



Transforming Chaos into Resilience: The Journey of Toyota's Telematics Safety Platform





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Director of Engineering



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TOYOTA
connected

Toyota Motor North America (TMNA)

📍 Plano, TX



The Westin Dallas
Stonebriar Golf Resort...

STONEBRIAR
COUNTRY CLUB



Plano, TX

Toyota Connected
North America
(TCNA)



Voice Agent



Multimedia Software



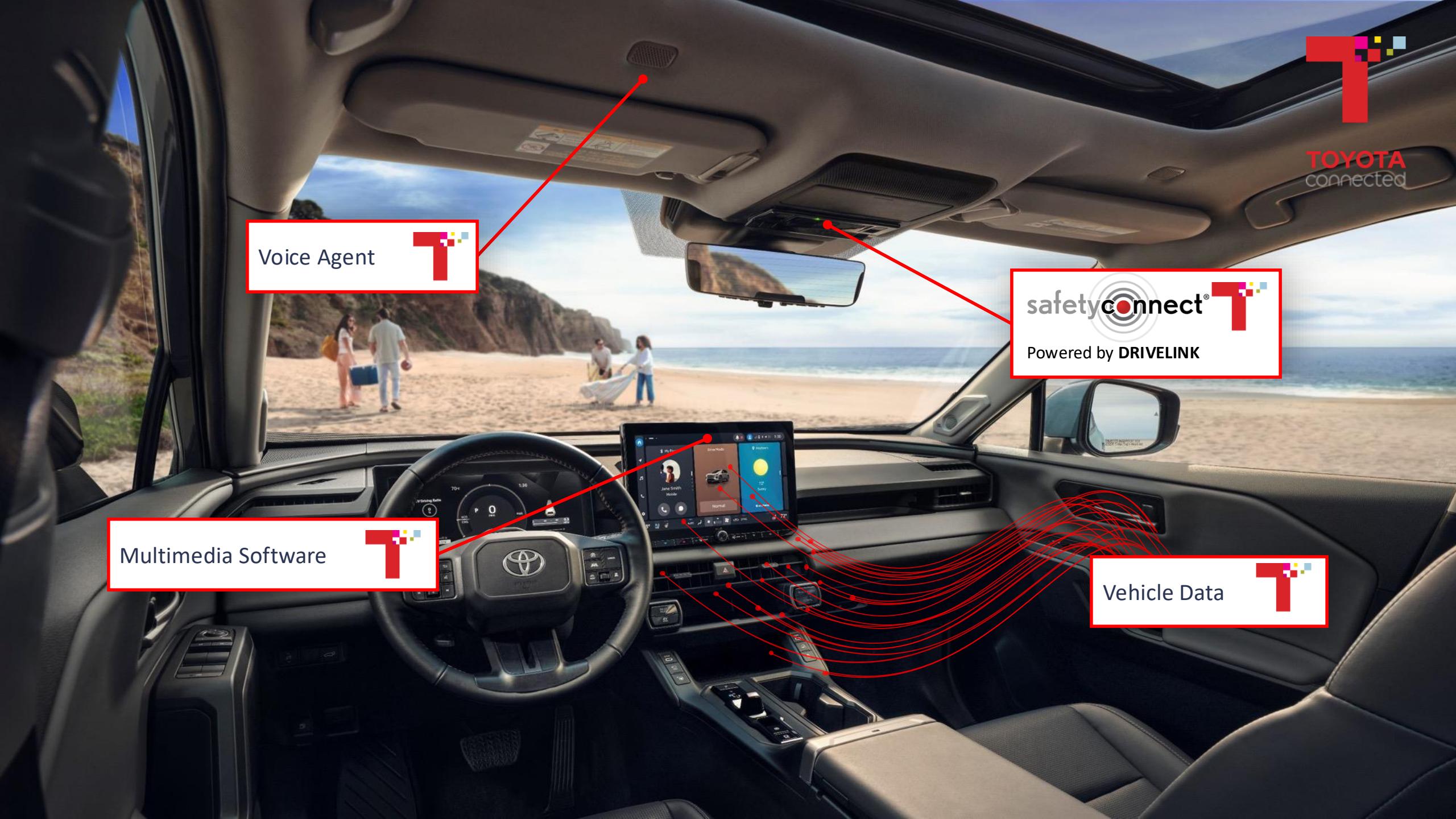
Vehicle Data



safetyconnect®



Powered by DRIVELINK





Powered by **DRIVELINK**



SOS Button





Powered by **DRIVELINK**



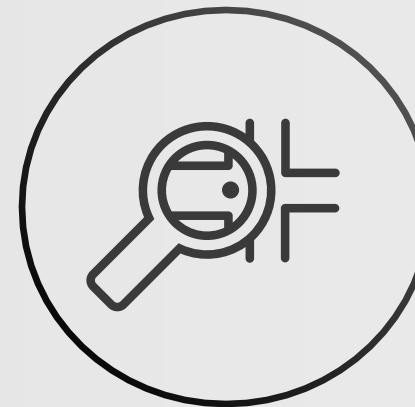
SOS Button



Automatic Collision
Notification



Enhanced Roadside
Assistance



Vehicle Locator



Powered by **DRIVELINK**



Vehicle Activation



Destination Assist



Over 300 trained Safety Agents

Available 24x7x365





Powered by DRIVELINK

By the Numbers



12.5M

Vehicles
activated

5.5M

Calls received

600K

Safety-related calls

35K

Vehicle tracking

Platform launched in **September 2019** in North America



35k

Vehicle tracking

Stolen vehicles

Missing persons

Kidnappings

Carjacking

Homicide

Self harm



**Reliable. Durable.
Built in Quality.**

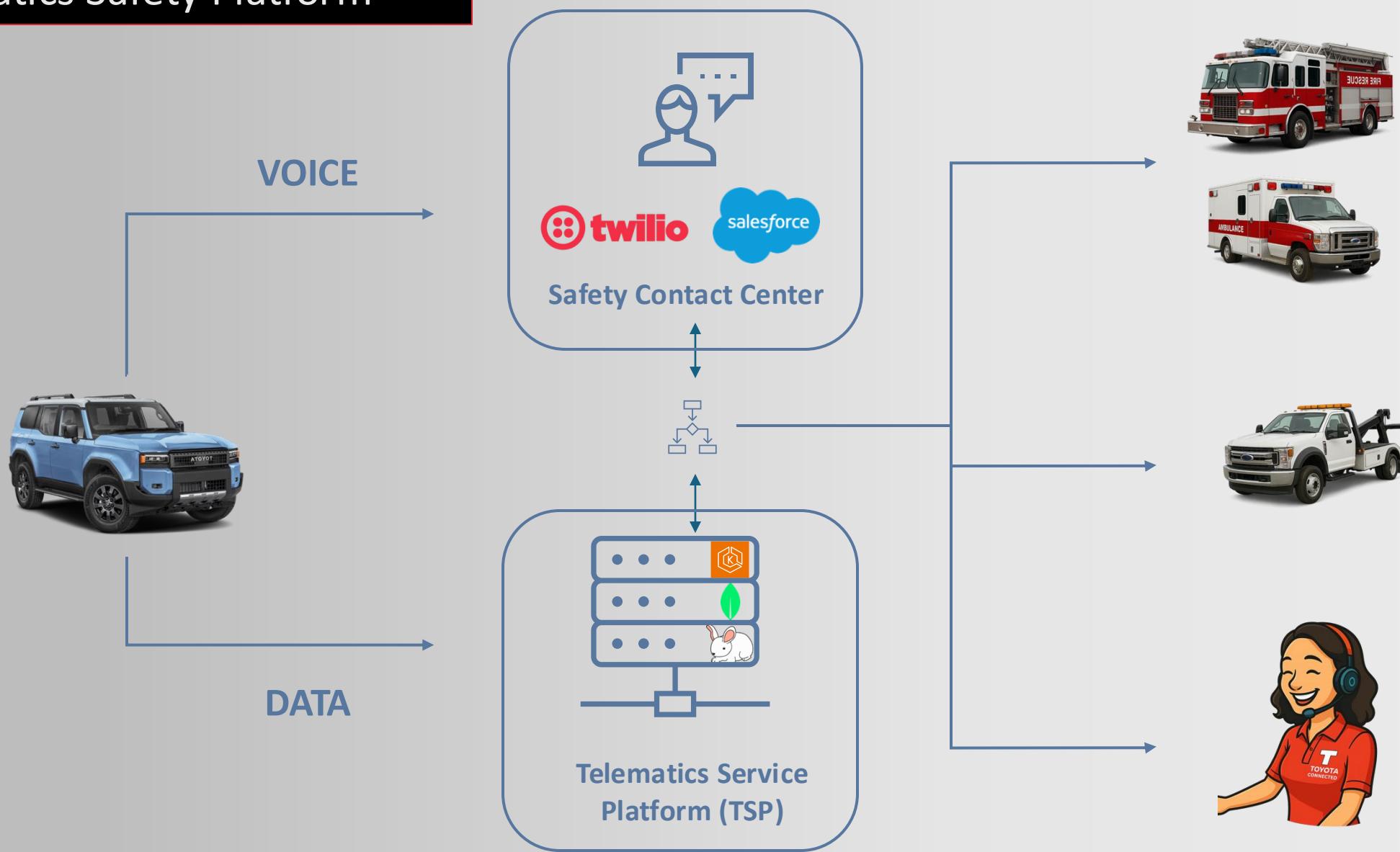


**Reliable. Durable.
Built in Quality.**





Telematics Safety Platform





TOYOTA
connected

- ⌚ **200+ microservices** powering vehicle activation, safety event response, and contact center operations

VOICE



- ⌚ **50k+ custom lines of code** within **Salesforce & Twilio Flex**
- ⌚ Extensible **webhook + AMQP ecosystem** delivering millions of resilient, event-driven messages daily
- ⌚ **Redundant & failover** design across every layer, from vehicle to supplier integrations
- ⌚ **99.99% system uptime** with sub-3 second human-response SLAs
- ⌚ “**You Build It, You Run It**” with **4–5 releases per week**

DATA

Telematics Service
Platform (TSP)





A composite image featuring a woman's face in the foreground on the right, looking slightly downwards and to her left. In the background, a two-story house is engulfed in intense orange and yellow flames, with smoke billowing from the windows and roof. The scene suggests a sense of distress or concern.

March to Production

Tech debt was piling up

Automation was broken

Work wasn't visible

Prioritization was out of whack

Organization was unsettled

A woman with long blonde hair, wearing a dark blazer over a pink top, is smiling warmly at the camera. In the background, a house is engulfed in large flames, with smoke billowing out of the windows and roof. The scene creates a stark contrast between the professional foreground and the emergency in the background.

March to Production

Tech debt was piling up

Automation was broken

Work wasn't visible

Prioritization was out of whack

Organization was unsettled

We built it. Now, we had to own it.



**“You can’t fix what you
can’t see.”**

– Gene Kim, The Unicorn Project



In the Room Where it Happened



ering

be here.

TO GET HERE

TOYOTA PRODUCTION SYSTEM

A dark, industrial factory floor featuring several workers in white shirts and dark pants. One worker in the foreground wears a dark shirt with "TOYOTA" printed on it. In the background, there are large, complex pieces of machinery with labels like "KENR8-1", "KENR7-1", and "KENR4". The scene is dimly lit, with overhead lights reflecting off the metallic surfaces of the equipment.

Toyota Production System



Just in Time

RIGHT PARTS, RIGHT QUANTITY, RIGHT TIME



Jidoka

AUTONOMATION



Andon Cord

Definition: Light.

Used as “Pull the Andon”, the expectation to stop quality defects before they advance.

“

“Having no problems is the biggest problem of all.”

TAIICHI OHNO

Toyota Connected team members are experts in their fields, and everyone is permitted to stop the “production line” if they see a threat to quality



“We have really intelligent engineers, so why restrict them? That’s why we have non-prod environments – to give them the freedom to make everything just a little better.”

“If it doesn’t work, let’s move on to the next thing **that will.**”

- Nate Marshall, Managing Engineer

2 Evolution of Metrics: From Volume to Value



3

Lead With Vision



4

Standardize and Experiment



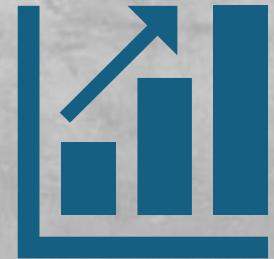
UNDERSTAND
THE DIRECTION



GRASP THE PRESENT
CONDITION



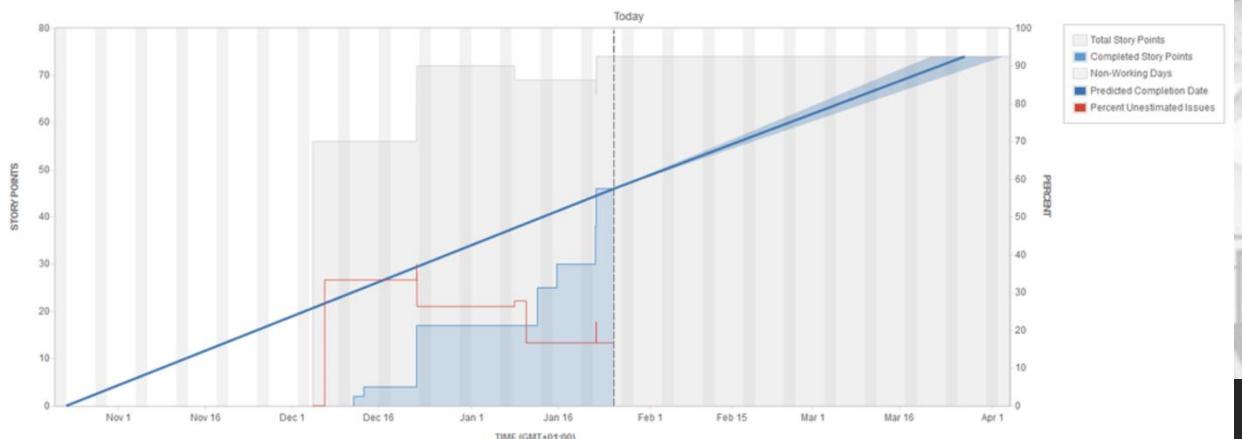
ESTABLISH THE
NEXT TARGET
CONDITION



MOVE TOWARDS THE
TARGET CONDITION
ITERATIVELY



5 Kaizen the Agile Delivery Role



Plans are worthless.



FY24 Roadmap: Product Leadership view

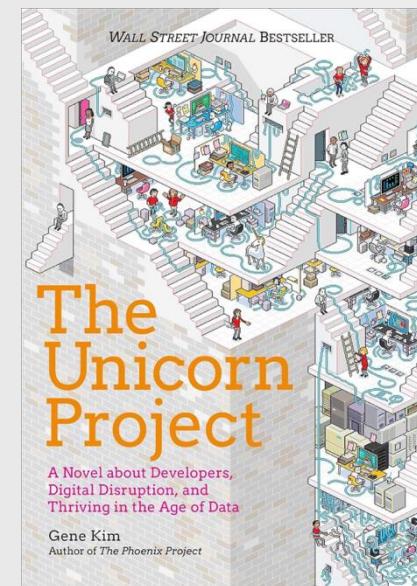
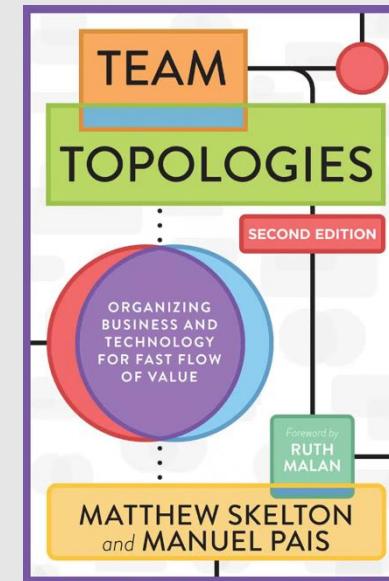
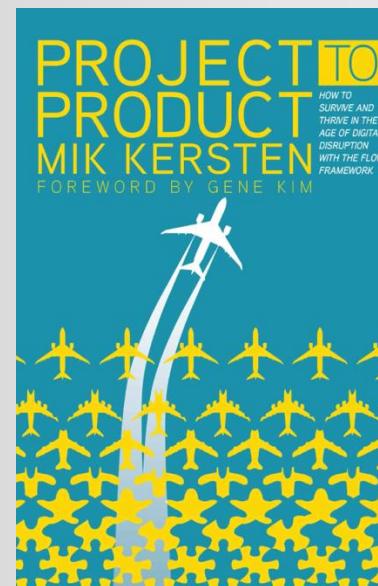
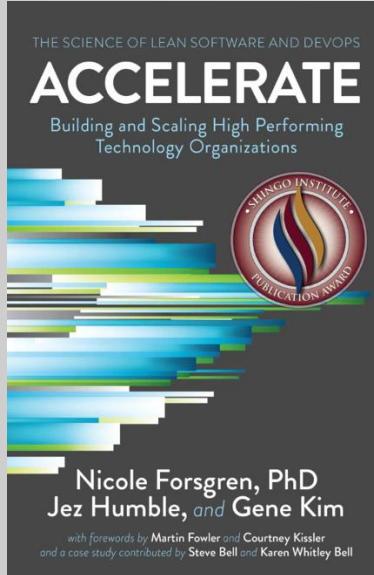
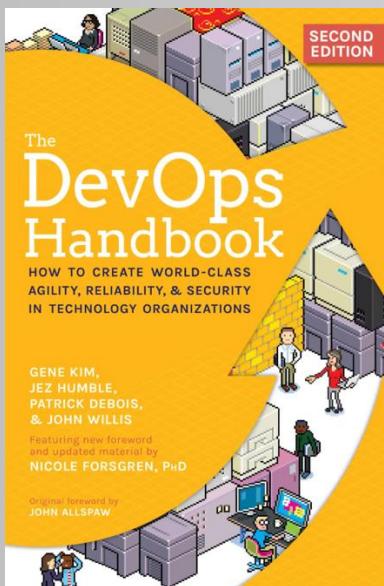
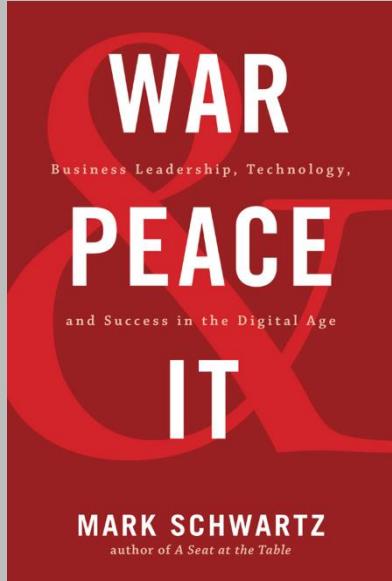
About this view [Filter +](#) [Sort +](#) [Jira Product Discovery](#)

Now: 5 ideas | Next: 4 ideas | Later: 5 ideas | Won't do: 1 idea

Find an idea in this view

Category	Idea	Impact	Delivery
Delight users	Simplified user interface	98	High
	Instant transactions	70	Medium
Build loyalty	Budgeting tool	78	Medium
	Gold rewards marketing push	75	Medium
Self service	Automated tasks	56	Low
	Customised experiences	97	Medium
	Self-service insurance	80	Medium
	Self service: savings accounts	46	Low

The Journey Beyond Scrum Master



seeing Rainbows after reading about UNICORNS

devops doodles about a REALLY COOL book...



"I would, any day of the week, trade off features for our own PRODUCTIVITY"

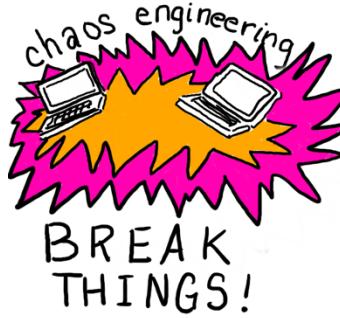
~satya nadella
CEO, MICROSOFT

avoid the STAGNANT VALUE POND

"A bad system will beat a good person every time."
~W Edwards Deming

STOP START FINISHING

"if we can't experiment, we can't LEARN!"
~ MAGGIE LEE



"even HORSES can do UNICORN-LIKE things."
~ Maggie

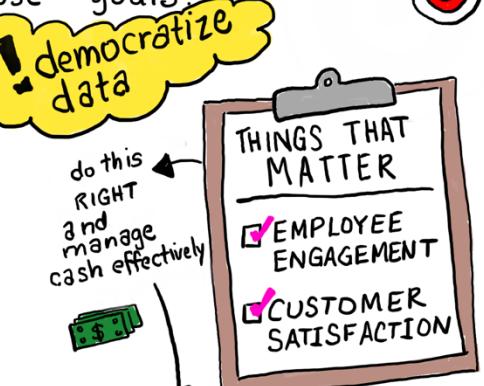
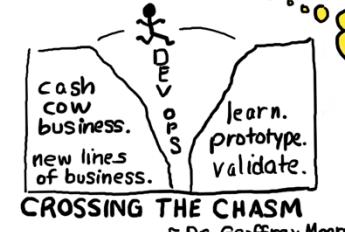


SIMPLICITY ENABLES EFFECTIVENESS

how much of getting business done here is impeded by your **internal systems and processes?**

~ Erik ~

when everyone knows what the goals are, teams will **SELF-ORGANIZE** to best achieve those goals.



"every other financial target will take care of itself"
~ Steve



The Agile
CIRCUS

Key Takeaways



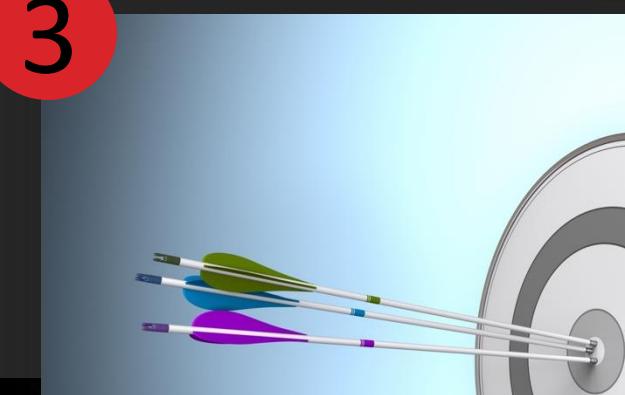
1



2



3



See it so you can fix it.
Create the culture.

Measure Value.

Have goals, OKRs, or
something.

4



5



Standardize...so you can
experiment!

Stay away from the
Agile circus.

6



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Double-down on
DevOps.



Read the books.
Learn from others.
Tell your friends!



ENGINEERING AT THE **GENBA OF SAFETY**



AI Agent assist

- Co-pilot
- Wrap up notes

AI Agent (bot)

ENGINEERING AT THE **GENBA OF SAFETY**

the problems that remain...



“Vibing” with AI in the SDLC



Going global with regional deployments



“

**Let's make ever-better cars
and make our customers happy.**

-Akio Toyoda, Chairman, Toyota Motor Corporation (TMC)



Thank you, and please connect!

Omotenashi



Kaizen

Kevin O'Dell
Director of Engineering

[LinkedIn](#)



Andon Cord

Genba

Toyota Production System

Lisa Frey
Agile Delivery Manager

[LinkedIn](#)



Jidoka

Just in Time