

The Secret to a Successful Agile Transformation

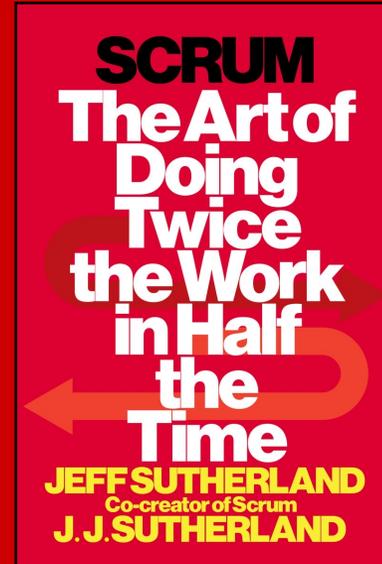
Dr. Jeff Sutherland

Inventor and Co-Creator of Scrum and Scrum@Scale

Signatory of the Agile Manifesto

GPM German Association for Project Management

27 June 2023



Measurable Outcomes for Enterprise Agility are Critical

See leanpub.com/FirstPrinciplesInScrum

1. **Decision-making speed:** This could be measured as the average time it takes for a decision to be made once a new piece of information or a change in circumstances is observed. This would directly reflect the speed of the OODA loop.
2. **Decision implementation speed:** This is the average time it takes for a decision to be implemented once it's made. This would reflect the 'Act' part of the OODA loop.
3. **Decision accuracy:** This could be measured by looking at the outcomes of decisions and seeing how often they lead to the desired results. This would reflect the quality of the 'Orient' and 'Decide' parts of the OODA loop.
4. **Adaptability:** This could be measured by looking at how often the organization changes its decisions or course of action in response to new information or changes in circumstances. This would reflect the iterative nature of the OODA loop.
5. **Business outcomes:** Ultimately, the goal of using the OODA loop is to improve business outcomes. Therefore, metrics like revenue growth, customer satisfaction, and market share could be used to measure the overall effectiveness of the OODA loop in driving business success.

FIRST PRINCIPLES IN SCRUM



Jeff Sutherland
Co-Creator of Scrum and
Scrum@Scale

Professor Nonaka is writing a book on John Boyd's OODA loop and the U.S. Marines. He says this is more important than the PDCA cycle for successful enterprises.

Why You Need Speed of Innovation NOW

Innovation without speed will fail. Speed without innovation will fail.

- “We have 10 times as many great entrepreneurial teams submitting business plans as we did 10 years ago!
- “The good news is that the venture community has 10 times as much money to invest.” Peter Diamandis, XPRIZE Foundation
- ***Multiple technology S-curves are disrupting all industries right now.***



Speed of Innovation is Primary Success Factor

Innovation without speed will fail. Speed without innovation will fail.

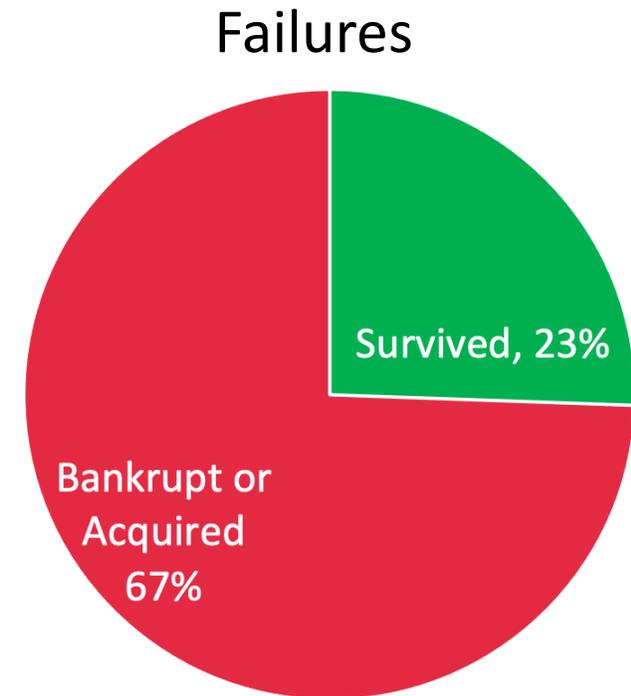
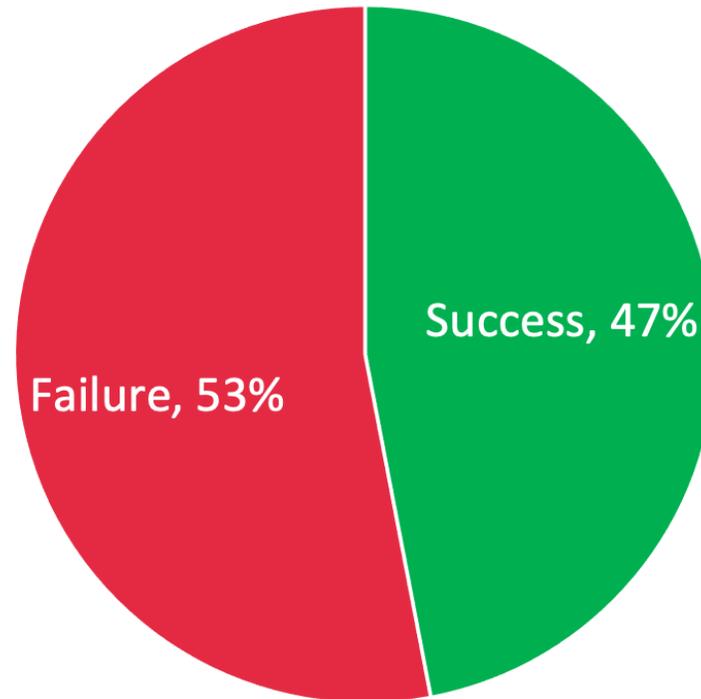
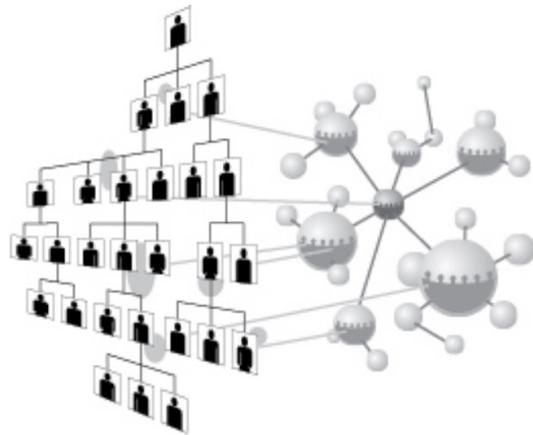
- Tesla delivers >20 hardware/software innovations per week. 1000 times faster than traditional vendors. **Market cap is far bigger than Toyota.**
- John Deere delivers 15 times as much farm machinery with 10 times as many innovative supply chain management features with Scrum@Scale. **Stock price went up almost 400% during COVID.**
- Rocket Mortgage delivers 8 times as many new features with Scrum@Scale. **In 2021 it tripled its revenue and profitability went up 900%.**



"Scrum may have started in software development but it is in no way tied to it. In fact, the most important and impactful implementations of Scrum will occur outside of software." --- G. Tome, John Deere

Agile Transformation Failure

"I've never seen a sustainable Agile transformation led by traditional management." John Kotter, XLR8



Source: Forbes Insights and MIT Sloan Management Review

Putting Delivery into Practice at Scale

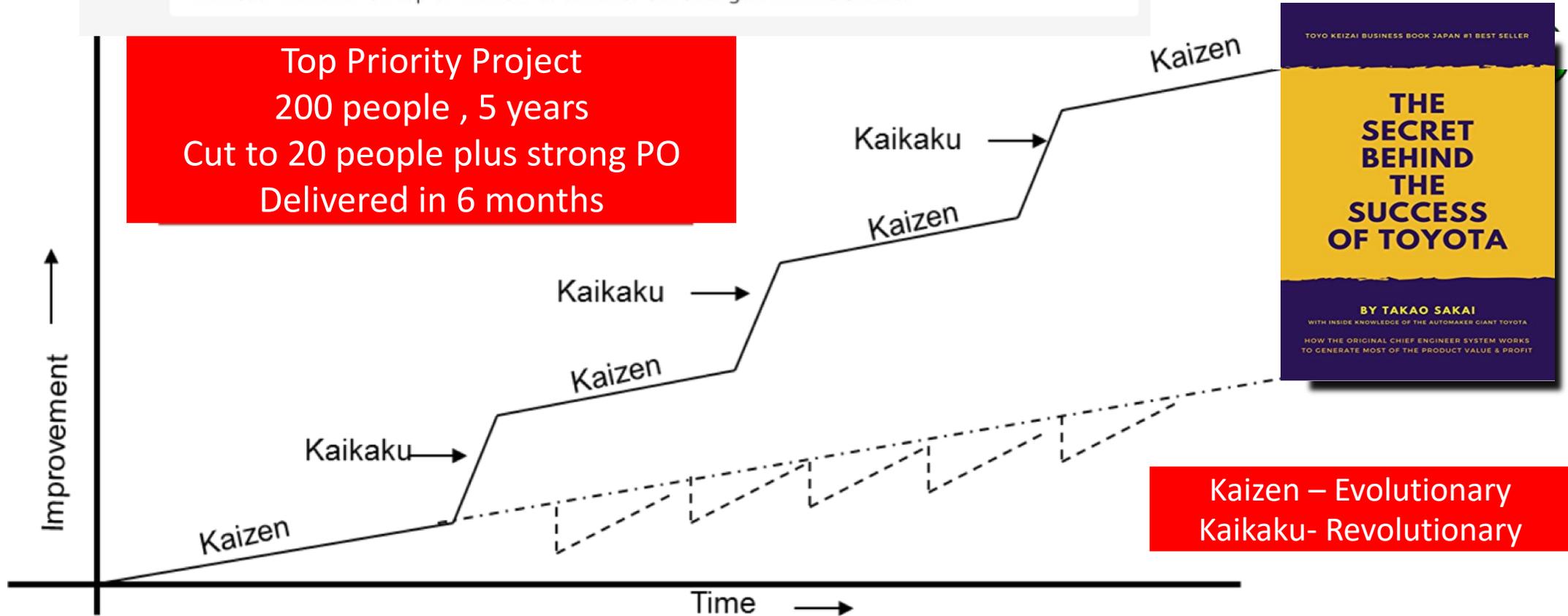


Akihiko Shibata (TME) 16:37

👍 8 ❤️ 4

Dear Jeff, thank you for your inspiring session today. Indeed we were the one who had some advantage in the past, however it got less because our competitors caught up with the scrum way, so we need "Kaikaku" on top of "Kaizen" to enhance our strength! Akihiko Shibata

**Top Priority Project
200 people , 5 years
Cut to 20 people plus strong PO
Delivered in 6 months**



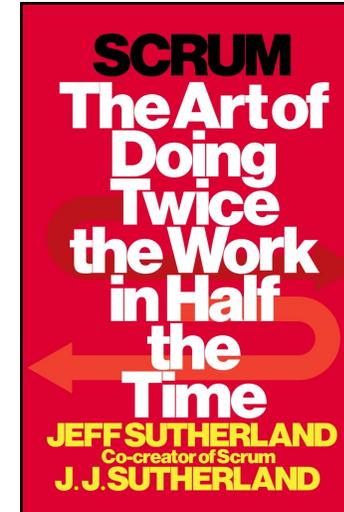
Why Does Scrum@Scale Work?

- Implements the **True Scrum**
 - Twice the Value at Half the Cost
- **Operating System** for entire enterprise
 - **Prioritizes interventions** for maximum impact and speed of change
- Implements **Minimum Viable Bureaucracy** to enable **Linear Scalability**
 - By enabling six patterns of **performance at scale** in “Scrum: The Spirit of the Game”



What is the True Scrum?

- **Scrum Guide**
 - 3-5-3
 - Self managing teams
 - Leader who serves
- **Lean practices**
 - Best tools for impediment removal
 - A3, Value Stream, Process efficiency
- **Hyperproductive Patterns**
 - Team that finish early accelerate faster
 - Seven other patterns in patterns book
- **Scrum@Scale**
 - Deliver twice the value at half the cost with thousands of teams using six team coordination patterns.



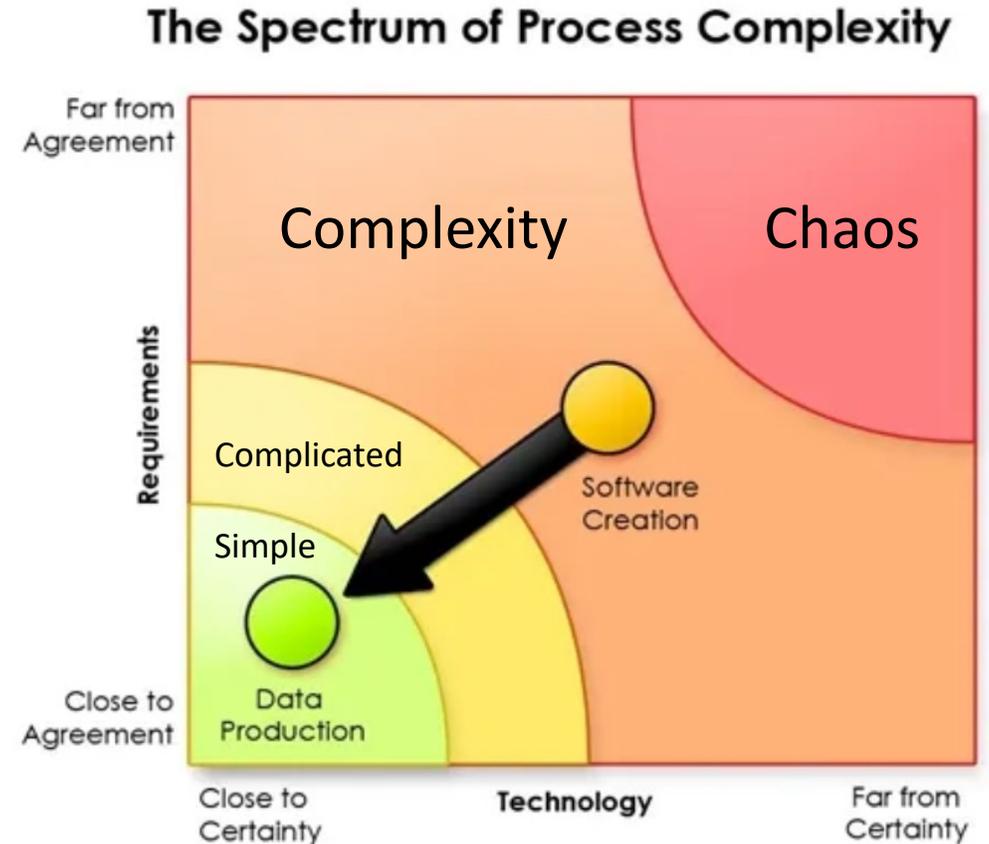
What are the Patterns that implement the Minimum Viable Bureaucracy?

- It took a decade of meetings of Scrum experts to create the patterns book.
- Throughout this work, our Product Owner, Jim Coplien, repeatedly asserted **“there are no scaling patterns.”**
- Scrum@Scale was created with no scaling patterns to avoid crippling performance.



Why do we need Self-Managing Teams?

- Christopher Langdon at Center for Nonlinear Studies, Los Alamos National Laboratory and the Sante Fe Institute published a lemma (mathematical proof).
- “Increasing degrees of freedom of a system causes faster evolution of the system up to the **edge of uncertainty.**”
- ***Removing control to speed up system evolution is the goal of Scrum.***



Source: Demogor.com after Jeff Sutherland and Ken Schwaber

iRobot Genghis Khan Self-Organizes to Achieve a Goal – 1990-92

- The best database is no database – the world is the database
- The best program is no program – the neural net figures it out in real time
- “Do you think a team could self-organize to achieve a goal faster if it implemented some of the basic principles of Genghis Khan?” *Jeff Sutherland*
- “Why don’t you try it?” *Rodney Brooks*



[Genghis](#) was a six legged insect-like [robot](#) that was created by [roboticist Rodney Brooks](#) at [MIT](#). Brooks wanted to solve the problem of how to make robots intelligent and suggested that it is possible to create robots that displayed intelligence by using a "[subsumption architecture](#)" which is a type of reactive robotic architecture where a robot can react to the world around them.^[1] His paper "[Intelligence Without Representation](#)", which is still widely respected in the fields of [robotics](#) and [Artificial Intelligence](#), further outlines his theories on this. *Wikipedia*

Self-Managing Teams

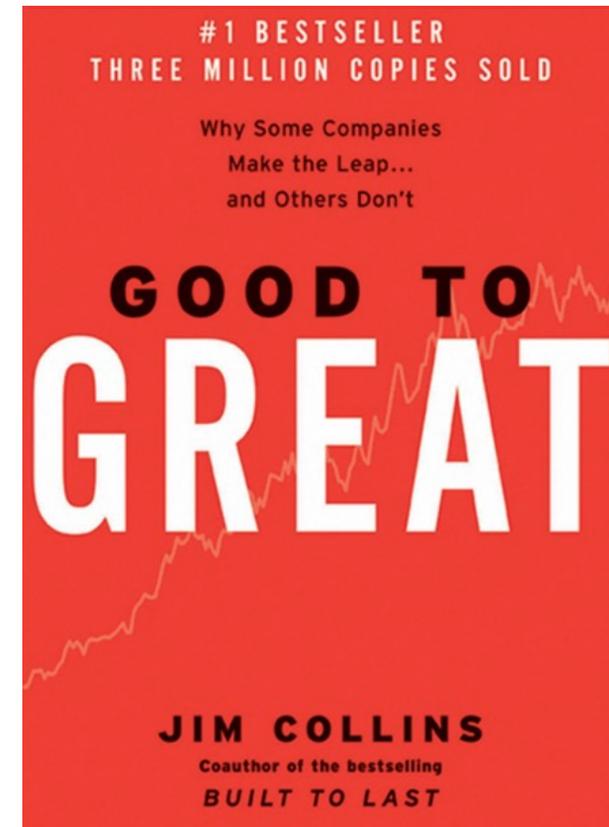
- Agile emerges from complex adaptive systems theory.
- An intelligent system self-organizes to achieve a goal.
- When it bangs into an impediment it works around it or removes it to accelerate towards the goal faster.
- Teams are self-managing to achieve a Sprint Goal. This is self-organization.



Shared at irobot.nl

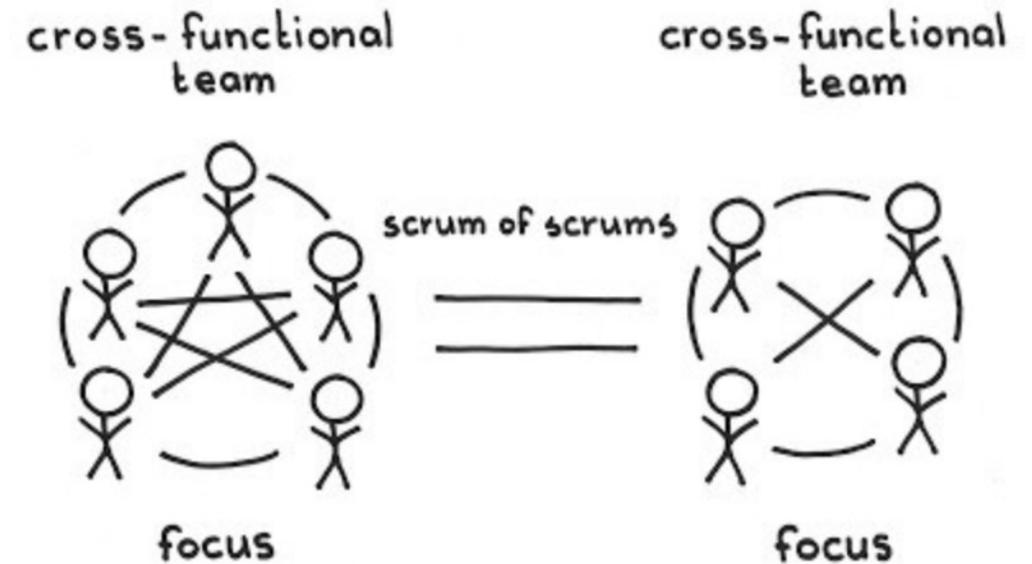
Scrum Master: Leader Who Serves

- A Leader Who Serves gets the right people on the bus and asks what is the best way to achieve a Goal.
- Corollary: If the wrong person is on the bus, the Leader Who Serves gets them off the bus.
- To do the full job requires a Leader Who Serves.
- *Continuous improvement is the primary goal of the Scrum Master.*



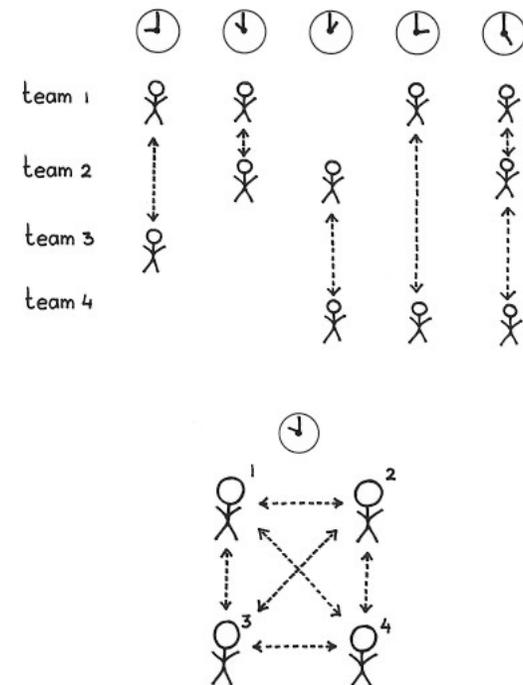
Mitosis—Self Organizing at Scale

- One should grow a SCRUM TEAM in an incremental, piecemeal fashion, but eventually the team just becomes too large to remain efficient.
- Differentiate a single large DEVELOPMENT TEAM into two small teams after it gradually grows to the point of inefficiency—**about seven people in the old team.**
- **Members of separate teams should continue to coordinate with each other informally, and as necessary, through the daily rhythm of SCRUM OF SCRUMS events.**



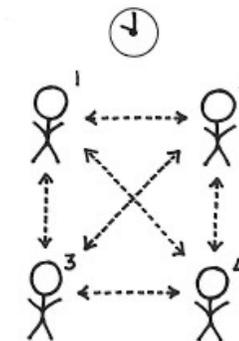
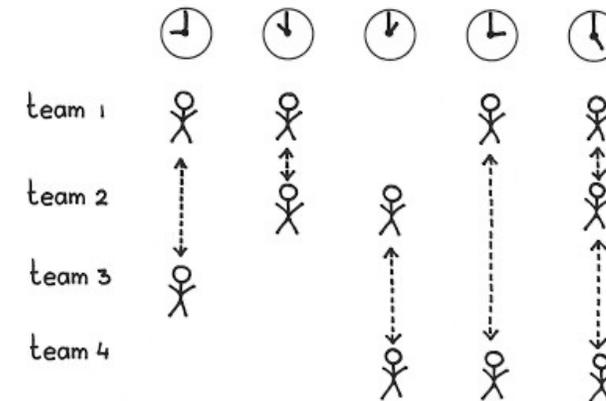
Pattern: Scrum of Scrums

- **Scrum of Scrums:** A [Scrum Team](#) is working on a single product with multiple [Development Teams](#). The [Development Teams](#) need to coordinate dependencies and shared work. Unresolved dependencies within individual teams are a shared challenge of all teams. **When multiple teams work independently of each other they tend to focus myopically on their own concerns and lose sight of any common goals.**
- Organizations might revert to a command-and-control approach in the false belief that agility only works at the scale of one team, but complexity has grown, not diminished, in this circumstance. Hierarchical control increases delays and reduces the responsiveness of the teams and the wider organization to business and technology changes.



Scrum of Scrums Done Right

- The Scrum of Scrums is a set of teams that delivers a product increment at the end of a sprint.
- ***The IDX Scrum of Scrums is the origin of the pattern was a release team.***
- The Scaled Daily Scrum requires many experts other than Scrum Master to deliver a product increment.
- The IDX Scrum of Scrums was responsible for creating a potentially shippable increment of product at least once a sprint and deploying on a regular cadence.



Scaled Daily Scrum: A Scrum of Scrums Event

- “Establish a regular [Scrum of Scrums](#) event, perhaps daily, after the teams’ [Daily Scrum](#) events, to resolve emergent dependencies and issues, and to get things to *Done* (see [Definition of Done](#)).
- “The [SCRUM OF SCRUMS](#) is a well-established pattern, first implemented at IDX Systems (now GE Healthcare) in 1996. Jeff Sutherland was Senior Vice-President of Product Development, with Ken Schwaber helping as a consultant. There were eight business units, each with multiple product lines. Each product had its own [SCRUM OF SCRUMS](#).”



The first Scrum of Scrums

Product Owner Team

- The **PRODUCT OWNER** has more to do than a single person can handle well

Therefore:

- Create a **PRODUCT OWNER TEAM**, led by the Chief Product Owner, whose members together carry out product ownership.
- The **PRODUCT OWNER TEAM** realizes the **VISION** by ordering the **PRODUCT BACKLOG ITEMS** through a single **PRODUCT BACKLOG**.



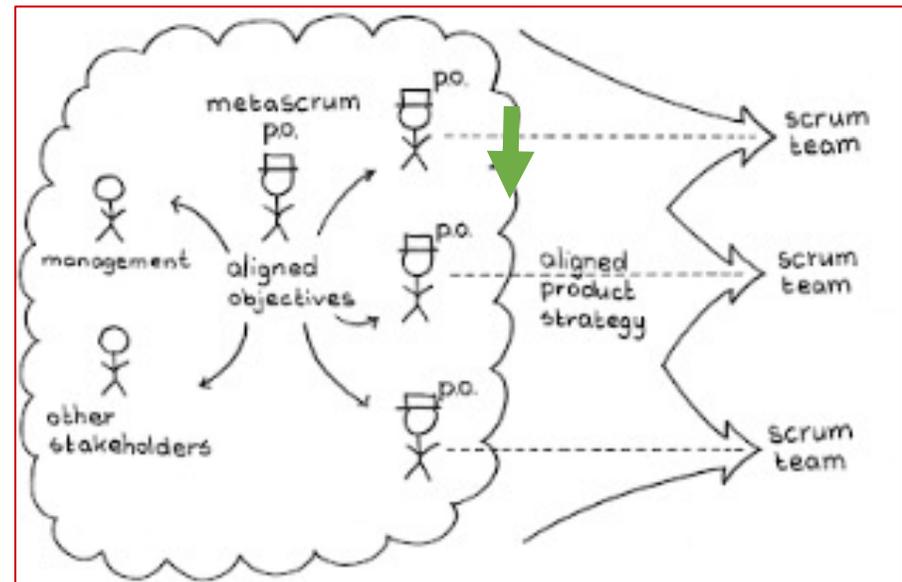
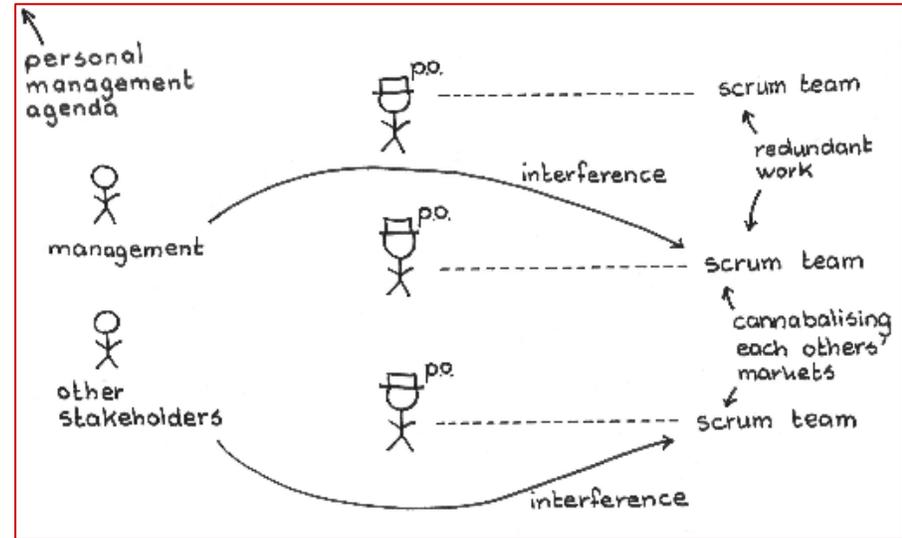
Source: Sutherland and Coplien (2019) A Scrum Book: The Spirit of the Game

MetaScrum

- [SCRUM TEAMS](#) are in place, but direction (or the threat of interference) from legacy management structures causes confusion about the locus of control over product content and direction.

Therefore:

- Create a [METASCRUM](#) as a forum where the entire enterprise can align behind the *Product Owners' backlogs* at every level of Scrum in the organization.
- The Metascrum prioritizes the enterprise backlog and eliminates the 30% of work that should not be done.

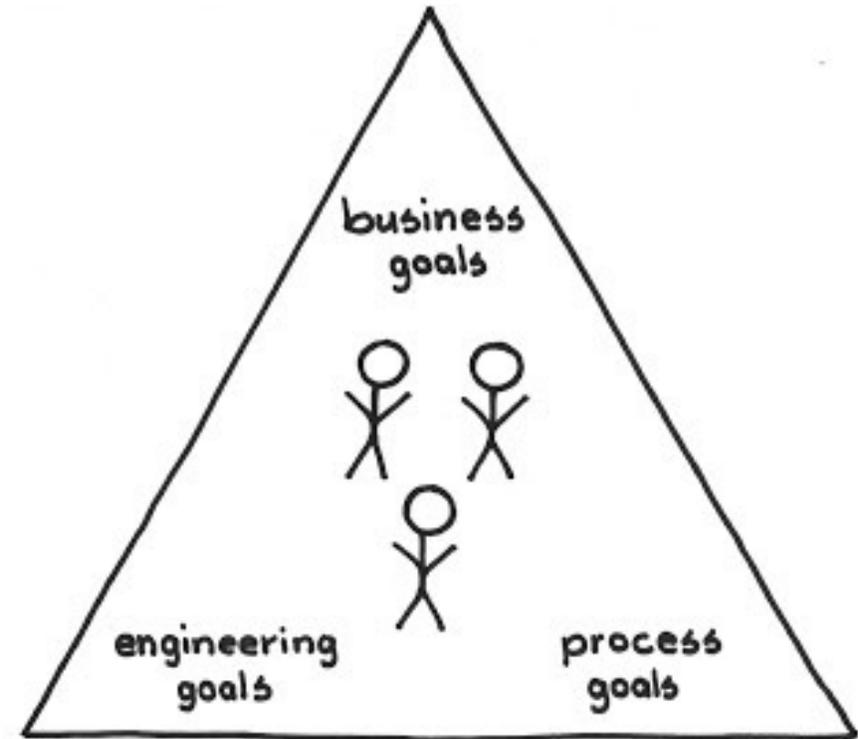


Executive Action Team: A Scrum Team

- Many great [VISIONS](#) are beyond the reach of solo efforts, and to achieve such a [VISION](#) you need to build the complex product, bring it to the market and leverage feedback. In this case the Product is an Agile Organization.

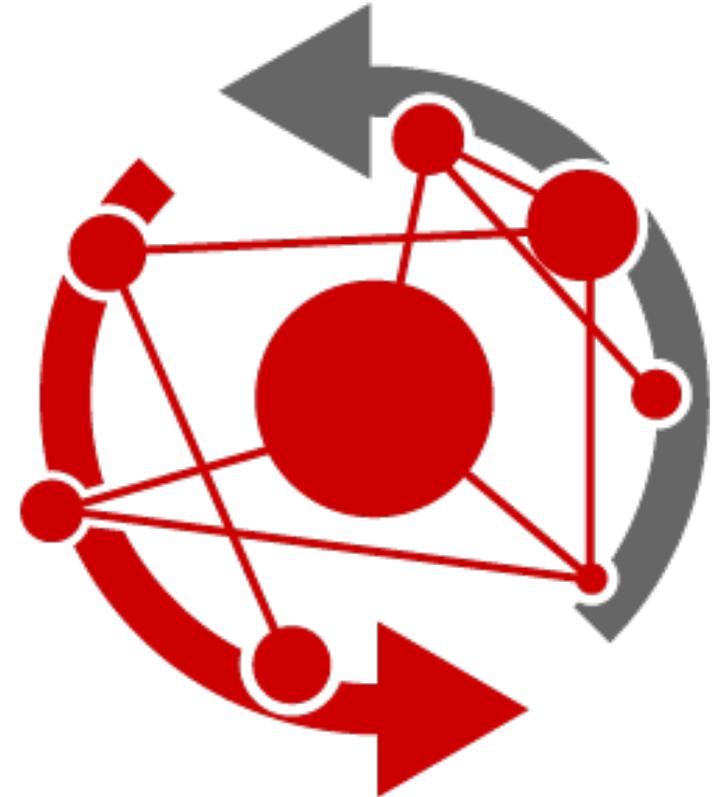
Therefore:

- **Form a team that has all the necessary competencies: the people who can make and deliver the product (a [DEVELOPMENT TEAM](#)), a [PRODUCT OWNER](#) who guides product direction, and a [SCRUMMASTER](#) who facilitates learning.**



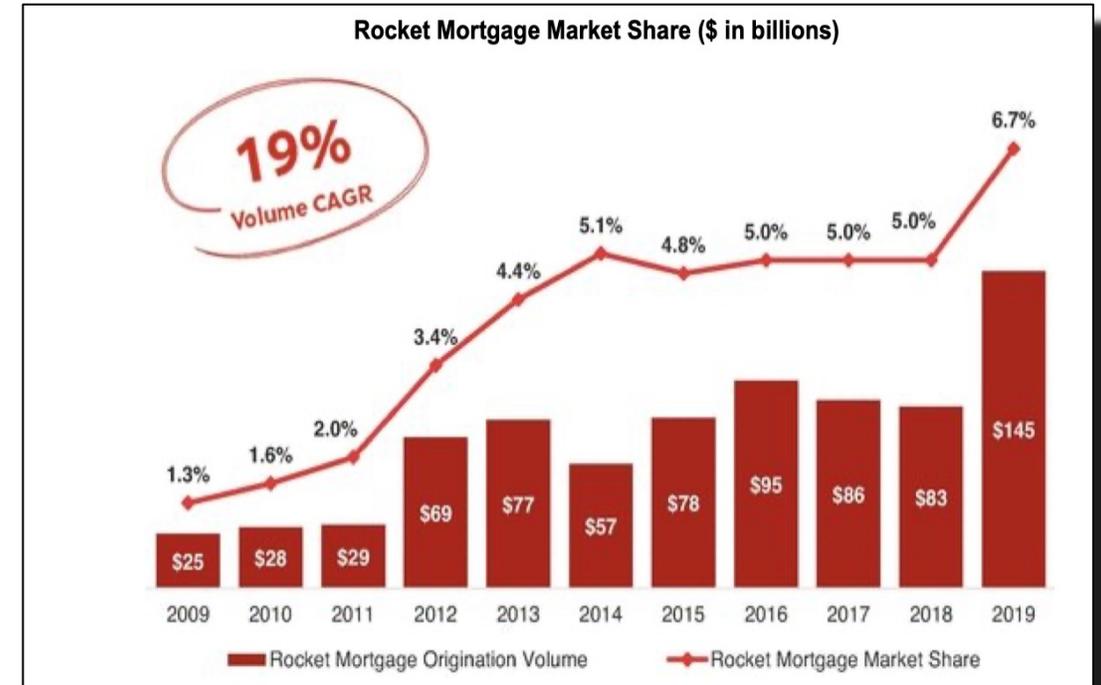
Scrum@Scale Patterns

- Mitosis
 - Scrum Team
 - Scrum of Scrums
 - Product Owner Team
 - MetaScrum
 - Executive Action Team
-
- There is a Scrum Team that owns the agile implementation called an Executive Action Team (EAT)
 - There is a Product Owner Team called an Executive MetaScrum Team (EMT) that owns the organization's backlog.



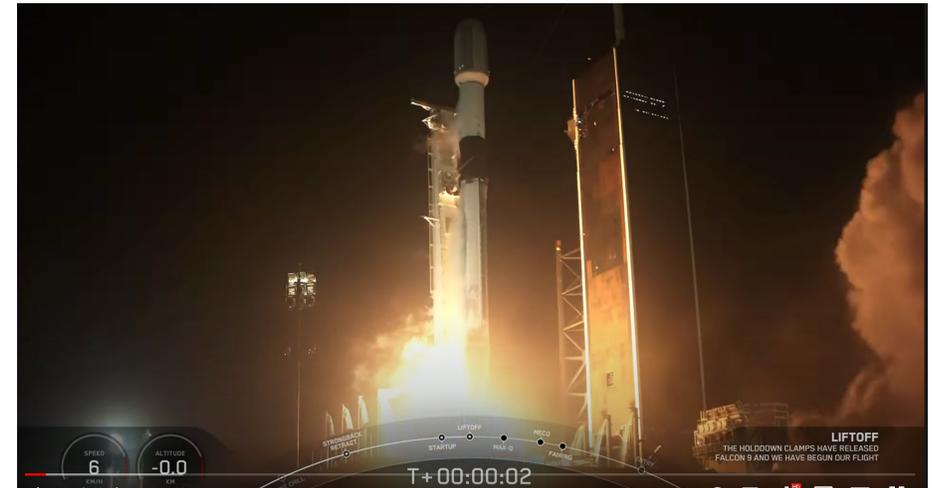
Rocket Mortgage Delivers Twice the Value in Half the Time at Scale

- Implemented scaled agile framework with 26 release trains for 17000 people growing to 22000 team members and 41 release trains in 2021.
 - Cycle time for feature development dropped from 86 days to 42 days.
- The Brand Marketing release train, the digital storefront deployed scaled scrum patterns.
 - Scaled scrum patterns reduced average cycle time to 11.6 days which was 720% better than original baseline.



Rocket Mortgage Moves from a SAFe Culture to a Delivery Culture

- Implement True Scrum
- Streamline organization and meetings
- Total focus on delivery
- Strong DevOps implementation
- Went from delivering every quarter to delivering multiple times a day
- Used new capabilities to bring up COVID testing system for city of Detroit in one week.
- Now rolling Scrum@Scale model across the enterprise, upgrading all SAFe implementations



“Rocket Companies’ record-breaking fourth quarter and full year 2020 results demonstrate the sheer power of the technology platform we have built and refined for more than two decades.” Jay Farner, Rocket Companies’ vice chairman and CEO

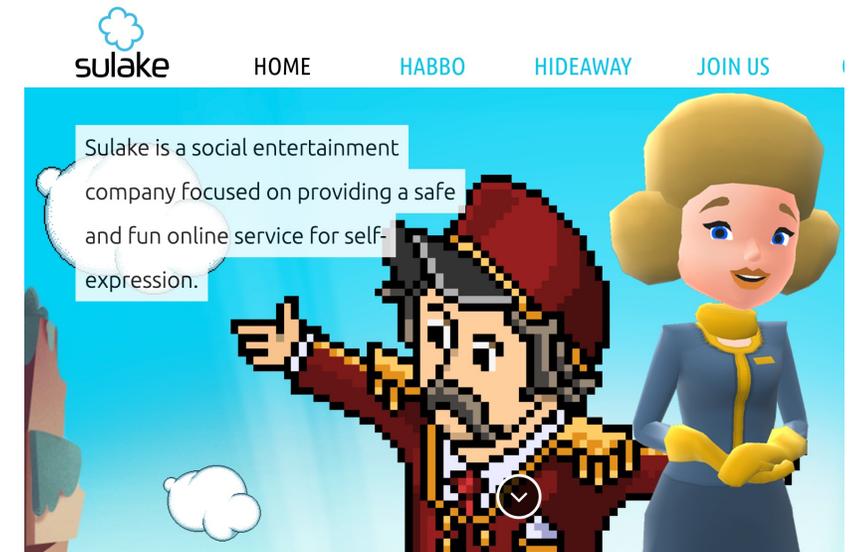
HBR Findings on Delivery

- “Here's what we know: transformation doesn't succeed unless everyone's on the same page. A clear taxonomy that launches the right cross-organizational teams makes such alignment possible.”
Harvard Business Review
- **Rocket Mortgage** showed how to achieve proper alignment. They took one of the largest and best agile transformations and increased SAFe productivity 400% with Scrum@Scale
- 15 roles in SAFe were reduced to the 3 roles in Scrum
- Meetings were limited to Scrum@Scale meetings focused on delivery
- Quarterly deliveries were reduced to daily deliveries
- 2021 revenue tripled and profitability was up 900%

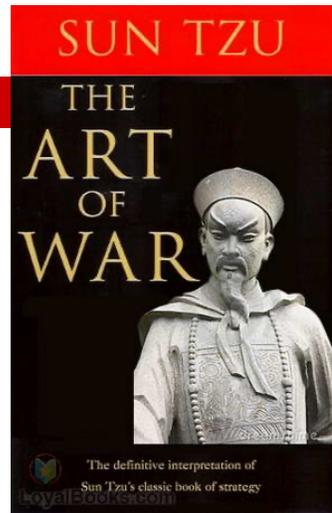


Agile Transformation Requires Managers Who Become Leaders

- [Virtual Reality Meets Scrum: How a Senior Team Moved from Management to Leadership](#) Dina Friis, Jens Ostergaard, Jeff Sutherland. [2011 44th Hawaii International Conference on System Sciences](#) Year: 2011, Volume: 1, Pages: 1-7
- The biggest challenges of Scrum for managers were keeping up with the team and learning to “let go” and stop micro-managing the teams.
- Managers report Scrum increases productivity (73%), increases quality (58%), and makes it easier to change direction (84%).
- The role of the manager changes from telling people what to do into communicating goals and visions (a key insight of Takeuchi and Nonaka). Increased responsibility of the team affects hiring practices of managers in a Scrum company.
- Most common comment, “My job changes from a manager to a leader.”



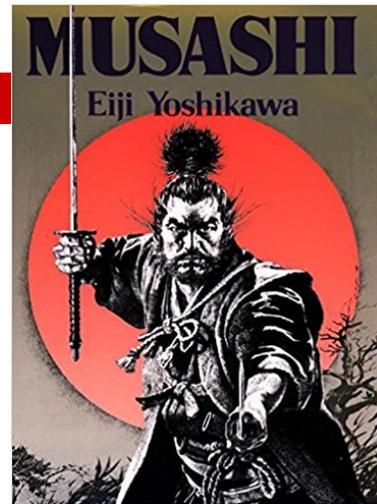
What is an Agile Leader?



Sun Tzu
孙子

Subdue the enemy
WITHOUT fighting
不战而屈人之兵

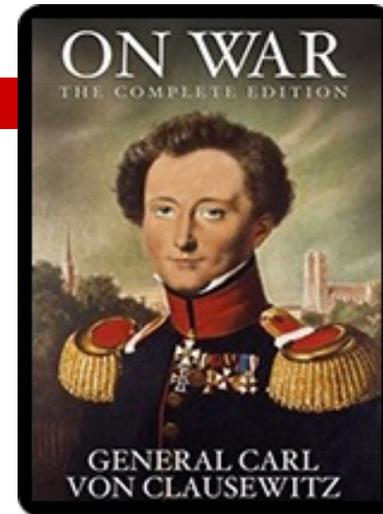
Problem: 30% of your people do not want to change!



Miyamoto Musashi
宫本武藏

Creator of 2 sword combat:
one for long & one for short range
长短剑组合：

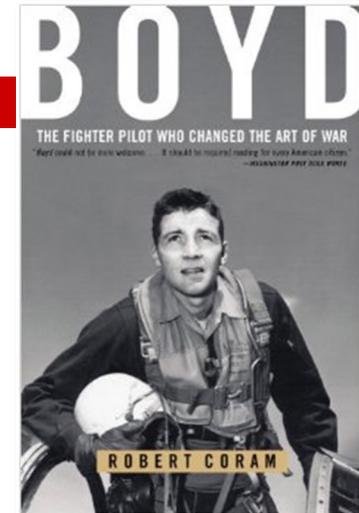
Problem: Short term emergencies cripple your long term strategy!



General Von Clausewitz
冯·克劳塞维茨将军

Cutting through
the "Fog of War"
拨开“战争的迷雾”

Problem: When things go wrong people blame someone else, you lose key people and confusion is rampant!



Colonel John Boyd
约翰·博伊德上校

OODA Loop
Situational Awareness
OODA循环， 情境意识

Rapid iterative response to opposing forces assures success!



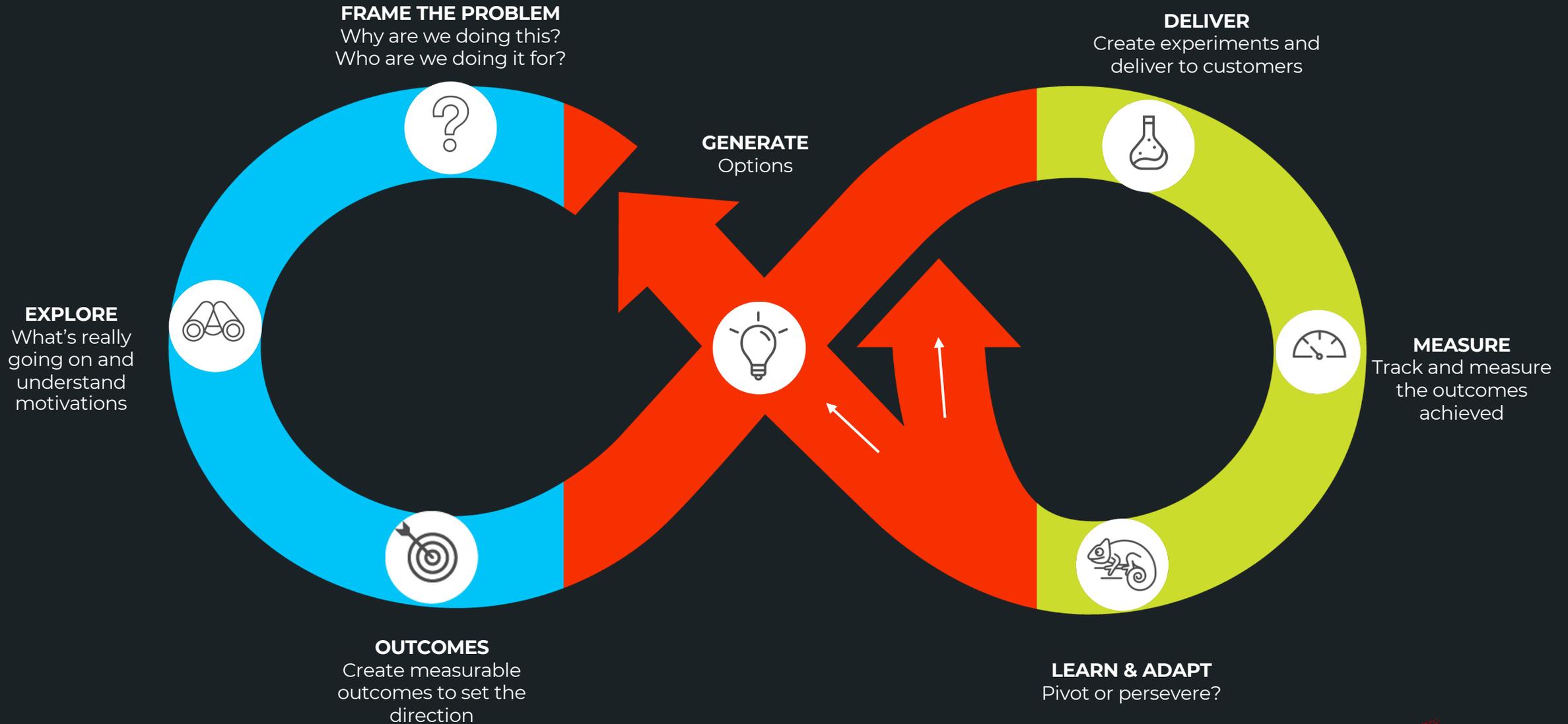
The Scrum Way: Agile Execution

- **Your speed decides your power**
 - *Remove impediments quickly*
- **You must hit at the right moment to release the power**
 - *Holding on to ineffective ways of doing things will block delivery*
- **There is a right way to do this**
 - *Practice, practice, practice*
- **You will do it, come on**
 - *The world will be changed*



Scrum in Patient Care

Lean startup, lean canvas



Scrum Increases Patient Output by 700%

Managing Interrupts, Reducing Specialization, Eliminating Handoffs

Manage Interrupts
Create cross-functional team
Focus on the goal



GOAL: 100 PATIENTS A WEEK TO BREAK EVEN

January 2022: CAN TREAT 10

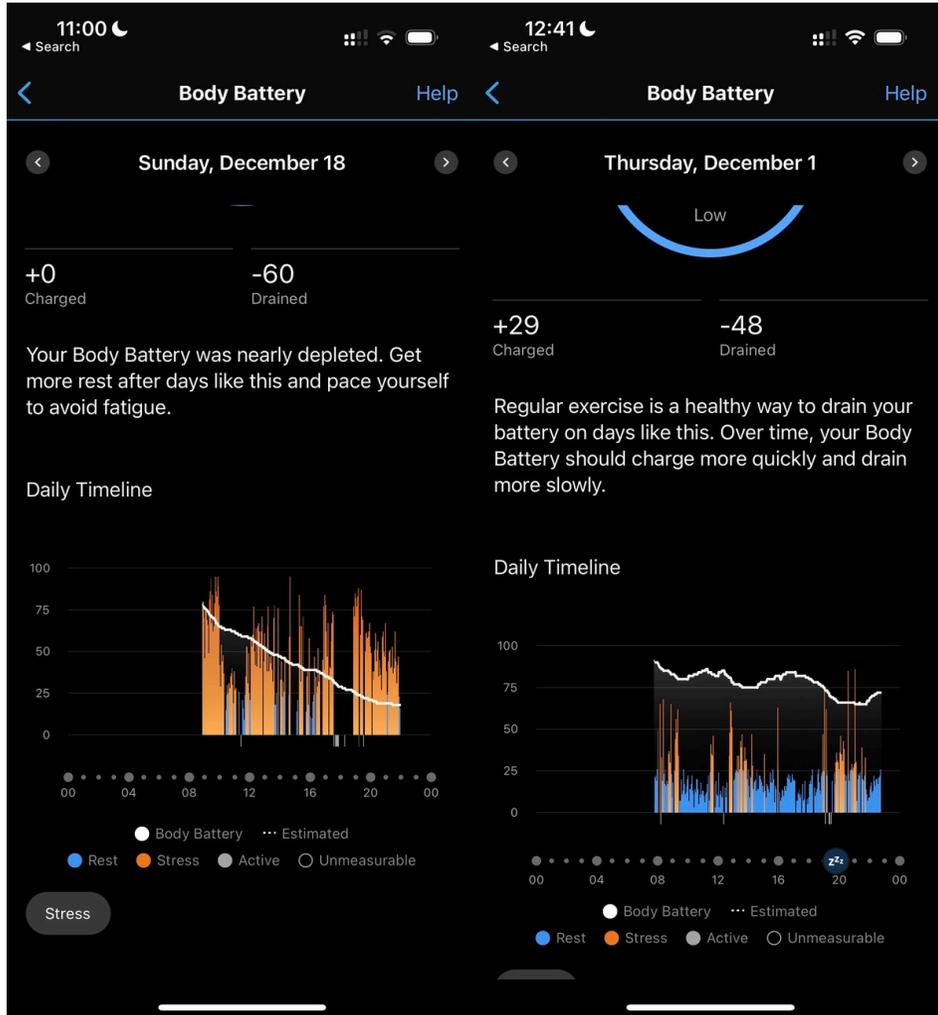
IMPEDIMENTS: SPECIALISTS AND HANDOFFS

SOLUTION: SCRUM THE CLINICAL TEAM

Jan 2023: CAN TREAT 70

Scrum in Healthcare Goal

Twice the Energy with Half the Stress!



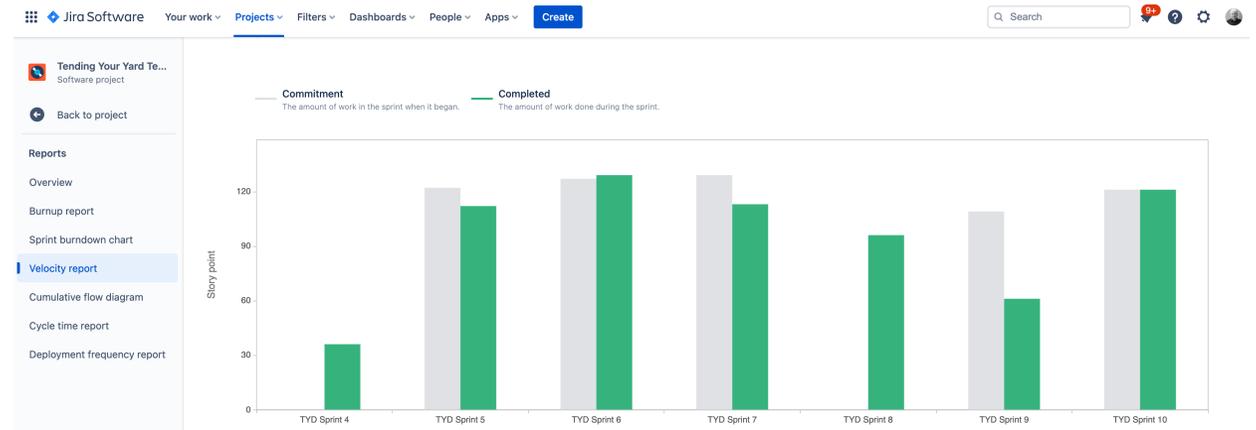
- Weekly remote scans and followup
- Measurable results
- Eliminates 50% of doctors visits and hospitalizations
- 10 times as effective
- 10 times cheaper
- 10 times more fun



Scrum in Healthcare Web Team – Agile Vendor Management

400% Increase in Velocity in a Few Sprints

- Less than 30 points for four sprints
- Popped to 120 after coaching PO and SM
 - Faster handoff and collaboration on deploying new web pages
- Took a hit over holidays and power outage in Odessa



Close with Hardware Example

John Deere transitions from SAFe to High Performance

- Scrum@Scale analysis specified initial target as Supply Chain Management
- Velocity of supply chain improvements increased 1000%
- Production increased 1500%
- Stock price went up almost 400%





Case Study

Agile Unleashed at Scale:

How John Deere's Global IT group implemented a holistic transformation powered by Scrum@Scale, Scrum, DevOps, and a modernized technology stack



JOHN DEERE

scruminc.

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Explore Our Latest Case Study

Senior leadership "Bet the farm" on **Scrum** and **Scrum@Scale**. It took less than two-years for that bet to more than pay off.

Key results include:

- ✓ Output up at least 165%
- ✓ Time to Market reduced by 65% or more.
- ✓ Employee Net Promoter Score is up 20-points
- ✓ Return on investment is estimated to be greater than 100%
- ✓ An empowering culture where agility is part of the John Deere DNA

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