

twitter
@yuvalyeret

Scaling Kanban

Using Kanban to create and manage product development flow at the program/portfolio level

Yuval Yeret
Kanban Lead - AgileSparks

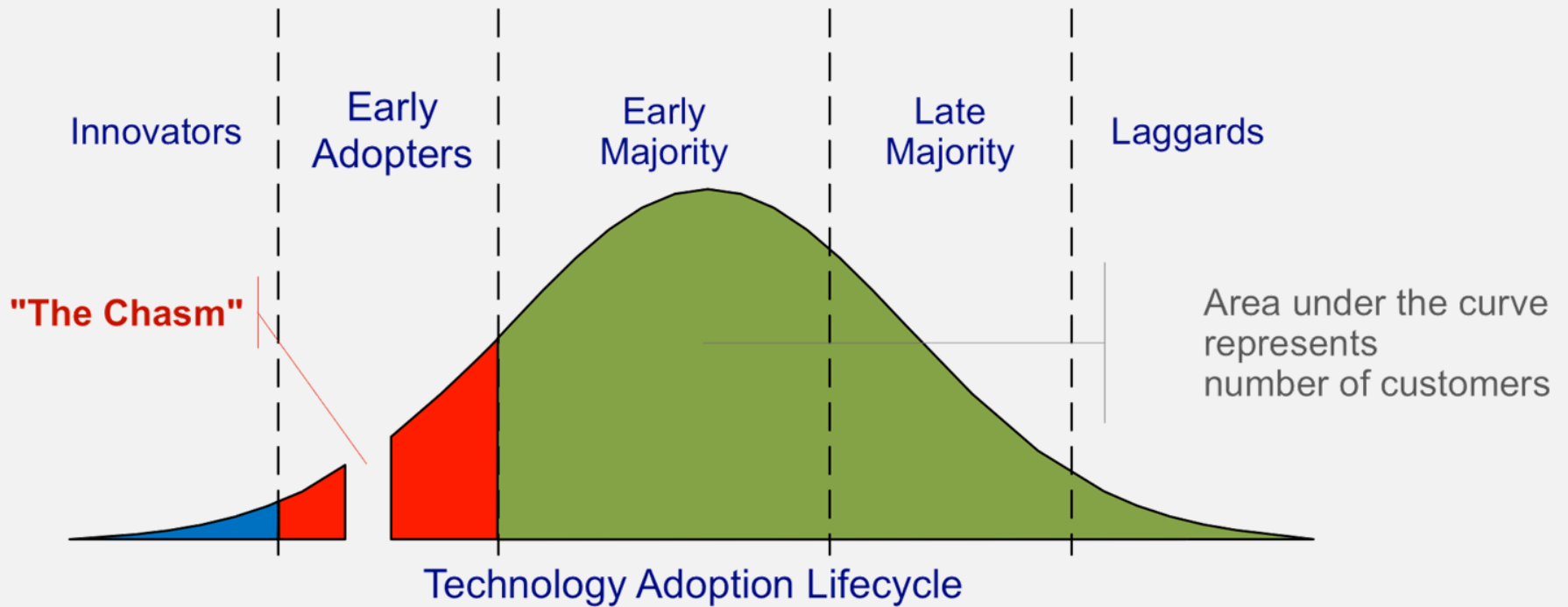


Lean/Kanban @ Israel



A: Scaling+Kanban

What is the Question?



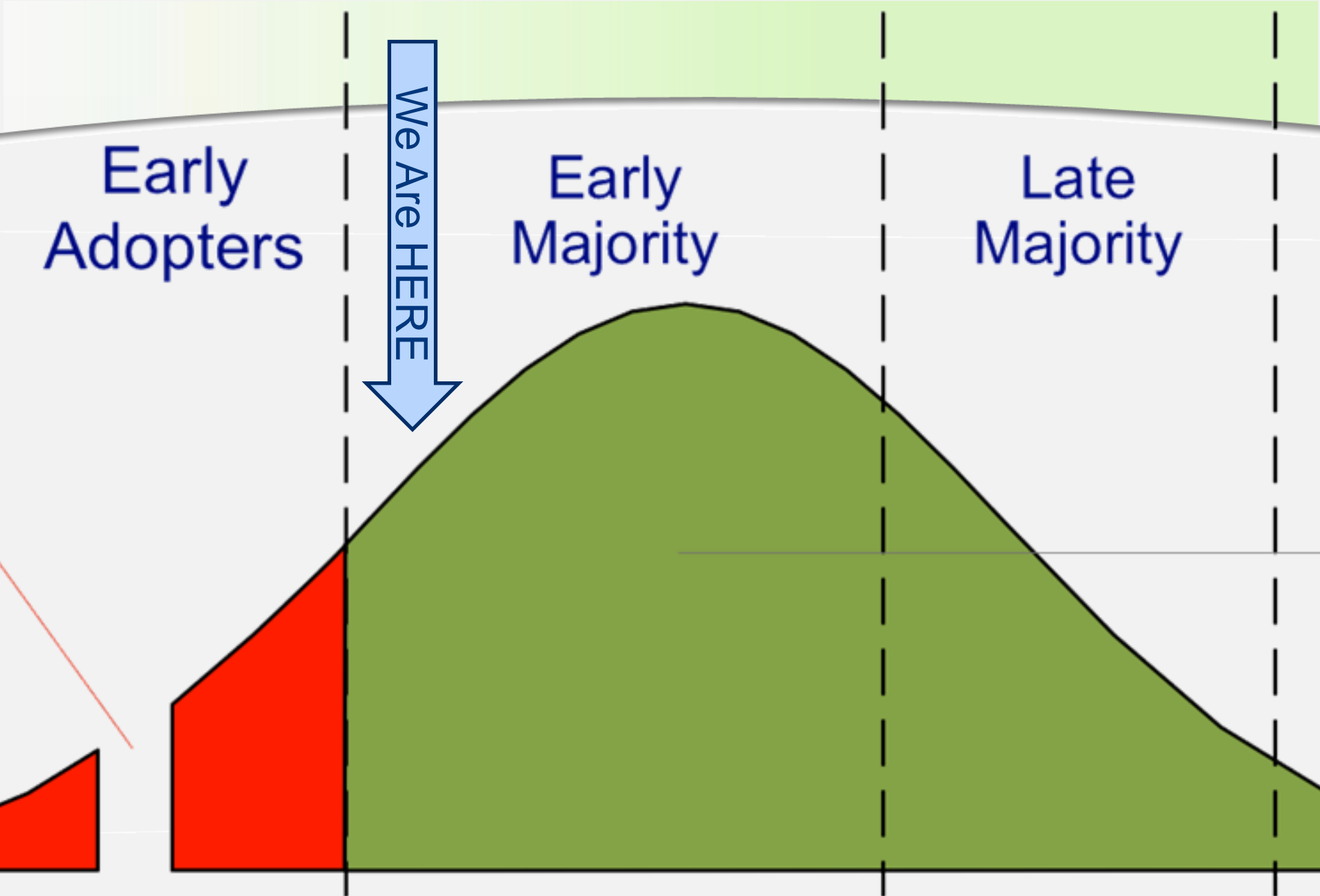
Geoffrey Moore's - Crossing the Chasm

Early
Adopters

We Are HERE

Early
Majority

Late
Majority



Geoffrey Moore's - Crossing the Chasm

@yuvalyeret

AgileSparks

Early Majority Pragmatic Enterprises

**Risk
Averse**

**Allergic
To
Dogma**

**Expect
Whole
Solutions**

**Complex
Environments**

**Lots of
Legacy/Debt**

So Lean/Agile approaches as of 2011 need to...

**Help
manage
Risk**

**Be
context-
Specific**

**Develop a
complete
picture**

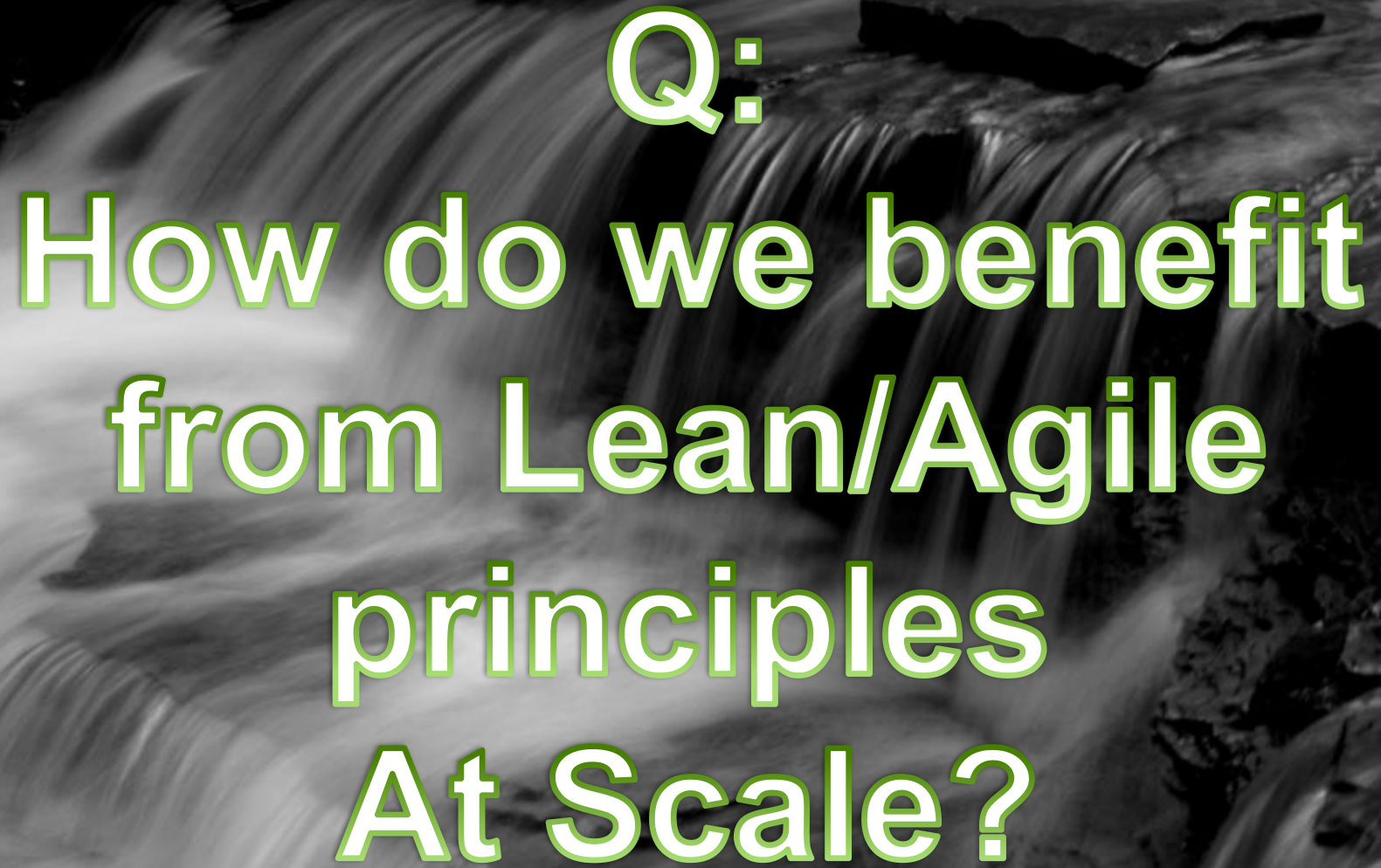
**Answer issues of
Scale and Legacy**

**Not be
huge Risks
themselves**

**Without requiring
day 0 Overhauls**

Some enterprise challenges we encounter

“Doing agile at the team level is fine. But how do we deal with the things we cannot get into the team?”



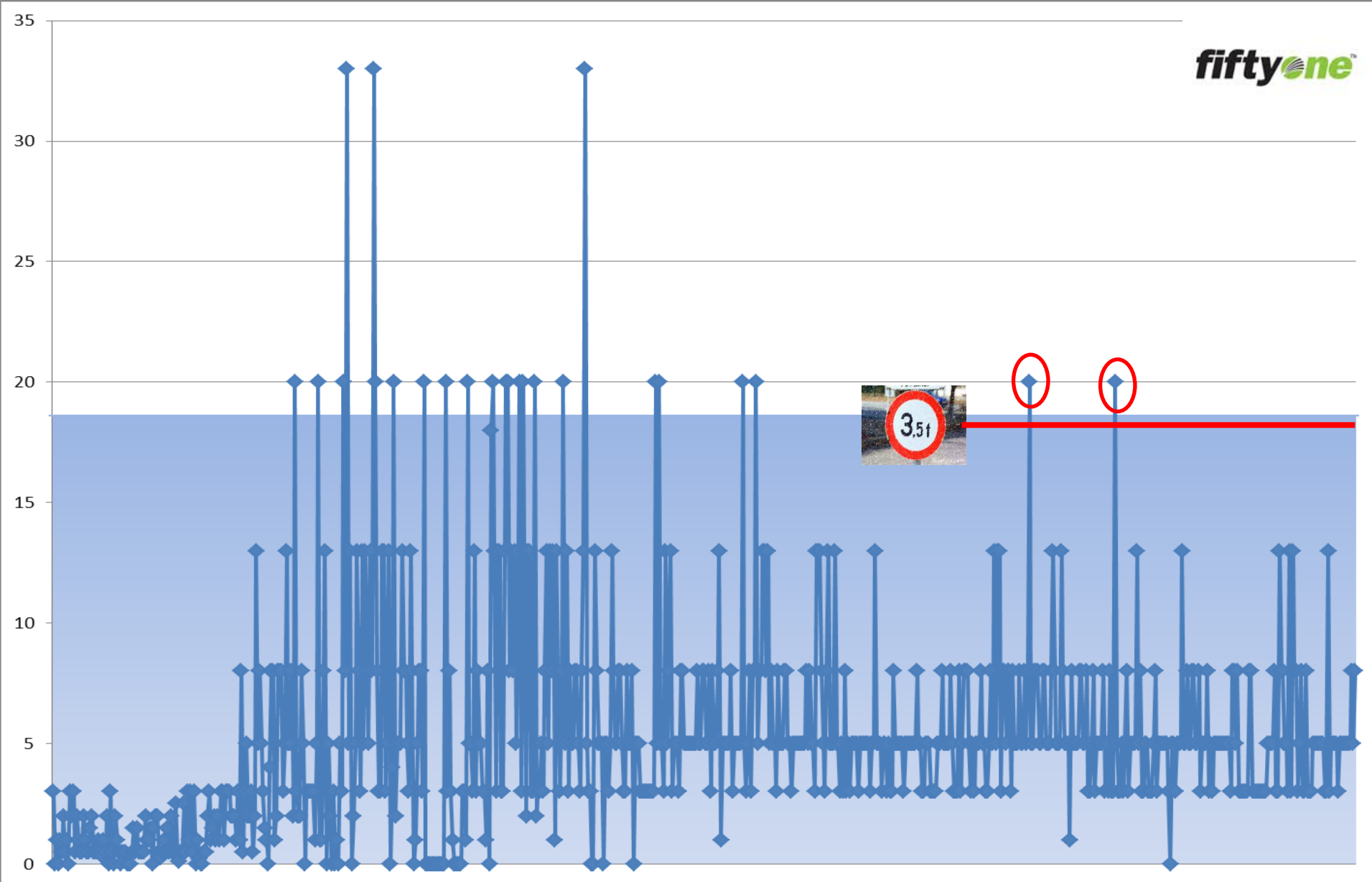
Q:
**How do we benefit
from Lean/Agile
principles
At Scale?**



Step #1: identify and work with
minimally valuable features

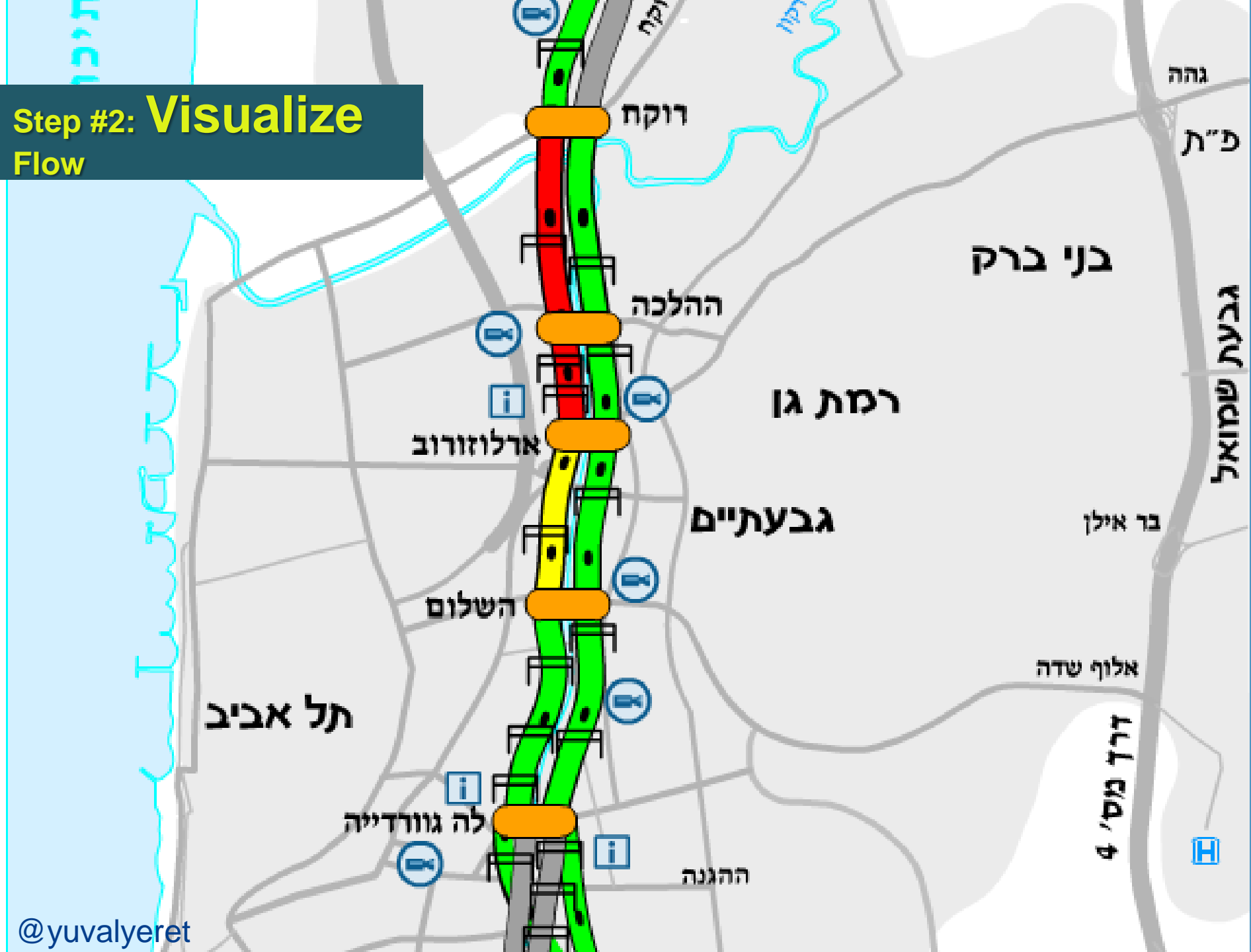


Limit the size of work - **at all levels**

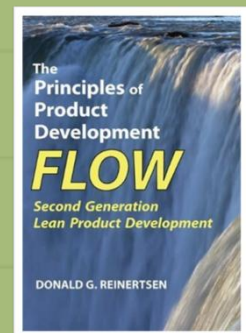
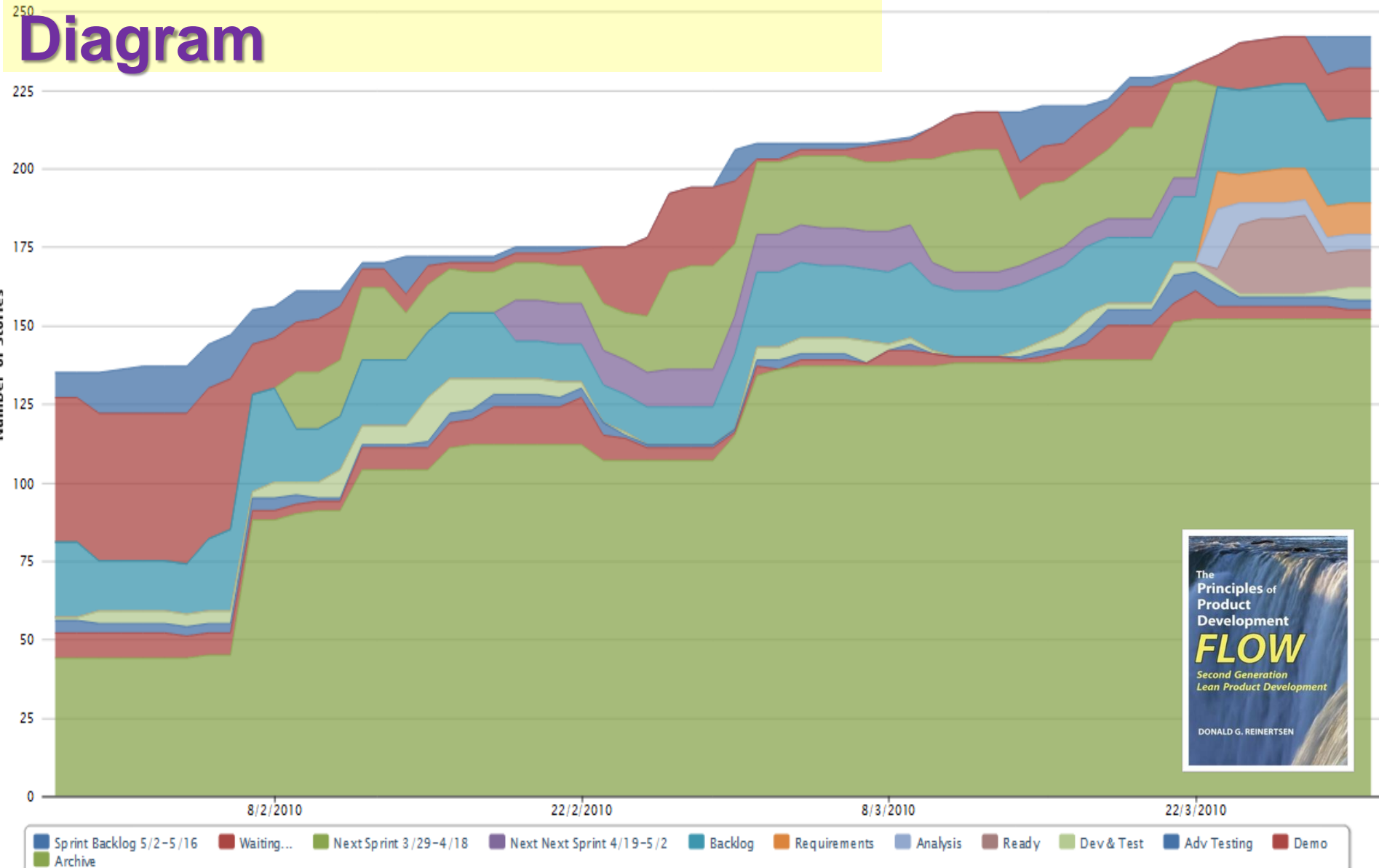


Visibility – Monitor and control the size of work

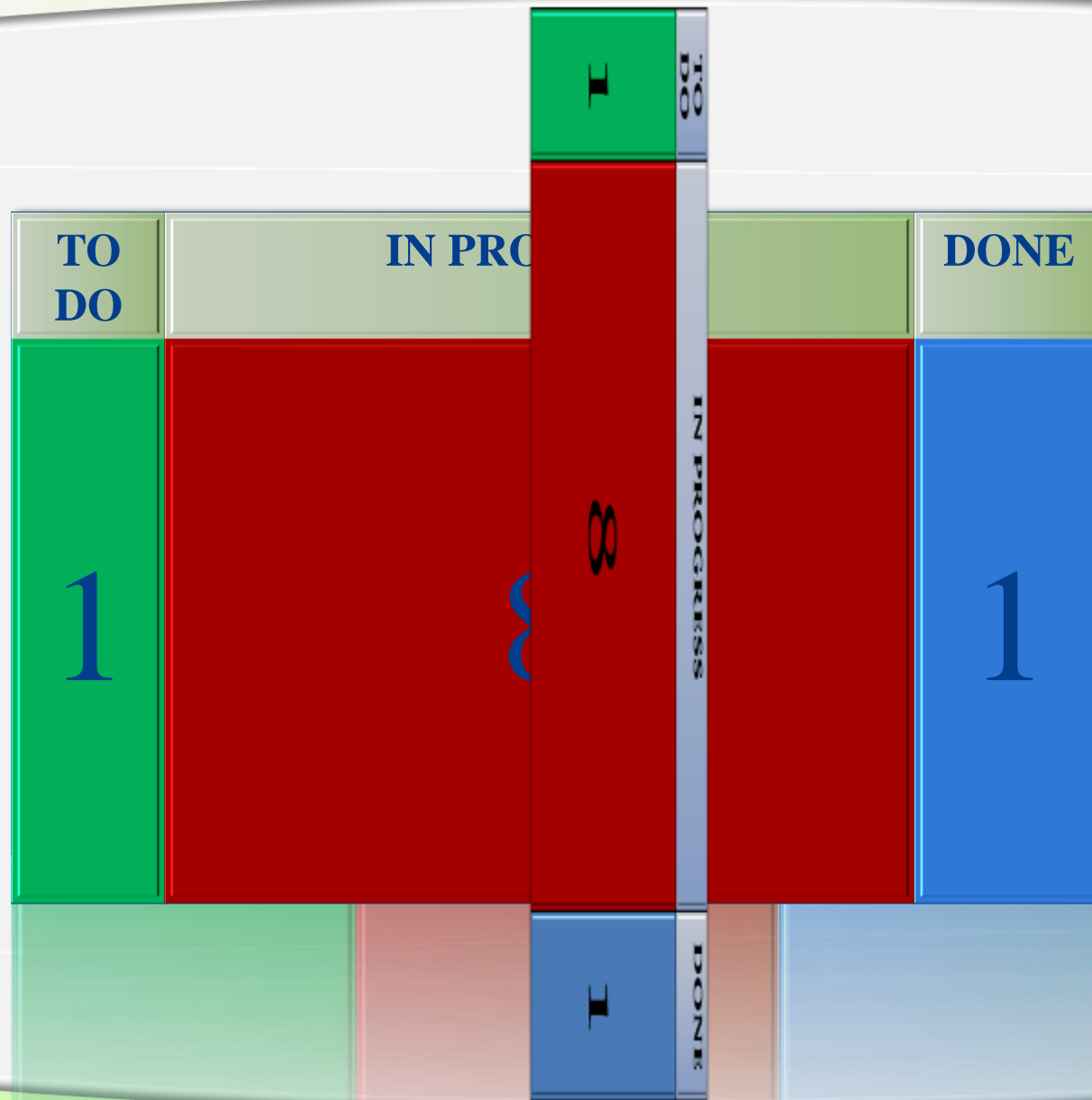
Step #2: Visualize Flow



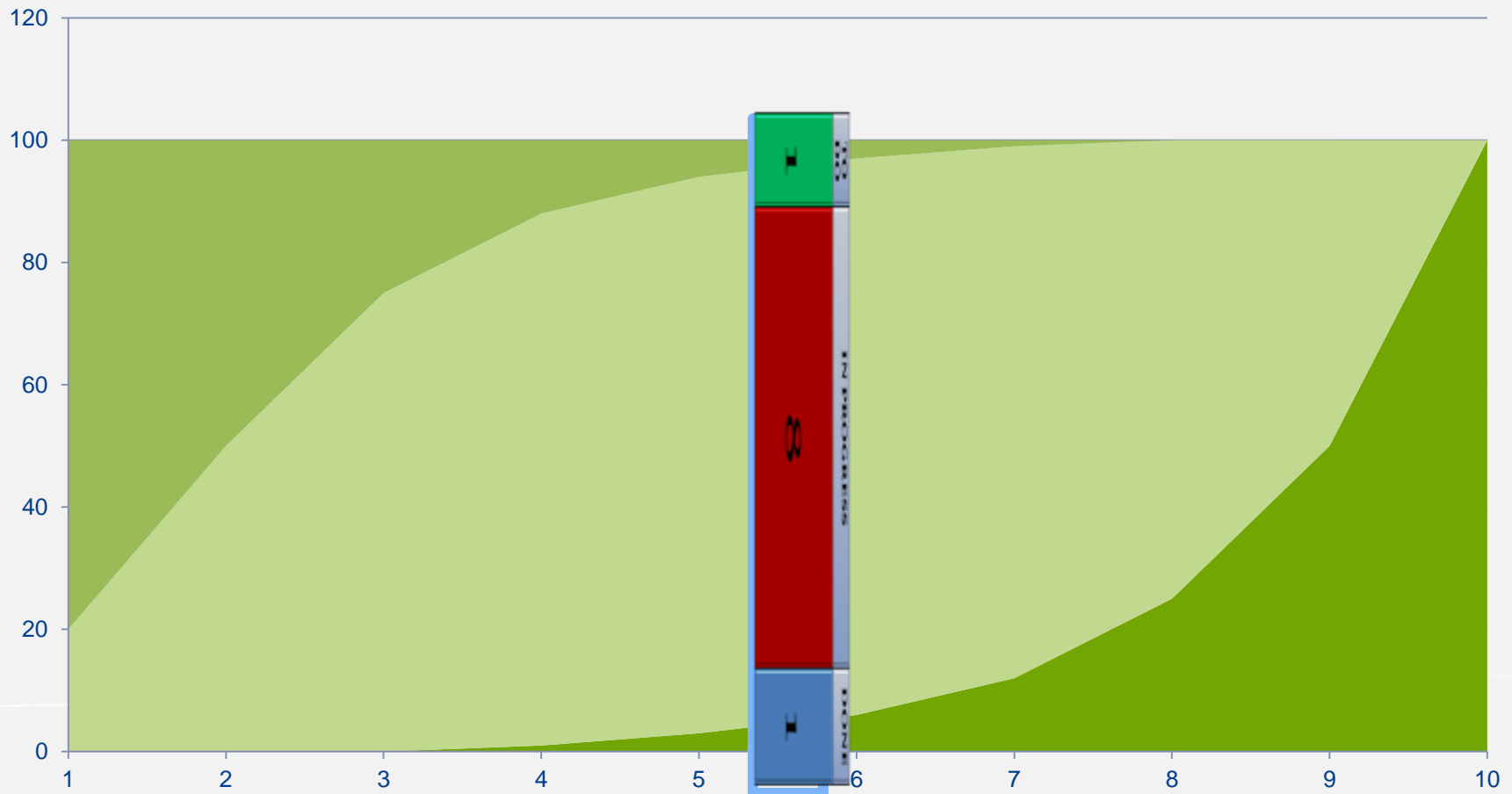
Tool: The Cumulative Flow Diagram



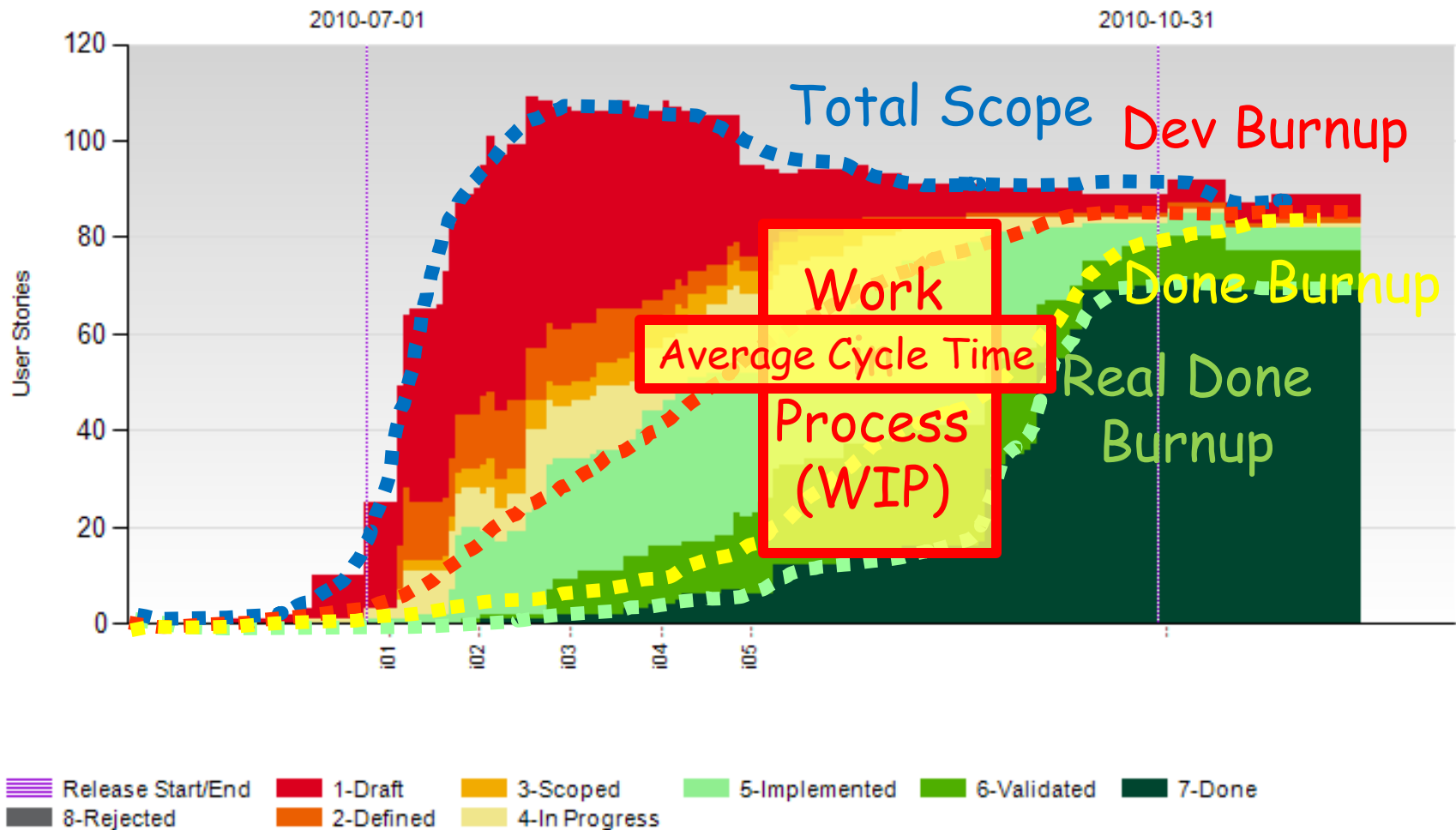
How to do a CFD



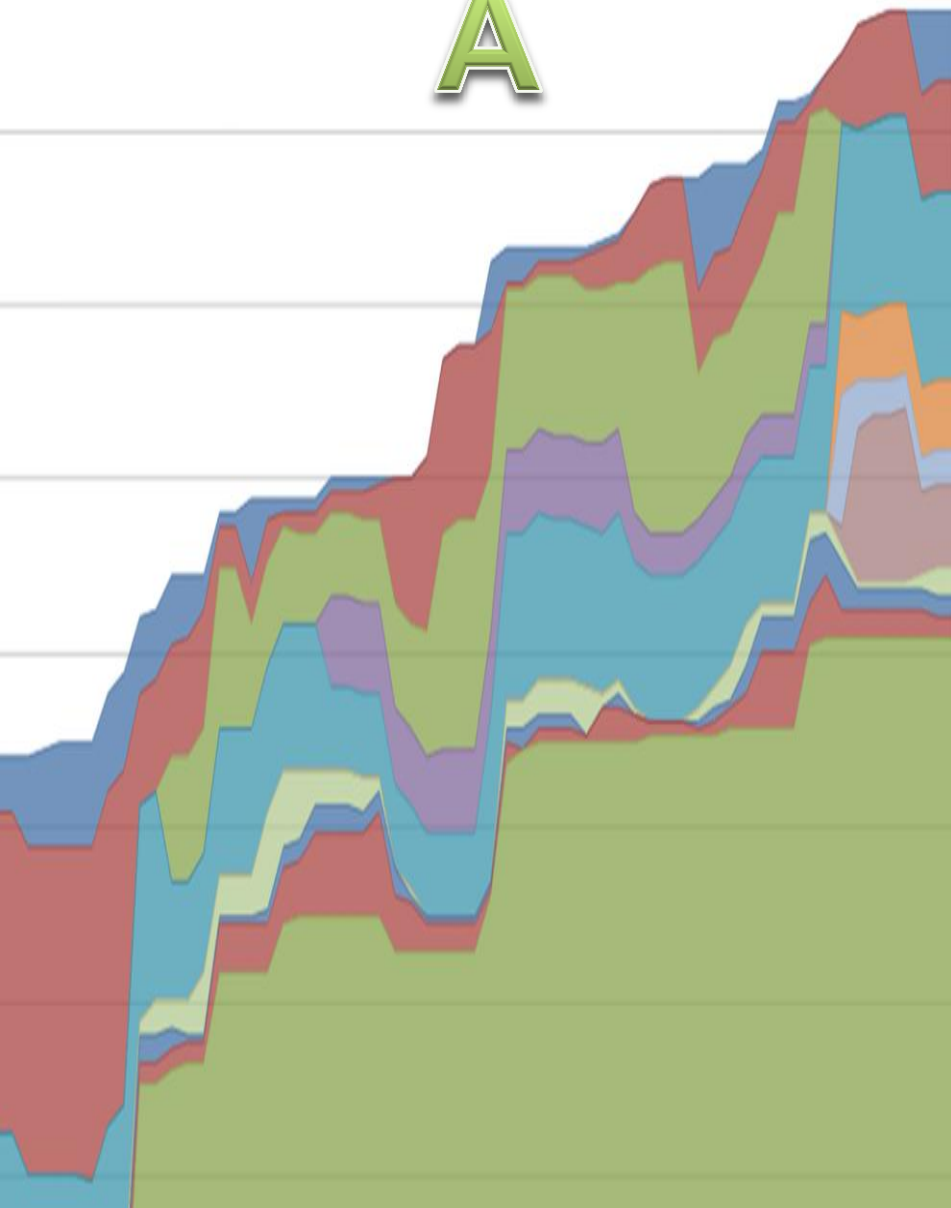
How to do a CFD



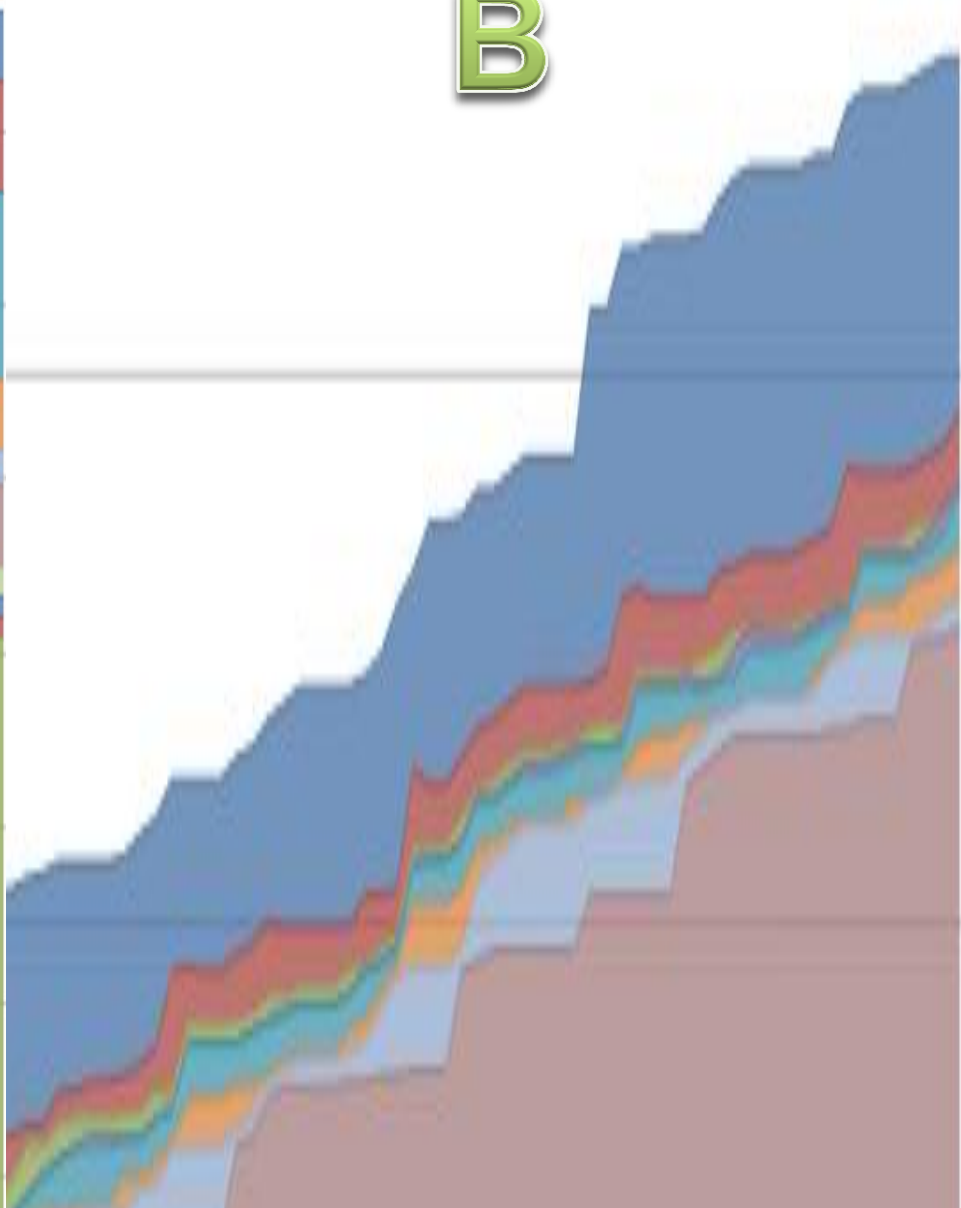
What can teams learn from Cumulative Flow?



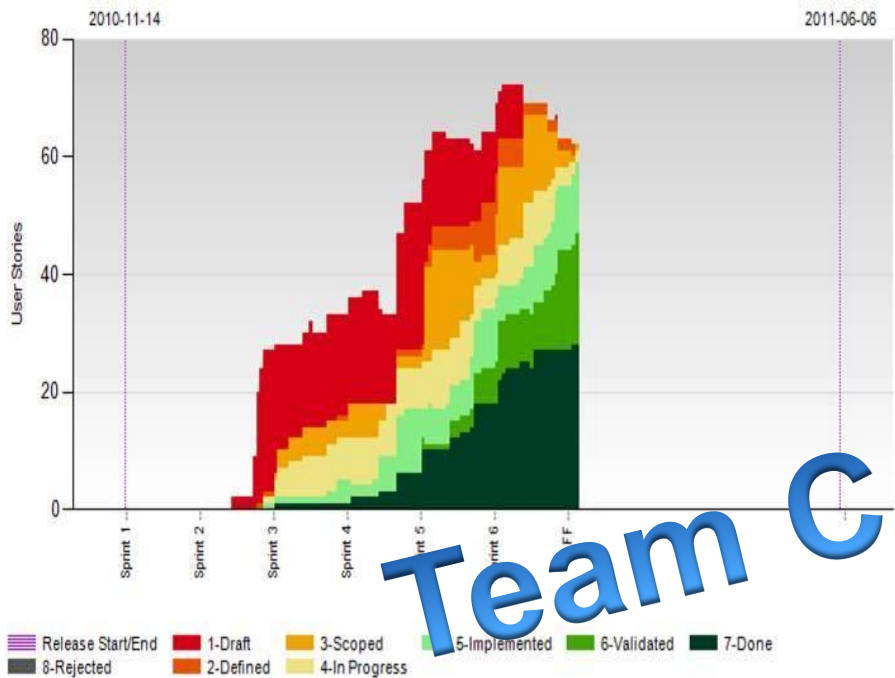
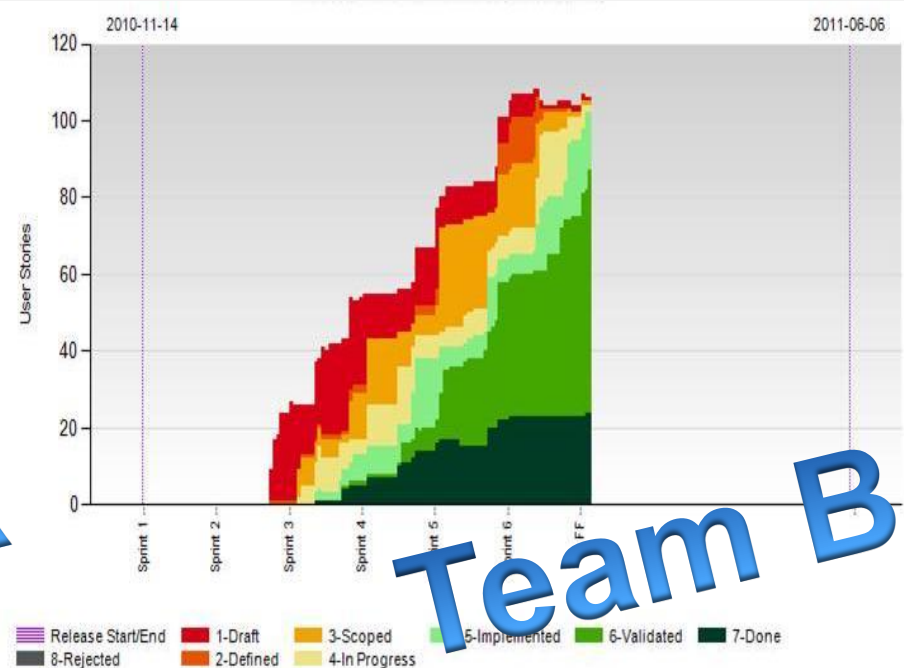
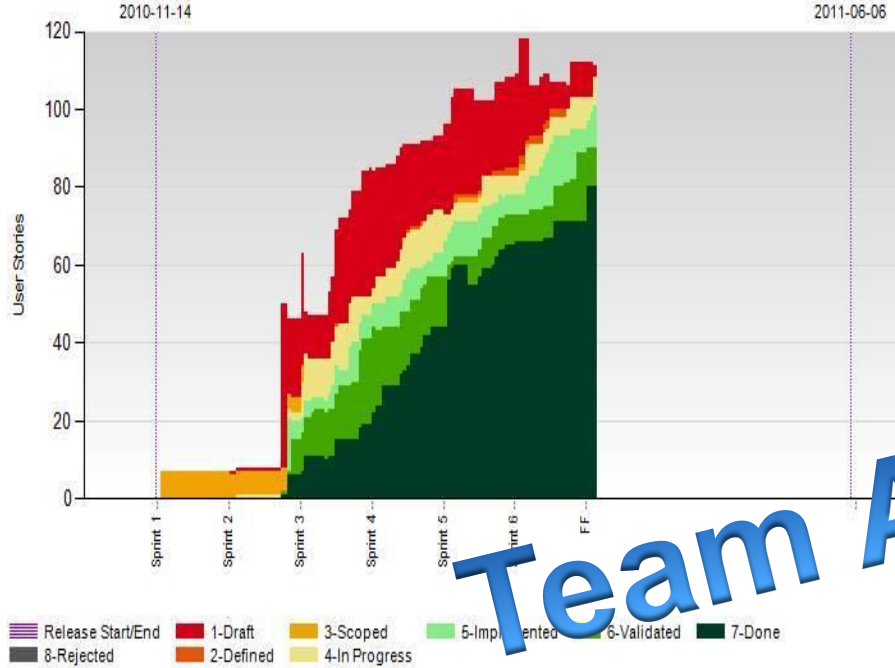
A



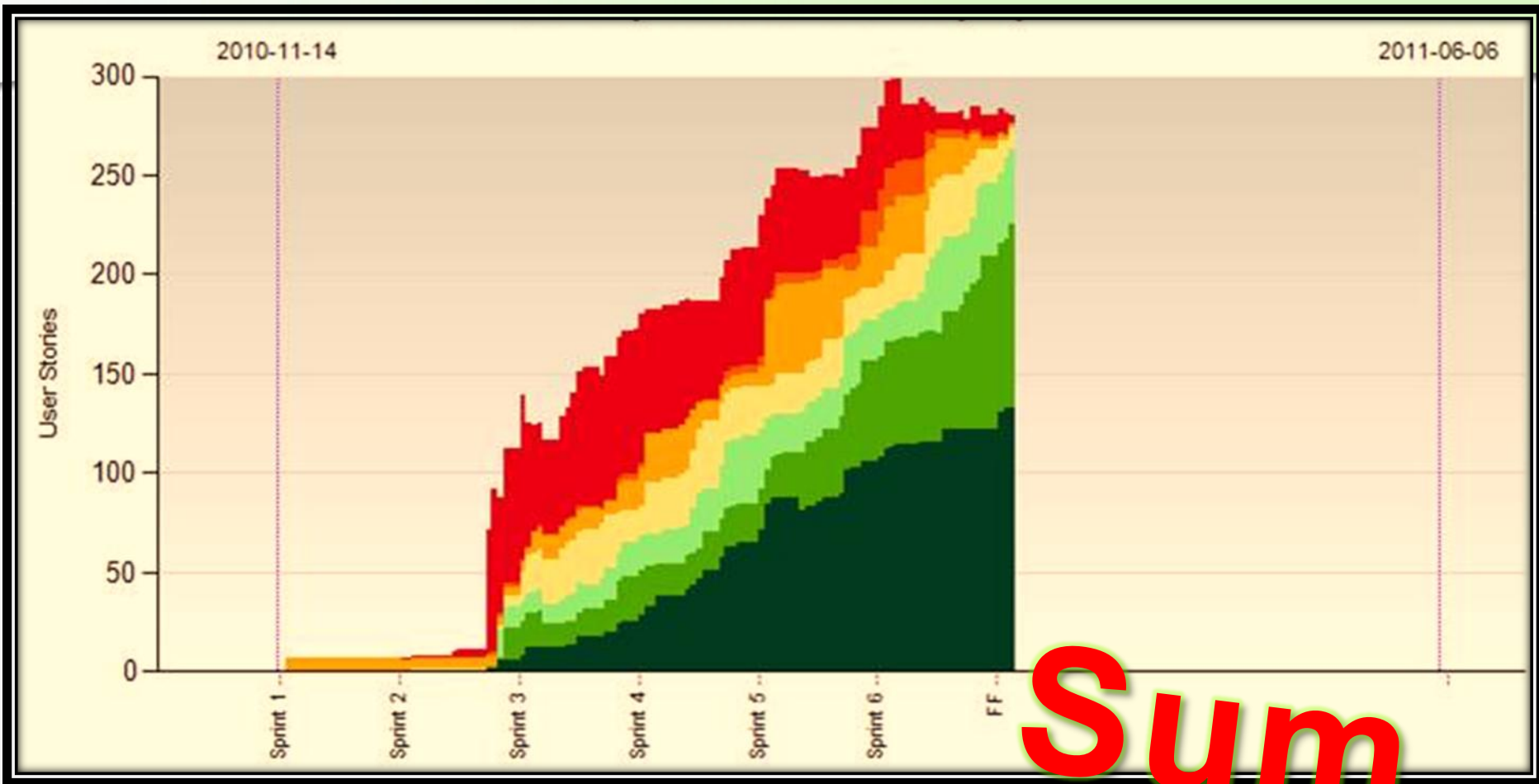
B



Which is **BETTER**?

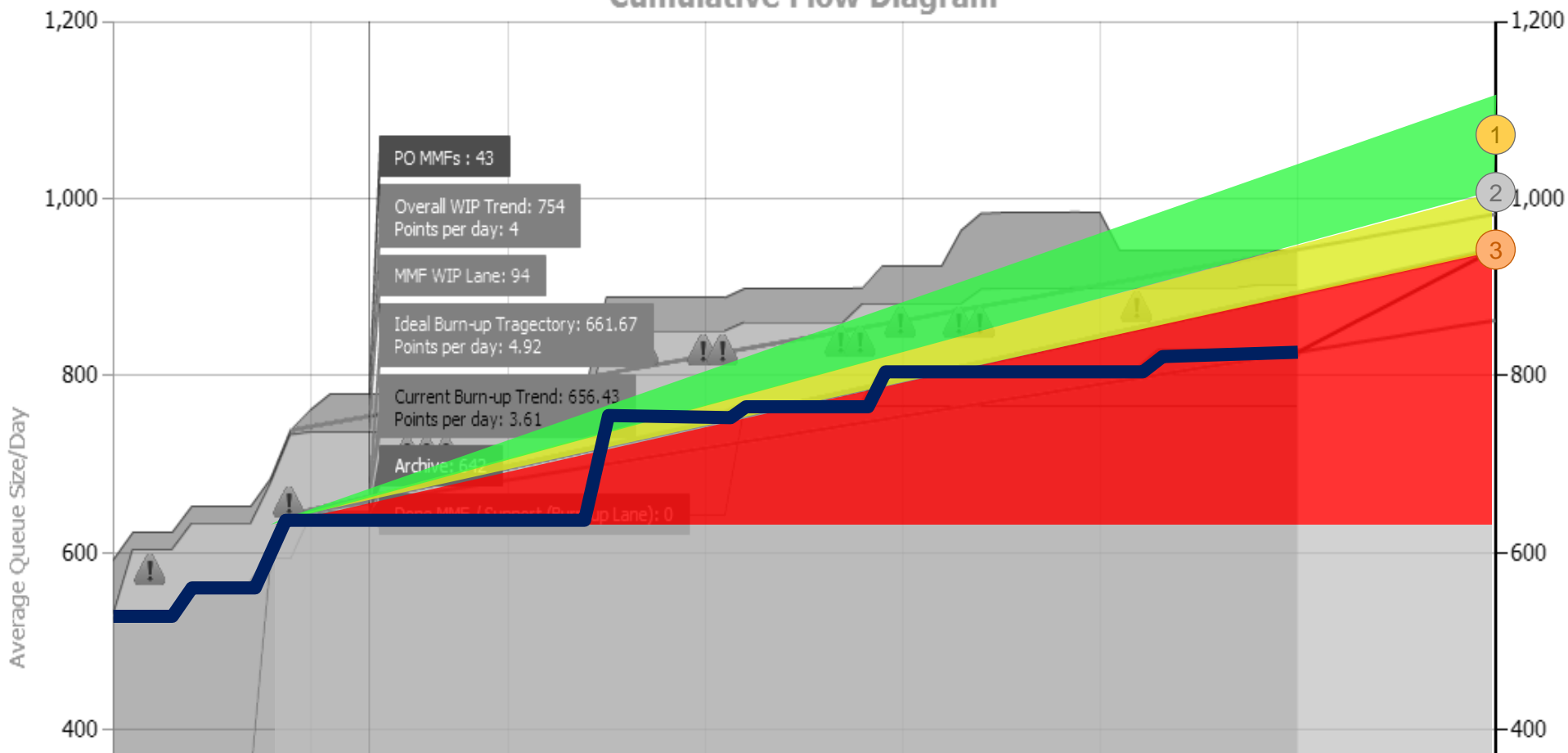


Now
What?



Sum
(A+B+C)

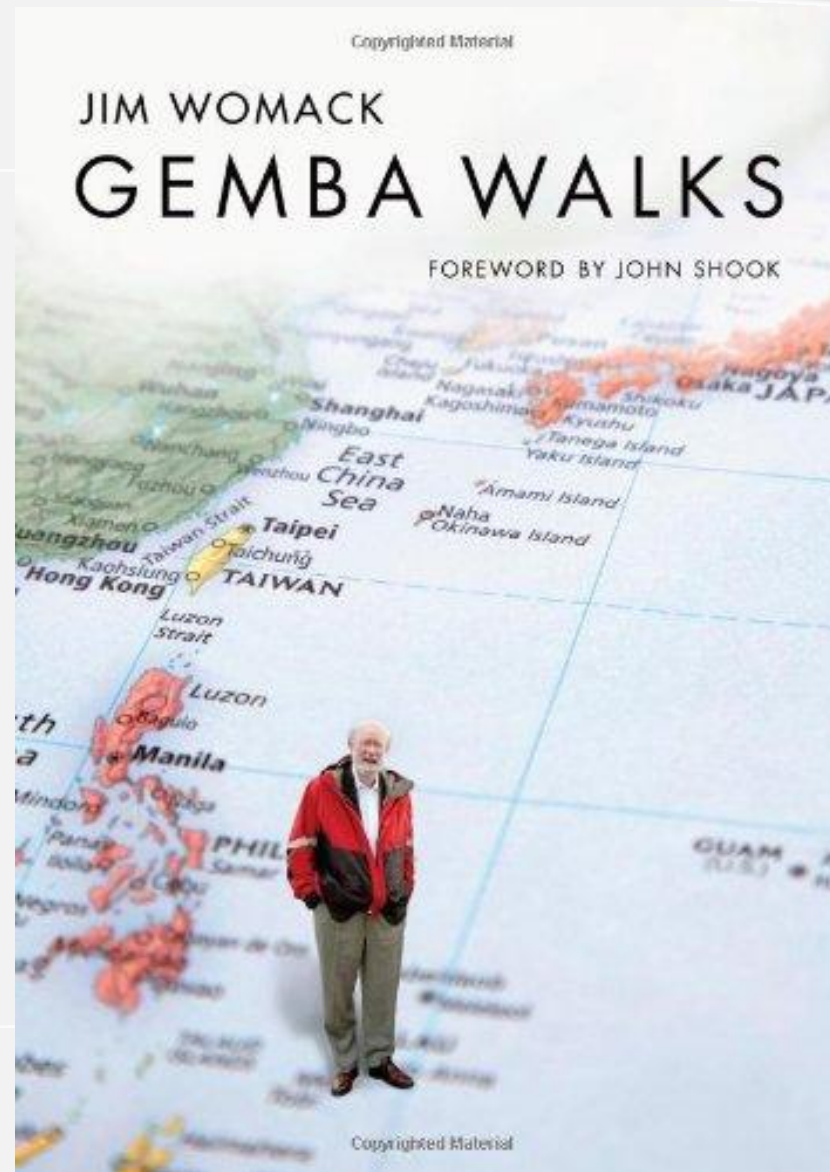
Cumulative Flow Diagram



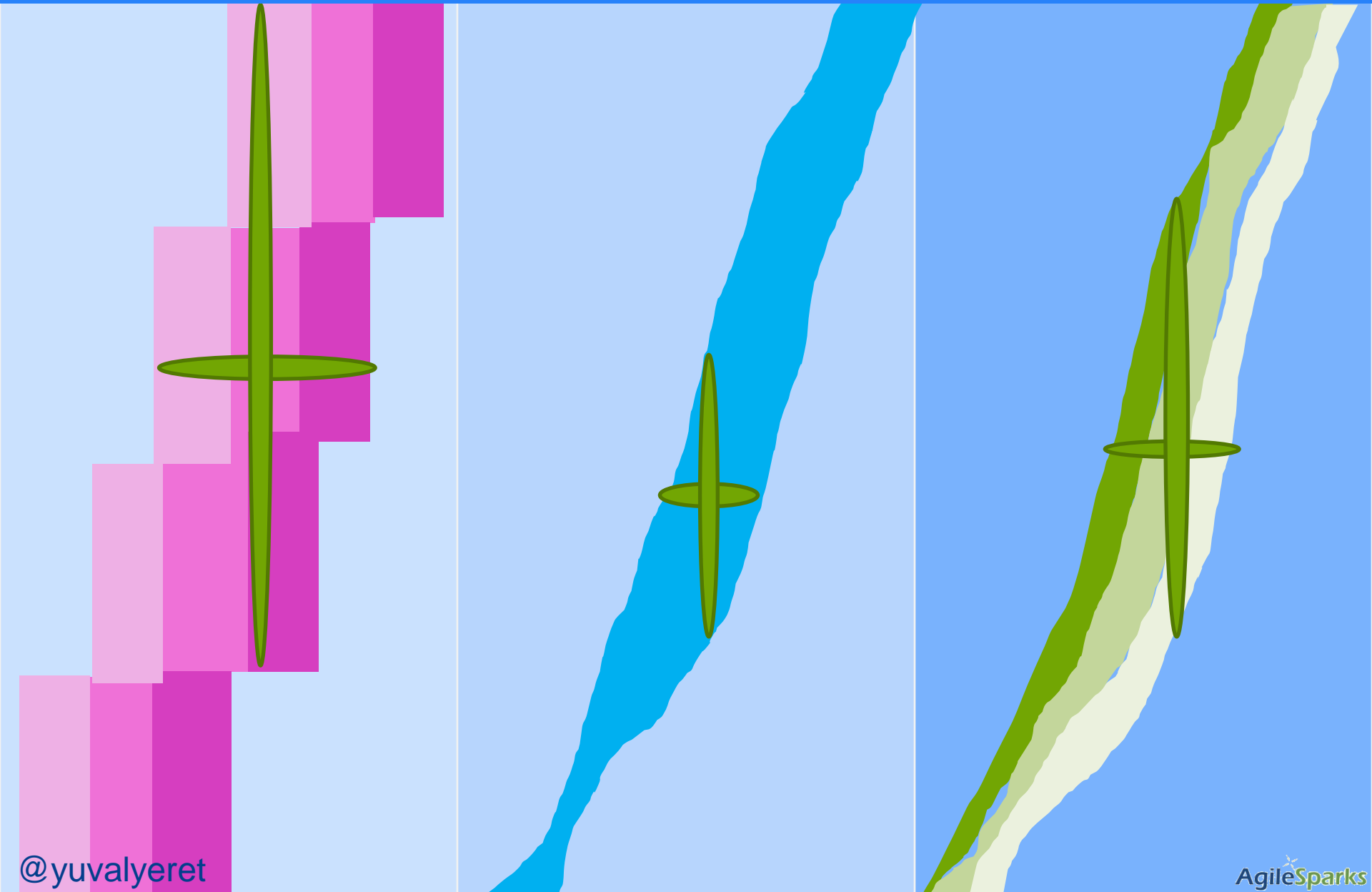
Program-level Aggregate CFD

Visualize Overall Progress

Nice reports are not enough!



Can you tell what these represent?



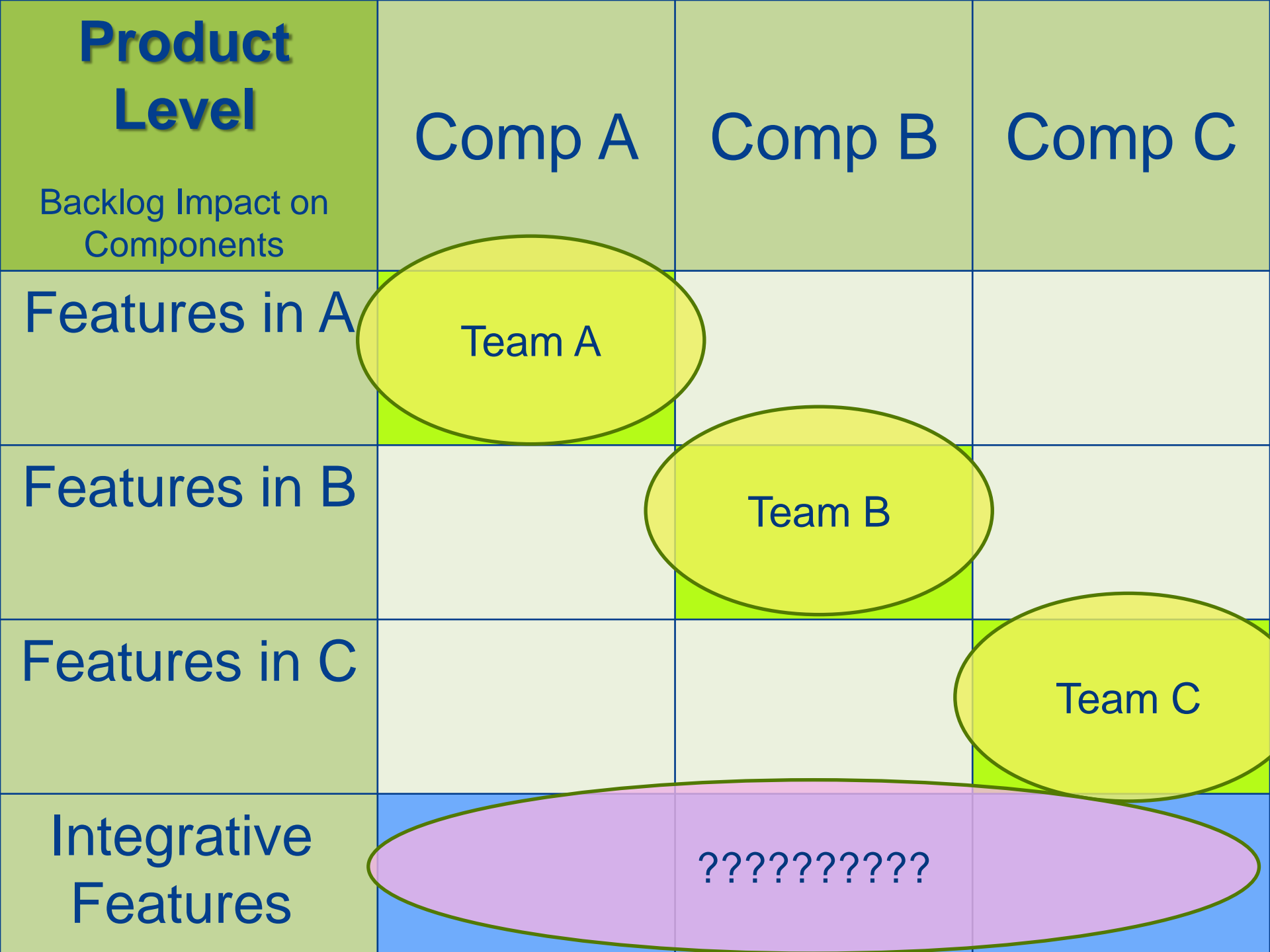
Some “smells” we see out there

Longer Sprints

**Sprint
Synchronized
Handoffs**

**Agile Teams
Waterfall Release**

Product Level	Comp A	Comp B	Comp C
Backlog Impact on Components			
Features in A			
Features in B			
Features in C			
Integrative Features			



Product Level

Comp A

Comp B

Comp C

Backlog Impact on Components

Features in A

Team A

Features in B

Team B

Features in C

Team C

Integrative Features

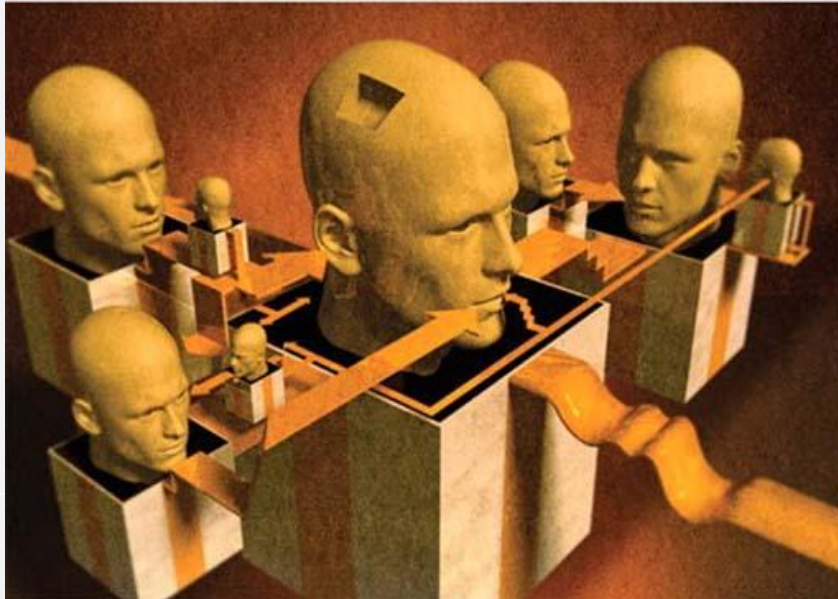
????????????

Learn about Feature Teams

Scaling Lean & Agile Development

Thinking and Organizational Tools
for Large-Scale Scrum

Craig Larman
Bas Vodde



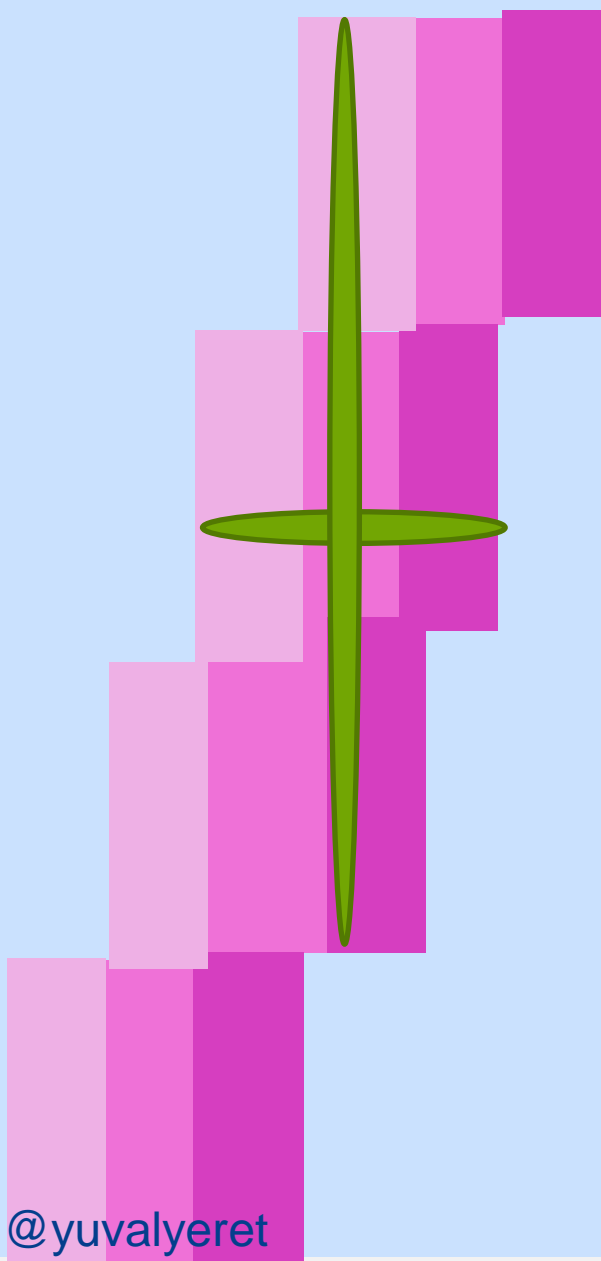
Practices for Scaling Lean & Agile Development

Large, Multisite, and Offshore Product Development
with Large-Scale Scrum

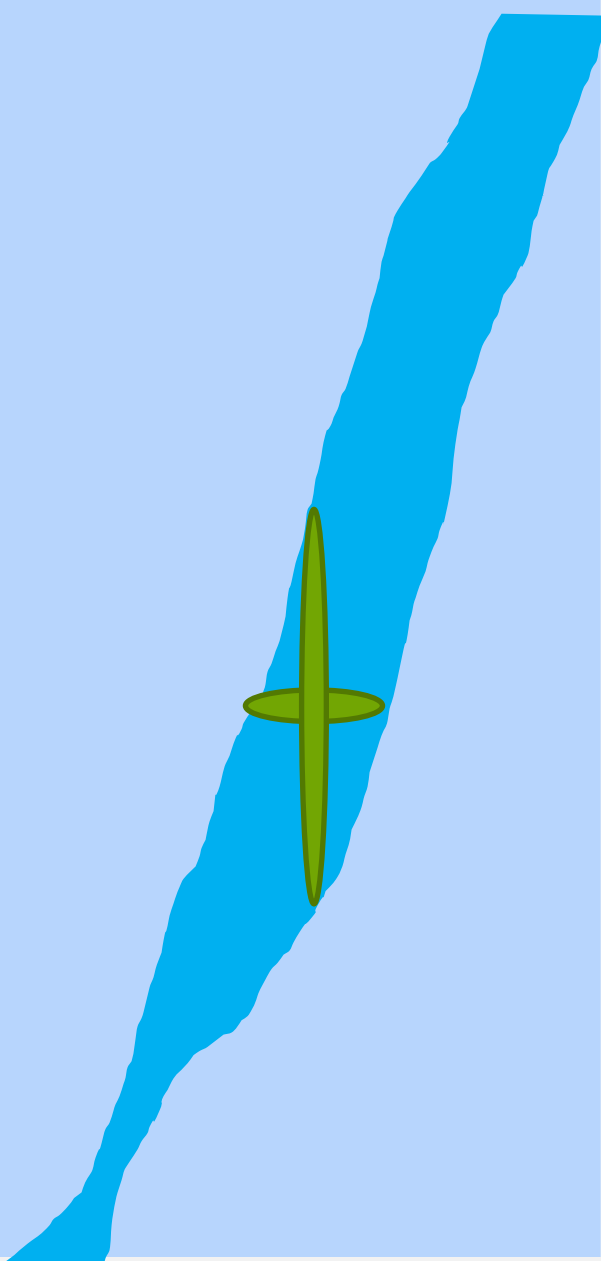
Craig Larman
Bas Vodde



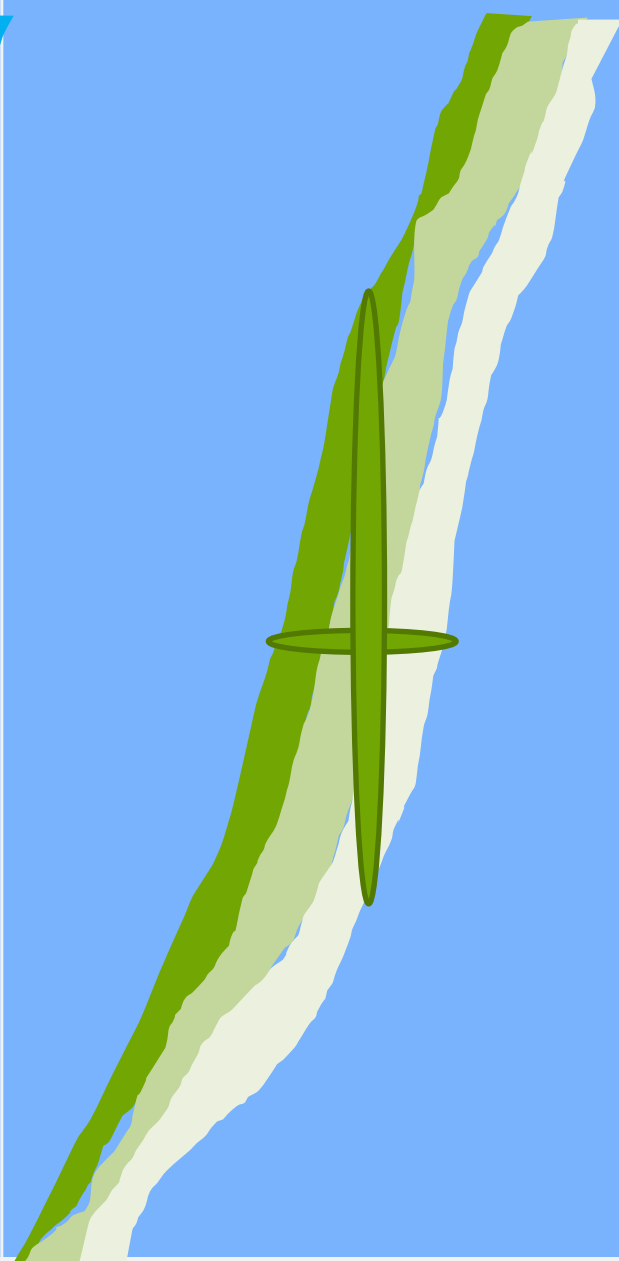
Iterations between Component Teams



Feature Teams



Flow between Component Teams

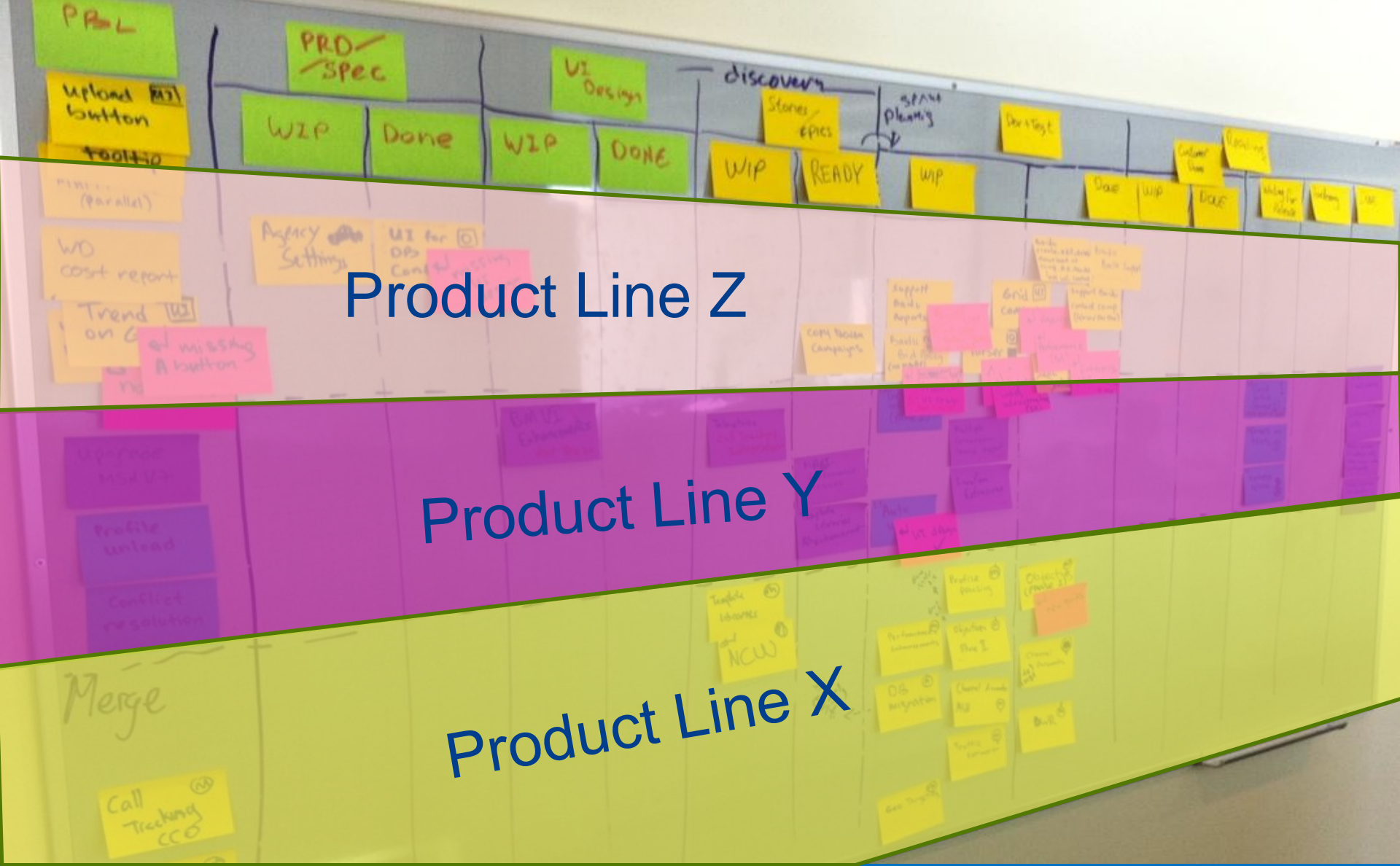


Now – Lets Scale!



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Swimming Lanes per Product



TeamPlayer - Version 6.0 - Joshua

Product Backlog Iteration Backlog Sprint Backlog Whiteboard

XPI - Cross Portfolio Installation F... Funding Release , FY09, FY10, Nepal
Filtered Project View Funding SP , Main Release, Main R...
Product/Component Filter Funding

Eden EVM Reports Legend Galileo
General Display Epic Hierarchy
Epic Hierarchy

Project Details Project Board Project's Epics
Settings Projects Projects: XPI Nepal SP1 Enhanc... Notes Visibility: Standard Display, Hidd...

Backlog	Requirements (WIP: ∞, ∞ Days)	Solution Overview (WIP: ∞, ∞ Days)	High Level Design (WIP: ∞, 7 Days)	Sprint Readiness (WIP: ∞, ∞ Days)	Development & Software Demonstration (WIP: ∞, ∞ Days)	Packaging (WIP: ∞, ∞ Days)
	In Progress FP:N/A Done FP:N/A	In Progress FP:N/A Done FP:N/A	In Progress FP:68.00 Done FP:20.00	In Progress FP:N/A Done FP:78.00	In Progress FP:N/A Done FP:N/A	In Progress FP:N/A Done FP:N/A
Feature 1940 - Fine Grained JEE Update		Epic 5088 - XPI - Topology changes Hosts Unificat	Feature 1332 - Persistent Private/Hot-fix Support	Feature 1333 - Topology Lifecycle support		
Epic 6926 - XPI - Adopt Foundations			Feature 1331 - Integration with Grid Resource manage	Epic 7104 - XPI - Remote Resource Administratio		
Epic 6489 - Unix Work Account Container			Feature 1341 - XPI Improvements	Epic 6491 - Tomcat Contain		
Epic 6483 - Update Wizard			Epic 6178 - XPI - Automatic resource allocation dur	Epic 7008 - XPI - Remove security repository con		
Epic 6485 - User Actions			Epic 5273 - XPI - Support installing existing priva	Epic 5269 - XPI - RM configuration and insta		
Epic 6488 - Client Kit Synchronization			Epic 5274 - XPI - Support delivering and install			
Epic 6476 - update JEE services - customizatio						
Epic 6476 - EAR injection						
Epic 6490 - Import PCI Utilities						

Flow →

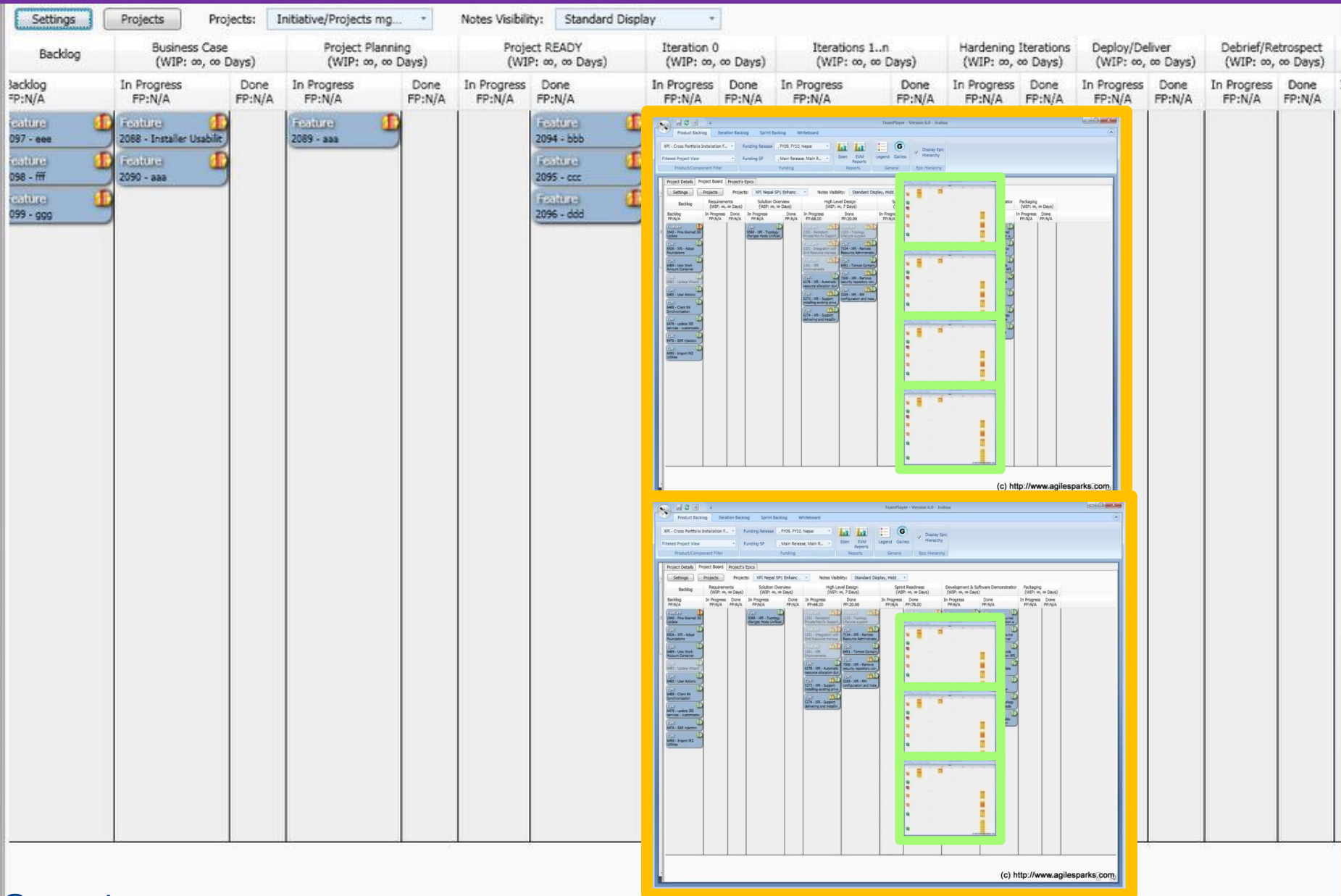
READY!

DONE

@yuvalyeret (c) <http://www.agilesparks.com>

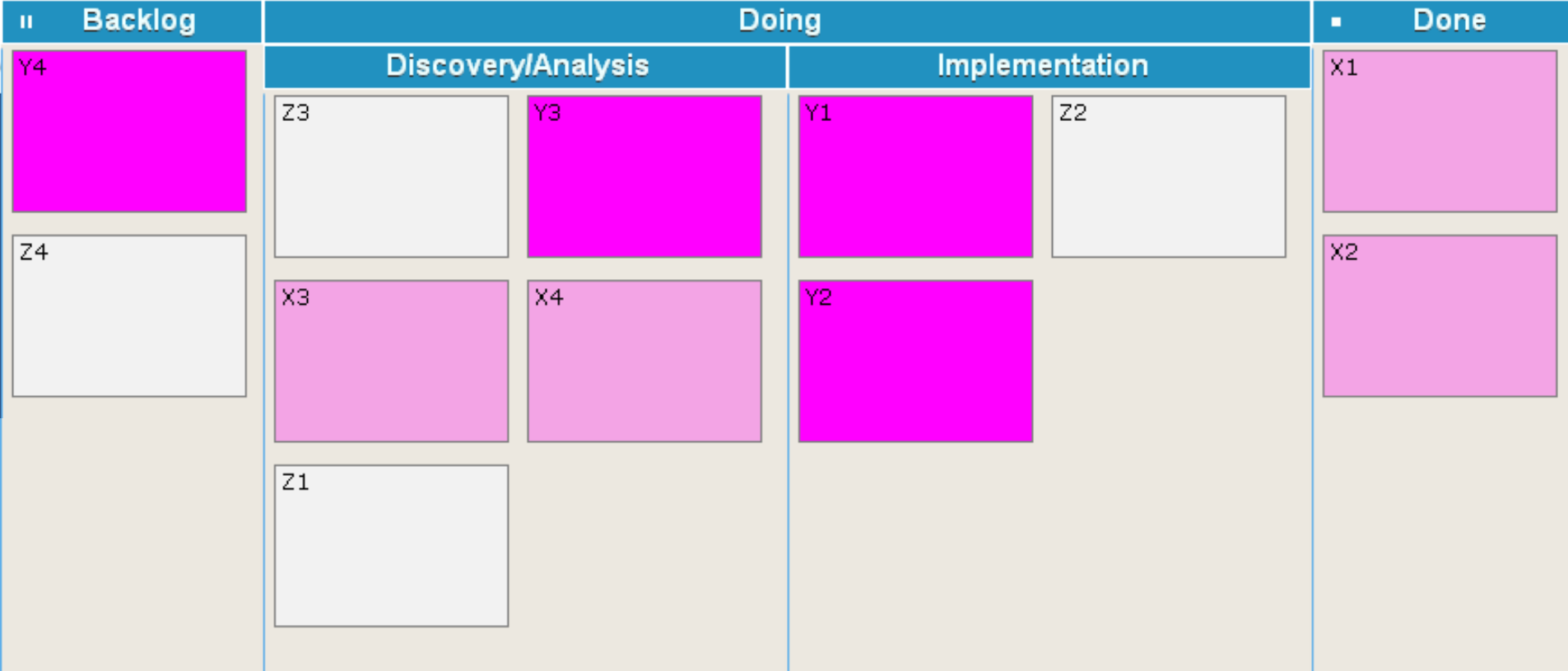
Amdocs Project/Component Kanban Board

Initiative/Program Kanban Board

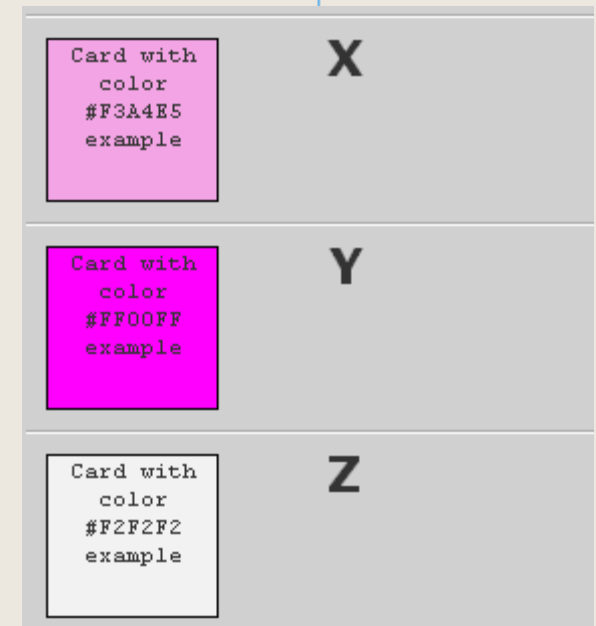




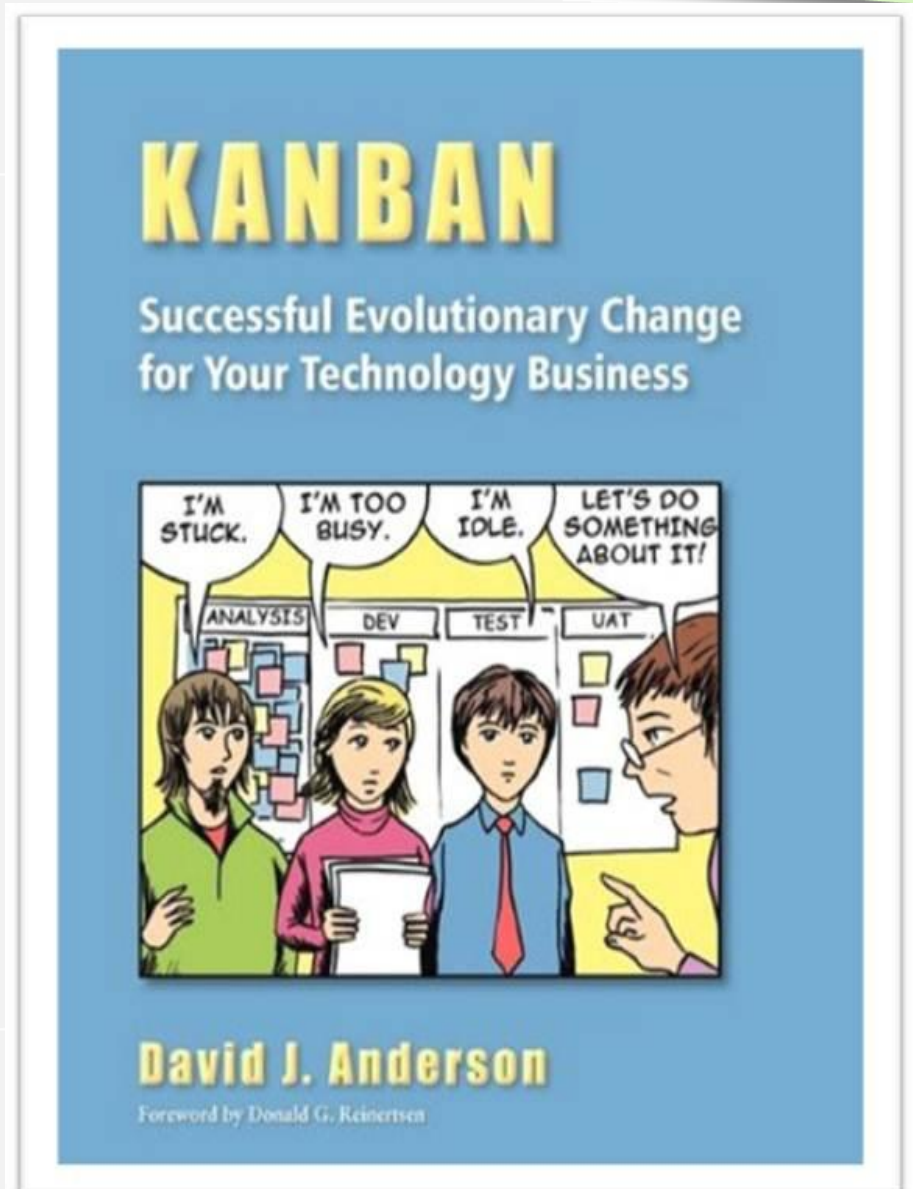
Projects Portfolio for a large IT shop



Or... Use
Colors

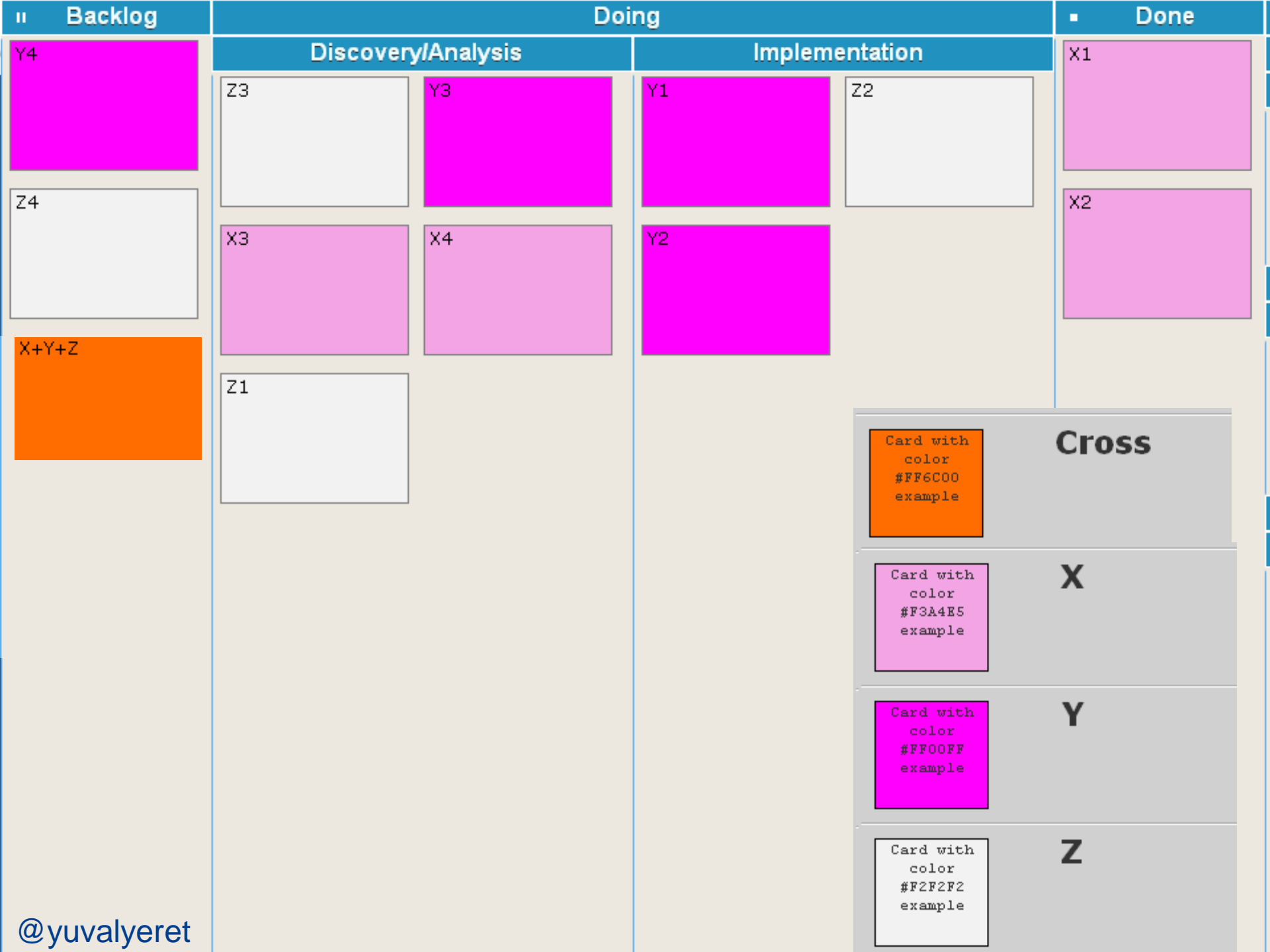


Learn more about Kanban





That was **EASY**
What about...



Portfolio/
Program Level

Backlog Impact on
Products

Product Z

Product X

Product Y

Features in Z

Backlog Impact on Components	Comp A	Comp B	Comp C
Features in A	High	Low	Low
Features in B	Low	High	Low
Features in C	Low	Low	High
Integrative Features	Medium	Medium	Medium

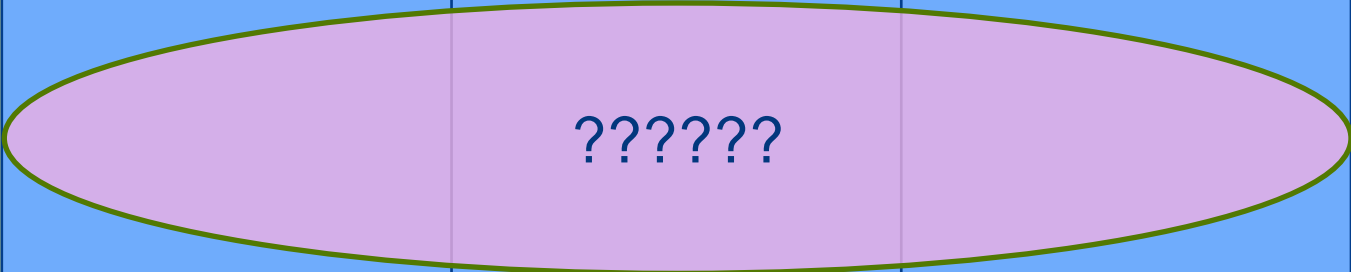
Features in Y

Backlog Impact on Components	Comp A	Comp B	Comp C
Features in A	High	Low	Low
Features in B	Low	High	Low
Features in C	Low	Low	High
Integrative Features	Medium	Medium	Medium

Features in X

Backlog Impact on Components	Comp A	Comp B	Comp C
Features in A	High	Low	Low
Features in B	Low	High	Low
Features in C	Low	Low	High
Integrative Features	Medium	Medium	Medium

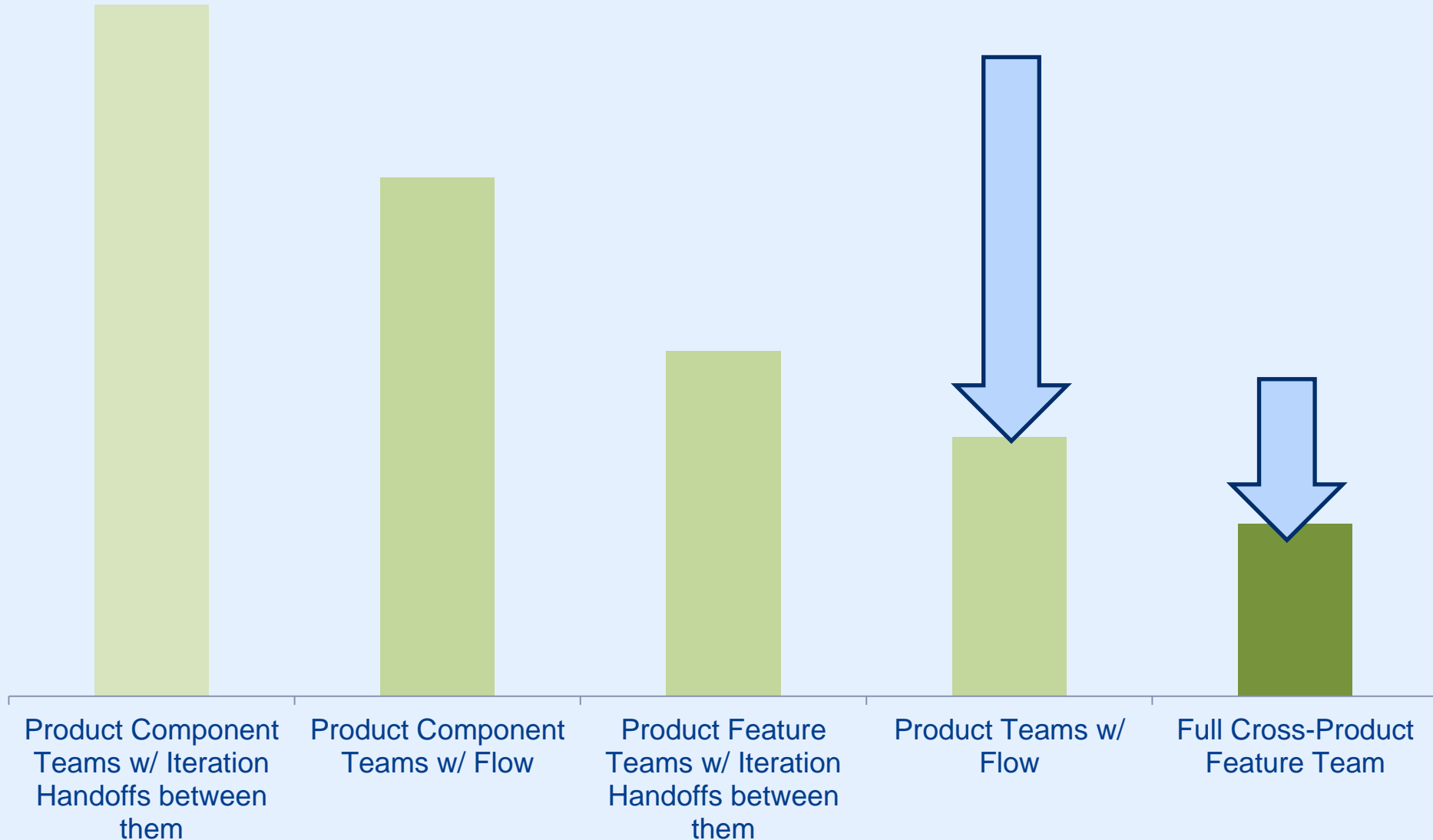
Cross-Product
Features

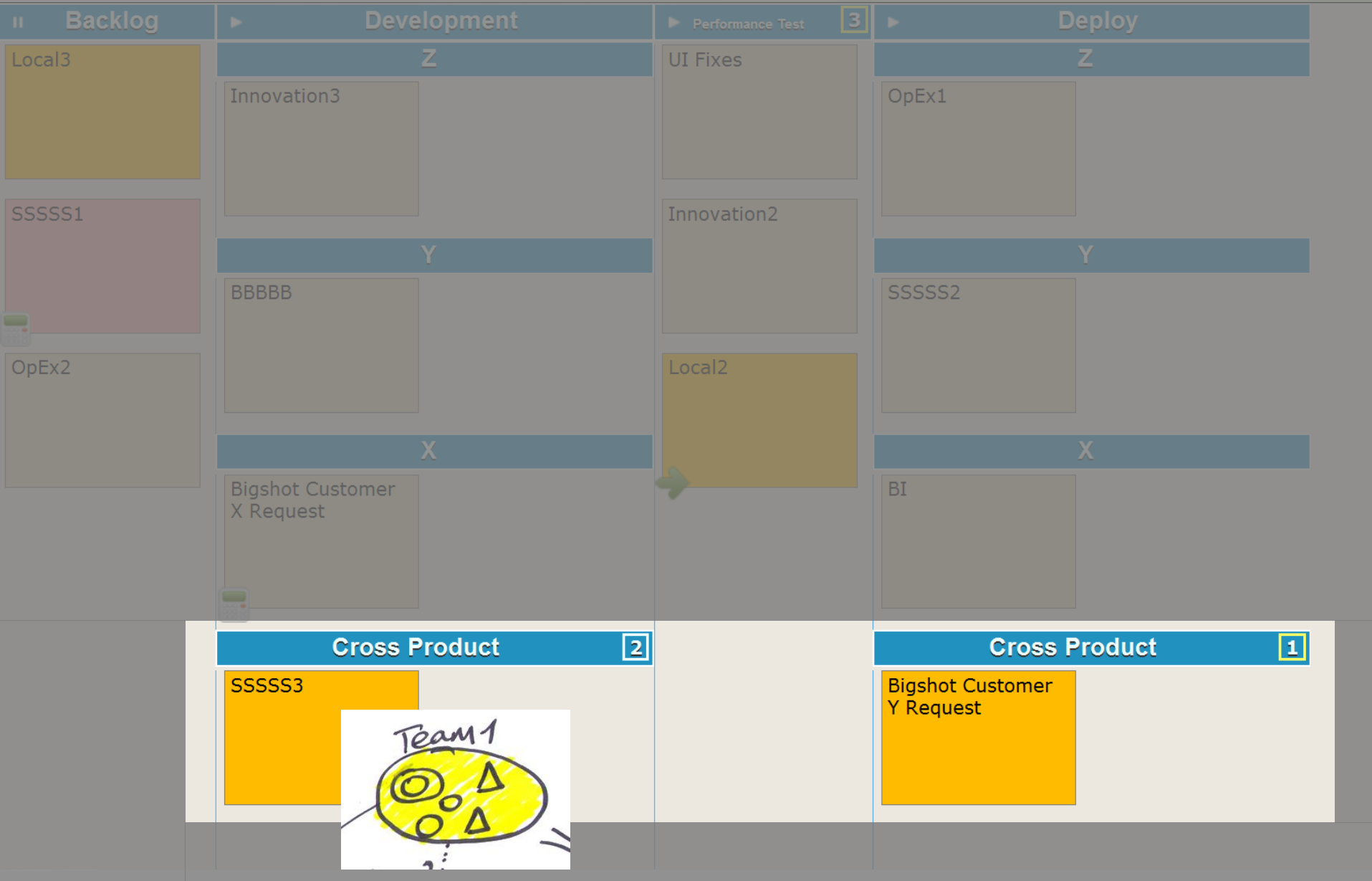


“We don’t yet have the political power or resolve to create real Feature Teams end to end. So what do we do?”

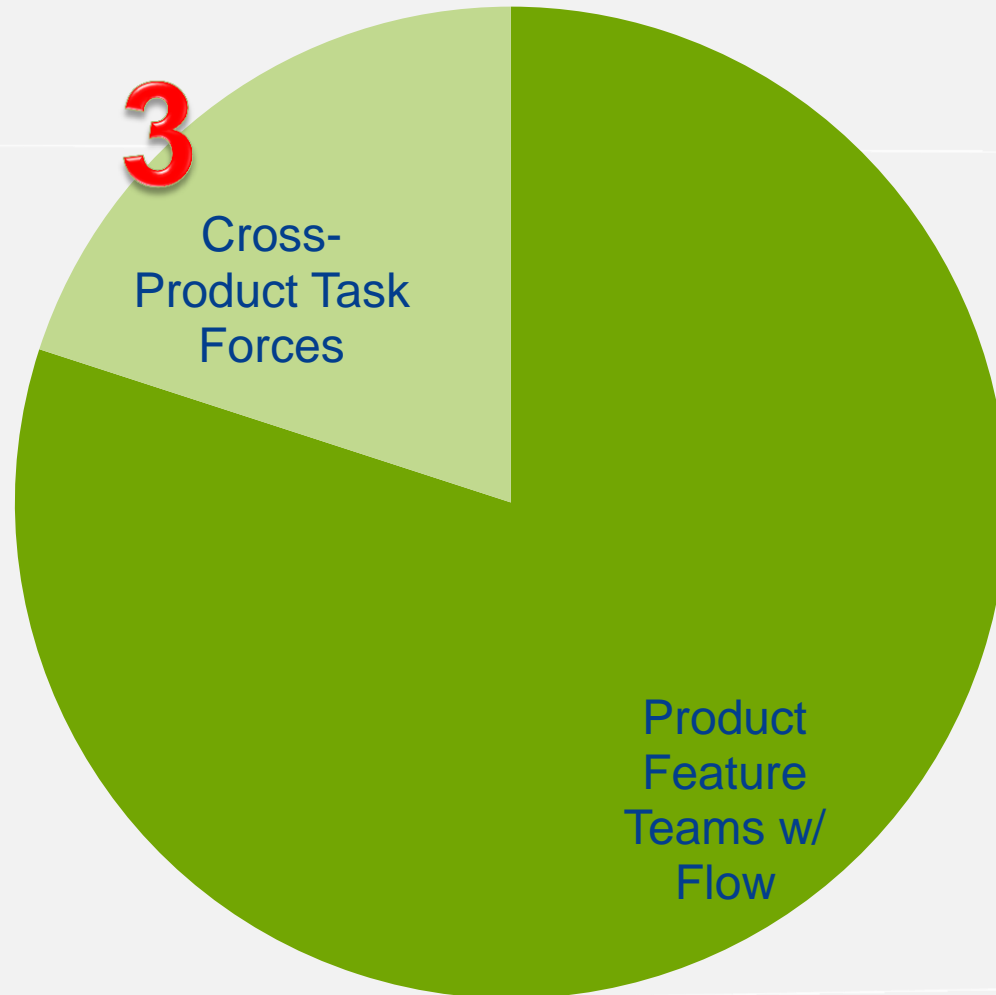


WIP / Cycle Time / Management Overhead – Less is Better...





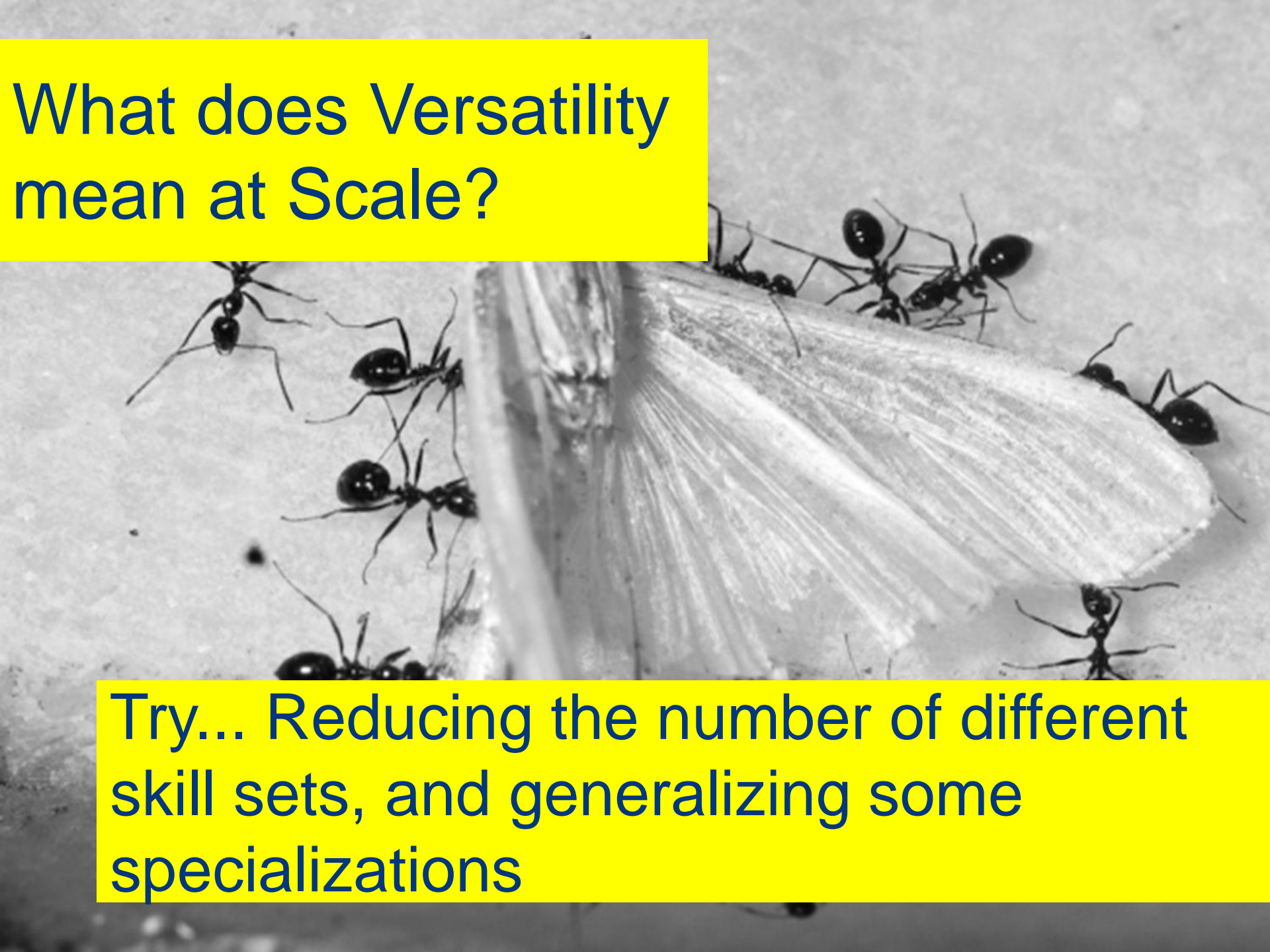
Best – Cross-Product Feature Team / Task Force
Let them organize around the work



Limit Task Forces in Progress...



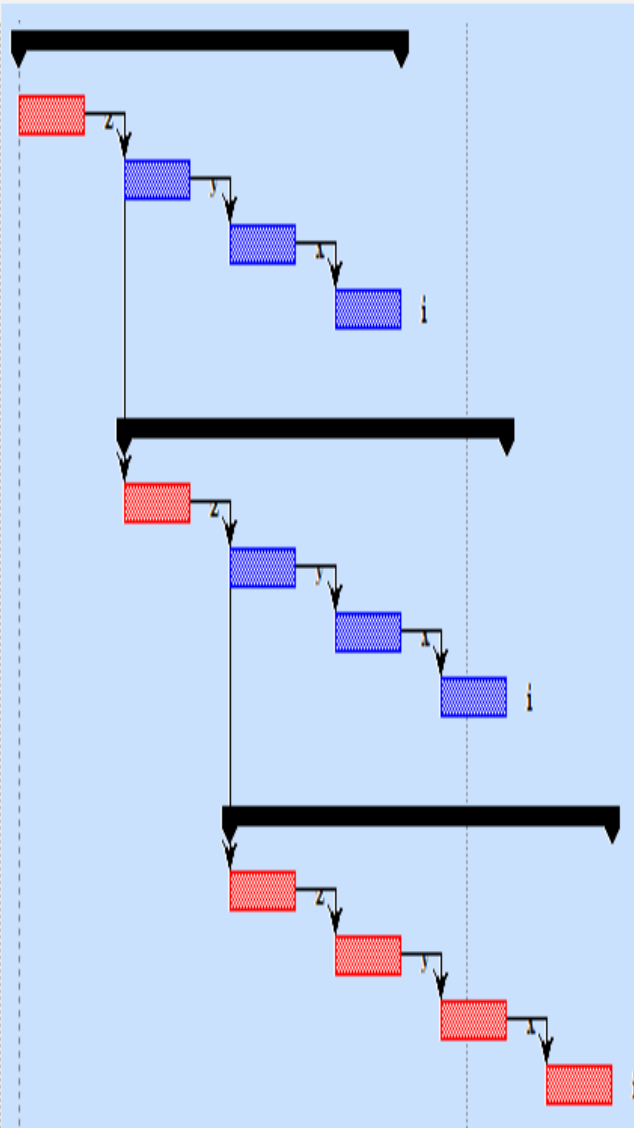
What does Versatility mean at Scale?

A black and white photograph showing a group of ants gathered around a large, dead insect wing. The ants are of various sizes and are actively working on the wing, likely to break it down into smaller pieces for consumption. The wing is spread out, showing its intricate vein structure. The background is a light, textured surface.

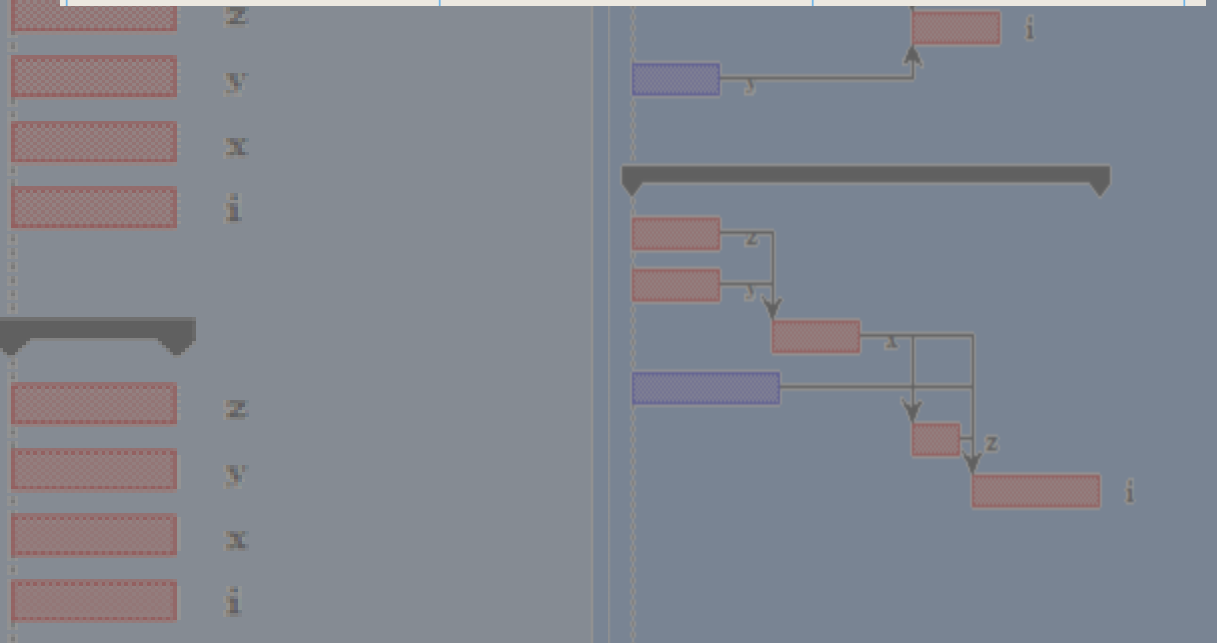
Try... Reducing the number of different skill sets, and generalizing some specializations



60 seconds on Other Possible System Designs



Cross Product "The PipeLine"		
Z	Y	X
CPF3	CPF2	CPF1

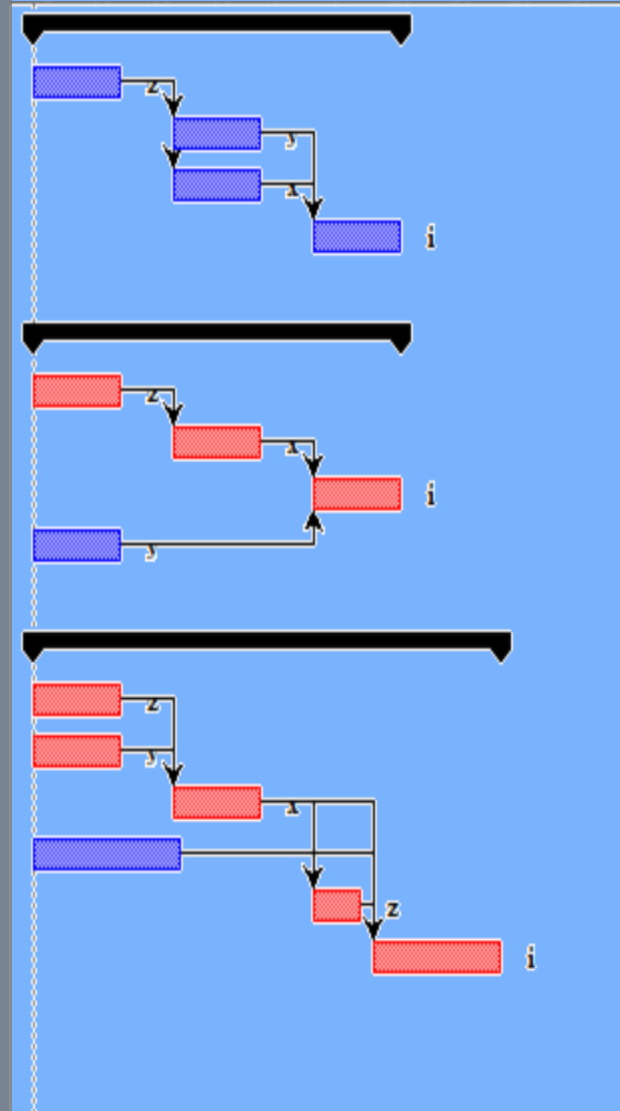
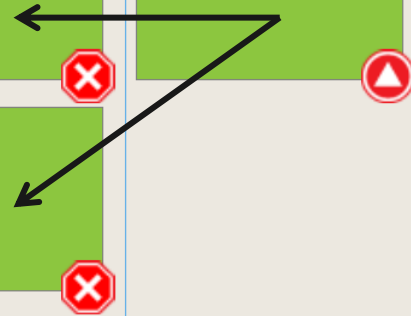


“The Pipeline”

Expand/Collapse			
Feature	Impact on Products		
	TODO	WIP	DONE
CPF3	CPF1 Z	CPF1 Y CPF1 X	

**No dependencies –
Expand/Collapse**

Expand/Collapse			
Feature	Impact on Products		
	TODO	WIP	DONE
CPF3	CPF1 X	CPF1 Z	
	CPF1 Y		



Dependency “Networks”?

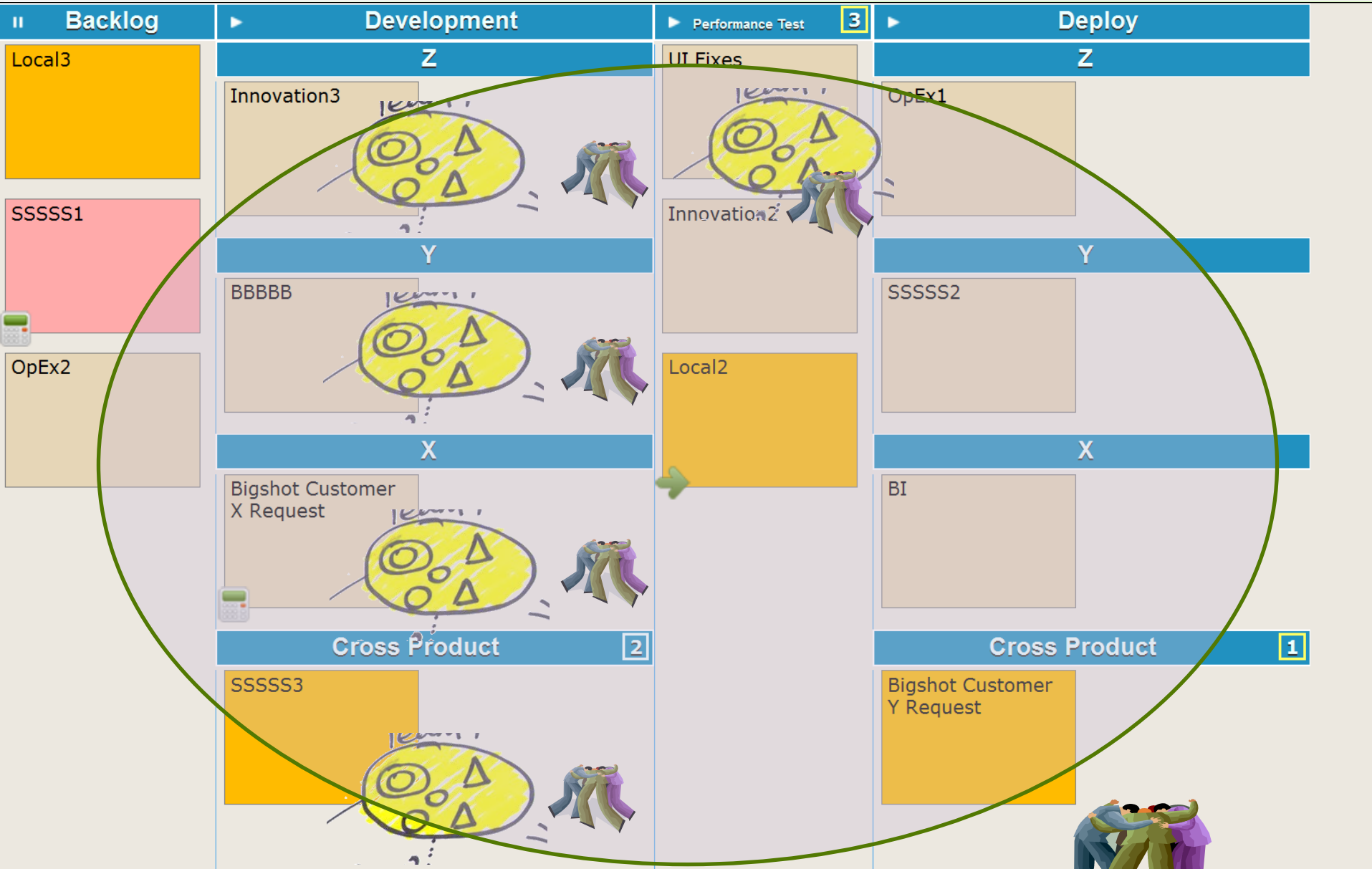
What about Coordination at Scale?

Anyone using Scrum of Scrum?

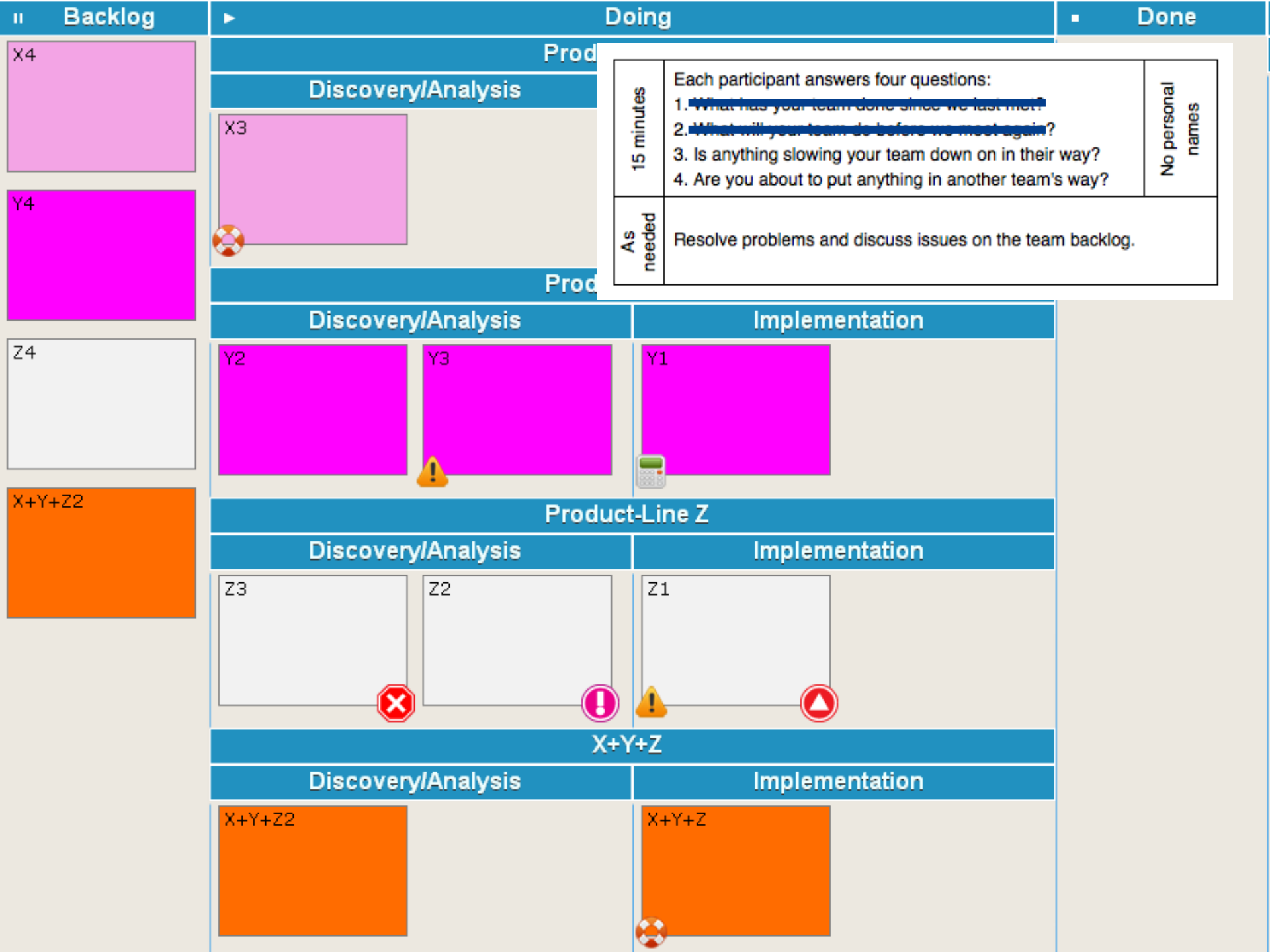
15 minutes	Each participant answers four questions: 1. What has your team done since we last met? 2. What will your team do before we meet again? 3. Is anything slowing your team down on in their way? 4. Are you about to put anything in another team's way?	No personal names
As needed	Resolve problems and discuss issues on the team backlog.	

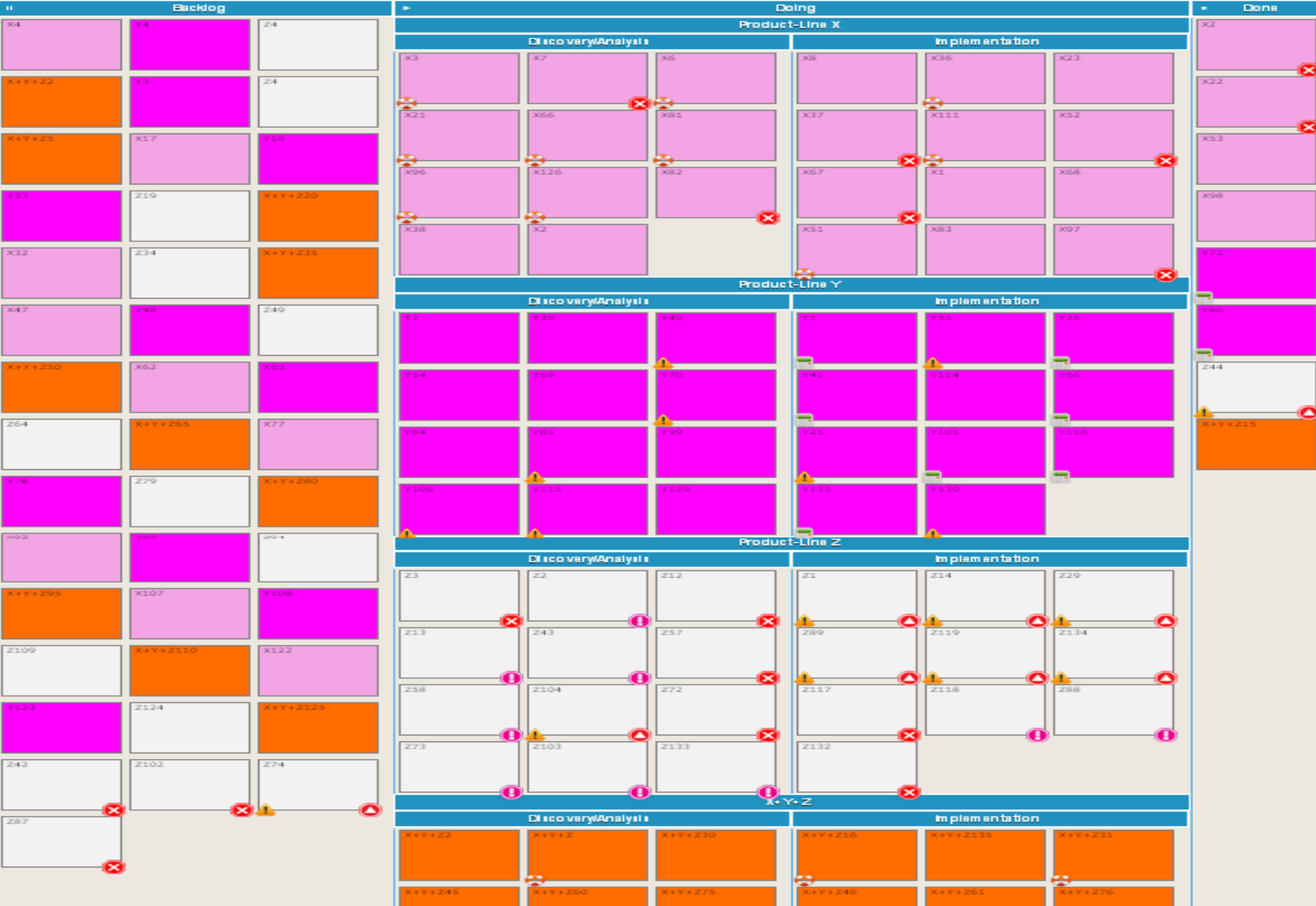
Questions about Scrum of Scrum

- Are we doing it because we have Scrum+Scale? What problem are we trying to solve?
- Is Scrum of Scrum used for coordinating 100% of the work, or just the exceptions?



Coordination at scale





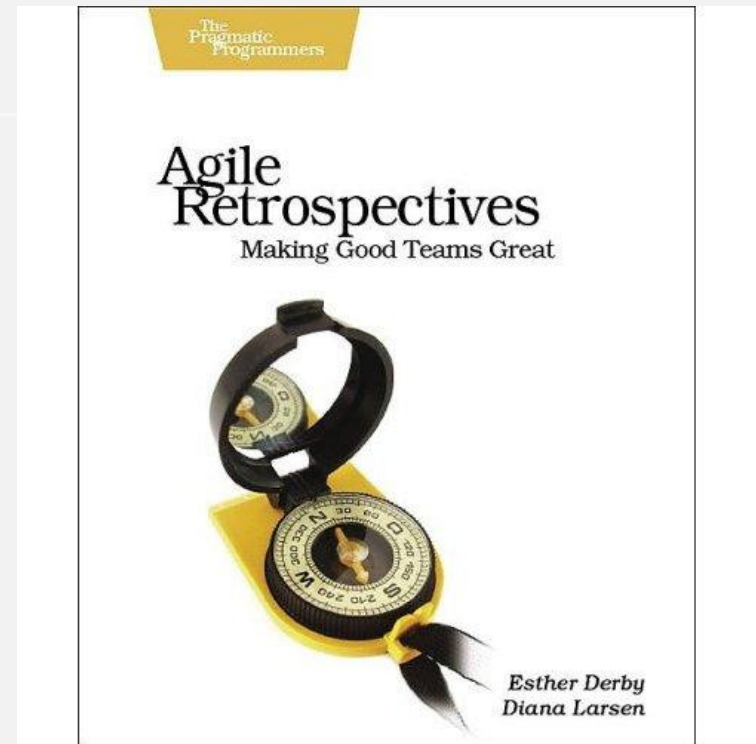
Coordinate THAT!

How about Improving at Scale?

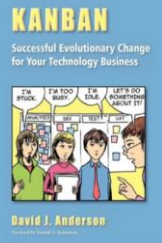
- **How many of you can name a process improvement they are trying this month?**

Early Process Feedback and Adjustment

- Lean/Kanban - Improvement happens as part of flow
- Retrospectives/Kaizen Events are still important



Try... Operational Reviews

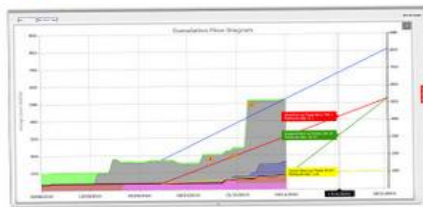


Ops review for board

Action Items from last review

Action Item	Start Date	Status	Comments

CFD



WIP CFD

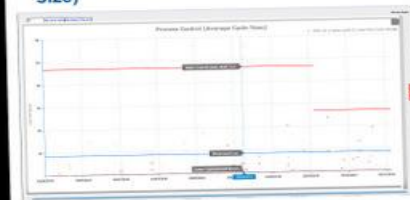
- Size Based
- No of Cards



Control Chart (calendar time, no size)



MMF Cycle Time Control Chart (based on size)



Analysis – What we learn from this

- Some examples:
 - MMFs are growing larger
 - Why?
 - What to do? Try to break MMFs
- Some very high cycle times on specific features
 - Why? due to lack of collective ownership and waiting for one guy on the team
 - What to do?
 - Try pairing, try others taking stories with his guidance, etc.
 - Fill talent matrix and take action accordingly, with the team

Experiments/Interventions

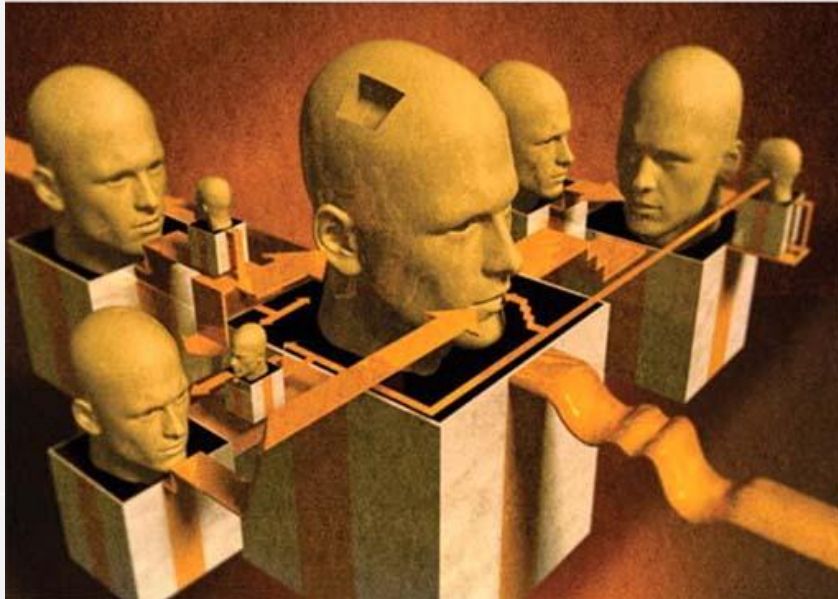
Action Item	Start Date	Status	Comments
Try to limit MMF size to 50 points		In progress	Already broke 2
Use pairing on 1 staff this month		Not started	
Create a talent matrix			

Try... an Improvement Service

Scaling Lean & Agile Development

Thinking and Organizational Tools
for Large-Scale Scrum

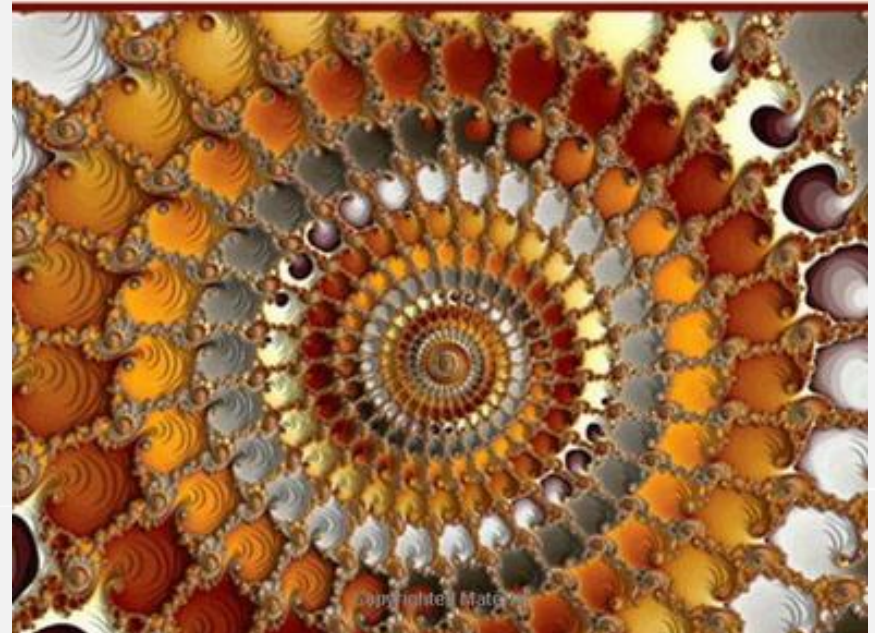
Craig Larman
Bas Vodde

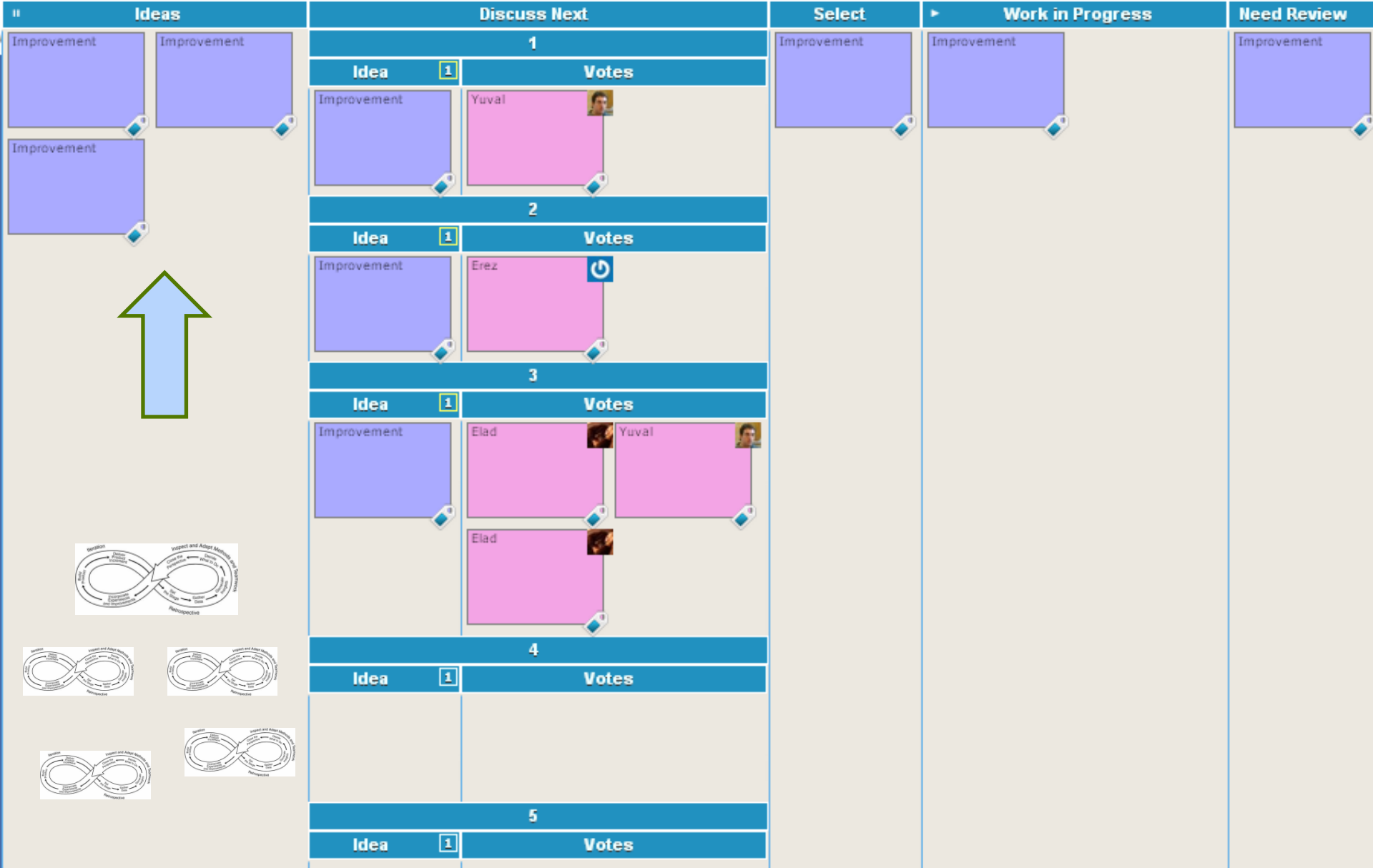


Practices for Scaling Lean & Agile Development

Large, Multisite, and Offshore Product Development
with Large-Scale Scrum

Craig Larman
Bas Vodde





Pull Improvement Needs from Teams



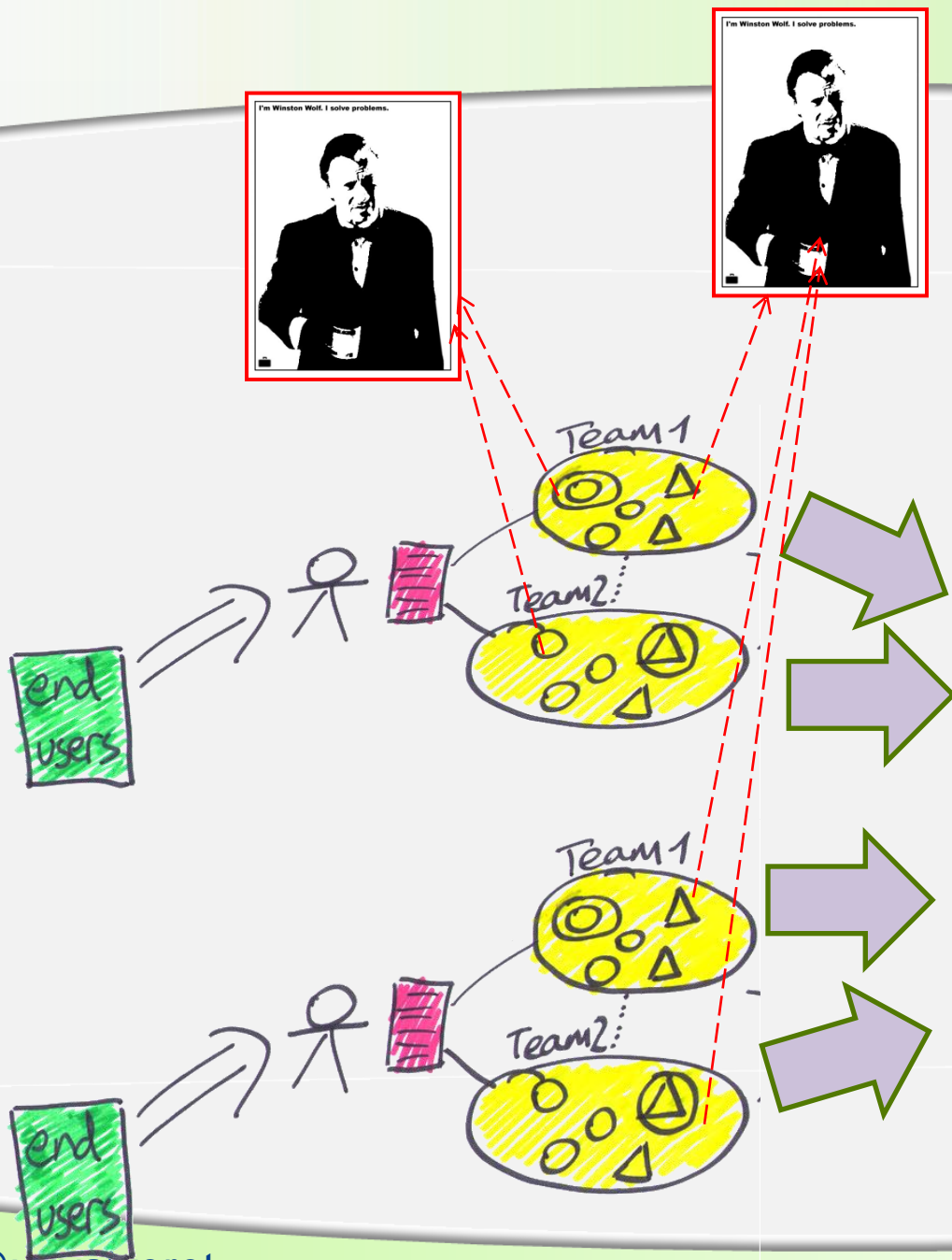
Will visualizing and managing flow in **each** of those roads be **enough**?



Need to visualize and manage the **global end to end**
flow across **shared** resources



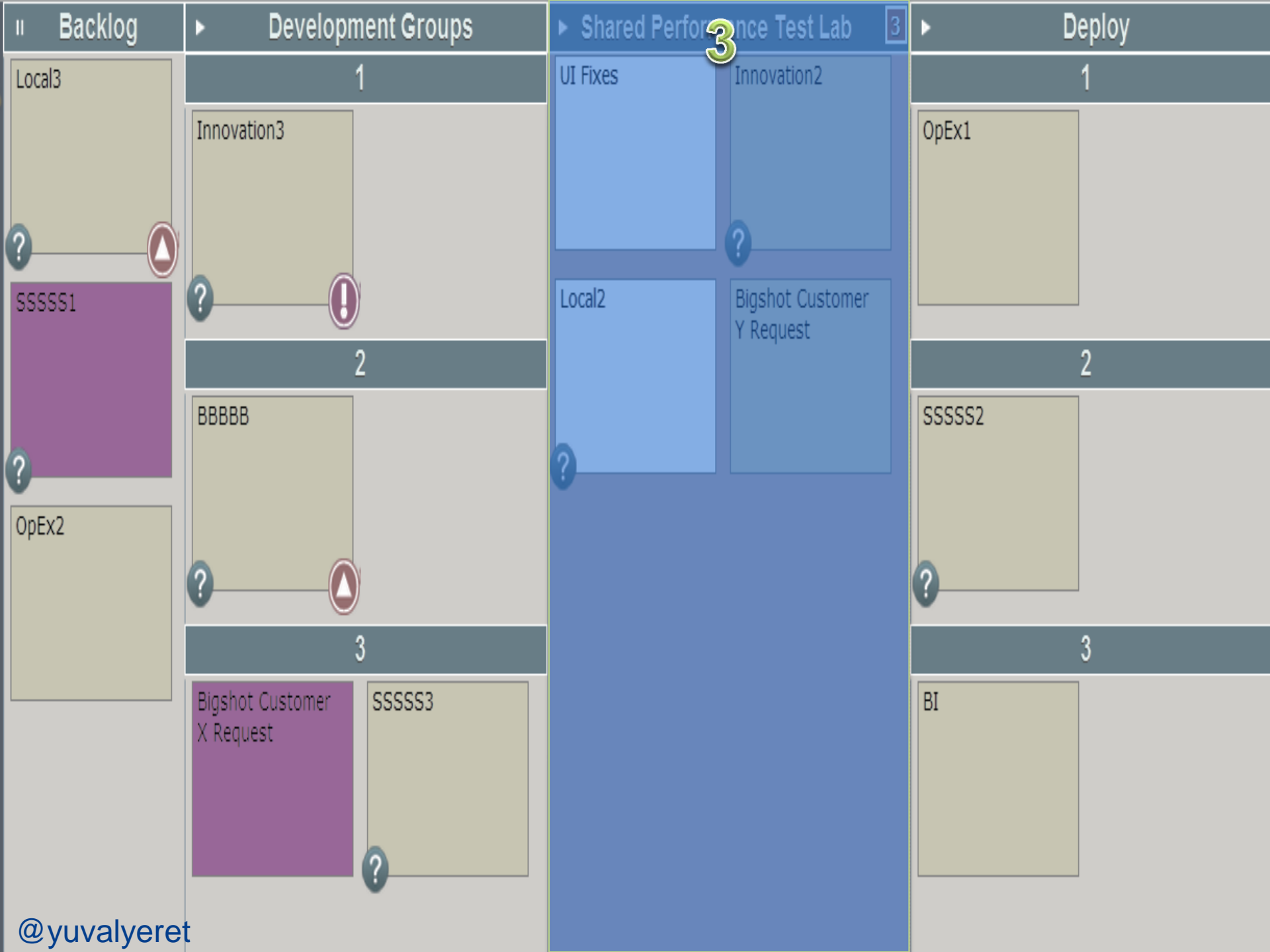
Sharing

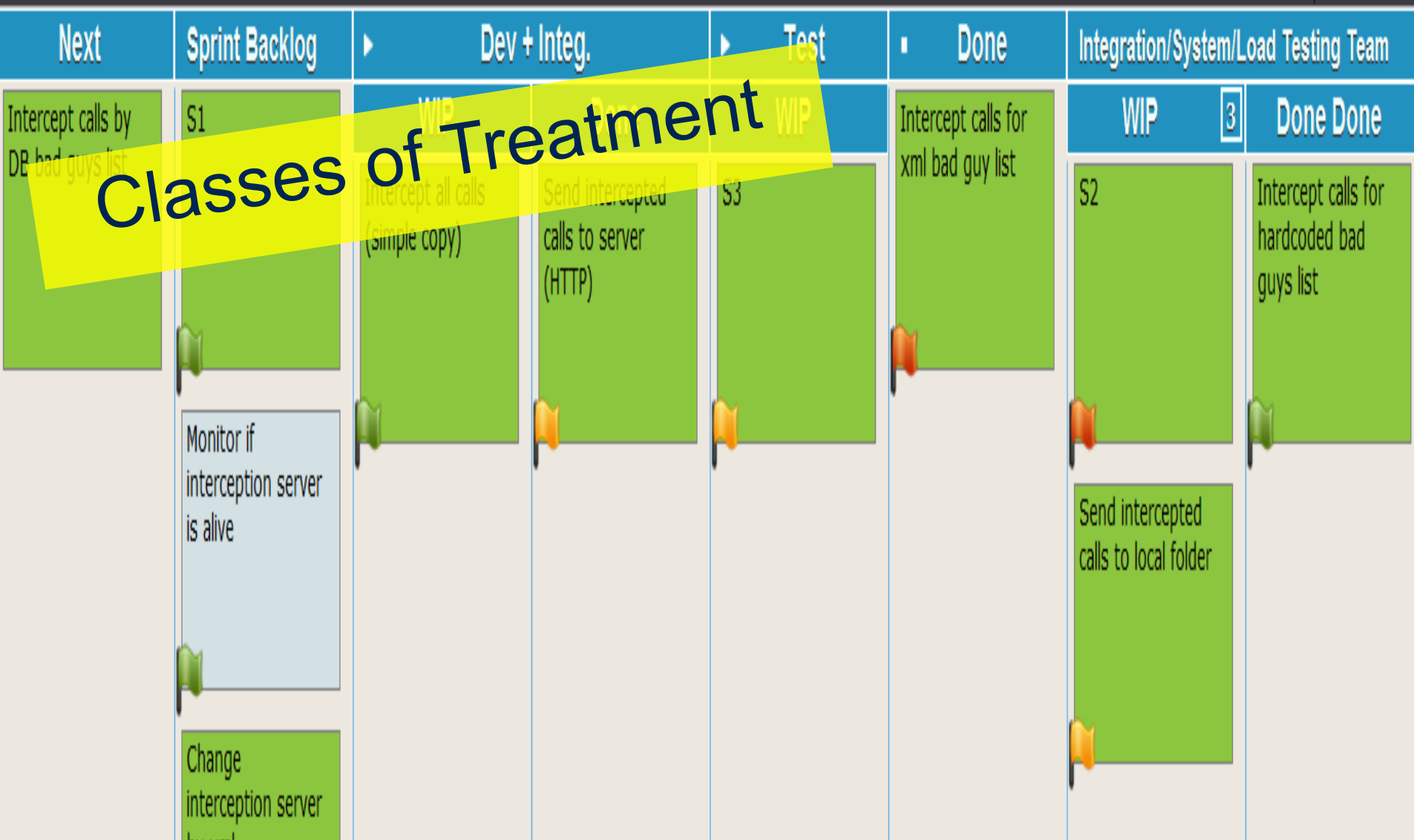


<http://www.flickr.com/photos/kwl/4809326028/>
http://www.flickr.com/photos/justin_case/54087334/in/photostream/

The background is a collage of three images. On the left is a close-up of a circular road sign with the number '351'. In the center is a perspective view of a multi-lane road with many cars. On the right is a close-up of ants on a light-colored surface.

Manage flow at the **level** at
which resources are **shared**





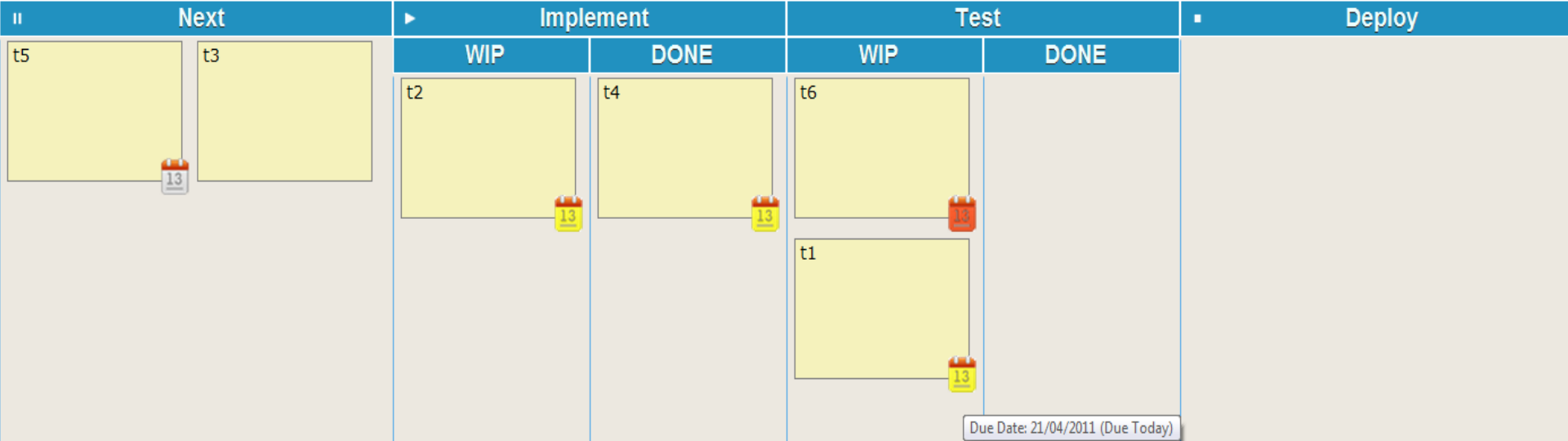
Risk Profiling → Involvement mode of the shared resource

What about Due Dates and Commitment?

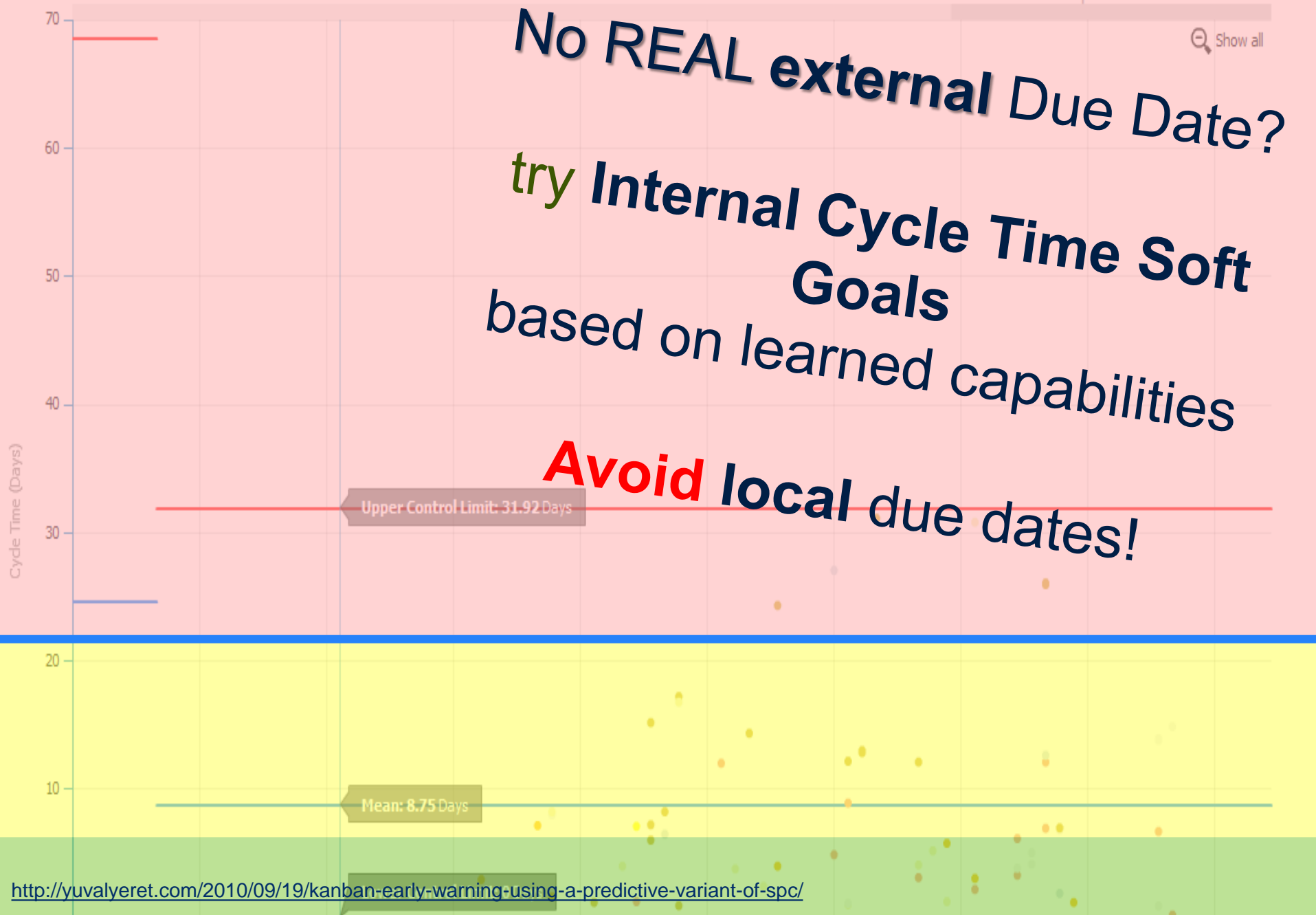


Does Flow mean no commitment?

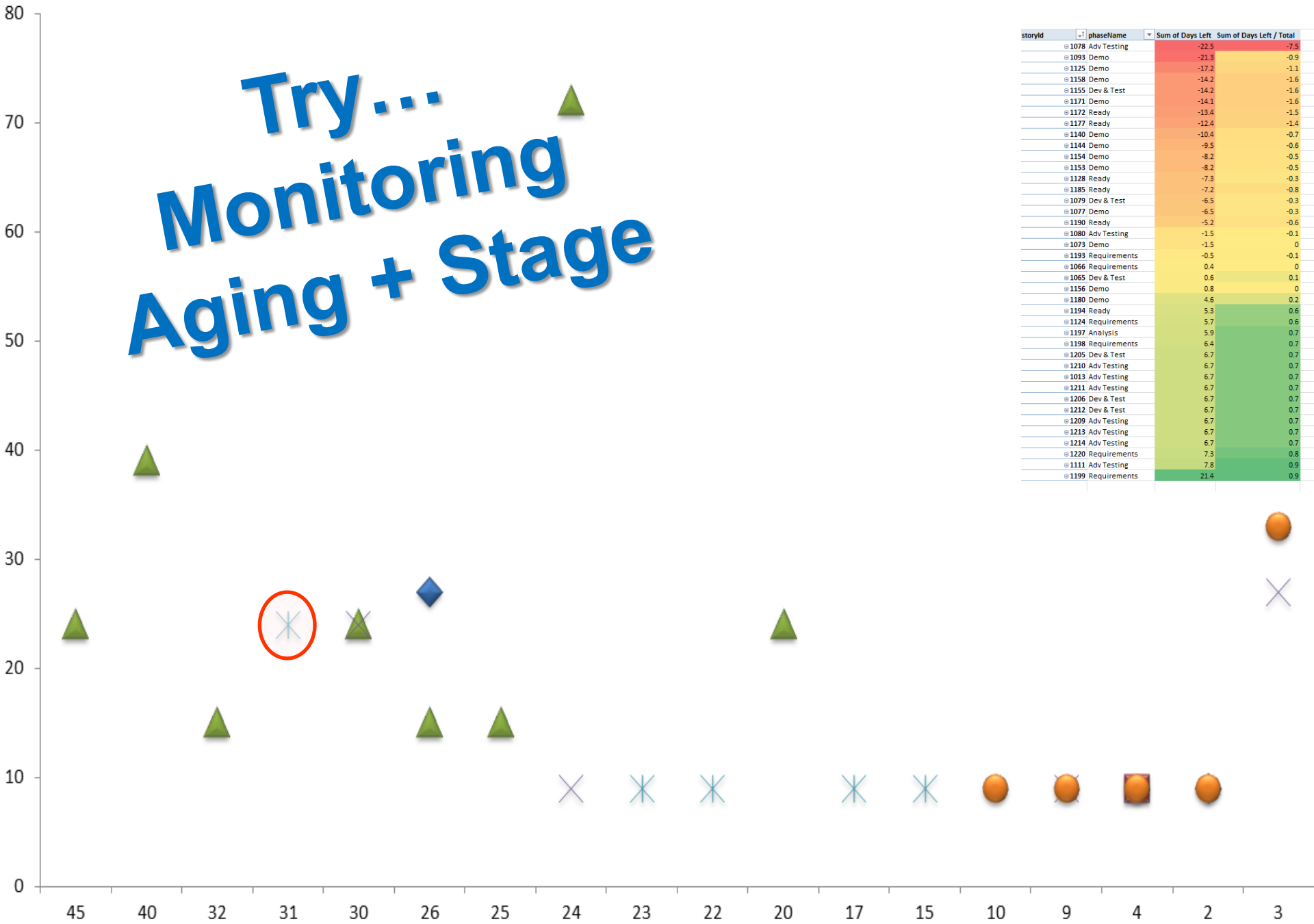
What do you mean tell the customers to go Agile? Come on! Be REAL!



REAL reason to for Due Dates?
Use **Fixed Date** class of service



Try...
Monitoring
Aging + Stage



storyId	phaseName	Sum of Days Left	Sum of Days Left / Total
1078	Adv Testing	-22.5	-7.5
1093	Demo	-21.3	-0.9
1125	Demo	-17.2	-1.1
1158	Demo	-14.2	-1.6
1155	Dev & Test	-14.2	-1.6
1171	Demo	-14.1	-1.6
1172	Ready	-13.4	-1.5
1177	Ready	-12.4	-1.4
1140	Demo	-10.4	-0.7
1144	Demo	-9.5	-0.6
1154	Demo	-8.2	-0.5
1153	Demo	-8.2	-0.5
1128	Ready	-7.3	-0.3
1185	Ready	-7.2	-0.8
1079	Dev & Test	-6.5	-0.3
1077	Demo	-6.5	-0.3
1190	Ready	-5.2	-0.6
1080	Adv Testing	-1.5	-0.1
1073	Demo	-1.5	0
1193	Requirements	-0.5	-0.1
1066	Requirements	0.4	0
1065	Dev & Test	0.6	0.1
1156	Demo	0.8	0
1180	Demo	4.6	0.2
1194	Ready	5.3	0.6
1124	Requirements	5.7	0.6
1197	Analysis	5.9	0.7
1198	Requirements	6.4	0.7
1205	Dev & Test	6.7	0.7
1210	Adv Testing	6.7	0.7
1013	Adv Testing	6.7	0.7
1211	Adv Testing	6.7	0.7
1206	Dev & Test	6.7	0.7
1212	Dev & Test	6.7	0.7
1209	Adv Testing	6.7	0.7
1213	Adv Testing	6.7	0.7
1214	Adv Testing	6.7	0.7
1220	Requirements	7.3	0.8
1111	Adv Testing	7.8	0.9
1199	Requirements	21.4	0.9

What does it mean to Manage WIP at Scale?



Projects

Projects/Features in
certain high attention
Class of Service
Fixed Date / Cost / etc.

Cross-Product
Features/Task Forces

Shared Resources

A background image of a waterfall cascading over dark, mossy rocks. The water is white and frothy as it falls, creating a sense of motion and energy.

Scaling Kanban

Guidance for **real** enterprises

Pragmatic approach to change

Early Feedback, Learning,
Managed Delivery – At Scale

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Questions?