

Introducing SAFe 6.0

To Optimize the Flow of ART Value



"Those who master large-scale software delivery will define the economic landscape of the 21st century."

—Dr. Mik KerstenProject to Product





"To thrive in the digital age you need business agility.

This new way of working requires a new mindset, values, principles, and practices."

—**Dean Leffingwell**, Creator of SAFe

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SAFe Lean-Agile Mindset

Lean Thinking Trigger Step 1 Step 2 Solution (value)

Principles

- Precisely specify value by product
- 2 Identify the Value Stream for each product
- 3 Make value flow without interruptions
- 4 Let the Customer pull value from the producer
- 5 Pursue perfection

Agile Values

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

Through this work we have come to value:

Individuals and interactions over processes and tools

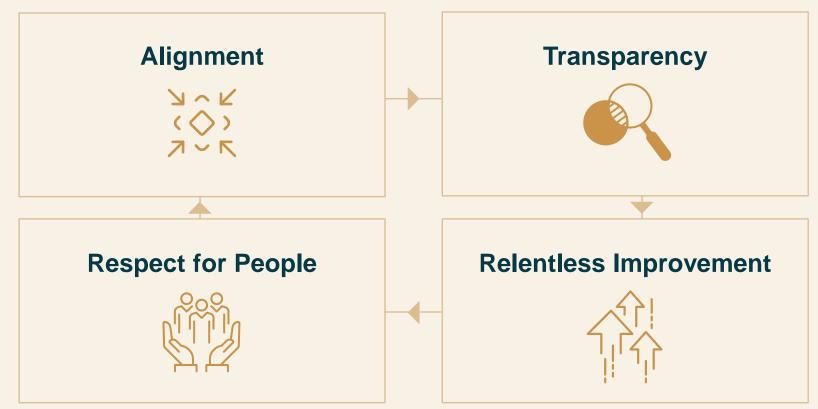
Working software over comprehensive documentation

Customer collaboration over contract negotiation

Responding to change over following a plan

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

I SAFe Core Values





#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 Make value flow without interruptions

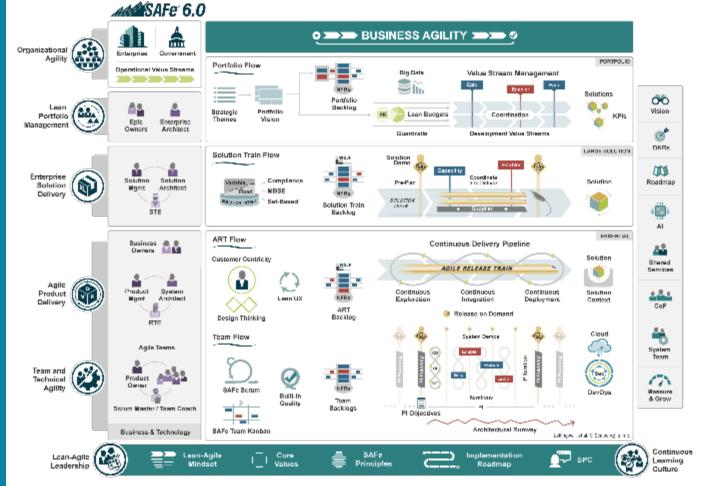
#7 Apply cadence, synchronize with cross-domain planning

#8 Unlock the intrinsic motivation of knowledge workers

#9 Decentralize decision-making

#10 Organize around value

New practices form new ways of working



BUSINESS AGILITY

Apply SAFe's seven core competencies to achieve business agility





Lean Portfolio Management



Organizational Agility



Lean-Agile Leadership



Continuous Learning Culture



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Introducing the Business Agility Value Stream

Business opportunity **emerges**

Business opportunity **leveraged**



QUICK RESPONSE TO BUSINESS OPPORTUNITY





Sense opportunity

Fund MVP Organize around value

Connect to customer

Deliver MVP Pivot or persevere

Deliver value continuously

Learn and adapt



2 - 6 months to Minimum Viable Product

Business Agility Enables Enterprises to ...

Sense opportunity - Foster market-sensing activities

Fund MVP - Respond to opportunity with nimble funding

Organize Around Value - Optimize value delivery

Connect to Customer - Create positive experiences

Deliver MVP - Lean, agile, iterative, incremental

Pivot or Persevere - Crucial investment milestones

Deliver Value Continuously - Small frequent releases

Learn & Adapt - Measure competency, flow, outcomes

Lean-Agile Leadership - Lean institutional thinking



That's fast.

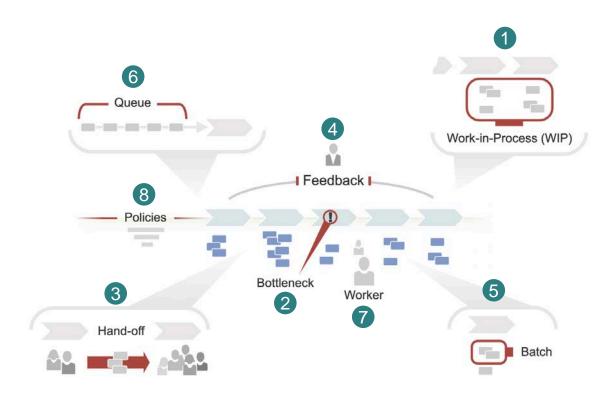
But we can go even faster with SAFe 6.0.

"To enable fast and predictable lead times in any value stream, there is usually a relentless focus on creating a smooth and even flow of work."

—Gene Kim et al., The DevOps Handbook



Eight properties of a flow-based system



- Flow occurs when there is a smooth, linear, and fast movement of work product through the steps in a value stream
- Flow properties
 describe the elements
 that always exist in a
 flow system

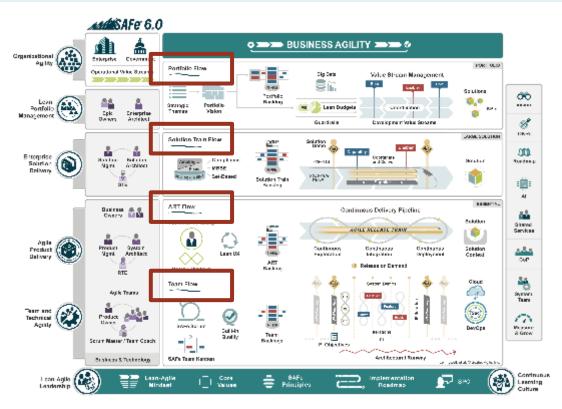
Eight flow accelerators

- 1. Visualize and Limit WIP
- 2. Address Bottlenecks
- 3. Minimize Handoffs and Dependencies
- 4. Get Faster Feedback
- Work in Smaller Batches
- 6. Reduce Queue Length
- 7. Optimize Time 'In the Zone'
- 8. Remediate Legacy Policies and Practices

- Every accelerator
 offers an
 opportunity to
 optimize each flow
 property
- → This is the topic of SAFe Principle #6: "Make value flow without interruptions"

Accelerators apply differently to each SAFe level

- Four new articles describe applying the eight flow accelerators:
 - Team Flow
 - ART Flow
 - Solution Train Flow
 - Portfolio Flow
- → Each article offers techniques for addressing, optimizing, and debugging issues with achieving continuous value flow at that specific level

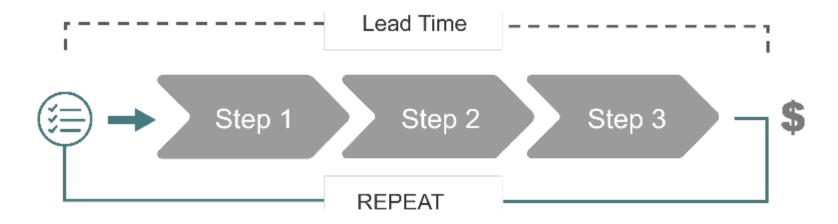


What is Flow?

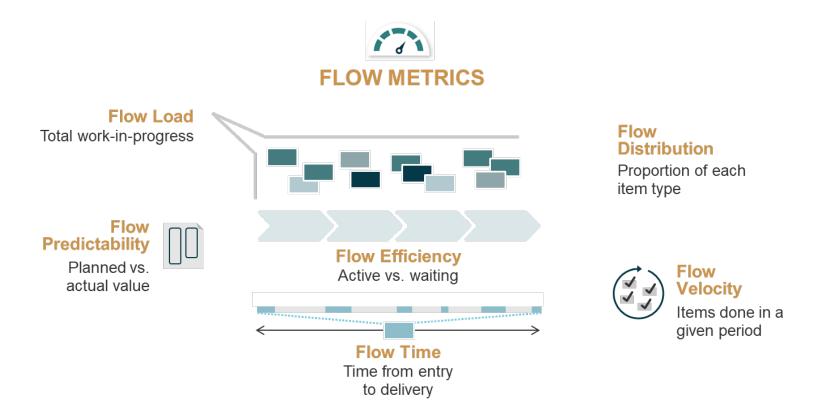
- → Flow is characterized by a smooth transition of work through the entire value stream with a minimum of handoffs, delays, and rework.
- → In SAFe, we consider flow to be present when teams, trains, and the portfolio can quickly, continuously, and efficiently deliver quality products and services from trigger to value (concept to cash).

Value Stream

- → Flow requires all individuals and teams in the value stream to be tightly synchronized around value-creating activities.
- → Otherwise, delivery is impeded by unnecessary interruptions.



How do we know we are going faster? Measure flow.



Flow Measurement

- → Flow requires all individuals and teams in the value stream to be tightly synchronized around value-creating activities.
- → Otherwise, delivery is impeded by unnecessary interruptions.
- → Flow is so critical that SAFe provides six specific flow metrics to measure how efficient an organization is at delivering value:
 - 1. Flow Distribution Proportion of each backlog item type in the workflow.
 - 2. Flow Velocity Number of backlog items completed in a given time.
 - 3. Flow Time Time elapsed from when a backlog item enters and exits the workflow.
 - 4. Flow Load Total work in process (WIP) across all steps in the workflow.
 - 5. Flow Efficiency Amount of elapsed time backlog items are actively worked.
 - 6. Flow Predictability Overall planned versus actual business value
- → Understanding flow and the metrics used to measure them allows organizations to continually optimize their value streams for competitive advantage.

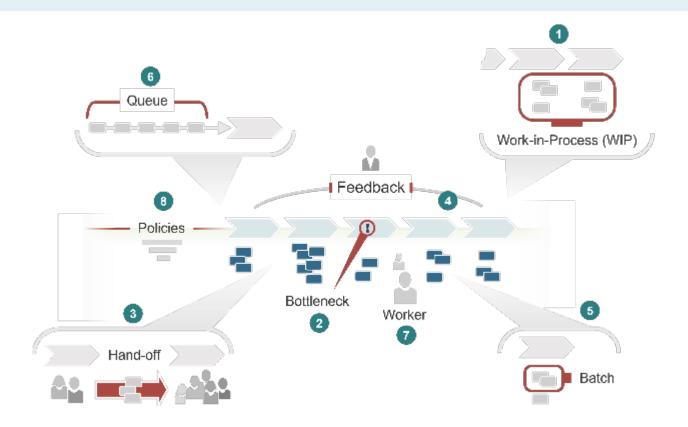
Flow Enables Business Agility

→ Enterprises must develop the ability to sense and respond to business opportunities and threats faster than the competition with a Business Agility Value Stream (BAVS).



- → This enables enterprises to not only deliver innovative solutions but to deliver them quickly and with maximum business value.
- → The key to achieving business agility is a smooth and efficient flow of work through this entire process, from sensing an emerging opportunity to delivering the right solution.
- → This requires all functions, processes, activities, teams, and events involved from end to end to be optimized for maximum speed and quality.

Eight Properties of a Flow System



Eight Flow Accelerators



- Every accelerator offers an opportunity to optimize each flow property
- This is the topic of the updated Principle #6 -Make value flow without interruptions

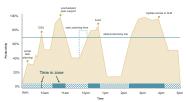
#1 Visualize and Limit WIP



#4 Get Faster Feedback



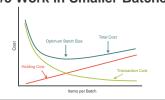
#7 Optimize Time 'In the Zone'



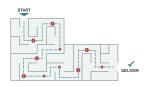
#2 Address Bottlenecks



#5 Work in Smaller Batches



#8 Remediate Legacy Policies and Practices



#3 Minimize Handoffs and Dependencies



#6 Reduce Queue Length





Eight Properties of a Flow System—Cont'd

- 1. **Visualize & Limit WIP**. There is always some work in process in the system; if there weren't, there could be no flow of value.
- 2. **Address Bottlenecks**. In every flow system, one or more bottlenecks effectively limit the flow through the entire system.
- 3. **Minimize Handoffs**. Handoffs wouldn't be necessary if one person could do all the work. But in any material flow system, different individuals and teams will have different skills and responsibilities.
- Get Fast Feedback. Customer and stakeholder feedback is integral to efficient and effective outcomes. Ideally, feedback happens throughout the entire process.
- 5. **Smaller Batches**. As any system has a finite capacity, all the work can't be done at once. Therefore, work through the system occurs in batches designed to be as efficient as possible.
- 6. **Reduce Queues**. It all starts with a set of work items to be done. In addition, each value stream needs a prioritizing mechanism to sequence the work for the best value.
- 7. **Time in Zone**. People do the critical work of moving work items from one state to another.
- 8. **Remediate Policies**. Policies are integral to flow. They may be local, team-based, or global policies like those that govern how work is performed within the company.

ART Flow

- → ART Flow describes a state where an ART delivers a continuous flow of valuable features to the customer.
- → ARTs and stakeholders get close to customers to build Continuous Delivery Pipelines (CDPs) to accelerate the delivery of valuable products and services.
- → This has proven highly effective in improving business outcomes for SAFe Enterprises.
- → This type of digital transformation is complex, as enterprises are complicated, and adopting a Lean-Agile way of working is a significant change.
- → ARTs are the primary opportunity to improve business outcomes by ensuring and improving continuous flow of product and service value to customers.

#1 Visualize and Limit WIP

Why it matters?

- → Excessive WIP decreases ART productivity and impedes value flow.
- → It overloads ART stakeholders, people, and teams (and confuses priorities).
- → It causes frequent context switching and creates long waits for new functions.
- → It's normal for ARTs to have lots of WIP (more than it can achieve over time).
- → That's counterproductive—Overloaded ARTs do less work than is possible.

What to do about it?

- → Visualize all features in process on Kanban systems and Program Boards.
- → Tightly manage and limit the inventory of all the Features currently in flight.
- → Establish WIP-limited ART Backlogs, Kanban systems, and Program Boards.
- → Use load and capacity allocation—Don't hide detailed work in User Stories.
- → Do not fully load ARTs, especially when innovating under risk and uncertainty.

#2 Address Bottlenecks

Why it matters?

- → Bottlenecks constrain the productivity of the entire ART.
- → ARTs must identify and minimize them to improve ART flow.
- → Critical ART bottlenecks are resolved one-by-one over time.
- → It's a continuous process that's part of Inspect & Adapt (I&A).
- → ARTs are continuously improved from quarter-to-quarter (PI-to-PI).

What to do about it?

- → Identify bottlenecks during PI planning, I&A, and on an as-needed basis.
- → Understand impacts, quantify economic costs, and identify delivery risks.
- → Increase capacity by adding qualified people who can apply quick value.
- → Bypass bottlenecks with temporary workarounds until solutions are found.
- → Be open to bottoms up or outside feedback to eliminate systemic bottlenecks.

#3 Minimize Handoffs & Dependencies

Why it matters?

- → Handoffs occur when work transitions from one process step to another.
- → Handoffs also occur when work transitions between people and teams.
- → In that case, dependencies, bottlenecks, and delays often emerge.
- → Some dependencies are necessary, while most are unnecessary at all.
- → Dependencies, bottlenecks, and delays impede the flow of ART value.

What to do about it?

- → Use ART planning board to visualize dependencies and manage them.
- → Foster incremental execution of dependencies (small vs. large batches).
- → Synchronize frequently with ART, PO, Coach, and Situational Synchs.
- → Optimize the structure of teams—Make them more cross functional in-nature.

→ Visualize and manage external dependencies (Portfolio, Solution, ART, etc.).

#4 Get Faster Feedback

Why it matters?

- → Solutions rely on fast feedback to guide ARTs in the right direction.
- → Mistakes (defects) pile up quickly when feedback is delayed or missing.
- → This causes unnecessary rework, slow delivery, and unsatisfied customers.
- → ARTs need to know if they're building it right and building the right thing.
- → Fast customer feedback is superior to validating large requirements batches.

What to do about it?

- Get fast feedback on small batches with internal and external evaluation.
- → Measure solution telemetry by collecting leading end user application data.
- → Engage with customers early and often with small UX tests and fast releases.
- → Integrate and test frequently with DevOps releases to staging and production.

→ Use research spikes and MVPs in the form of small Lean UX market probes.

#5 Work in Smaller Batches

Why it matters?

- Operating in large batches of work leads to systemic ART problems.
- → Information has a short shelf life which quickly becomes obsolete.
- → Information cannot be validated with delays in feedback cycles.
- → Short cycles reduce rework costs while long cycles increase costs.
- → Large operating batches increase variability and lower overall quality.

What to do about it?

- → Identify the types and sizes of batches across value streams.
- → Use time-based cadences to regulate batch sizes across Pls.
- → Constrain ART and team sizes to control overall batch sizes.
- → Automate delivery pipeline for small frequent batch sizes.
- → Intentionally plan small vertical batch sizes and work items.

#6 Reduce Queue Lengths

Why it matters?

- → ART backlog queues contain committed features awaiting fulfillment.
- → Long ART queues lead to exponential wait times to fulfill features.
- → Adding more features to backlogs slows them down vs. speeds them up.
- → Filling queues to maximum capacity or over capacity slows them down.
- → Long queues elongate feedback cycles and lowers quality and satisfaction.

What to do about it?

- → Keep roadmaps flexible with sparsely populated features and stories.
- → Avoid densely populated roadmaps, schedules, and ART and team backlogs.
- → Establish product management functions with a strong lean-agile mindset.
- → Allocate capacity each sprint, quarter, and planning period for emergence.
- → Ensure backlogs and PI objectives come from the bottoms up by developers.

#7 Optimize Time in the Zone

Why it matters?

- → Solutions rely on creative focus of ARTs and agile teams.
- → Software is knowledge work not repetitive administration.
- → IT solutions require ARTs to navigate complex dependencies.
- → This requires a high degree of time to cooperatively resolve.
- → ARTs and agile teams need ample time to delivery IT solutions.

What to do about it?

- → Keep WIP low to avoid unnecessary context switching delays.
- → Execute fewer active items to minimize work interruptions.
- → Frequently integrate to resolve issues in smaller batches.
- → Maintain solution health by addressing technical debt.
- → Use short efficient events versus long all-day meetings.

#8 Remediate Legacy Policies & Practices

Why it matters?

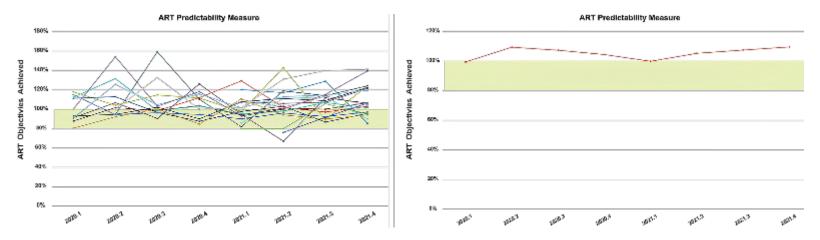
- → Traditional legacy big batch practices create problems for ART flow.
- → Big batch practices, tools, and practices coexist alongside flow practices.
- → Big batch practices hinder agile teams, ARTs, portfolios, and enterprises.
- → Big batch practices prevent enterprises from realizing quick economic value.
- → It's difficult for all enterprise stakeholders to appreciate lean flow thinking.

What to do about it?

- → ARTs and agile teams must identify and remediate big batch practices.
- → Enterprise personnel must be taught economic costs of big batch thinking.
- → ARTs and agile teams must also be taught to eliminate big batch practices.
- → Big batch practices should not be accepted as normal way of doing business.
- → The value of eliminating big batches must penetrate organizational cultures.

Basic ART Measure #1 – ART Flow Predictability

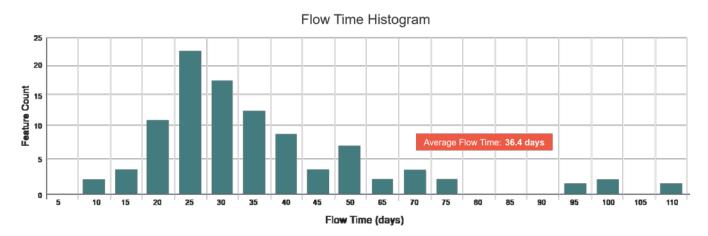
- → ART Flow predictability measures how well a train can plan and meet its PI objectives.
- → ARTs should satisfy most committed objectives and one or more of the uncommitted.
- → This approach typically results in an average of 80-100% of the total planned.



- → In this example, the ART is taking a fairly conservative approach to its PI commitments.
- → As the average ART Flow predictability performance data regularly runs above 100%.
- → Scoring above 100% requires ARTs to complete committed & uncommitted objectives.

Basic ART Measure #2 – ART Flow Time

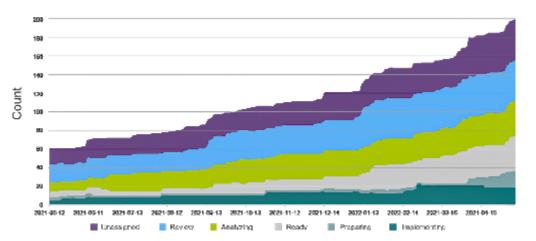
- → ART flow time measures the total elapsed time to deliver new features from backlogs.
- → ART flow time is calculated from end-to-end ideation (concept) to production (cash).
- → This is often known as lead time, so once a feature enters the backlog it counts.



- → In this example, there's a reasonably steady flow time average of around 36 days.
- → Outliers are common, as they may indicate features are unpredictably blocked.
- → May be due to dependencies, unanticipated risks, or other common factors.

Basic ART Measure #3 – ART Flow Load

- → ART flow load measures the total amount of work in the system at any point.
- → It is often derived as an automated report based on the ART Kanban states.
- → This is known as a Cumulative Flow Diagram (CFD) to identify bottlenecks.



- → In this example, there's a dramatic increase in WIP for this ART.
- → Insights into the 'why' would require knowledge of that ART's context.
- → The ART may be overloaded or the workload WIP size increased dramatically.

Basic ART Measure #4 – ART Flow Efficiency

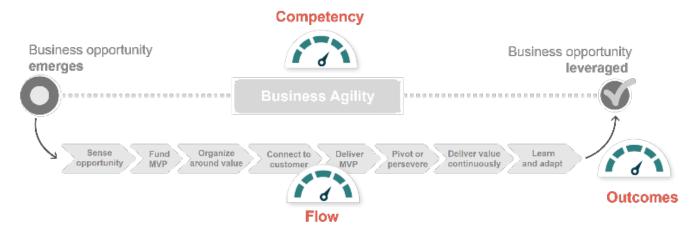
- → Flow efficiency is sum of active time divided by total time of item in system.
- → Flow efficiency is very low in workflow systems that have not been optimized.
- → Value stream maps are important for identifying bottlenecks and wait times.



- → In this example, this is a value stream map from an end-to-end DevOps workflow.
- → This DevOps workflow system is highly inefficient with a total efficiency of 5%.
- → Almost all the waiting time occurs in front of one specific step (bottleneck).

Business Agility – Three Measurement Domains

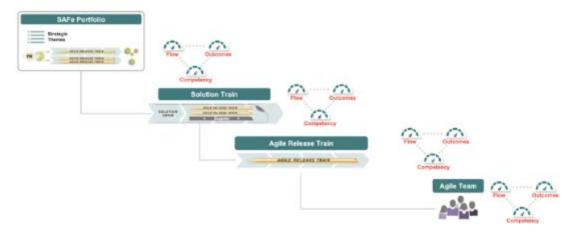
- → The first and most important thing with metrics is understanding what to measure.
- → The goal of Business Agility is a clear and quick response to sudden market changes.
- → And address emerging opportunities with innovative digitally-enabled business solutions.



- → SAFe's BAV visualizes how to achieve this with SAFe's three measurement domains:
 - 1. **Outcomes**: Do our solutions meet the needs of our customers and the business?
 - 2. **Flow**: How efficient is the organization at delivering value to the customer?
 - 3. **Competency**: How proficient is organization in the practices that enable business agility?

Three Measurement Domains Across Levels

- → SAFe's three measurement domains are applicable at every level of an organization.
- → Metrics can be used to measure performance within and across each SAFe portfolio.
- → This includes Portfolios, Solution Trains, Agile Release Trains, and their Agile Teams.



- 1. **Portfolio**: Key Performance Metrics (KPIs), Objectives and Key Results (OKRs), etc.
- 2. **Solution Train**: Flow Time, Flow Load, Flow Distribution, Solution Predictability, etc.
- 3. Release Train: Flow Time, Flow Load, Flow Distribution, ART Predictability, etc.
- 4. Agile Teams: Flow Time, Flow Load, Flow Distribution, DevOps Maturity, etc.

Objectives and Key Results (OKRs)

- → Strategic themes (OKRs) inform KPIs since strategy determines portfolio targets.
- → Strategic themes (OKRs) define specific portfolio outcomes to achieve future success.
- → OKRs determine yet another set of critical outcome metrics usually measured quarterly.

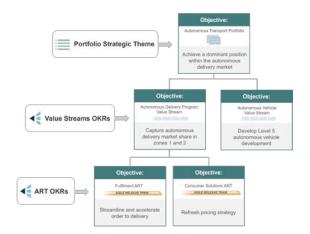
Objective	Key Results	Q1	Q2	Q3	Q4
Achieve a dominant position within the autonomous delivery market	Increase serviceable market to 75% within 18 months	45%	1 55%	4 7%	1 52%
	Increase Net Promoter score from 35 to 60	35	1 49	1 54	1 57
	Improve repeat business rates from 60% to 80%	60%	1 64%	1 67%	1 72%
	Acquire 15% new customers over the next 12 months	2%	1 7%	4 %	10%

- → It's useful to create value stream OKRs aligned with portfolio strategic themes (OKRs).
- → It's also useful to create OKRs for Solution Trains and Agile Release Trains (ARTs).

→ Allows levels of scale to measure their impact and alignment with overall OKRs.

Objectives and Key Results (OKRs) - Cont'd

- → OKRs often don't impact all development value streams in a portfolio equally.
- → The work to execute against a particular OKR differs for each value stream.
- → Its helpful to create value stream OKRs that align with portfolio level OKRs.



- → This can be repeated to create OKRs for Solution Trains, ARTs, and Agile Teams.
- → Hierarchical OKRs provide alignment and transparency at each level of scale.
- → This helps stakeholders see the impact of each level against portfolio OKRs.

Key Performance Indicators

- → Portfolios measure outcomes using Key Performance Indicators (KPIs) and Themes.
- → KPIs are specific and quantifiable measures of Portfolio value stream business results.
- → KPIs and OKRs are often organization, business model, customer, and solution specific.

Operational Value Stream Type	Example KPIs		
Software product (Consumer facing web site example)	AARRR ('pirate metrics'): Acquisition, Activation, Revenue, Retention, Referrals		
Fulfillment (Consumer loan example)	Conversion funnel analytics, avg time to decision, automated approval rate, net promoter score, default rate, customer lifetime value		
Supporting (Customer support example)	Tickets outstanding, net promoter score, first response time, mean time to resolution, cost per ticket, customer experience score		
Manufacturing (USB streaming microphone example)	Units sold, cost of goods sold, supplier health, throughput, cycle time, inventory turns, cash to cash cycle time		

- → For example, customer conversion rate has meaning to eCommerce but not microchips.
- → Some KPIs may be successfully applied across contexts such as Net Promoter Score.

→ SAFe provides guidance for defining appropriate KPIs for particular SAFe Portfolios.

Measuring Flow

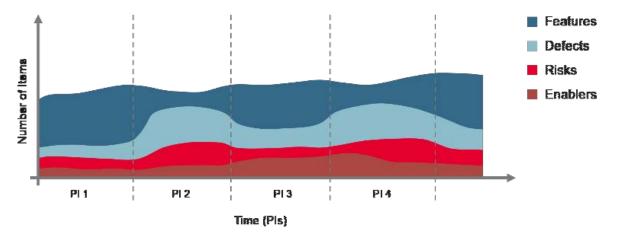
- → Flow measures are used to determine effective an organization is at delivering value.
- → SAFe provides five metrics that can be used to measure different aspects of flow.
- → SAFe is a flow-based system so each metric is directly applicable to its levels.

Metric	Description	
Flow Distribution	Proportion of work items by type in a system	
Flow Velocity	Number of completed work items over a time period	
Flow Time	Time elapsed from start to completion for a given work item	
Flow Load	Number of work items currently in progress (active or waiting)	
Flow Efficiency	Ratio of the total time spent in value-added work activities divided by the total flow time	
Flow Predictability	How consistently teams, ARTs, and portfolios are able to meet their commitments	

- → SAFe defines Flow Predictability to measure business value against planned objectives.
- → SAFe measures Flow Predictability for Portfolios, Solutions, ARTs, and Agile Teams.
- → These include Flow Distribution, Velocity, Time, Load, Efficient, and Predictability.

Flow Distribution

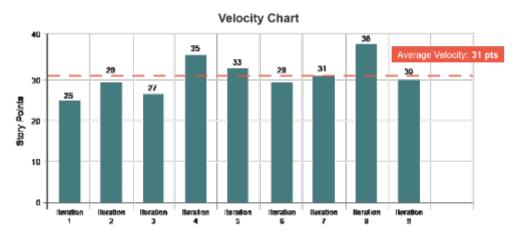
- → Flow distribution measures the amount of each type of work in the system over time.
- → This could include the balance of new business epics, features, stories, enablers.
- → Also illustrates the distribution of funding allocation across investment horizons.



- → An example is to count the number of each type of work item at any point in time.
- → Important to balance current and future velocity to keep work flowing through system.
- → Too much focus on just one type of works starves the value stream creating bottlenecks.

Flow Velocity

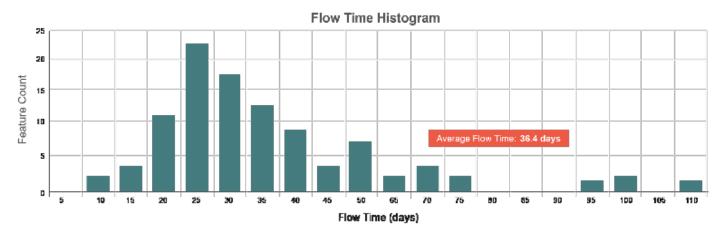
- → Flow velocity measures epics, features, and stories completed in a timeframe.
- → This is also known as the overall portfolio's or system's throughput of its work.
- → This helps determine how quickly work can flow or capacity of a value stream.



- → Simply count the number of work items completed over a PI or iteration time period.
- → Higher velocity implies a higher output and is a good indicator of improvement.
- → It's also used to identify and remove delays from the system (and stability).

Flow Time

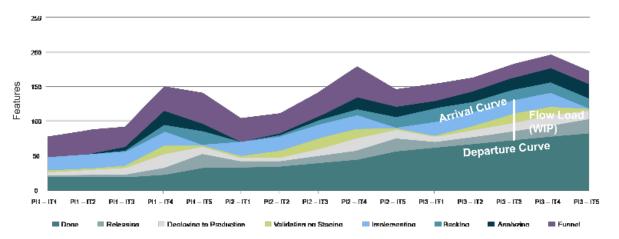
- → Flow time measures the total time elapsed for all the steps in a workflow
- → It's a measure of the efficiency of the entire business or portfolio system.
- → It's typically measured from ideation (commitment) to production (deployment).



- → It's the average length of time it takes to complete epics, features, and stories.
- → Flow time ensures that organizations and teams focus on delivering essential value.
- → The shorter the flow time, the less time our customers spend waiting for new features.

Flow Load

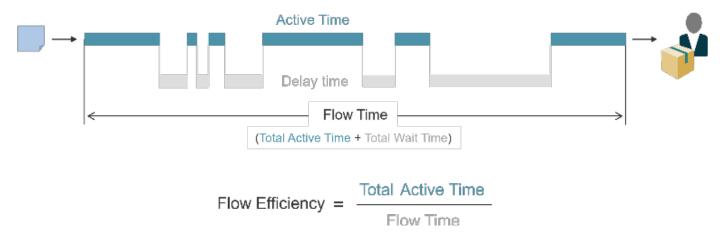
- → Flow load indicates how many work items are currently in a portfolio's workflow system.
- → It's vital to keep a healthy and limited number of active items (epics, features, stories).
- → Limiting work in process is critical to enabling a fast flow of items through the system.



- → Cumulative Flow Diagrams (CFDs) used to effectively visualize flow load over time.
- → Cumulative Flow Diagrams (CFDs) show quantity of work in process in a given state.
- → CFDs show the rate at which work items arrive and complete (as well as current load).

Flow Efficiency

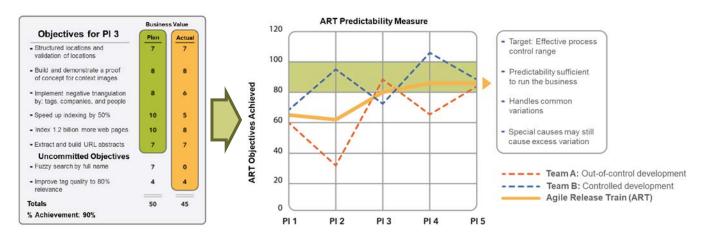
- → Flow efficiency measures quantity of overall flow time is spent in value-added work.
- → That is, value adding activities vs. waiting, bottlenecks, and downtime between steps.
- → This helps determine how long each activity takes (and bottlenecks and dependencies).



- → Operational and development value stream maps are the best way to visualize workflow.
- → A low flow efficiency highlights system waste (along with bottlenecks and delays).
- → The higher the flow efficiency, the better the system can deliver value quickly.

Flow Predictability

- → Flow predictability measures how well Solution Trains, ARTs, & teams meet objectives.
- → It's a simplified version of measuring Objectives and Key Results (OKR) performance.
- → The key is to measure value adding business outcomes (goals) vs. activities (work).



- → Agile teams and ARTs establish S.M.A.R.T objectives during quarterly planning events.
- → Business Owners score the value of S.M.A.R.T objectives before and after ART interval.
- → This enables Solution Trains, ARTs, and agile teams to measure outcomes vs. activities.

Business Agility

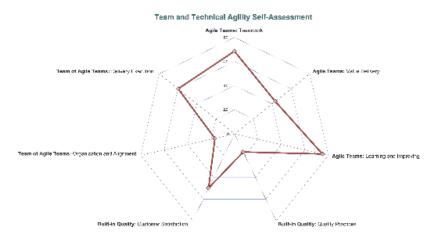
- → Business agility measures degree of expertise across SAFe's even core competencies.
- → Includes organizational agility, LPM, ESD, APD, T&TA, LAL, and CLC competencies.
- → Competencies can be measured individually or as an aggregate of business agility.



- → SAFe provides aggregate an assessment instrument to measure overall business agility.
- → This provides critical business and portfolio stakeholders a measure of overall progress.
- → SAFe also provides individual assessments for each dimension for technical analysis.

Team & Technical Agility

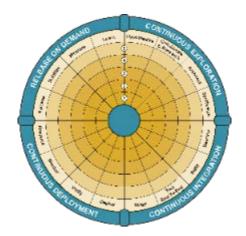
- → Team and technical agility assessments measure Solution Train and ART performance.
- → It focuses on execution, alignment, customer satisfaction, quality, value, and teamwork.
- → Measures aggregated team of team performance (scaling efficiency and effectiveness).



- → It's important to have well functioning teams (teamwork) producing high-quality outputs.
- → It's also important to implement core SAFe practices aligned with business objectives.
- → Value must be delivered, customers satisfied, and teams must continuously improve.

DevOps Maturity

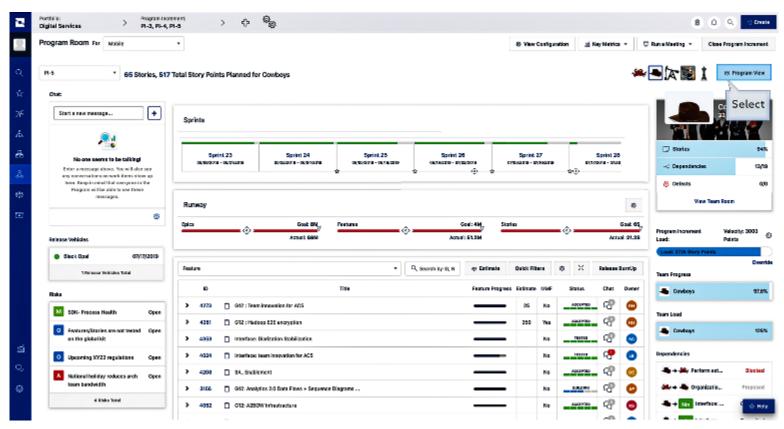
- → The DevOps Health Radar optimizes value stream, Solution, and ART performance.
- → It provides a holistic health check by assessing continuous delivery pipeline maturity.
- → It measures DevOps maturity at any point guide fast iterative transformation progress.



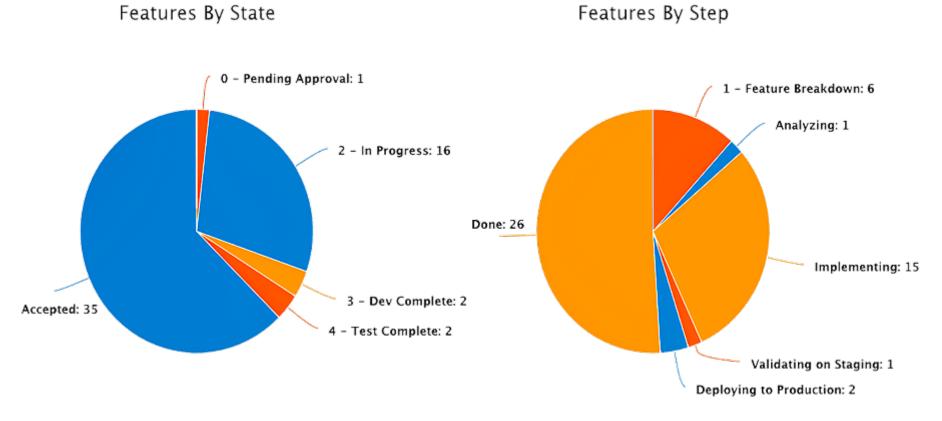
- → It assesses maturity of the four aspects and 16 activities of continuous delivery.
- → It's used with the Agile Product Delivery assessment to ensure full maturity coverage.

→ These include continuous exploration, integration, deployment, and release on demand.

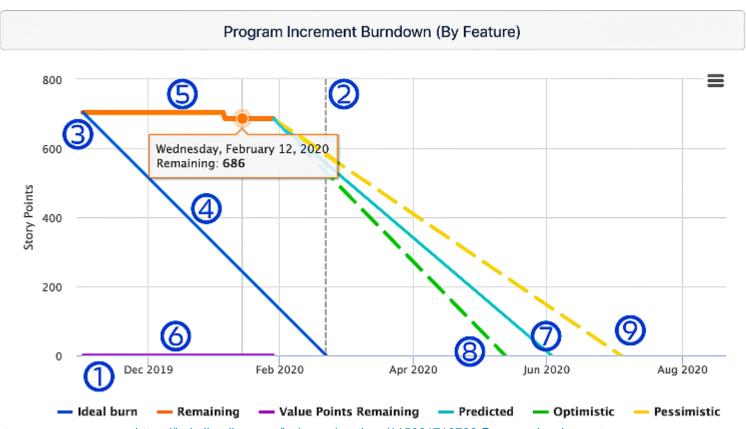
ART Metrics Report – Jira Align – Product Line Room



ART Metrics Report – Jira Align – Feature Progress



ART Metrics Report – Jira Align – Feature Burndown



Four Critical Success Factors for Effective Measurement

- → Measuring organizational performance is a sensitive areas in every business.
- → Subject to politics, dysfunction, interpretation, bias, miscommunication, misalignment.
- → Performance measurement is dangerous and does more harm than good if done badly.
- → These success factors enable effective measurements and better business results:
 - 1. Use measurement in conjunction with other discovery tools.
 - 2. Apply metrics where they support improved decision-making.
 - 3. Understand the effect of metrics on behaviors.
 - 4. Interpret metrics carefully.

#1 – Use measurement in conjunction with other discovery tools

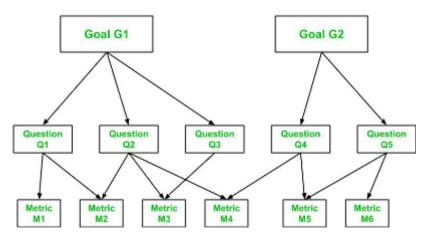
- → Any measurement system provides only a partial picture of reality.
- → Adding more metrics and reports does not necessarily improve visibility.
- → There is a story behind every number that contains more important information.



- → A powerful tool used in conjunction with measurement is direct observation (Gemba).
- → Observation of the actual environment where value is created and meets the customer.
- → 'Managing by just the numbers' in isolation leads to poor outcomes and worsens morale.

#2 - Apply metrics where they support improved decision-making

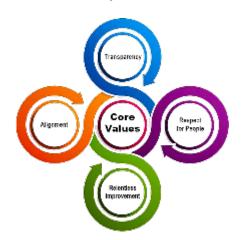
- → A common trap is over-measuring for fear of not measuring enough.
- → Metrics can be automated so the metric number and frequency increase.
- → This increases the overall effort to collect, analyze, report, and maintain data.



- → Ask, 'What decisions do new metrics inform that existing metrics do not?'
- → If the new metric helps to drive better decision-making, then it should included.
- → Also ask 'Do we need to measure this right now?' Otherwise omit or minimize them.

#3 – Understand the effect of metrics on behaviors

- → Knowledge workers are motivated to deliver winning solutions in a positive culture.
- → Must empower people to work with their own purpose, mastery, and autonomy.
- → Incentivizing numerical targets doesn't improve them and leads to gaming.

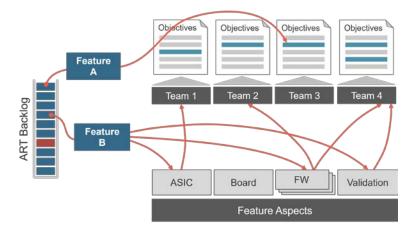


- → Additionally, the pressures to succeed often lead to the misuse of metrics.
- → For example, flow efficiency may be used to blame ARTs for missed delivery dates.

→ SAFe's Core Values create a foundation and environment for improved measurement.

#4 - Interpret metrics carefully

- → Just collecting specific metrics, measures, and performance reports is not enough.
- → If interpreted without proper understanding, indicators may be quite misleading.
- → When measuring flow time, the work items must be actual, valuable work items.



- → This includes epics, features, and stories directly tied to value streams.
- → Work items should be linked to OKRs and PI Objectives with business value.
- → There must be a focus on outcomes over outputs (activities) with qualitative linking.

