AGILE Realities

Helping our customers to realize their business ideas

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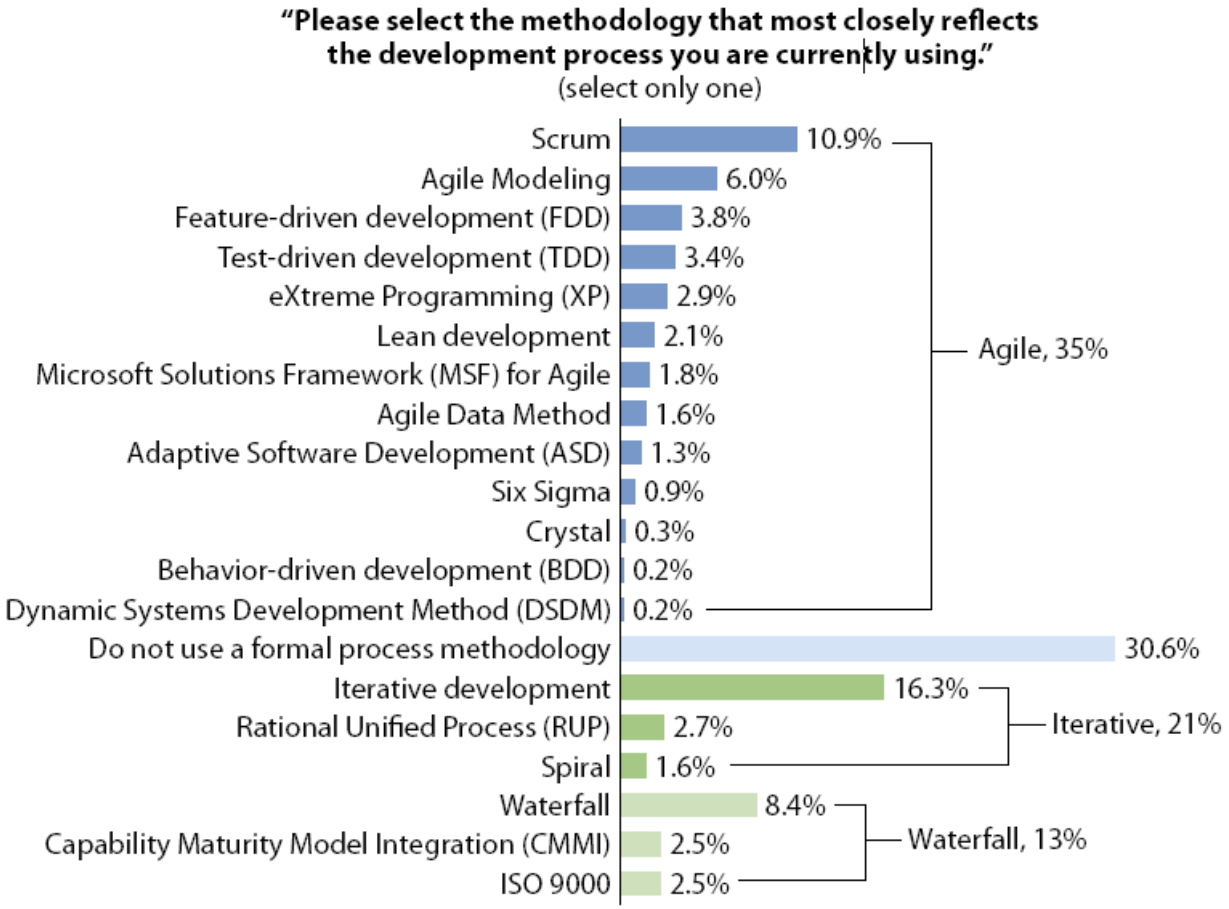
AGILE Gaining Momentum

Figure 1 Agile Is Organizations' Primary Development Approach



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Source: Forrester Research, Inc.

AGILE First Impressions

Fast!

Flexible!

AGILE Development Myths

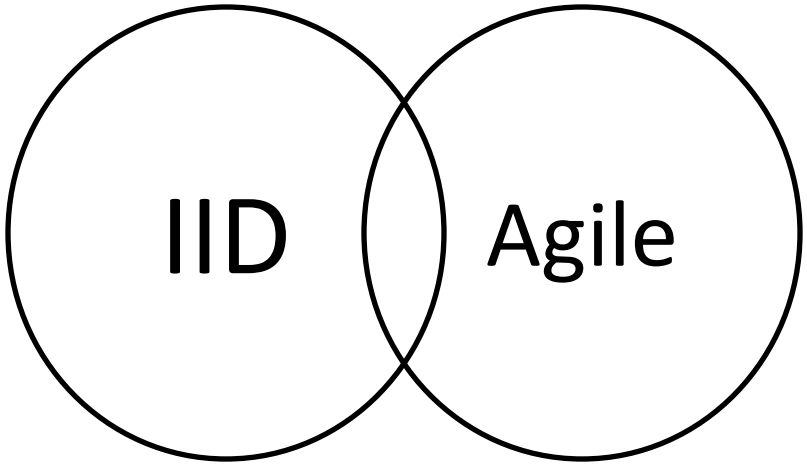
- ✕ "Agile teams don't plan."
- ✕ "Agile is a silver bullet."
- ✕ "Agile teams don't need requirements."
- ✕ "Agile teams can deliver an end product faster than waterfall."

AGILE Development

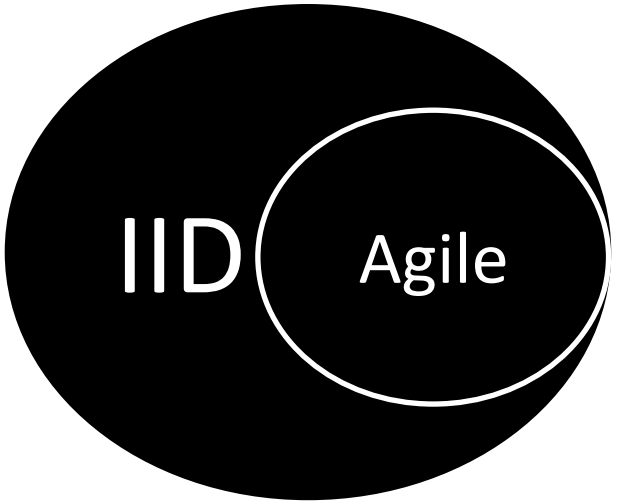
Is iterative and incremental

- Is about useful working software quicker and better through better internal team and customer collaboration.
- Is a mindset and discipline, NOT a template or tool.

You may think that IID and Agile work together like this…



A better representation of IID and Agile would be as follows…



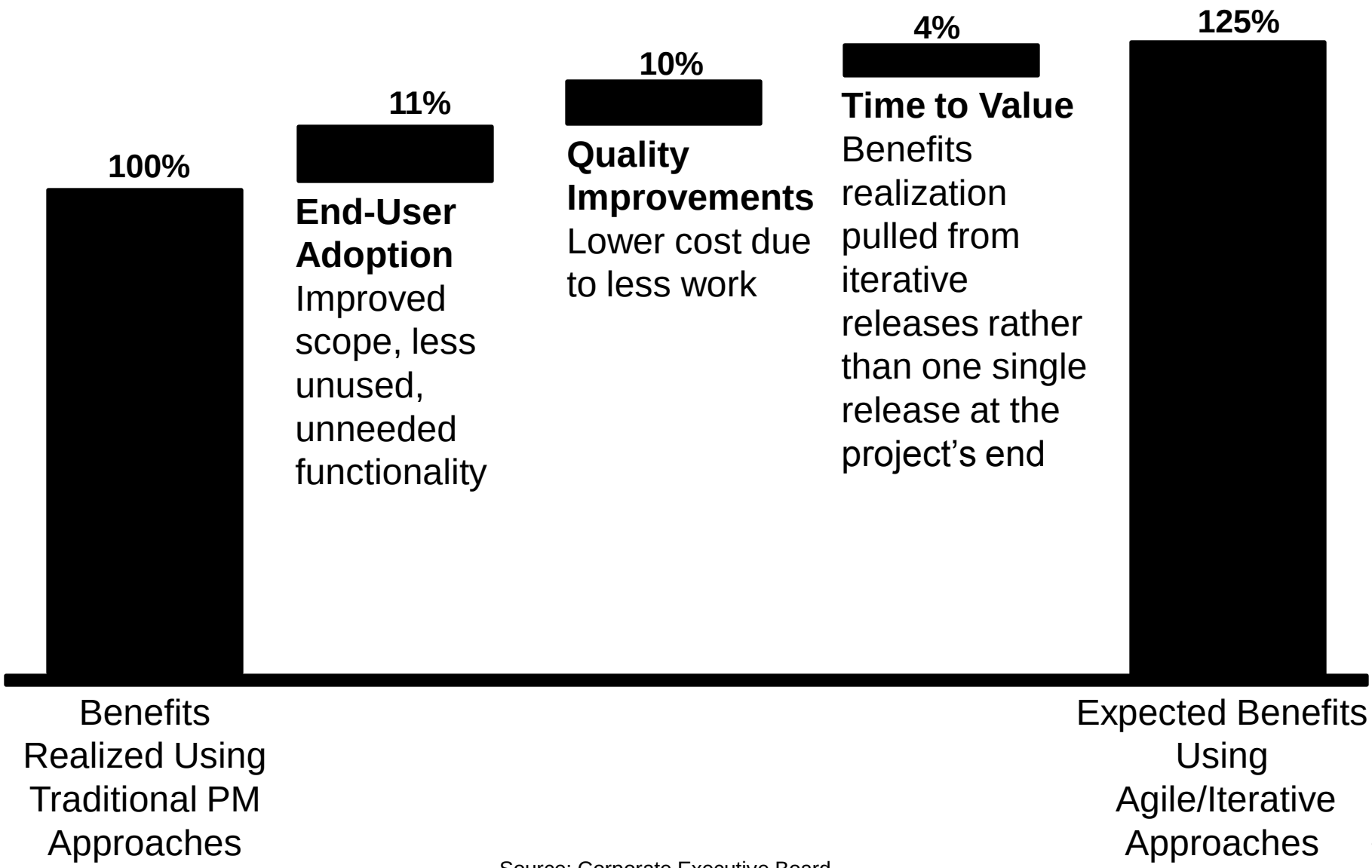
Manifesto for **AGILE** Development

We are uncovering better ways of developing software by doing it and helping others do it. Through this work we have come to value:

Individuals and interactions over processes and tools
Working software over comprehensive documentation
Customer collaboration over contract negotiation
Responding to change over following a plan

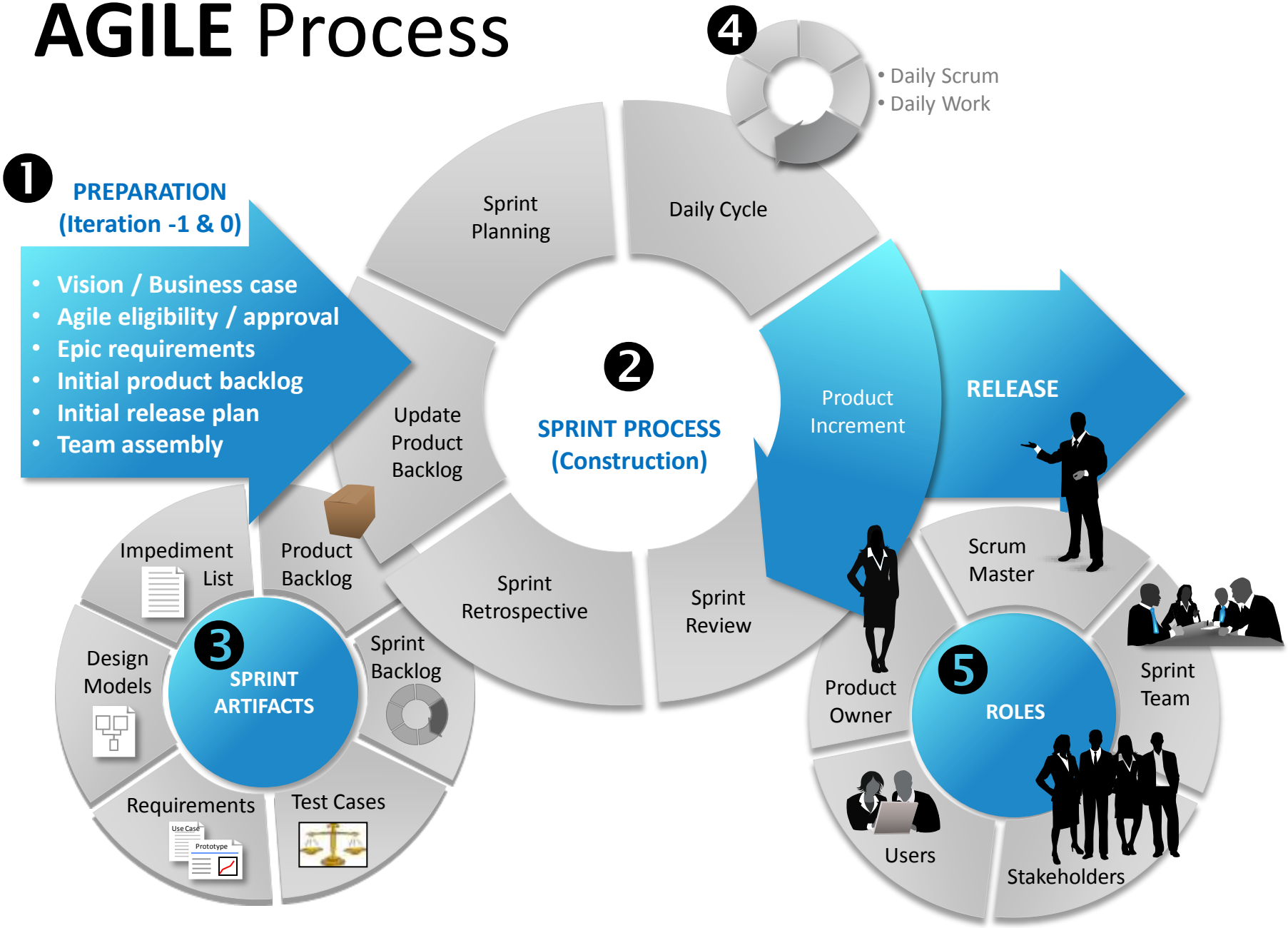
That is, while there is value in the items on the right, we value the items on the left more.

AGILE Project Returns



Source: Corporate Executive Board

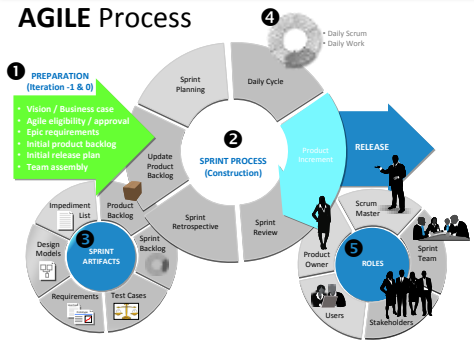
AGILE Process



❶ **AGILE** – Preparation

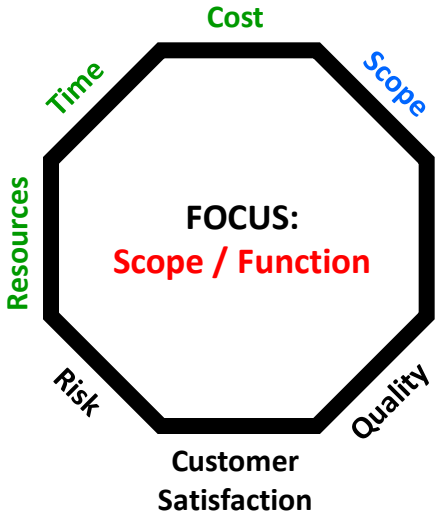
- Vision / Business case
- Agile eligibility / approval
- EPIC requirements
- Initial product backlog
- Initial release plan
- Team assembly

AGILE Process

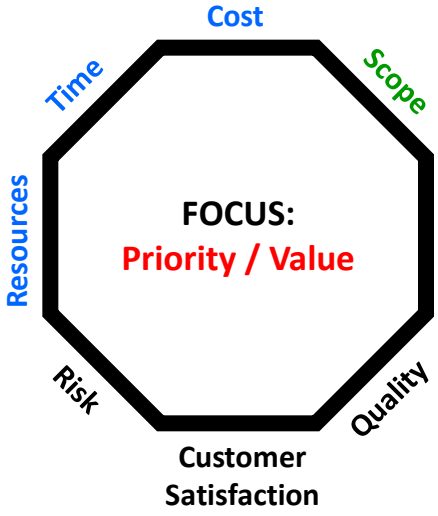


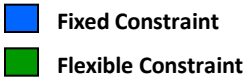
Mindset Shift - Scope

Waterfall



AGILE

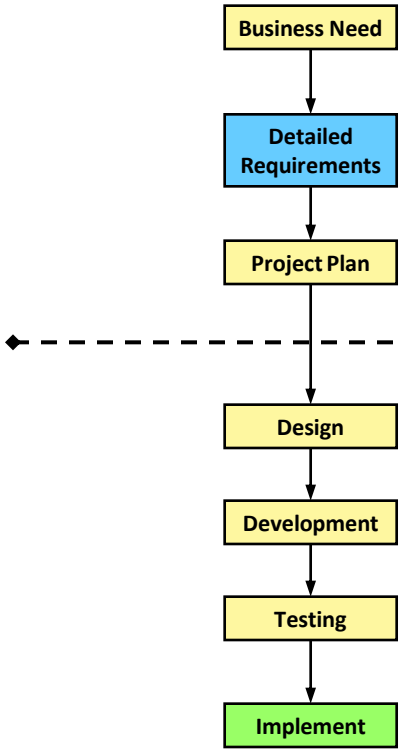




Mindset Shift - Requirements

Waterfall

"Pay now…"



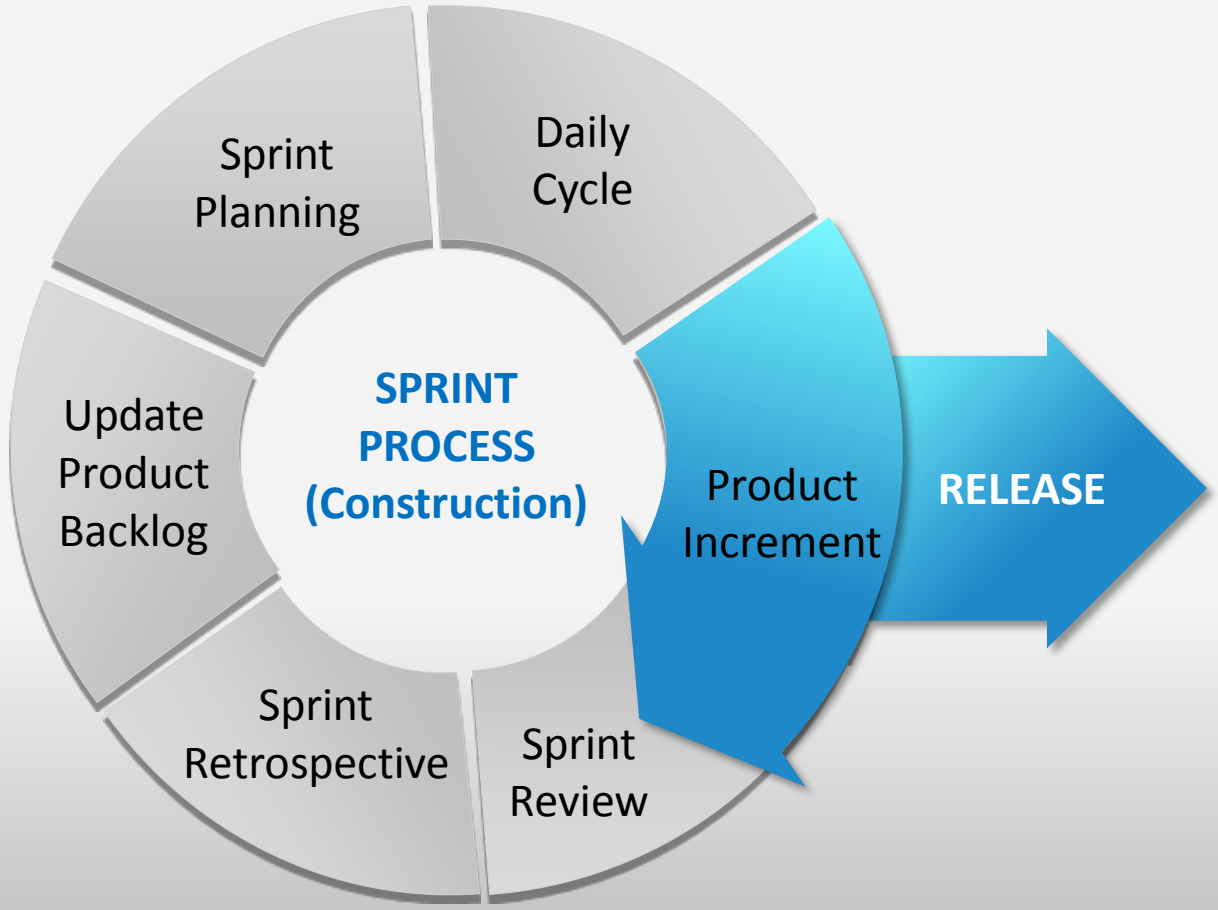
AGILE

"…or pay later"

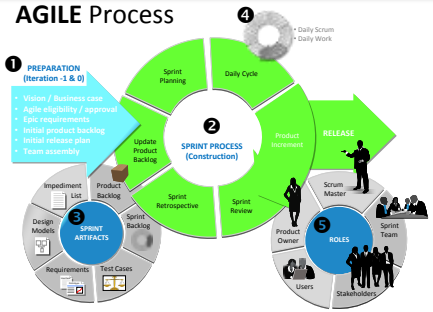
Mindset Shift – Product Backlog

Story ID	Story Name / Description	Status	Business Priority	Story Points	Sprint
1	**View Orders (INQ Summary)**	Planned	**A**		1
2	INQ Summary Screen (Branch users only)	Planned	A.0		1
3	View Orders by Name / Account - Includes creation of View file	Planned	A.1	7	1
4	View Orders by FA	Planned	A.7	3	1
5	View Orders by Symbol	Planned	A.2	2	1
6	View Orders by Product	Planned	A.3	3	1

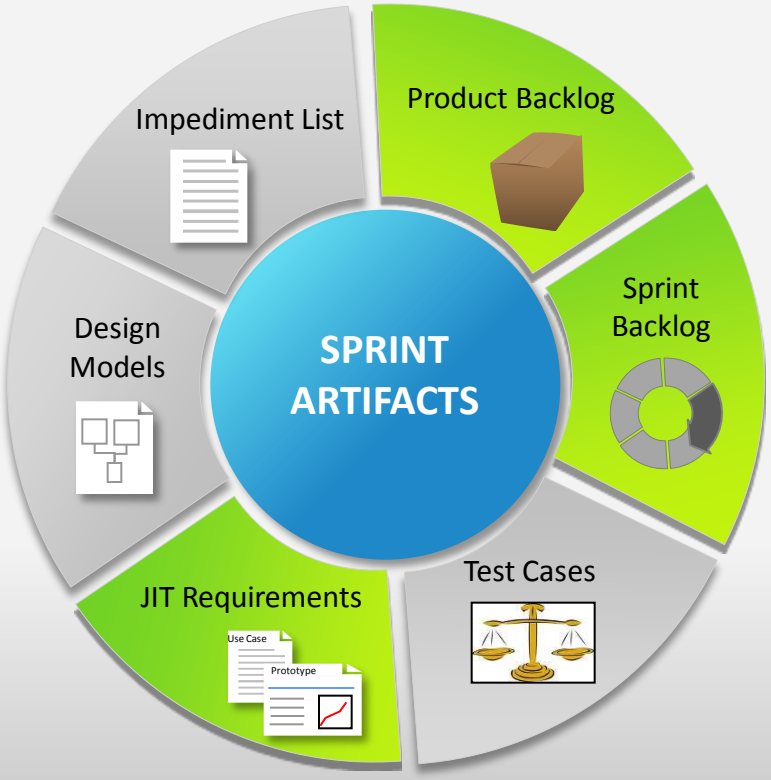
❷ AGILE – Sprint Process



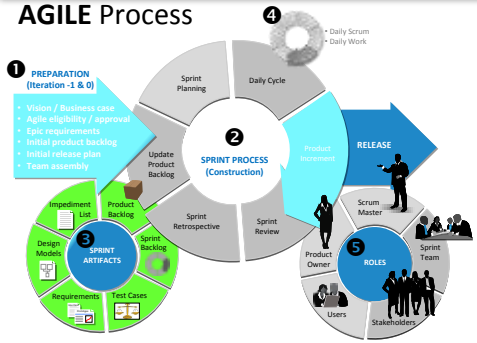
AGILE Process



❸ **AGILE** - Sprint Artifacts



AGILE Process



Mindset Shift – Sprint Backlog

Remaining hours are tracked to show "burn-down" progress.

Tasks are assigned to sprint team members

Every day is tracked through 30 business days; scrums should highlight tasks and issues to be worked for that day.

Tasks supporting a story are defined by the sprint team.

SPRINT-1	WHO?	Hours of Effort Remaining --->	Day 1	Day 2	Day 3	Day 30
		322	362	354		
Story A						
Task 1	RM	40	40	32		
Task 2	JY	26	26	26		
Task 3	SG	45	45	45	45	45
Task 4	MM	40	40	40	40	40
Task 5	RM	40	40	40	40	40
Task 6	JY	17	17	17	17	17
Task 7	JY	4	4	4	4	4
Task 8	RM	16	16	16	16	16
Task 9	SG	2	2	2	2	2
Story B						
Task 1	RM	32	32	32	32	32
Task 2	RM	50	50	50	50	50
Task 3	JY	50	50	50	50	50

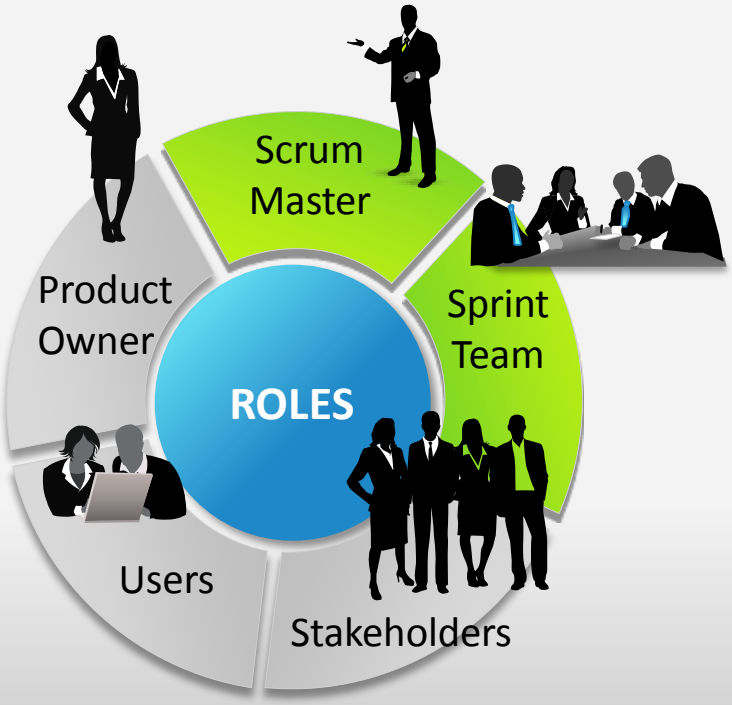
❹ AGILE – Daily Scrum

SCRUM - 15 min. Daily Meeting

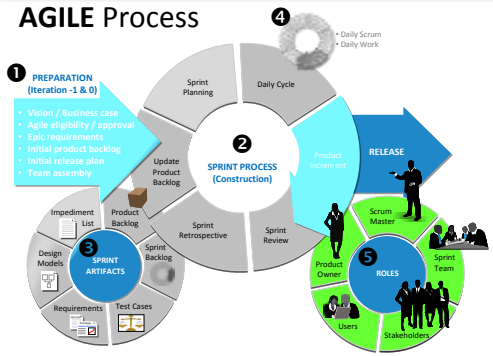
Sprint Team discusses:

A. What did you yesterday?
B. What will you do today?
C. Are their impediments in your way?

❺ **AGILE** - Roles

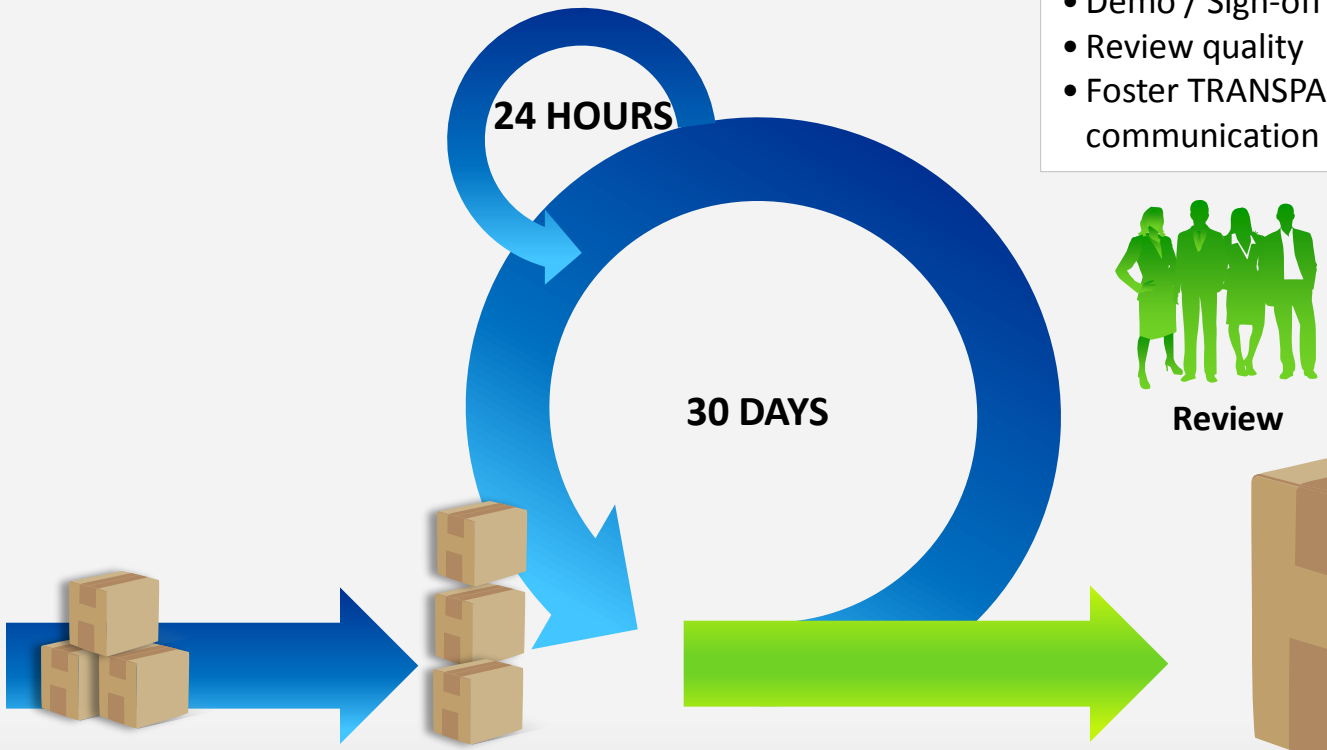


AGILE Process



AGILE Process - Review & Retrospective

Sprint Review
- Demo / Sign-off – FEEDBACK
- Review quality
- Foster TRANSPARENT communication



Review

Product Backlog
- Features prioritized by client

Sprint Backlog
- Features assigned to sprint
- Estimated by team
- Team Commitment

Sprint Retrospective
- What worked?
- What didn't work?
- What are actions for improving the next sprint?

Retrospective

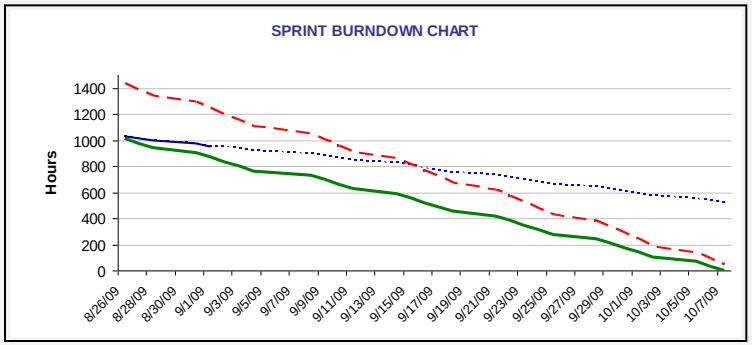
AGILE Metrics

Story ID	Story Name / Description (BOLD = Major Deliverables)	Status	Business Priority	Story Points (Ideal Days)	Sprint
1	**View Trades**	**Planned**	**A**	**15**	**1**
2	View Orders by Name / Account	Planned	A.1	7	1
3	View Orders by Broker	Planned	A.2	3	1
4	View Orders by Symbol	Planned	A.3	2	1
5	View Orders by Product	Planned	A.4	3	1

Product Backlog Burn-Down

- # Stories in Scope
- # Stories / Sprint
- Story Points / Sprint
- # Stories Planned / Completed

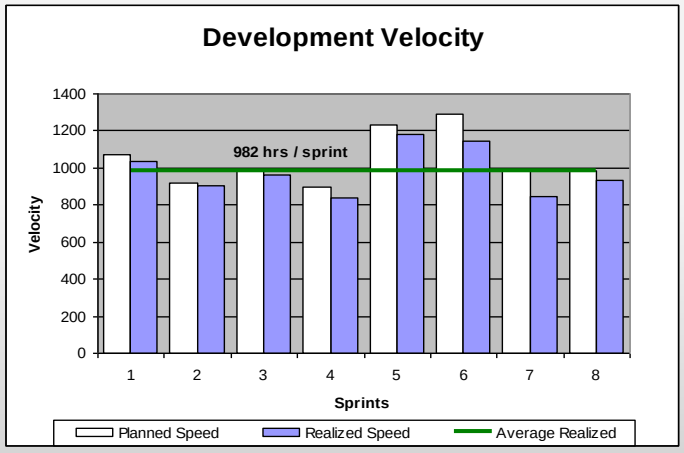
Planning



Sprint Burn-Down Chart

- Sprint Velocity (hrs / sprint)
- # hrs / Story
- # hrs Planned / Completed
- # hrs Leading / Lagging / Remaining

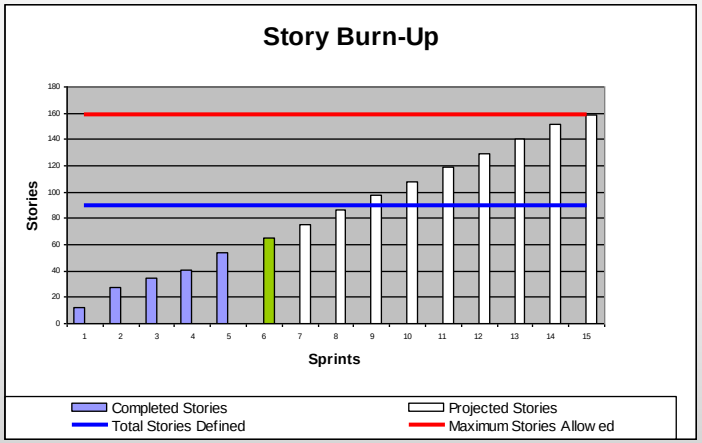
Transparency



Velocity

- Ave. Velocity across Sprints
- Planned vs. Actual Velocity

Forecasting



Story Burn-Up Chart

- # Sprints Remaining
- Total Stories Defined (Scope)
- Max Stories Allowed (Budget)

Expectations

AGILE Realities

Case Studies:

- ✓ Successes
- X Challenges
- 🗒 Recommendations

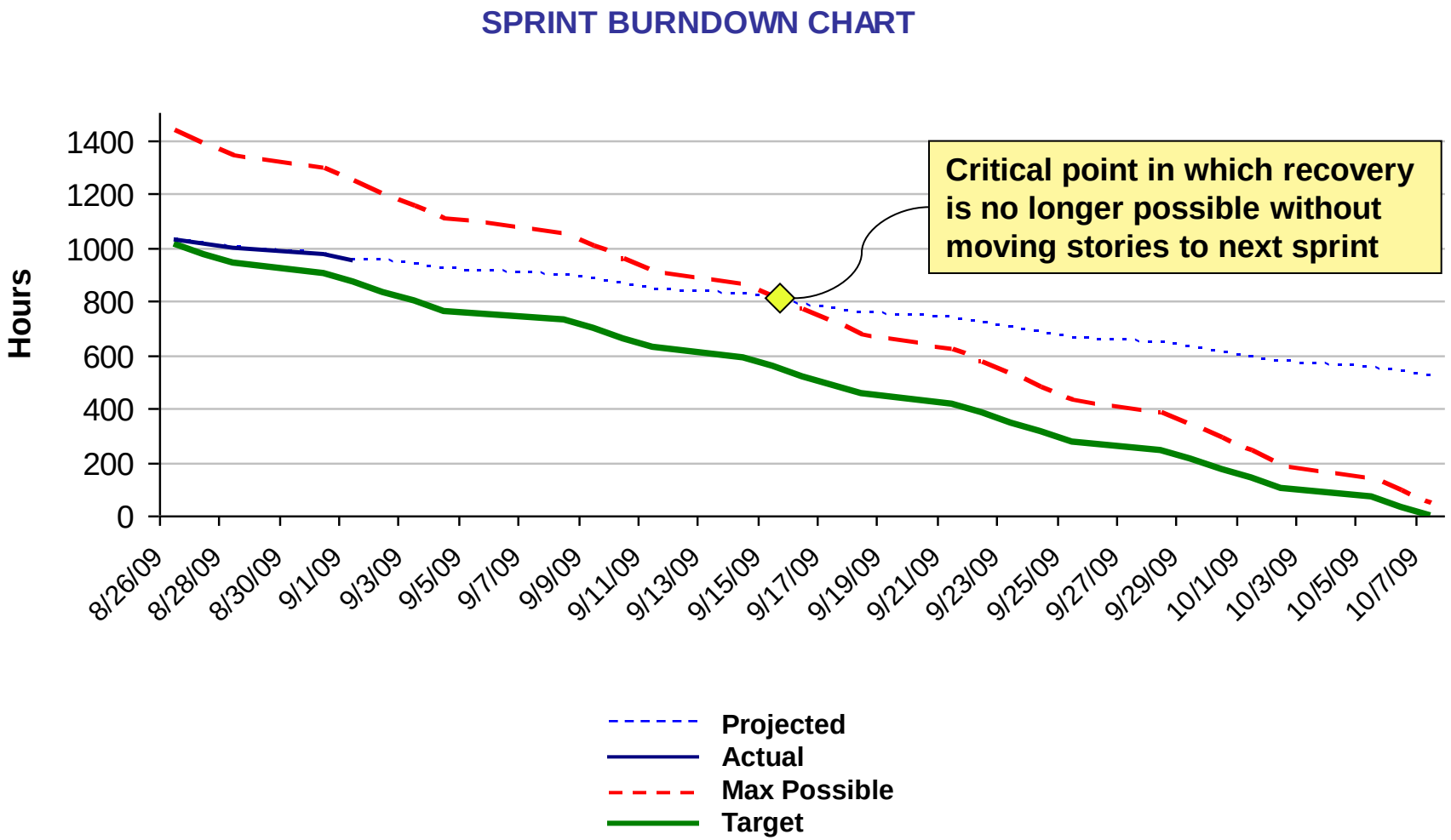
Case Study:

Background

- 1,200+ IT employees (infrastructure & software)
- Project types
  - Business software development for branches / clients / HQ
  - Regulatory
  - Infrastructure (facilities, hardware, network)
- Matrix organization (project staffed by functional teams)
- Highly integrated web and legacy applications
- Began deploying Scrum-based Agile in 2009; waterfall methodology deeply engrained into culture

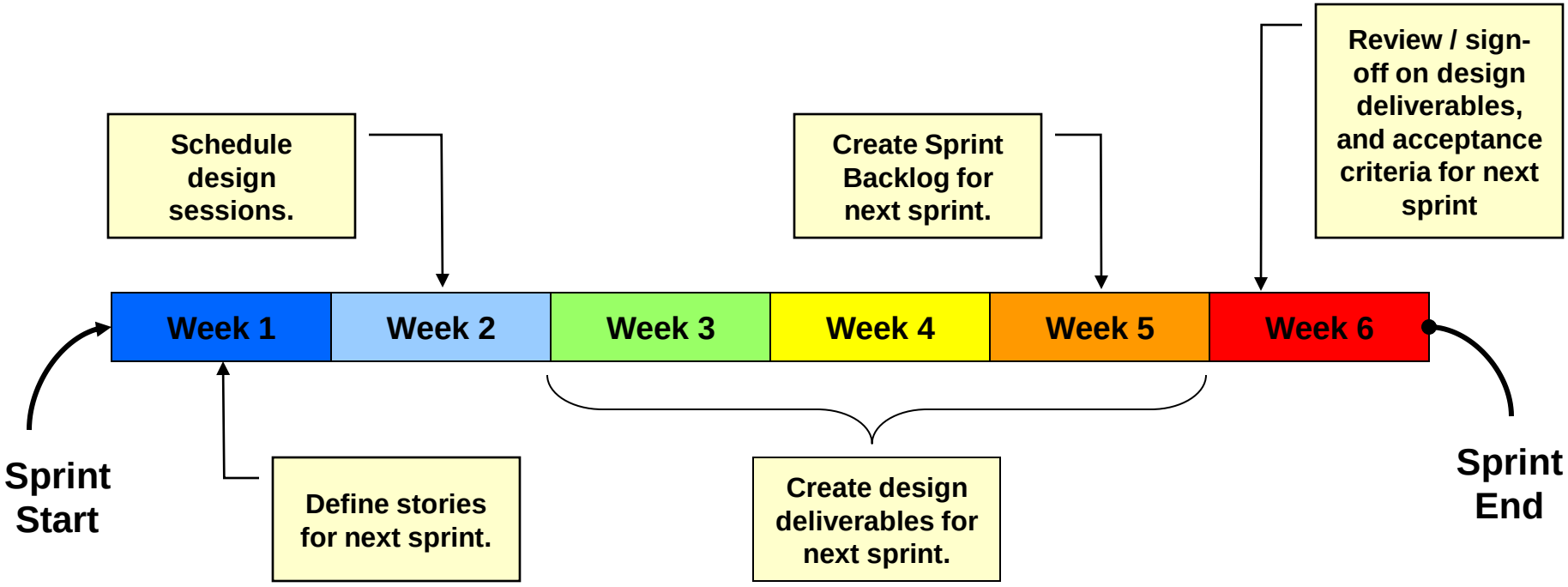
Case Study: Edward Jones

- ✓ **Success: Developers are focused, efficient, and self-disciplined**
- **Recommendation: Reinforce expectations that estimates are NOT commitments**



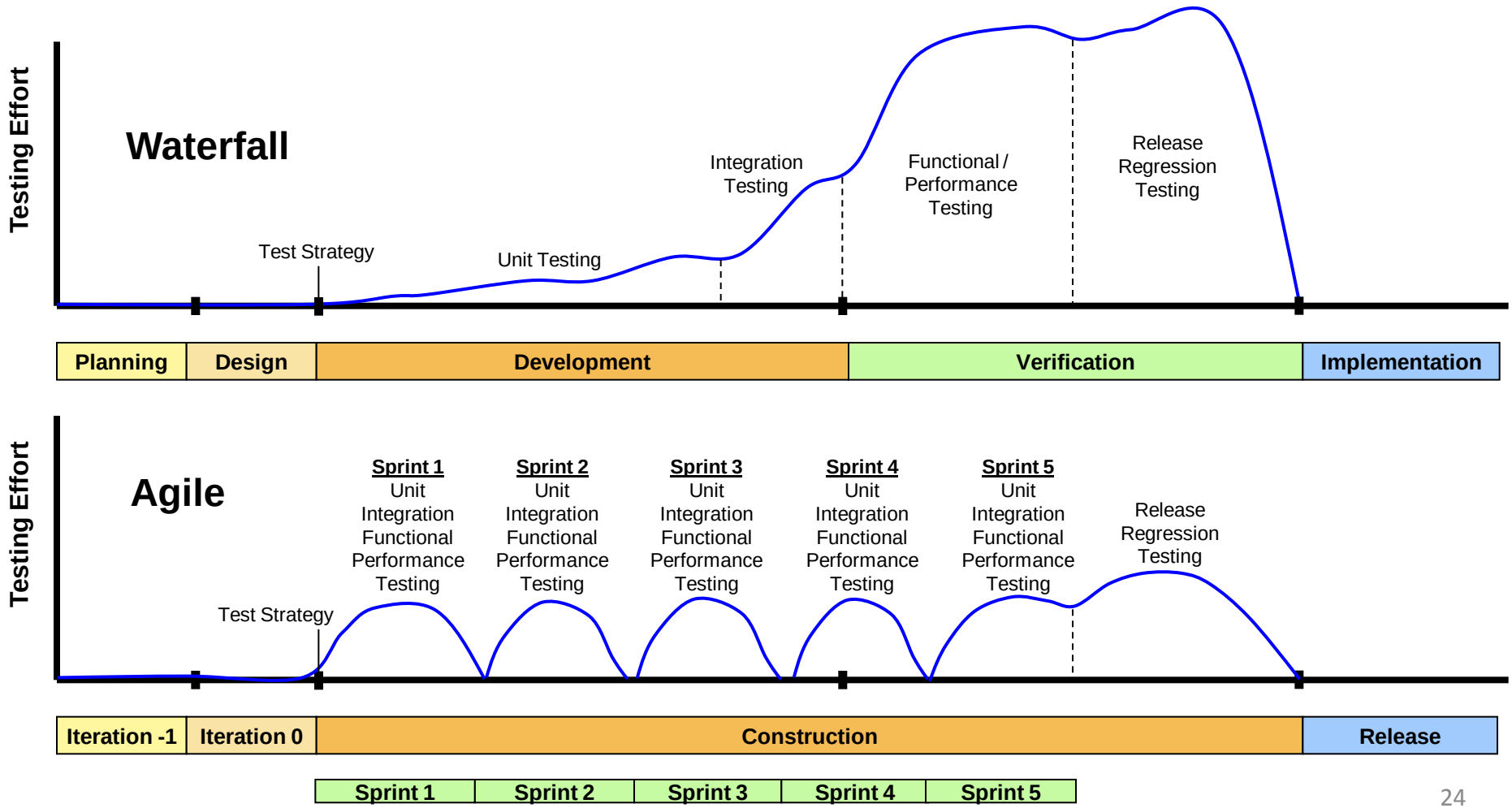
Case Study: Edward Jones

- X **Challenge: PL workload is a planning roller coaster.**
- **Recommendation: Plan, and stay true to, planning activities**



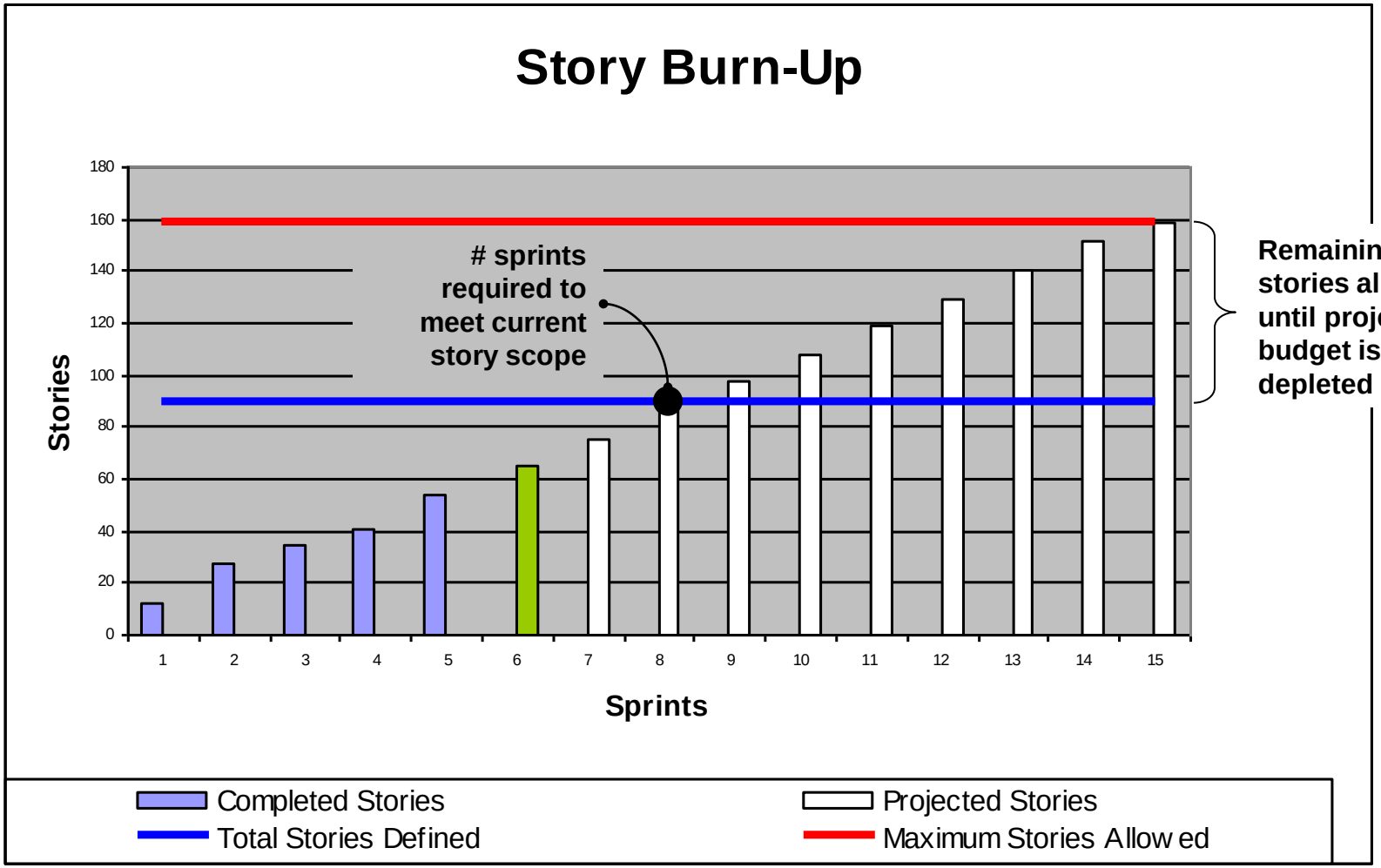
Case Study: Edward Jones

- ✓ **Success: Final push to implementation is less "intense."**
- X **Challenge: Agile testing cycles rely on stakeholder patience.**
- **Recommendation: Set clear testing environment expectations**



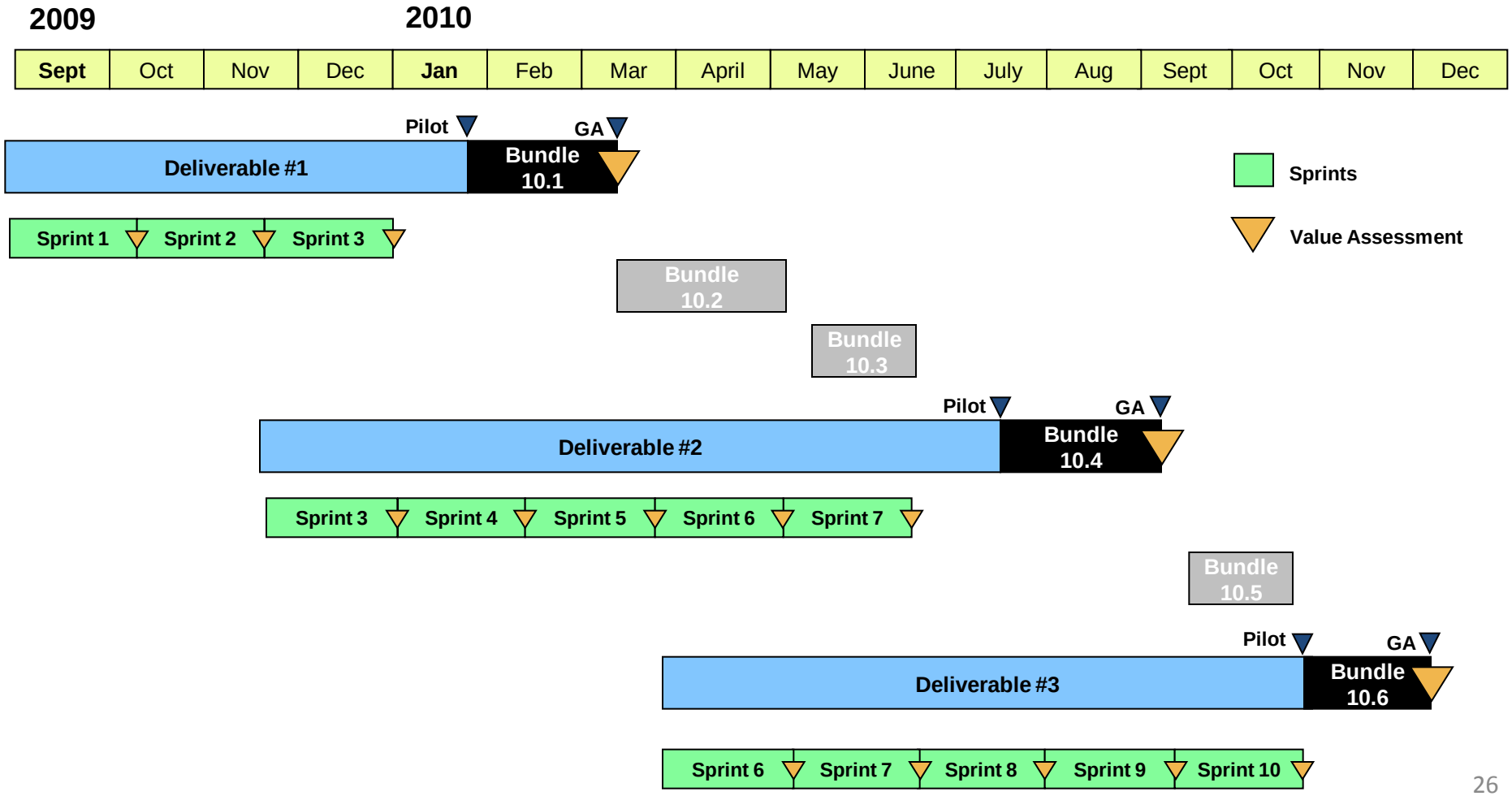
Case Study: Edward Jones

- ✓ **Success: Stakeholders understand the impact of scope changes.**
- X **Challenge: However, expectations must be set early and often.**
- **Recommendation:**



Case Study: Edward Jones

- ✗ **Challenge: 30 day production deliverables often do not fit business model.**
- **Recommendation: Clearly define a release strategy**



Case Study: Edward Jones

- **Challenge: Culture deeply entrenched in waterfall methodology; clear criteria needed to cauterize an AGILE mindset.**
- **Recommendation…**

AGILE Eligibility Criteria

- ❑ I can commit **resources** that are focused on Agile development, and are available on-site (**100% if needed**) to communicate with sprint team members.
- ❑ I accept scope **NOT** being guaranteed, as long as I know my most important priorities are being delivered first. I realize that the approved **cost will be fixed**; when exhausted, a new phase should be submitted for approval. I realize that **lower priority** work will be "left on the table".
- ❑ I understand the importance of, and am ready to create, **test cases** to help drive out requirements, even **before any code is written**.
- ❑ I'm comfortable working **face-to-face and daily** with developers to flush out requirements, knowing that new requirements will be addressed in a next sprint.
- ❑ I understand the importance of the **Product Backlog** being the "Business" plan, and am committed to creating/updating this plan with all sprint team members on a **daily** basis.
- ❑ I understand that **vendor contracts** must align with Agile development processes.

Case Study: 

Background

- 5,000+ software engineers
- Wide range of project types
  - Embedded flight software on aircraft
  - Satellite software
  - Aircraft training simulators
  - Traditional web applications
- Legacy programs with millions of lines of existing code
- Software with safety critical certification requirements
- Every program has unique constraints and complications
- Deploying a customized Scrum-based Agile process

Case Study: Boeing

✓ **Successes**

- Strong executive leadership support
- Dedicated group of experienced evangelist/champions
- Extensive support infrastructure
  - Training
  - Coaching
  - Outreach
- Synergistic, existing Lean initiative
- Rate of adoption by programs has exceeded expectations
- Adopting programs seeing significant improvements in productivity and quality (defect reduction)

Case Study: Boeing

X Challenges

- Every program has unique constraints.
  - Rare to have a pure, by-the-book Agile implementation
  - Agile process must be adapted to work with program constraints (we use Lean principles to inform and guide these adaptations)
  - This constrains the benefits achievable compared with a more ideal Agile team, but the benefits are still significant
- Finding cost-effective ways to train and coach multi-site, distributed teams.
- Finding effective ways to communicate our outreach message to such a large, physically dispersed enterprise.
- Implementing automated testing with legacy code bases.

Case Study: Boeing

Recommendations

- Don’t buy in to the conventional wisdom of which projects are appropriate for Agile and which are not.
- Agile can provide significant benefits in most situations if you can intelligently adapt to the project’s unique situation.
- The only real disqualifiers for Agile are all non-technical:
  - Someone on the team is actively opposed. Either get rid of them or don’t use Agile – too easy to sabotage.
  - The customer is opposed
  - The contract does not allow any flexibility for incremental delivery
- For large organizations it is important to know and understand Lean principles.

Break-Out Session Closing

- Questions / Answers
- Thank You!
- 1-Page Take-Away Available
- "Agile Café" Roundtable (1-2:30pm)

Supporting Details

Iterative and Incremental Development

Incremental Development

Dividing the project into various ***independent*** *parts* and *developing these sub-parts* at the same/different rate and *integrating them when ready*. Specifically, staging and scheduling in increments!

Iterative Development

Multiple iterations help "iterate" toward a final solution.

Iteration 1: Build core registration function.

Iteration 2: Enhance the core registration function.

System Development Life Cycle

Initiation
Sponsor identifies a need and defines scope / benefits.

Planning
Define requirements that support scope and develop project management plan.

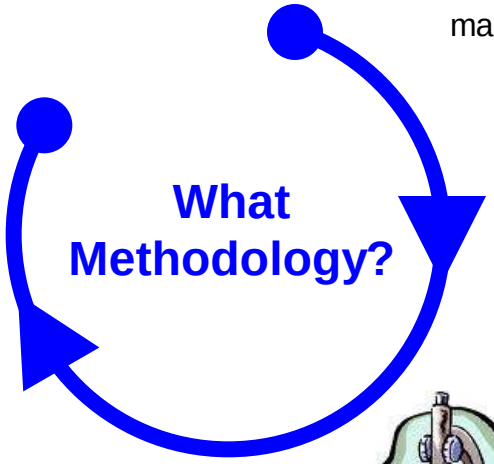
Maintenance
Execution knowledge transition; maintain system in production; conduct post-implementation reviews.

Design
Create system design deliverables; focus on how to deliver required functionality.

Implementation
Implement system into production environment; resolve problems.

Development
Convert design into a complete system; install system components into testing environments; prepare for testing.

Verification / Test
Test developed system against requirements; fix defects; prepare for implementation.



Waterfall

Initiation
Sponsor identifies a need and defines scope / benefits.

Planning
Define requirements that support scope and develop project management plan.

Design
Create system design deliverables; focus on how to deliver required functionality.

Development
Convert design into a complete system; install system components into testing environments; prepare for testing.

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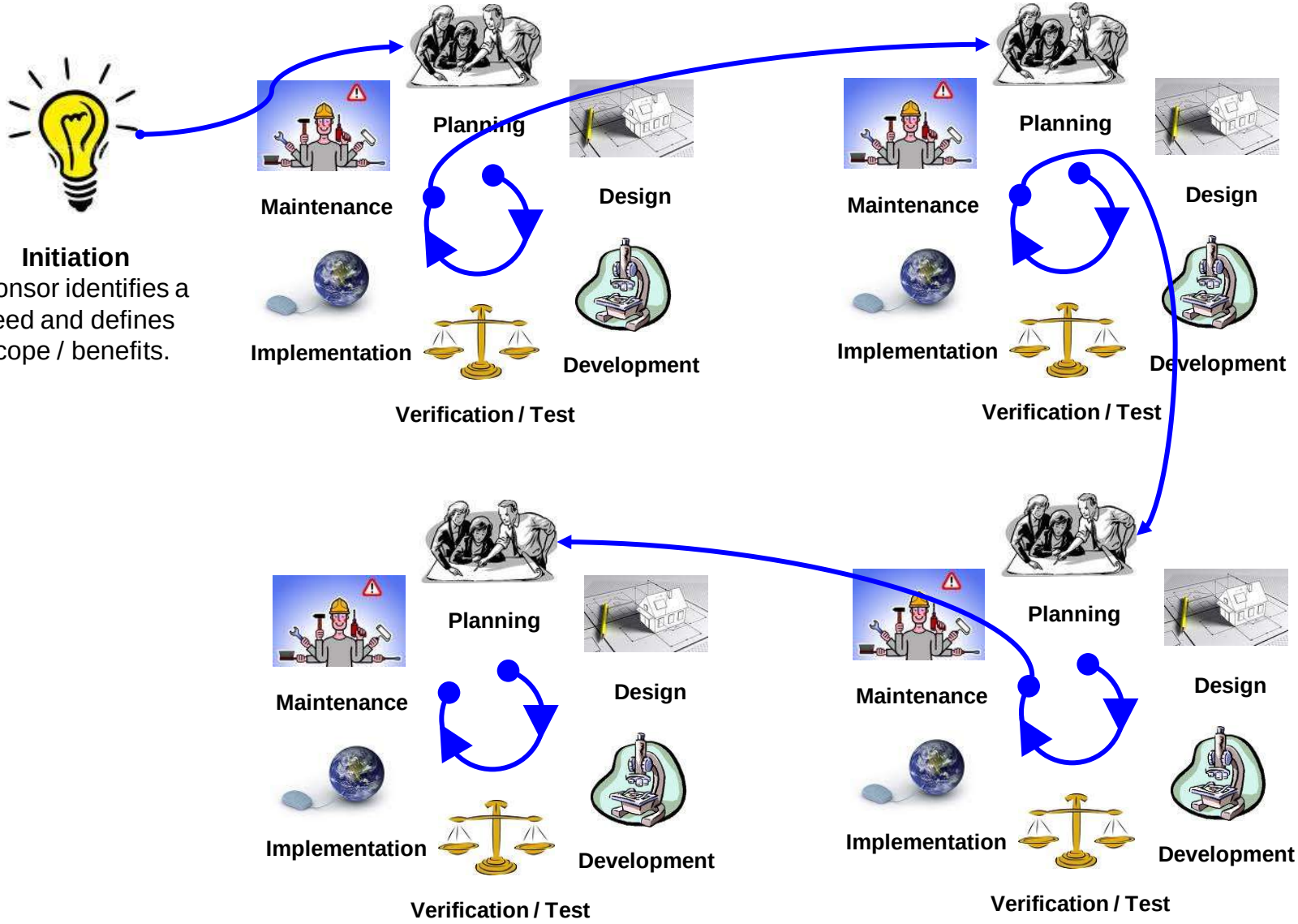
Agile & IID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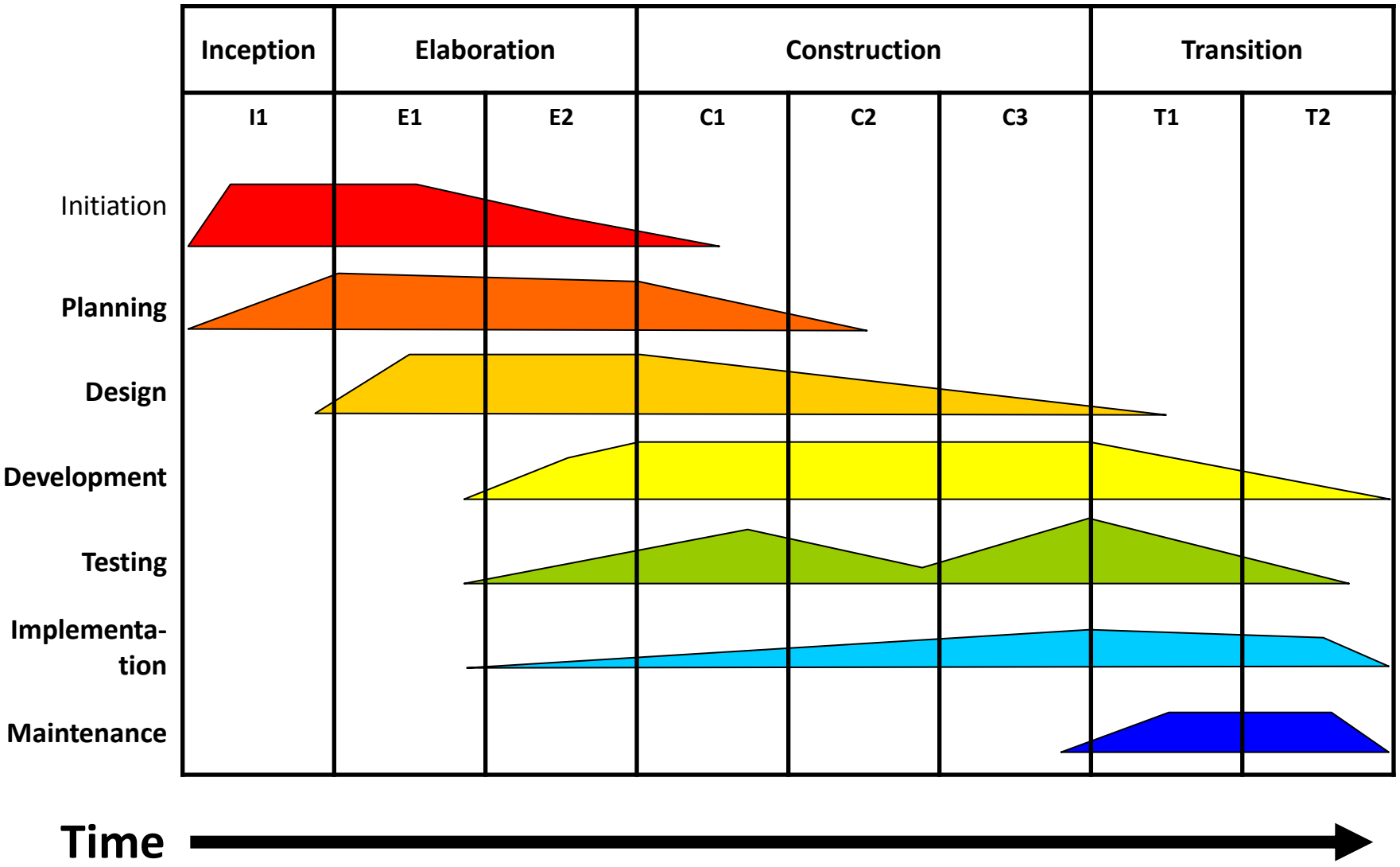
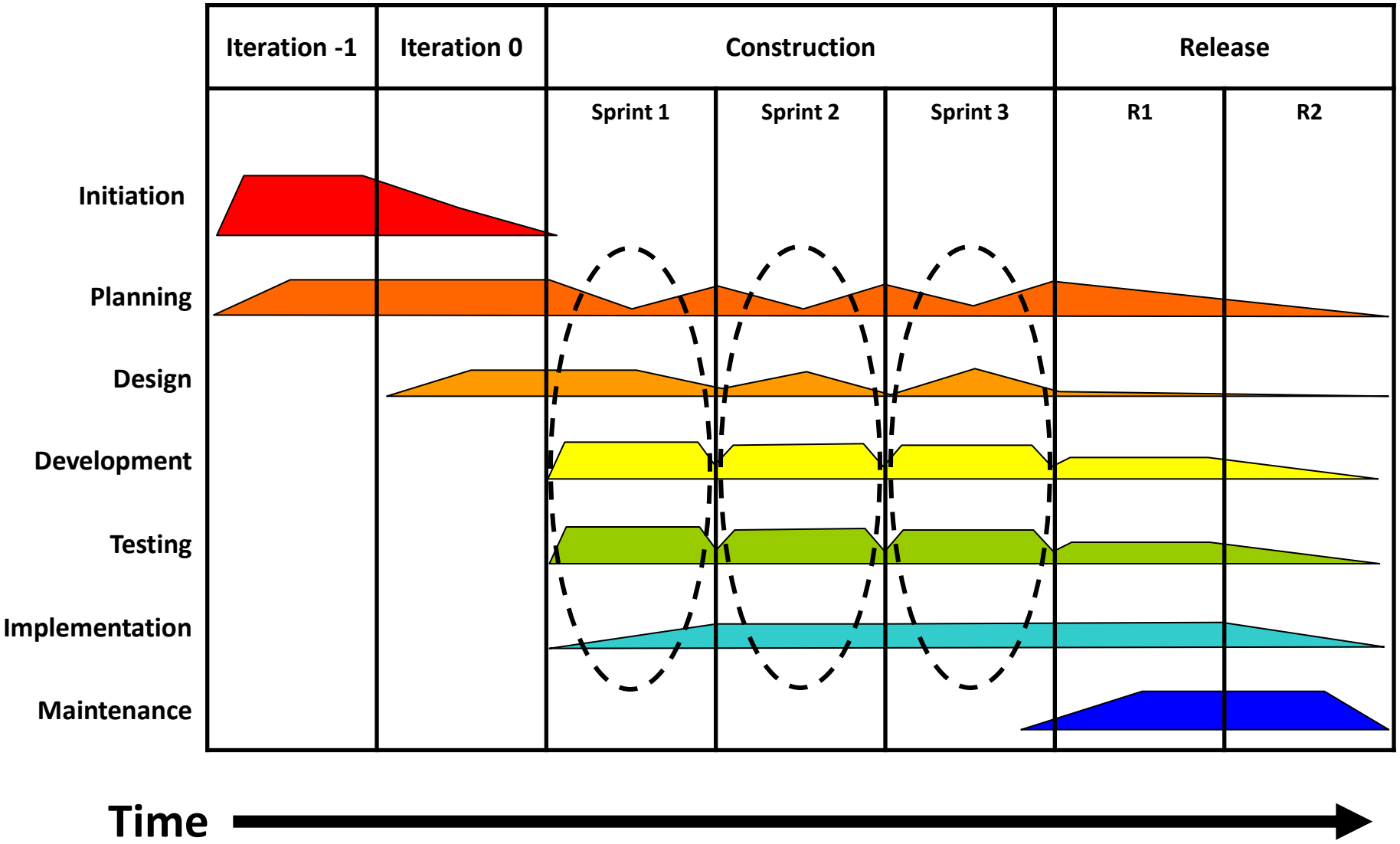
Maintenance

Iterative & Incremental (IID)



Agile


Iteration -1
Iteration 0
Construction
Release
Sprint 1
Sprint 2
Sprint 3
R1
R2
Initiation
Planning
Design
Development
Testing
Implementation
Maintenance
Time