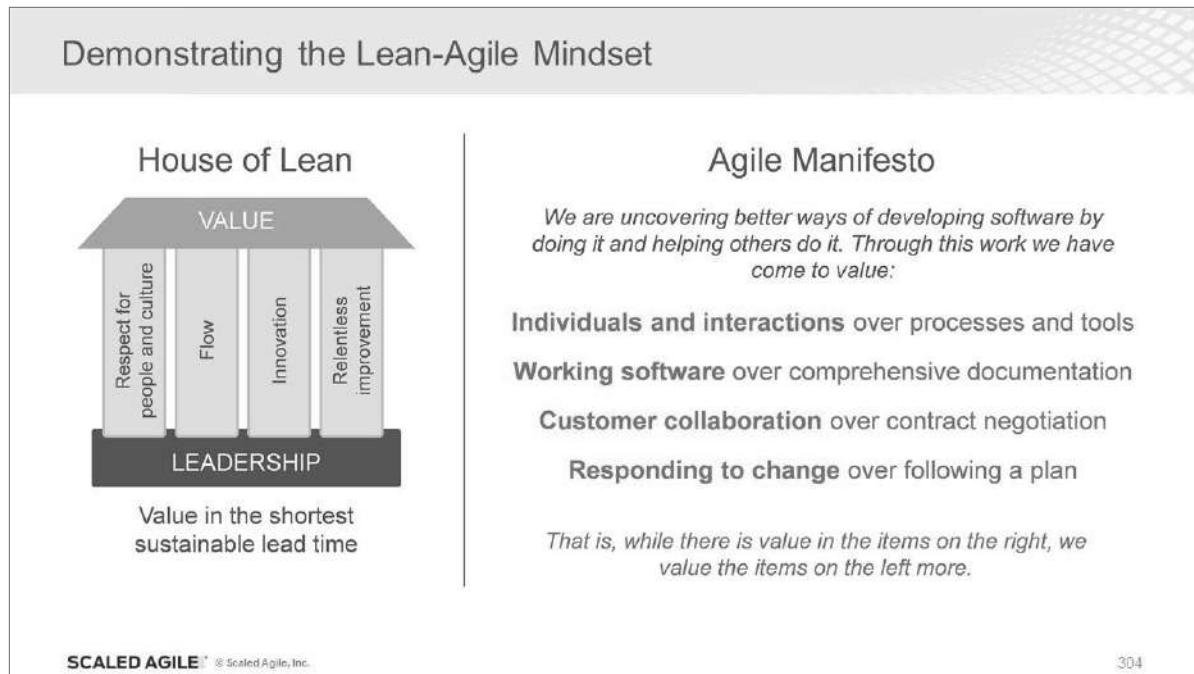
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Notes:



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Notes:



Notes:

Our Lean-Agile mindset is represented in two things:

**1. The House of Lean**, which you see here. It has a number of elements:

- **Value**, because the goal of Lean is very simple: value, and the shortest sustainable lead time. That's accomplished by the pillars of **respect for people and culture**, product development flow, innovation—critical to long-term sustainability—and relentless improvement.
- And it's supported by **leadership**.
- That's the structure in which we tend to think about the Lean paradigm.

**2. The Agile Manifesto**, which has been with us now since 2001. It's a very well-written document, and what it says is still true today. We need the Agile Manifesto because it's the key to unlocking the motivations and the talents of the knowledge workers who develop our solutions and software.

- And it states specifically:
  - "Individuals and interactions over processes and tools."*
  - "Working software over comprehensive documentation."*
  - "Customer collaboration over contract negotiation."*
  - And *"Responding to change over following a plan."*

### Agile principles remixed

- ▶ Early and continuous delivery of value
- ▶ Welcome changing requirements
- ▶ Deliver working \_\_\_\_\_ frequently
- ▶ Frequent cross-domain interaction
- ▶ Hire great talent and fully support them
- ▶ Face-to-face communication
- ▶ Measure progress based on evidence
- ▶ Create a sustainable pace
- ▶ Technical excellence and sound design
- ▶ Simplicity
- ▶ Team input to design & architecture
- ▶ Frequent & regular retrospection

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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

Notes:



Activity: Adopting a Lean-Agile Mindset

Prepare  
10 min

Share  
10 min

- ▶ **Step 1:** In your table groups, brainstorm things you will **START** doing, things you will **STOP** doing, and things you will **CONTINUE** doing as you adopt or advance your Lean-Agile Mindset.
- ▶ **Step 2:** Record your ideas on flip chart paper.
- ▶ **Step 3:** Share your ideas with the class.

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Notes:

### 8.3 Lead the change to SAFe

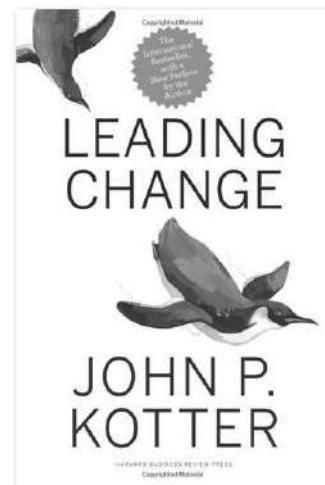
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Notes:

#### Keys to leading successful change

- ▶ Establish a sense of urgency
- ▶ Create a powerful guiding coalition
- ▶ Develop the vision and strategy
- ▶ Communicate the vision
- ▶ Empower employees for broad-based action
- ▶ Generate short-term wins
- ▶ Consolidate gains and produce more wins
- ▶ Anchor new approaches in the culture



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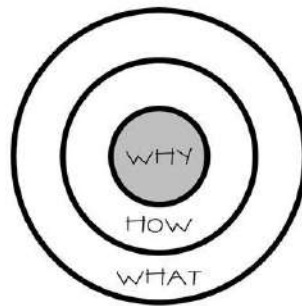
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Notes:

### Change vision

Occurs when leaders communicate why change is needed and do so in ways that inspire, motivate, and engage people

**Act, think, and communicate from the inside out!**



#### **WHY – Your Purpose**

What is your motivation? What do you believe?

#### **HOW – Your Process**

What specific actions do you need to take to realize your *Why*?

#### **WHAT – Your Result**

What will be the result of your *Why*? (proof)

*From Simon Sinek's "Start With Why"*

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Notes:

### Change leadership

The ability to positively influence and motivate others to engage in the organizational change through the leader's own personal advocacy and drive.

- ▶ Empowering self-initiation of change and ideation provides **autonomy**
- ▶ Trusting employees and providing the tools and processes to empower them as change agents reinforces respect for their **competency (mastery)**
- ▶ Creating an environment for creation in community, openness, trust, experimenting, and safety aligned to shared vision create **relatedness (purpose)**



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Notes:



### A powerful coalition for change

*Is formed when individuals from multiple levels and across silos are empowered and have the influence necessary to effectively lead the change*

- ▶ Only leaders can change the system (Deming), but they cannot implement change on their own
- ▶ The coalition is a powerful, diverse, enthusiastic team of volunteers from across the organization committed to the success of the change
- ▶ An executive sponsor for the coalition is vital to open doors at the highest level of the organization, remove barriers, and fight for resources
- ▶ Form the coalition as an Agile team!



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Notes:



### Discussion: Beginning your SAFe transformation



As a class, discuss the following. Record any ideas you want to bring back to your organization in your Student Workbook.

- ▶ Where would change agents for the transformation team come from in your agency or program?
- ▶ Who would be a good choice as a senior sponsor for the team?
- ▶ Who should be invited to the first and next Leading SAFe (or SAFe for Government)?

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Notes:

### Psychological safety

*Occurs when leaders create an environment for risk-taking that supports change without fear of negative consequences to self-image, status, or career*

- ▶ The belief that the work environment is safe for interpersonal risk taking
- ▶ The experience of feeling able to speak up with relevant ideas, questions or concerns
- ▶ Psychological safety is present when colleagues trust and respect each other and feel able – even obligated – to be candid
- ▶ Emerges as a property of a group or team



Amy Edmondson

Novartis Professor of Leadership and Management at the Harvard Business School

Author of *The Fearless Organization*

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Notes:

### Signs of an “unsafe” environment

- ▶ Lack of healthy disagreement and conflict (silence)
- ▶ Blame and finger-pointing when errors occur
- ▶ No one asks for feedback (retros die)
- ▶ Open unhealthy and personal criticism
- ▶ Escalations and passive-aggressive behavior
- ▶ Work slowdowns and loss of productivity
- ▶ People are disengaged and unenthusiastic

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Notes:

### Keys to creating psychological safety

- ▶ Freedom to fail
- ▶ Curiosity not blame
- ▶ Extreme candor
- ▶ Radical transparency
- ▶ Productive conflict
- ▶ Vulnerability and humility
- ▶ Invite participation
- ▶ Permission to care
- ▶ Value people

**Leaders  
Go  
First.**

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Notes:

### Training the new way of working

*Ensures that everyone is trained in the values, principles, and practices of Lean and Agile, including a commitment by leaders to their own training so they can lead by example*

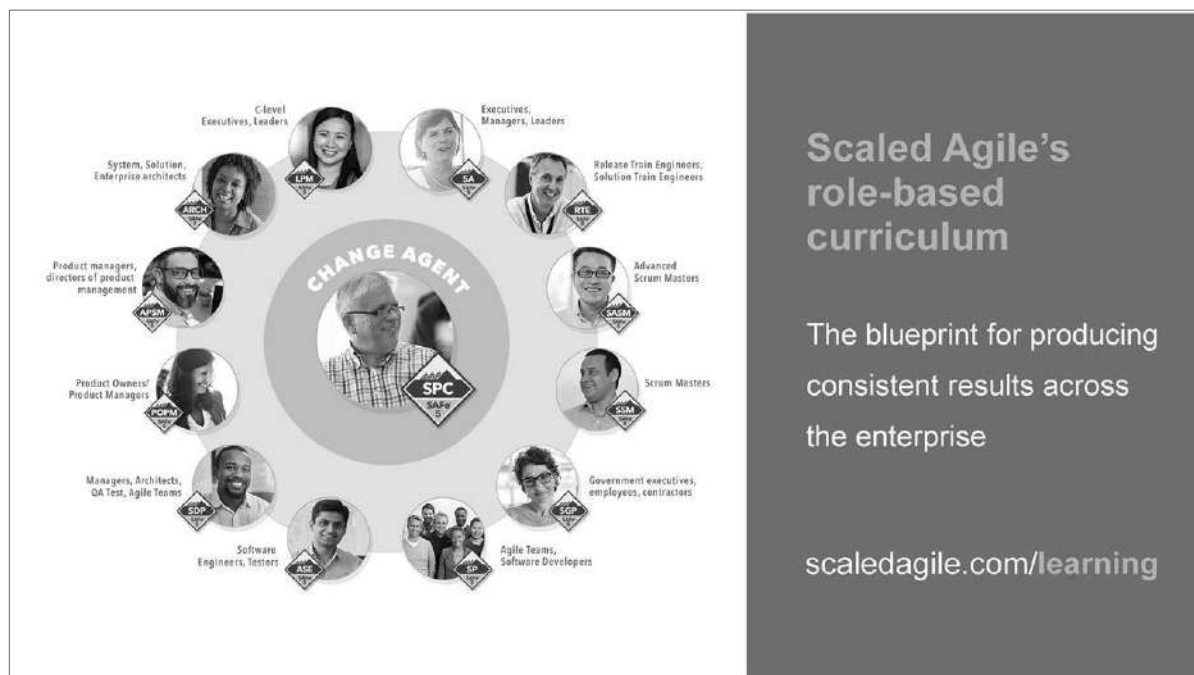
- ▶ Creates a common language and set of common practices for all contributors to solution development
- ▶ Connects the organization's workforce to a global SAFe community and body of knowledge and practice
- ▶ Helps unlock the intrinsic motivation of knowledge workers (Principle #8) by helping them gain master of the new way of working
- ▶ Force multiplier for recruiting and retaining top talent



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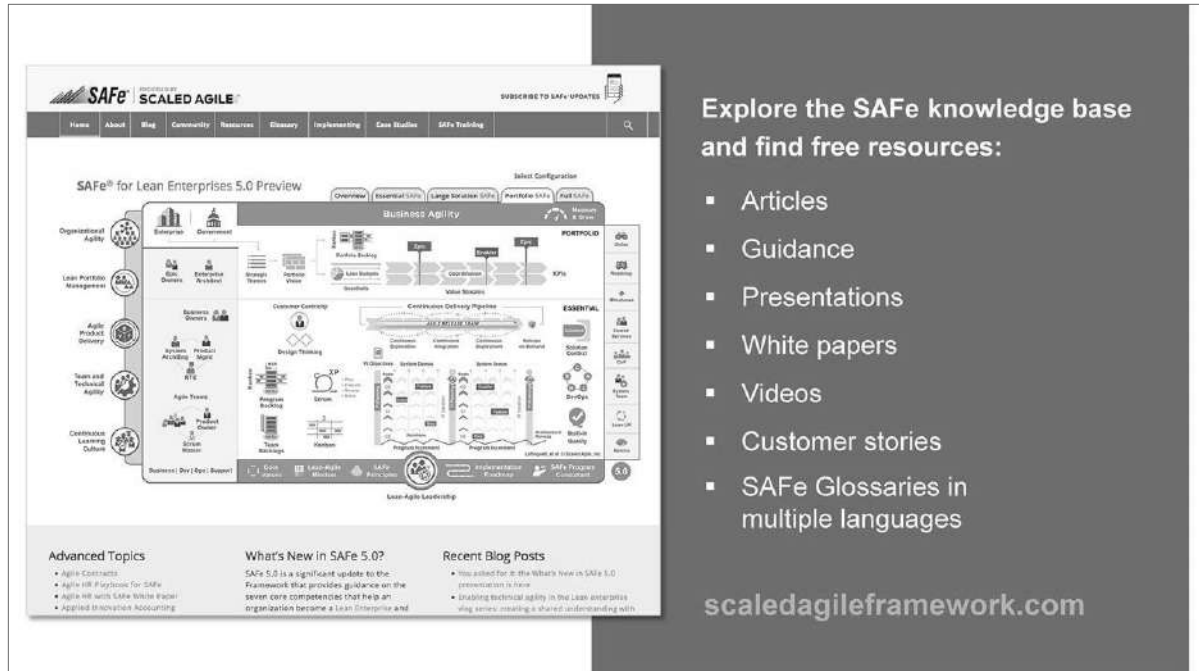
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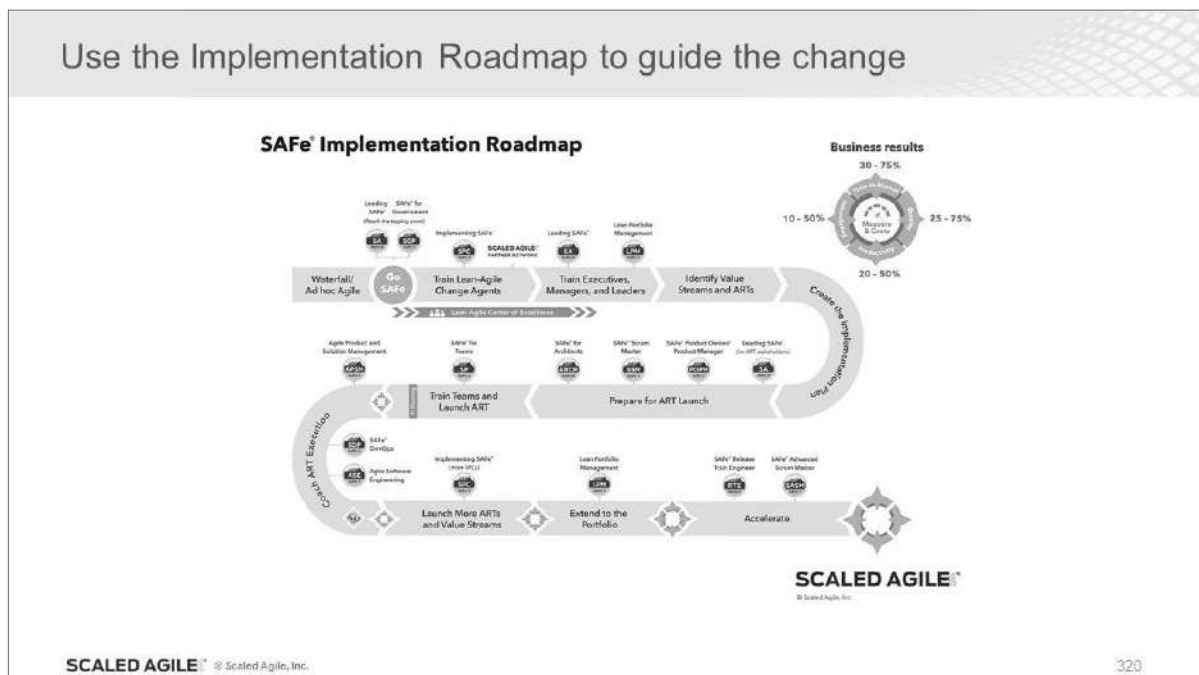


Notes:

### 8.3 Lead the change to SAFe



Notes:



Notes:



## Action Plan: Leading Successful Change



- ▶ **Step 1:** Revisit where your agency or program is on the SAFe Implementation Roadmap.
  - ▶ List three action items you can do in the next month to start leading the SAFe transformation.
- ▶ **Step 2:** Review the 'Assessing a Lean mindset' activity you did in lesson 2.
  - ▶ Select one of the lowest scores in the assessment.
  - ▶ Brainstorm 1-3 actions you could take to improve this area.



Notes:

## Lesson review

In this lesson you:

- ▶ Explored how leaders must lead by example
- ▶ Reviewed practical ways to adopt a Lean-Agile mindset
- ▶ Identified the steps needed to lead the change to SAFe
- ▶ Defined next steps to take following this class

Notes:

## Lesson 9

# Becoming a Certified SAFe Government Practitioner

### Learning Objectives:

#### 9.1 Becoming a Certified SAFe Professional



SAFe Authorized Course - Attending this course gives students access to the SAFe Government Practitioner 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

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Notes:



### Video: Become a Certified SAFe Professional



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: 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:



# Appendix 1

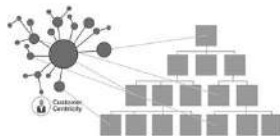
## Appendices

### Action Plans



#### SAFe® for Government Action Plan

##### Lesson 1: Advancing Lean-Agile in Government



How does your organization plan to implement the network (SAFe) alongside the hierarchy?

What effects might you witness in your organization from a SAFe transformation on quality, program execution, alignment, and transparency?

##### Lesson 2: Embracing a Lean-Agile Mindset



Review the assessment you did of your organization's Lean mindset. What can your organization do to improve your scores?

Review the principles in the Agile Manifesto. Which ones are most important for your organization to improve upon and what kinds of things can be done to improve upon them?

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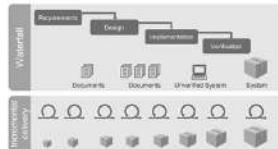
## SAFe® for Government Action Plan

### Lesson 3: Understanding SAFe Principles

Action #1:

Action #2:

Action #3:



### Lesson 4: Embracing a Lean-Agile Mindset

What does the roadmap look like for your organization to getting to a place where you have high-performing teams?

What does the roadmap look like for your organization to getting to a place where you Agile Release Trains organized around value?

How can you bring Suppliers into your SAFe structure and how can you get them aligned with your cadence?



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## SAFe® for Government Action Plan

### Lesson 5: Planning with Cadence and Synchronization

Objectives for PI 1		Weight	Score
<b>Structured location and validation of locations</b>			
• Navigate autonomously from distribution center to top 5 most frequent destinations		10	
• Park at 1 building that requires parallel parking		8	
• Reduce GPS signal loss by 25%		7	
• Add feature to temporarily flag and avoid specific route segments		7	
<b>Uncommitted Objectives for PI 1</b>			
• Spike: conduct black testing of the vehicle LIDAR system		5	

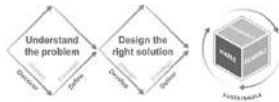
- What does your organization need to be able to conduct PI Planning?
  - What roles need to be filled?
  - Do you have an SPC to coach your organization?
  - Do they have access to toolkits to assist with ART launches and PI Planning?
  - How is your structure - are you organized around value?
  - Do you have cross-functional teams?

How will you address any push-back against PI Planning as an in-person event, conducted on a regular cadence?



## SAFe® for Government Action Plan

### Lesson 6: Supporting Program Execution



How can your organization improve its exploration and innovation capacity?

How can your organization use design thinking tools and what other things can it do to become more customer-centric?

How can you improve your organization's prioritization process?

What SAFe Program Increment events does your organization currently conduct? What can you do to encourage the organization to conduct all PI events?

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## SAFe® for Government Action Plan

### Lesson 7: Mapping the Path to Agency and Program Agility



What is the current state of your organization's journey to agility?  
What are the top three things you can do now that will have major impact on your journey?

What are your organization's next steps to aligning funding using Lean budgeting with strategic themes?

What are the biggest obstacles for your organization in moving from projects to a Lean flow of Epics and what can be done to overcome them?

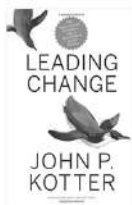
How can you enable Lean-Agile practices in compliance and governance in your organization?

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## SAFe® for Government Action Plan

### Lesson 8: Leading Successful Change



Revisit where your agency or program is on the SAFe Implementation Roadmap. List three action items you can do in the next month to start leading the SAFe transformation.

Review the 'assessing a Lean mindset' exercise you did in lesson 2. Select one of the lowest scores in the assessment. Brainstorm 1-3 actions you could take to improve this area.

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## Glossary

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### **SAFe Glossary:**

Visit the Scaled Agile Framework site ([v5.scaledagileframework.com/glossary](https://v5.scaledagileframework.com/glossary)) to download glossaries translated into other languages