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MORALE MAXIMIZES VELOCITY

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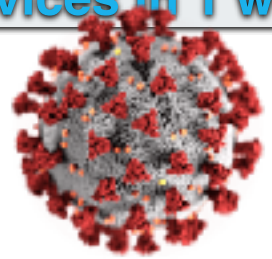
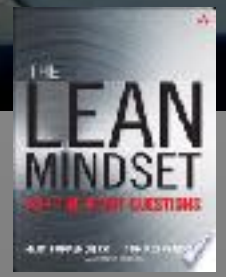
COVID Executive Response: How to pivot to making Essential Products and services in 1 week



Harvard Business Review

Harvard Business Review: http://hbr.org/product/team-wikispeed-developing-hardware-the-software-way/an/ES1391-PDF-ENG



Forbes

CNN Money

FORTUNE

Forbes: http://www.forbes.com/sites/stevedenning/2012/05/10/wikispeed-how-a-100-mpg-car-was-developed-in-3-months/
Forbes: http://www.forbes.com/sites/stevedenning/2012/08/01/transformational-leadership-in-agile-manufacturing-wikispeed/
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Forbes: http://www.forbes.com/sites/stevedenning/2012/09/24/how-manufacturing-can-learn-from-software-to-become-agile
CNN Money Fortune https://fortune.com/2012/06/18/how-companies-ought-to-train-their-staffers/

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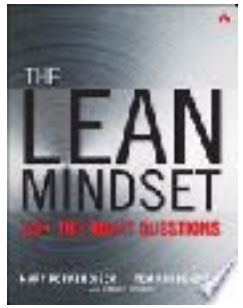
"MORALE MULTIPLIES VELOCITY"
"If you are not growing you are dying"
"An XL project is really 18 XS projects waiting for modular architecture"

- **Author of Scrum Hardware Guide**
- **Chair of Agile Business Institute**
- **Creator of eXtreme Manufacturing Methods**



Learning in: Lockheed Martin, Google, Amazon, Microsoft, Boeing, USAF, HP, Tesla, Toyota, MIT, Siemens, Pictet Bank, and 100+ more.

Forbes

Harvard Business Review

CNN Money
FORTUNE

TEDx
x = independently organized TED event

Discovery CHANNEL

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シアトルのソフトウェアコンサルタントです。

abc
6:14 52°

OFFICIAL

Geely's Volvo Cars lays off 1,300 in Sweden as coronavirus slump takes hold

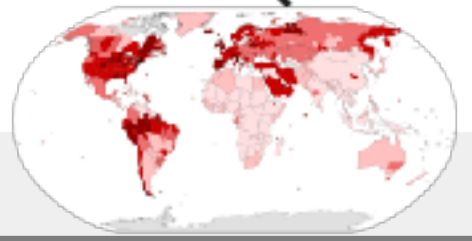
Volvo needs cash in the crisis, just like everybody else

Volkswagen projects the pandemic will drag on, with sales down 15-20%

We Don't Know The Total Effect of COVID19 On Organizations, But We Know They Are Undergoing Organizational Change, Quickly, Right Now

OFFICIAL

Ford, as foreshadowed, posts $2 billion 1Q loss, blames coronavirus



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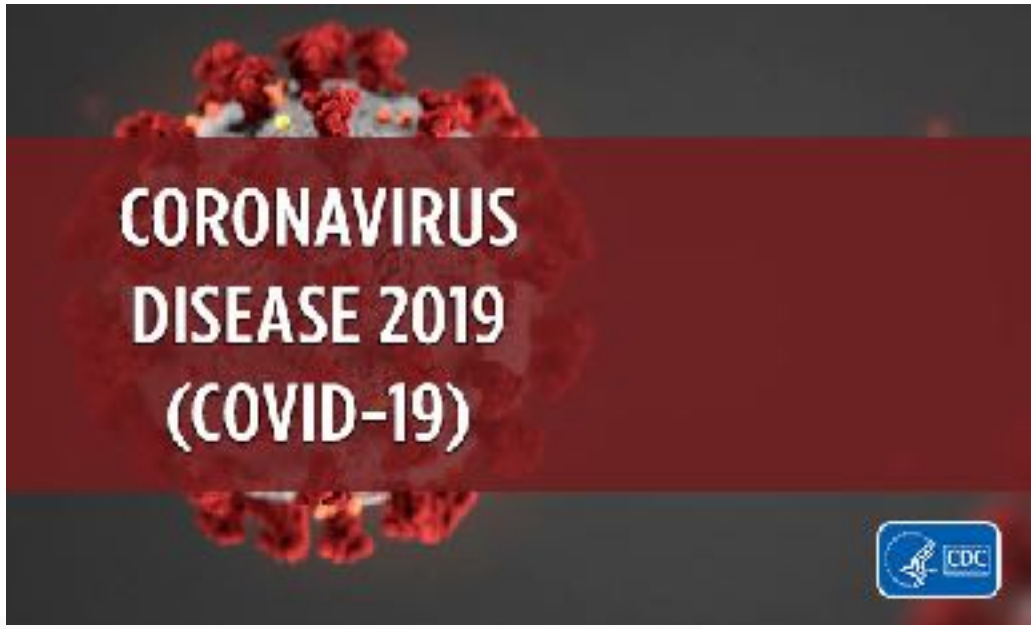
CDC director warns second wave of coronavirus is likely to be even more devastating

Director of the Centers for Disease Control and Prevention Robert Redfield said April 22



Source: Washington Post

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My COVID Test

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Building Design and Construction in 3 weeks

By Sean Ryan – Reporter, Milwaukee Business Journal
Apr 12, 2020, 5:00pm EDT

The call came on March 15, three days into Wisconsin's public health emergency, and the mission was to design and start making modular hospital facilities for people suffering from COVID-19 within three weeks.

https://www.bizjournals.com/milwaukee/news/2020/04/12/boldt-hga-raced-the-clock-to-develop-modular.html

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FEATURED

Autoworkers step up to make medical gear despite the risks

Most could have stayed home but wanted to help

ASSOCIATED PRESS
Apr 25th 2020 at 9:00AM

1 comments

Agile Mono-tasking: Manufacturing with just one project is really fast

- GM: Idea to mass assembly in 3 weeks. Goal 30k units by August.
- Ford: logistics on-line delivering essential gear with 3m.

Agile Coaches can help these teams!

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3 weeks from idea to tooled mass production
(with customer feedback!)

"There is a group of a dozen or so amazing people at **Toyota North America** who have been working tirelessly for the past 2-3 weeks to ramp up production of medical face shields to donate as part of Toyota's #COVID19 response effort. The team includes **Tom Wipert**, **Kirk Barber**, **Leah Almeling**, Dallas Martin and quite a few others

The communications team talked to local hospitals to figure out what was most needed, then our TILT Lab team began rapid prototyping using #3dPrinting. With customer feedback from local hospitals they were able to iterate on the design quickly. Next they created a 3D printed #InjectionMolding die insert to scale up quantities while more durable dies were being machined. Now they're cranking out over 10,000 per day and have shipped 112,000 to date! They're also ramping up other Toyota facilities to produce more and working on plans for making other critical supplies too." -Mike Tromans, Manager, Toyota USA

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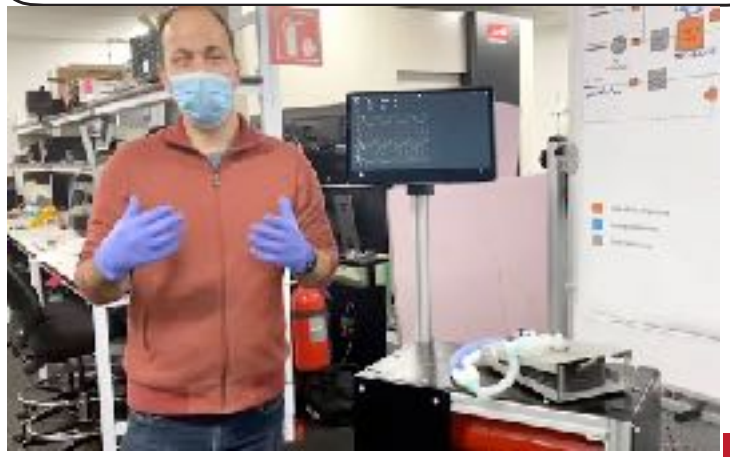
Growing During Crisis

Ventilators: idea to V2 in 18 days

Tesla April 5, sprint demo of rev 2 functioning.
Second rev April 4.
April 3 doctors receiving ventilators
Mar 31 nyc hospitals received ventilators.
Mar 27 committed to give away ventilators.
Mar 26 started delivering bough ventilators.
Mar 25 ventilator in house design began.
Mar 23 California gov confirms ventilators delivered.
Mar 22 50,000 masks delivered to Washington state doctors, and PAPR helmets.
Mar 21 discussion with Medtronic on state of the art.
Mar 20 space x and Tesla working on ventilators.
Mar 19 called hospitals to confirm what they need
Mar 18 evaluated what Tesla and spaceX could build.



You can watch the V2 demo here: https://www.youtube.com/watch?v=zZbDg24dfN0

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Unlikely but Wildly Successful Anyway

- These projects suffered from a worst case scenario of project management:
  - Changing requirements even late in development
  - No defined processes and tools for the response
  - Lack of clear contracts
  - No agreed plan
- And they still shipped 5200% faster than business as usual with high customer satisfaction. Why?

5200% faster based on a MMC cycle of 3 years, versus 3 weeks idea to delivery

High Customer Satisfaction derived from social media gratitude displays from hospitals and are workers around the world

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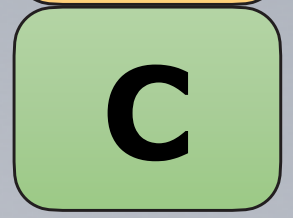
Project A

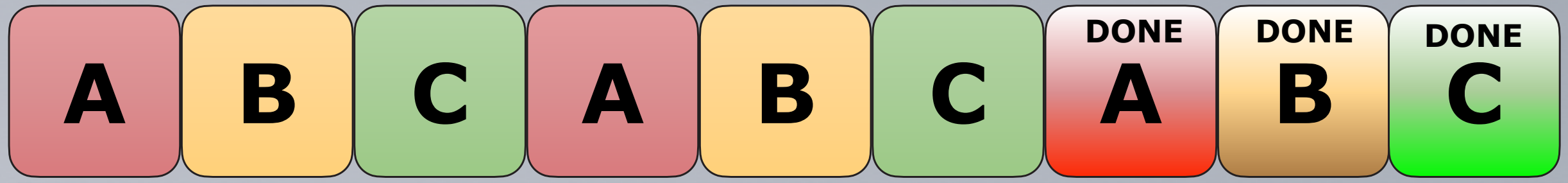
Project B

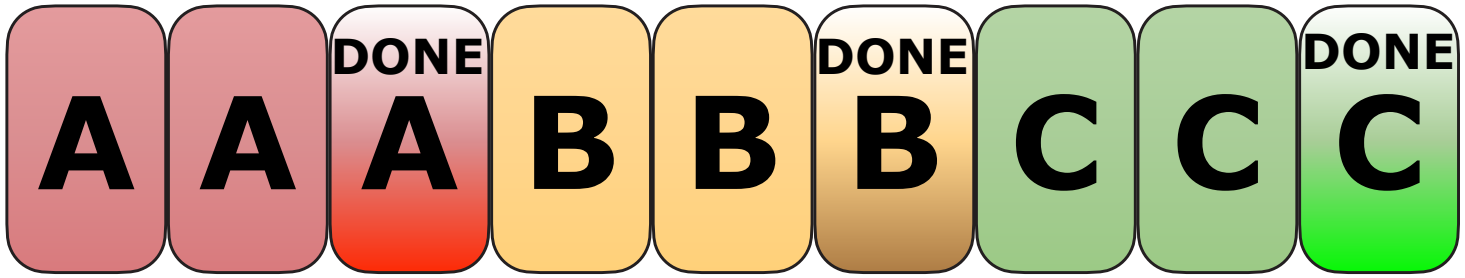


Project C

Why did it work?
Agile Mono-tasking

source: Joe Justice original research on ~3,500 people and Weinberg's Table of Context Switching Loss





A 500% FASTER
B 250% FASTER
C 167% FASTER

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Ford autoworkers could use buzzing wristbands to maintain distance

The wristbands warn when workers get closer to each than six feet

JOE LORIO

Apr 15th 2020 at 9:15AM

2 comments

Industries that have been shuttered due to coronavirus concerns are eager to get restarted, but how to protect workers and avoid spreading the disease? According to

Mass Production is pivoting

- Temperature checks
- Social distancing
- Extra shift time for disinfecting tools and work space

Source: https://www.autoblog.com/2020/04/16/ford-factory-worker-buzzing-wristbands/

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Barriers

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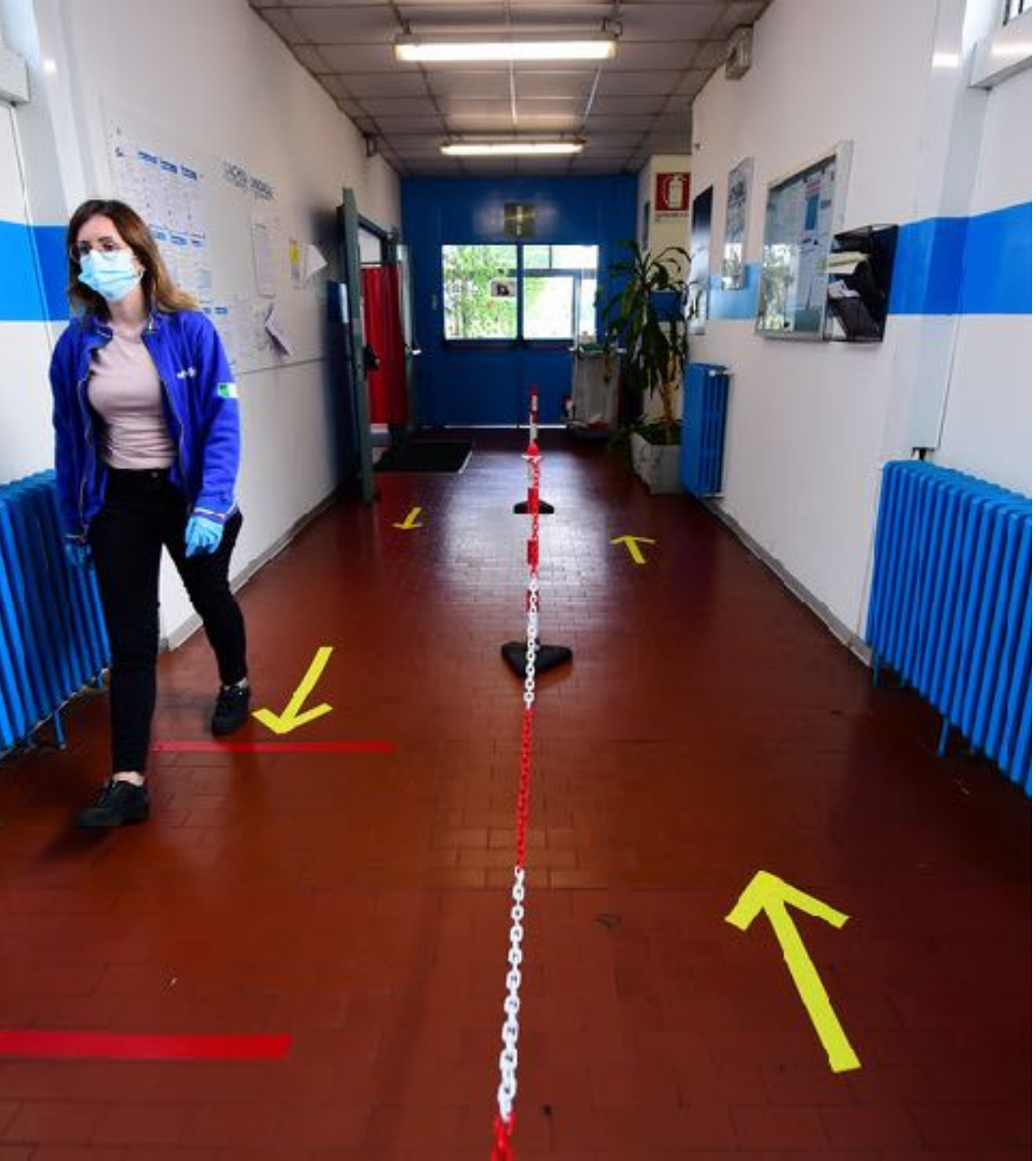

Lanes

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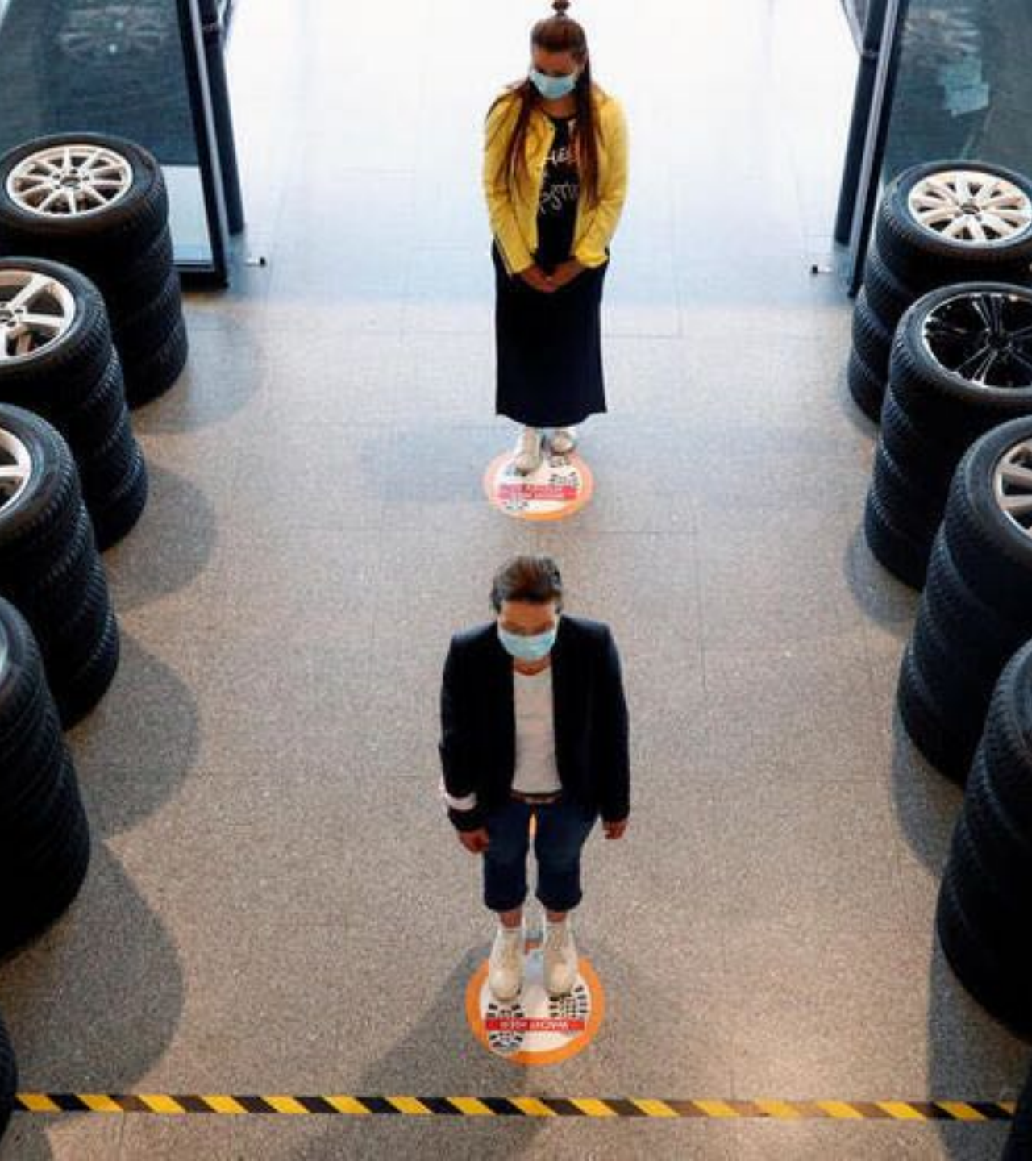

Queuing Points

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Customer experience is changing

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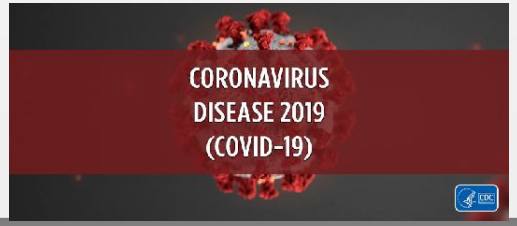
Solution

Paolo Sammicheli
Agile Coach, Author
Sienna, Italy

- The emerging solution seems to be working in isolated, autonomous small teams
  - Agilists have decades of skill optimizing this
- Remote shift change meetings
  - The Scrum of Scrums and MetaScrum patterns by Jim Coplien seem to be the most effective template to coach here
- Increasing production by reducing handoffs, cross-training, and developing "full stack" hardware teams capable of completing and testing entire product modules in team
  - T shaped people in cross functional teams
  - Modular hardware architecture with known stable interfaces and TDD
- These isolated, autonomous teams then prioritize their own shift activities and conduct their own impediment removal
  - The Product Owner and Scrum Master role help here



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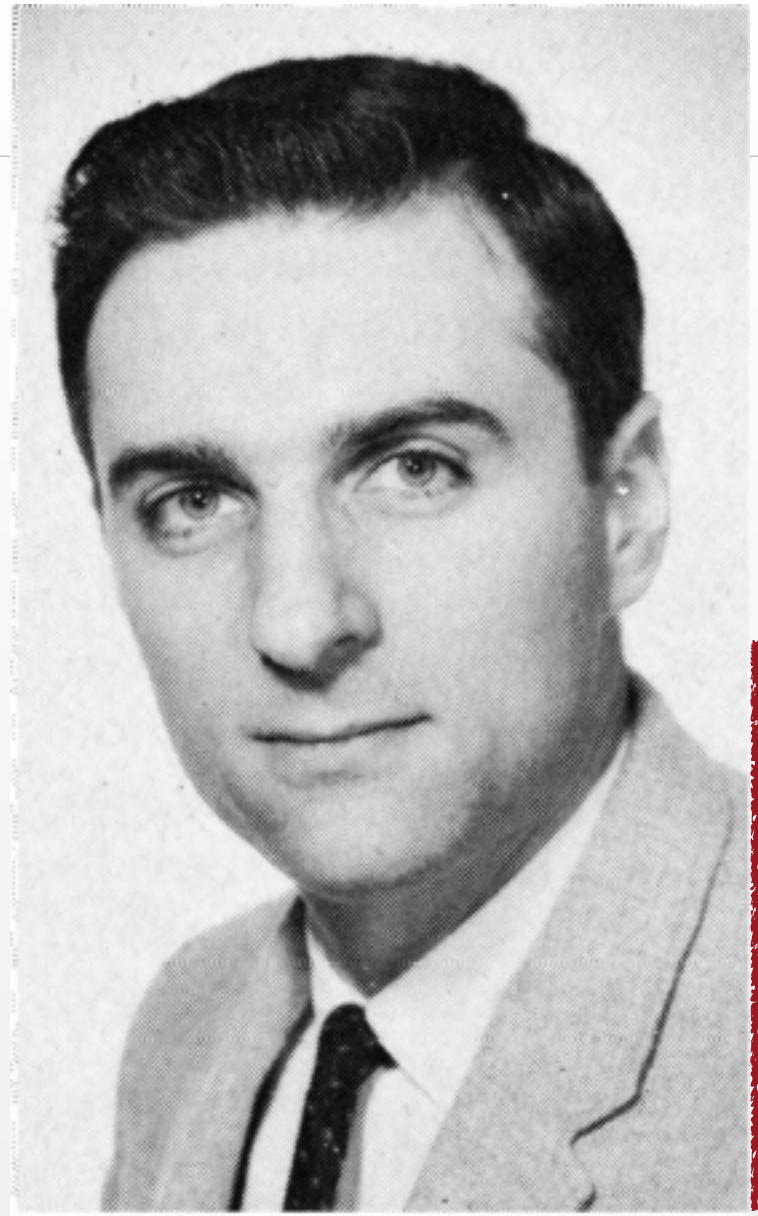
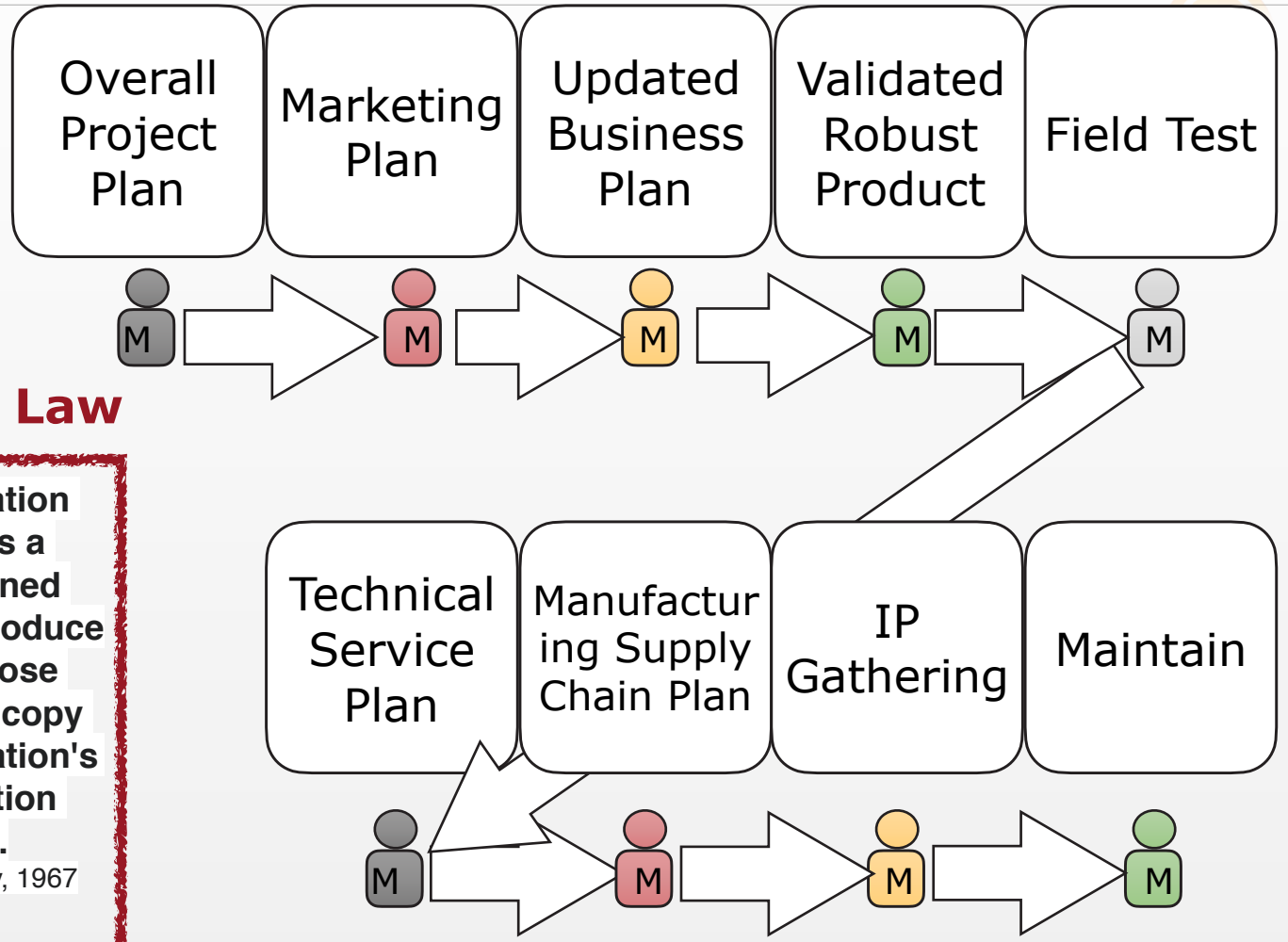
Phase Teams



Conway's Law

Any organization that designs a system (defined broadly) will produce a design whose structure is a copy of the organization's communication structure.

— Melvin E. Conway, 1967



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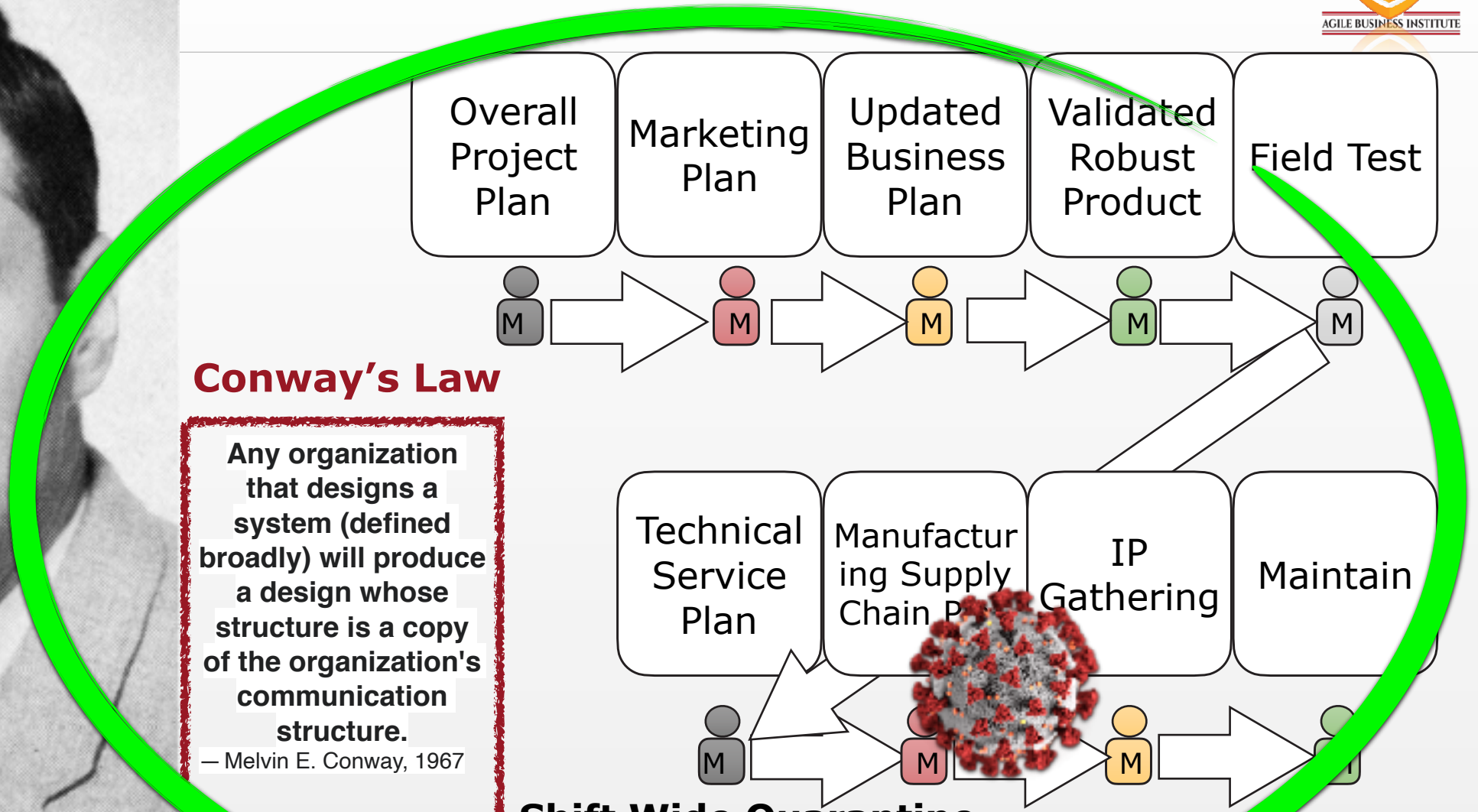

Shift Wide Quarantine
Facility Wide Quarantine
All Work Impacted

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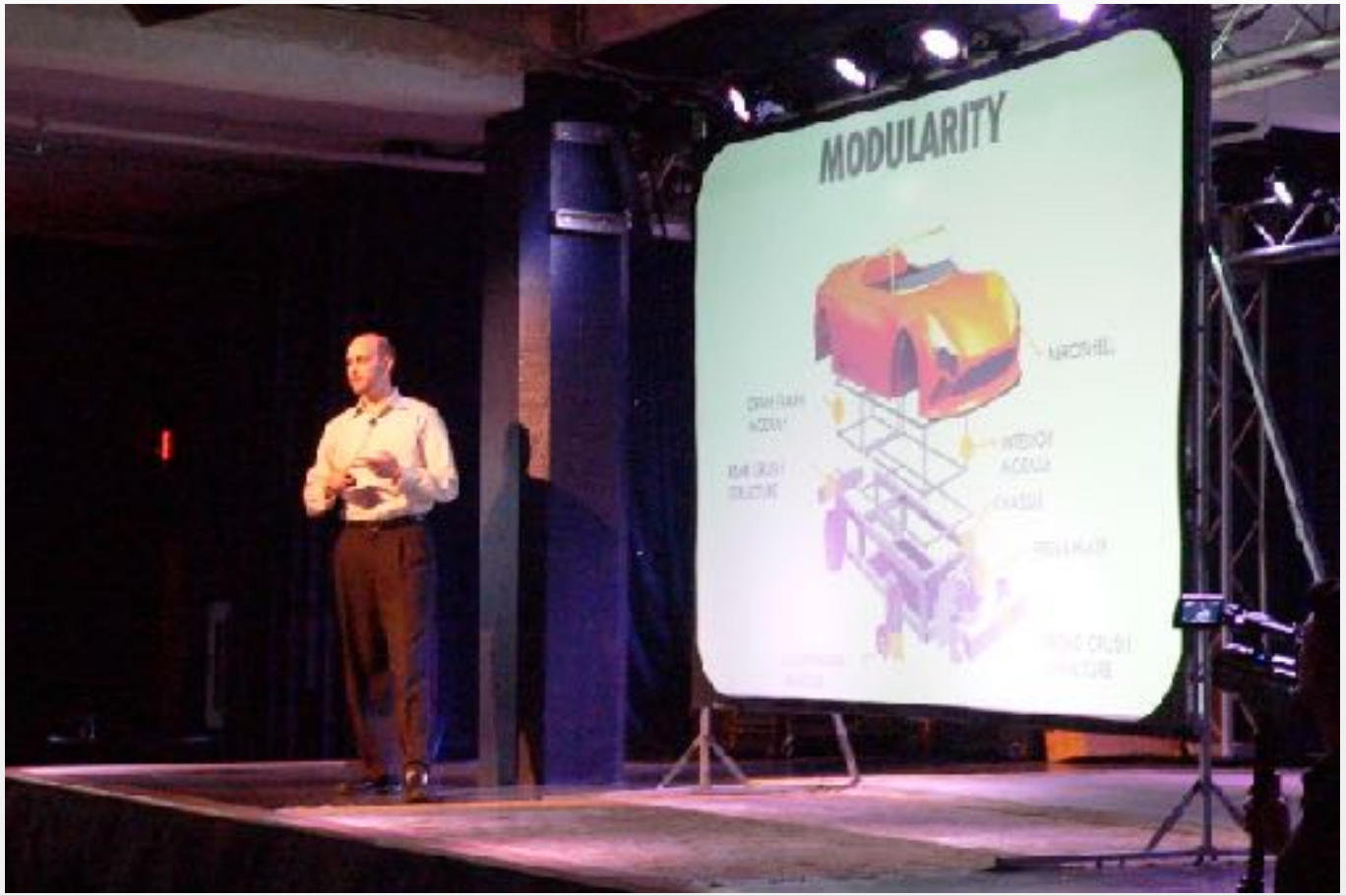
Justice's Law

"The modules of the system define the structure of the organization."

-Joe Justice 2006



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Agile Hardware Seminars
Leadership Workshops
Keynotes
Transformation Consulting
Remote Coaching
Certified Scrum Master
Certified Product Owner
Group Scrum

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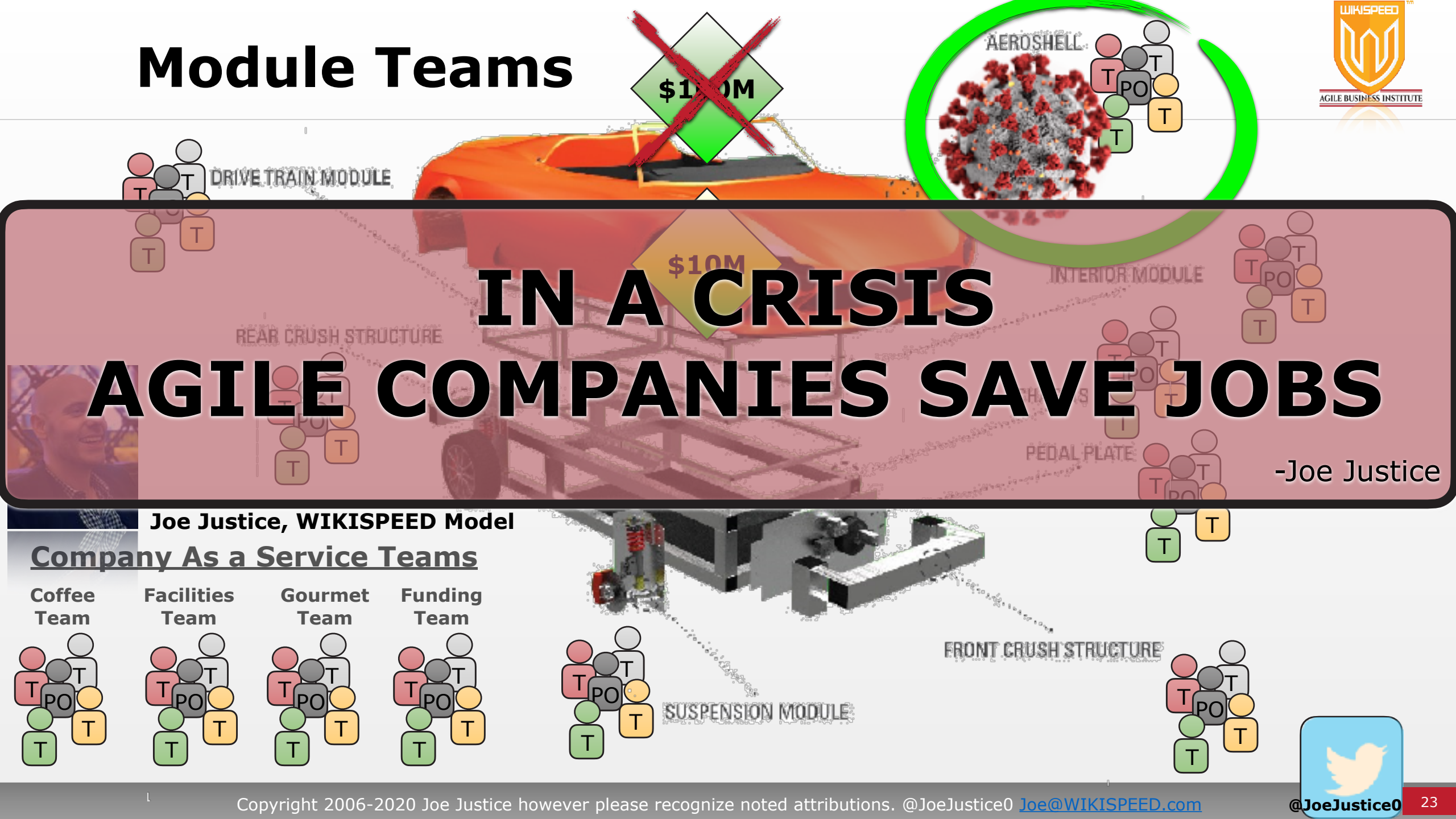
Module Teams



IN A CRISIS
AGILE COMPANIES SAVE JOBS

-Joe Justice

Joe Justice, WIKISPEED Model

Company As a Service Teams

- Coffee Team
- Facilities Team
- Gourmet Team
- Funding Team

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Group Scrum

Release Goal

Release Goal

Module Team | Module Team | Module Team | Module Team

Module Team | Module Team | Module Team | Module Team

PO PO PO PO

PO PO PO PO

Quality Circle

CoP T T T T

CoP T T T T

T T T T

T T T T

Quality Circle

CoP T T T T

CoP T T T T

T T T T

T T T T

Joe Justice, WIKISPEED Model

Henrik Kniberg, Spotify Model

Paul Takken, Tribes & Guilds at ING Bank

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"For Bosch agility is crucial, it allows us to adjust to the increasing speed of the world around us. Agility allows us to remain in a position as an innovation leader."

– Volkmar Denner, CEO of Bosch

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Sprint 1

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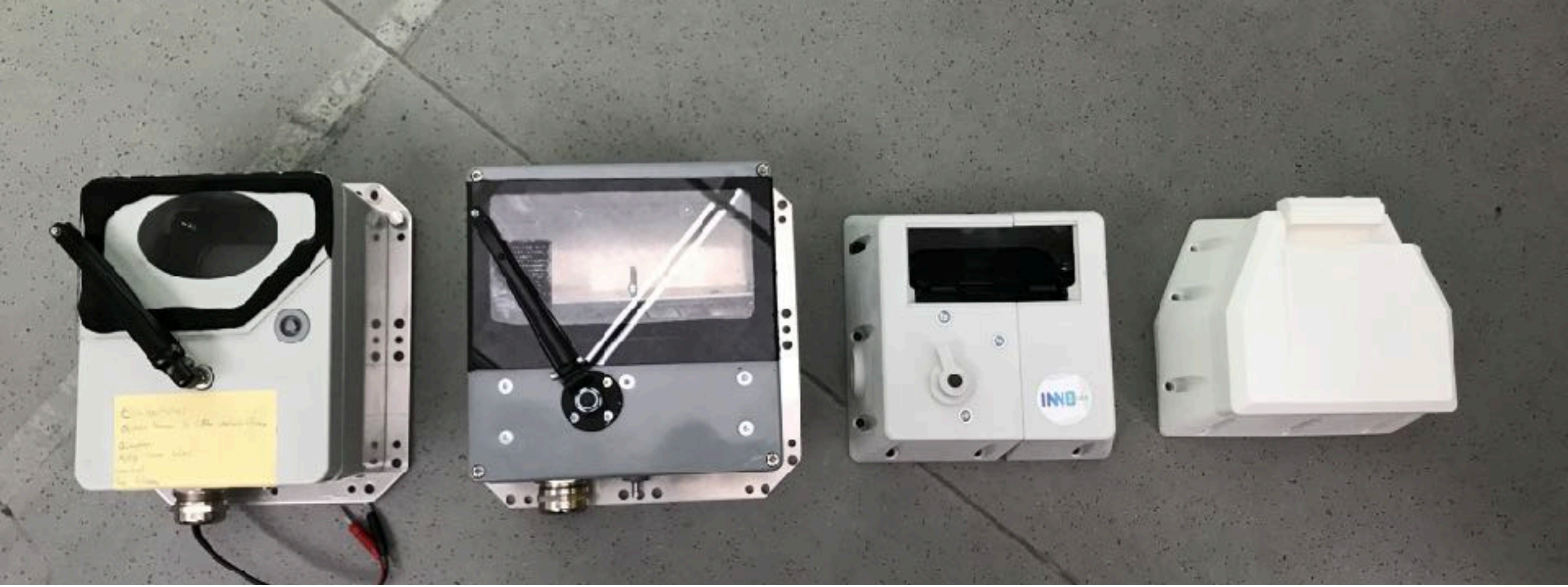

5 sprints

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Basically One Big Party That Never Ends

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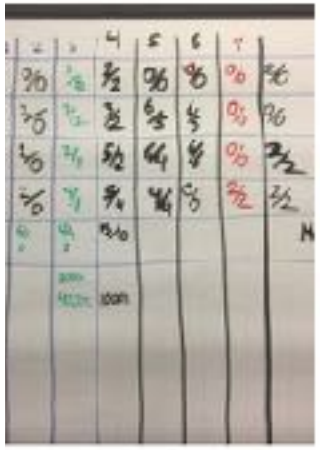

Design, Build, Test: 27 minutes

- If it is a Standard Operating Procedure, automate it.
- Groups of Humans for all the stuff that isn't a SOP.

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JETS
飛行機
21

Jets

How the F35, F22, and SAAB Gripen Build Faster, Cheaper, Lighter with Scrum

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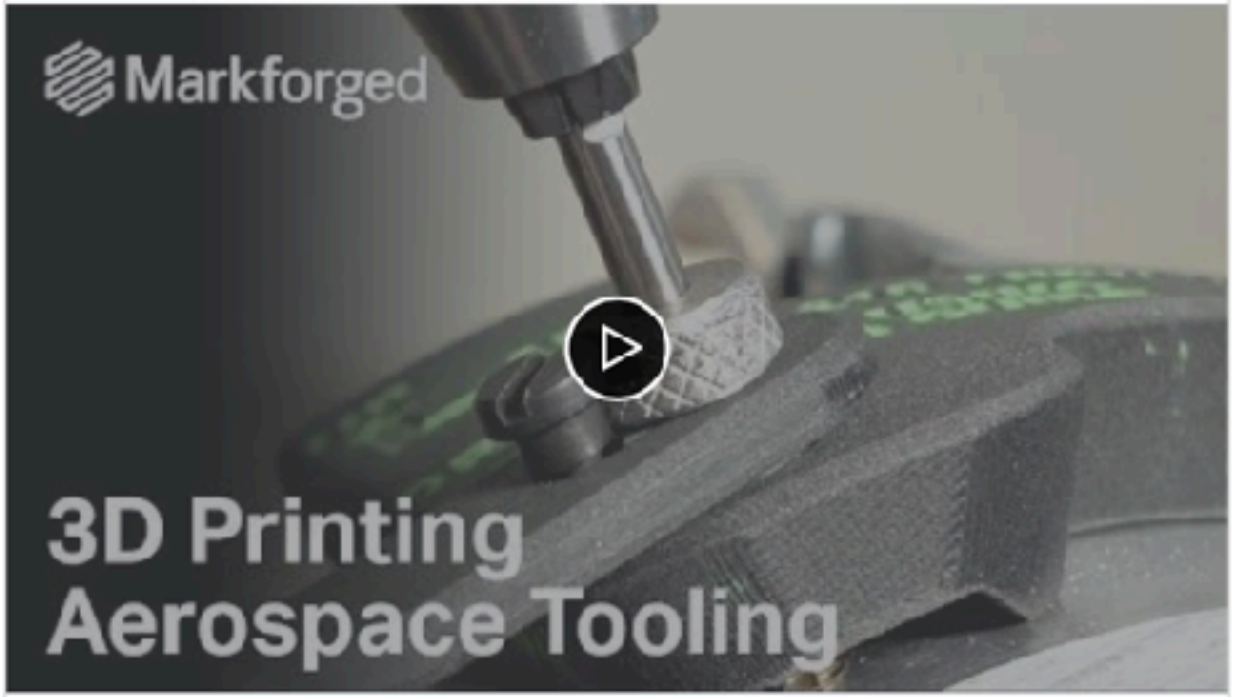
Joe Justice
President and Principal at Agile Business Institute
1d •

This knocks YEARS out of many supply chain feedback loops, increasing the speed of innovation, exciting the engineering staff, and reducing defect resolution time.

Markforged
22,996 followers
4d •

When applied to applications such as drill templates, #3Dprinting can be used as a method to fabricate durable #aerospace tooling while providing significant cost and time savings. https://bit.ly/3bgFG6P ...see more



3D Printing Aerospace Tooling | Drill Templates

Technology to shorten or in-source the supply chain

Drill templates are a common tool used across many industries in manufacturing and are heavily relied on in aerospace tooling. When a drilling operation has to be performed by hand, custom tooling needs to be developed to simplify the process and make it repeatable. A drill template tool makes a cumbersome drilling operation as simple as locating the tool and then drill the hole.

See how 3D printing can be used as a method to fabricate durable aerospace tooling, and when applied to applications such as drill templates can lead to significant cost and time savings. This video provides an overview of the drill template tooling category and then dives into a hands-on example demonstrating design to fabrication to implementation. Throughout the process, the Markforged metal and composite 3D printers are utilized end-to-end to rapidly deploy tooling built to withstand rugged operator use on the shop floor.

Our Website: https://www.markforged.com
Twitter: https://www.twitter.com/markforged
Instagram: https://www.instagram.com/markforged
Facebook: https://www.facebook.com/markforged
LinkedIn: https://www.linkedin.com/company/mark...

Category

Science & Technology

https://www.youtube.com/watch?v=gb66SHmYSPA&feature=youtu.be

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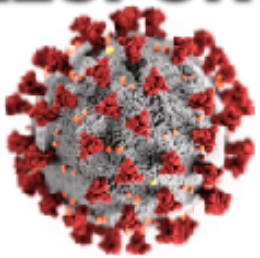
AGILE COVID RESPONSE



Harvard Business Review

Harvard Business Review: http://hbr.org/product/team-wikispeed-developing-hardware-the-software-way/an/ES1391-PDF-ENG

NEXT:

If you own a business:

- identify a member of your board of directors to be a process coach for the business
- Then add process coaches to your teams

If you are the member of a team:

- ask your process coach where you can gain efficiencies in your team

And you are a process coach, or a Scrum Master:

- identify the value stream map of your business, and sharpen your skills at every opportunity

Joe@Justice.fit

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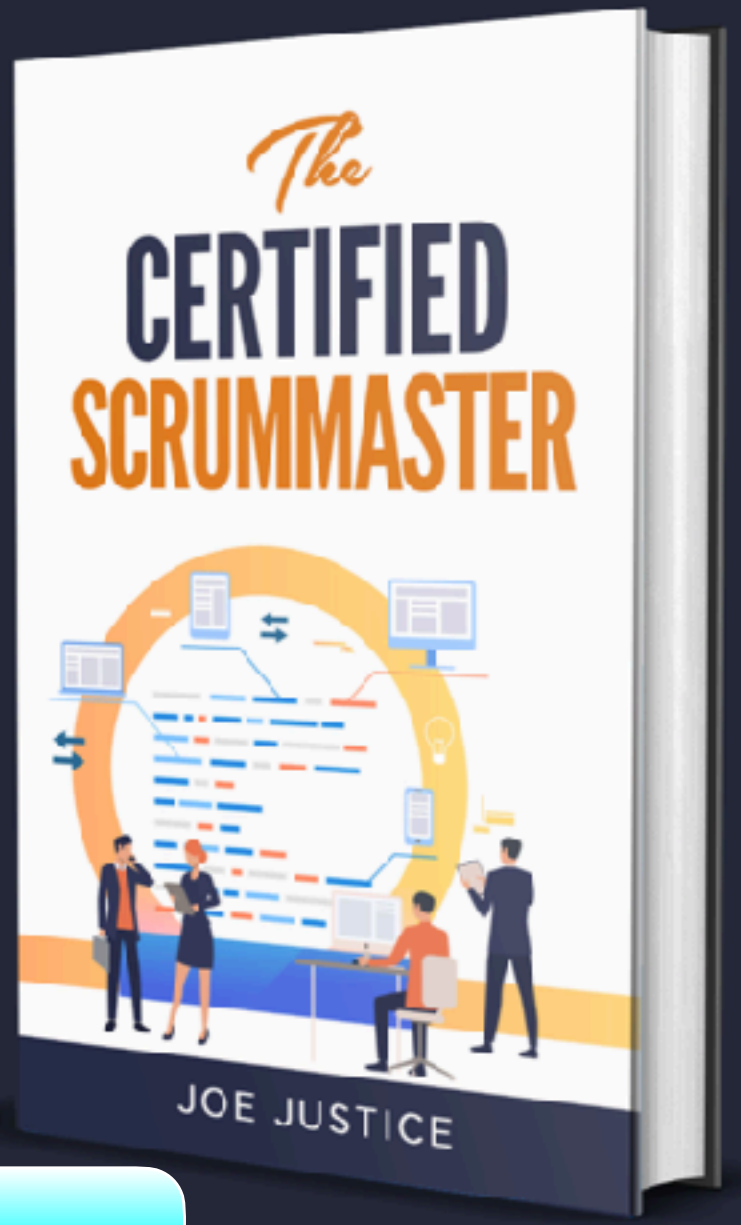

Sign-up below to get an email from Joe and be part of the Beta Readers program for the book!

https://bit.ly/2XKYaqS

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