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Beyond the nonsense of digital transformation
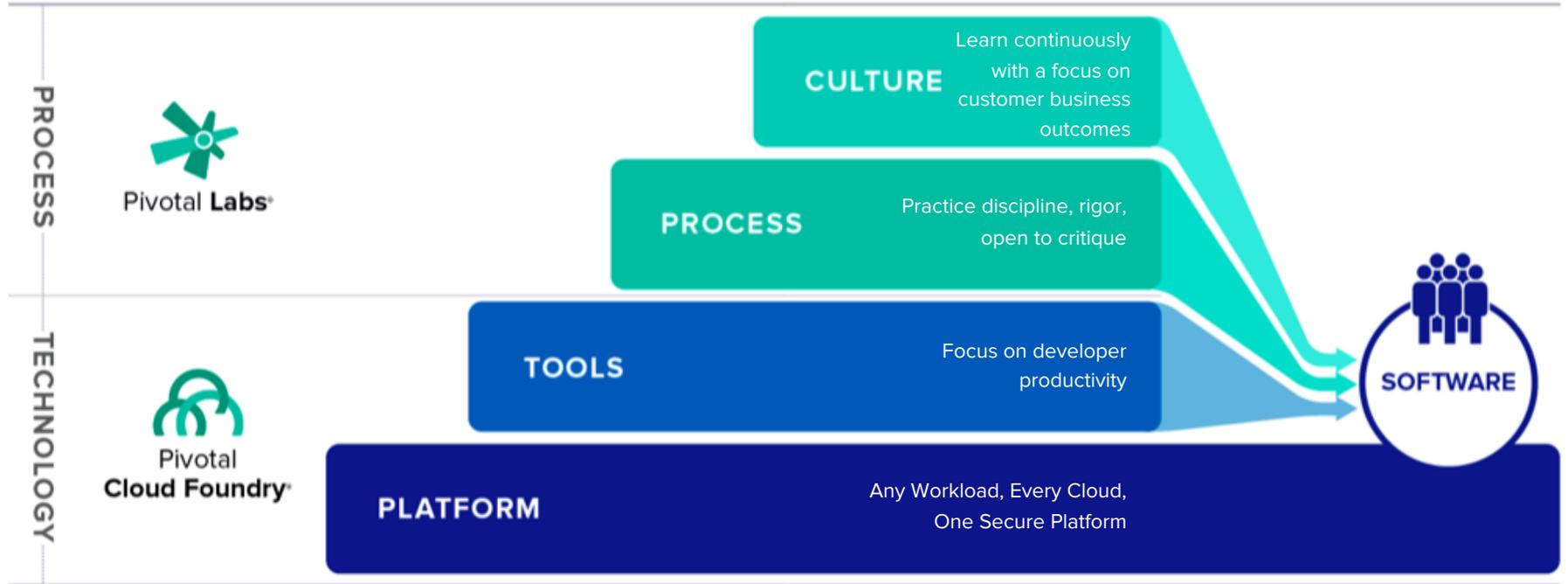
Gaining strategic advantage in the digital age

October, 2018

@cote

http://cote.coffee/bettersoftware

Pivotal: transforming how the world builds software

Enterprises are transforming with Pivotal

AUTO & TRANSPORTATION

INDUSTRIAL & BUSINESS SVCS.

FINANCIAL SERVICES

HEALTHCARE & INSURANCE

TECHNOLOGY & MEDIA

CONSUMER & COMMUNICATIONS

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"Digital transformation" == creating better software

orange

50% B2B customer engagement, shipped in 6 months vs. 18.

DAIMLER

Modernized app, rolled out 20 countries in 5 months

THALES

Idea to production In 2 days; fix production incidents in 2 hours.

HCSC Health Care Service Corporation

40%+ productivity/cost, rebooted member facing app.

Allianz

Small teams deploying to production in minutes, not days.

Liberty Mutual. INSURANCE

40% policy strike rate, vs. 20% industry average.

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Sources: _Crafting your cloud-native strategy_, Coté, 2017; Air Force story; Mojgan Lefebvre, Liberty Mutual, June, 2017; Interview with Orange's Xavier Perret, 2017; "A Unifying Foundation for the Customer Journey at Mercedes-Benz," BuiltToAdapt, Apr 2018; Allianz interview, Sep 2016.
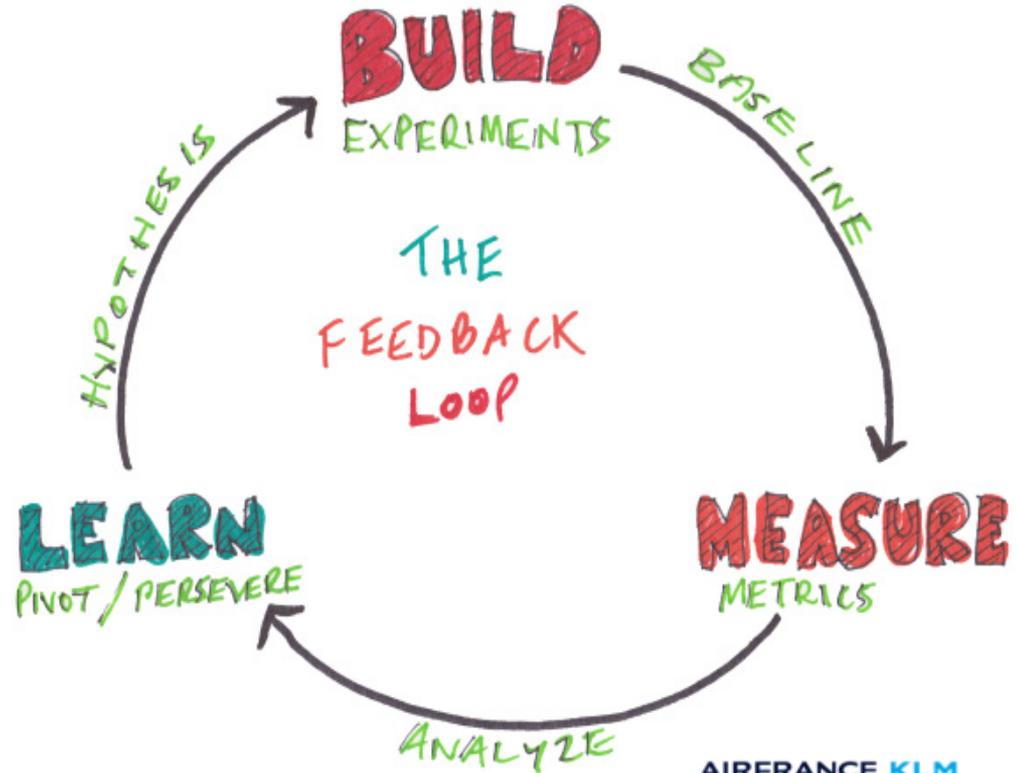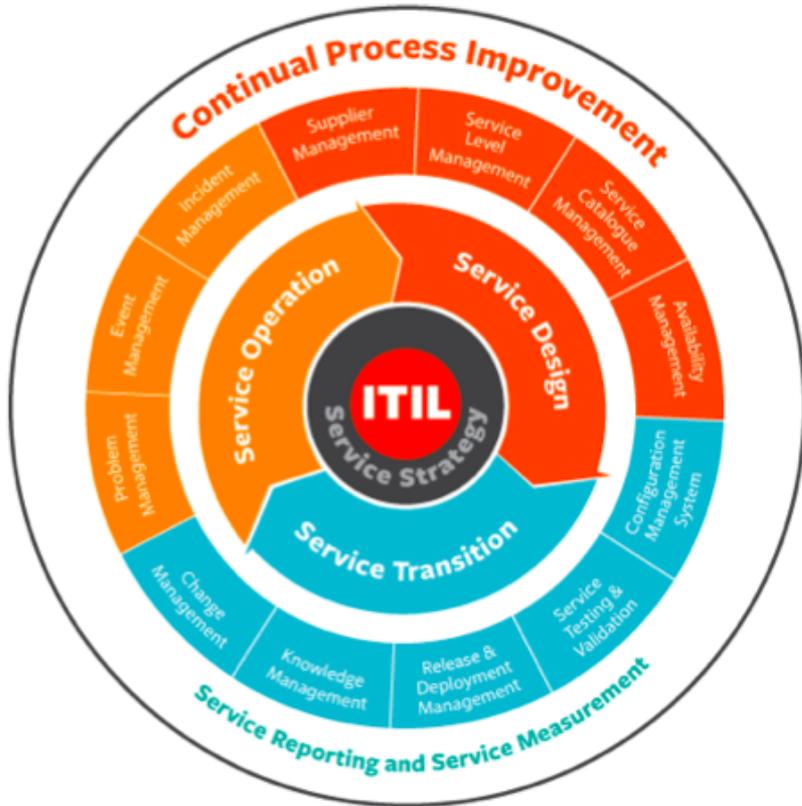
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Three forces driving digital transformation

Competitors

new & old

New capabilities

&

business models

Aging IT

&

technical debt

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Service Delivery ➜ Product Delivery

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From 37% availability to $440m in back taxes

Before

	Overview by Year	
YEAR	STATUS	AMOUNT
2014	Balance Due	$644 >
2013	Taxes Paid	$685 >
2012	Refund/Applied	$100 >
2011	No Information Available	--

After

	Overview by Year
YEAR	BALANCE DUE
2014	$644.00 >
2013	$0.00
2012	$0.00
2011	No Return on File >

- **User-centric, small batch**

- **Only 37% of calls answered, shrinking budgets**

- **From 2 year to 9 week releases**
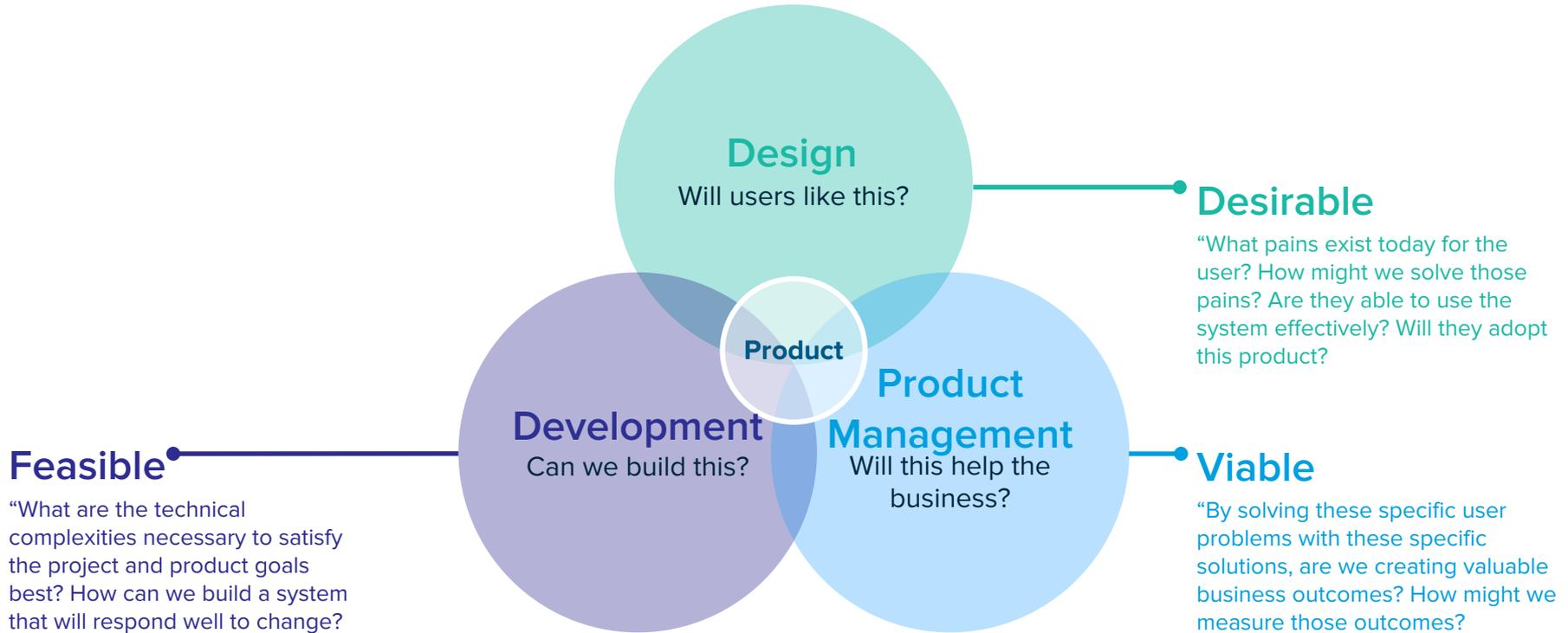
- **2m+ users paid $440m in taxes**

Sources: "'Your IRS Wait Time is 3 Hours' - Is Lean Possible in Government?", Emily Price, Pivotal, April 2017; "Agile Transformation is Product Management," podcast, Oct 2017; "Minimum Viable Taxes: Lessons learned building an MVP inside the IRS," slides, Andrea Schneider & Lauren Gilchrist, 2015. See another write-up.

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Functional organizations are a poor fit for product delivery

ENTERPRISE ARCH

DEV

INFRA

MIDDLEWARE & APPDEV

DATA

- Ent Arch
- Proj Mgmt
- Biz An

- Developer

- Srv Build
- Cap Plan
- Network
- Ops
- Change Control

- Mid. Eng.
- SW Arch
- SW Dev
- Client SW Dev
- Svc Govern

- Data Arch
- DBA
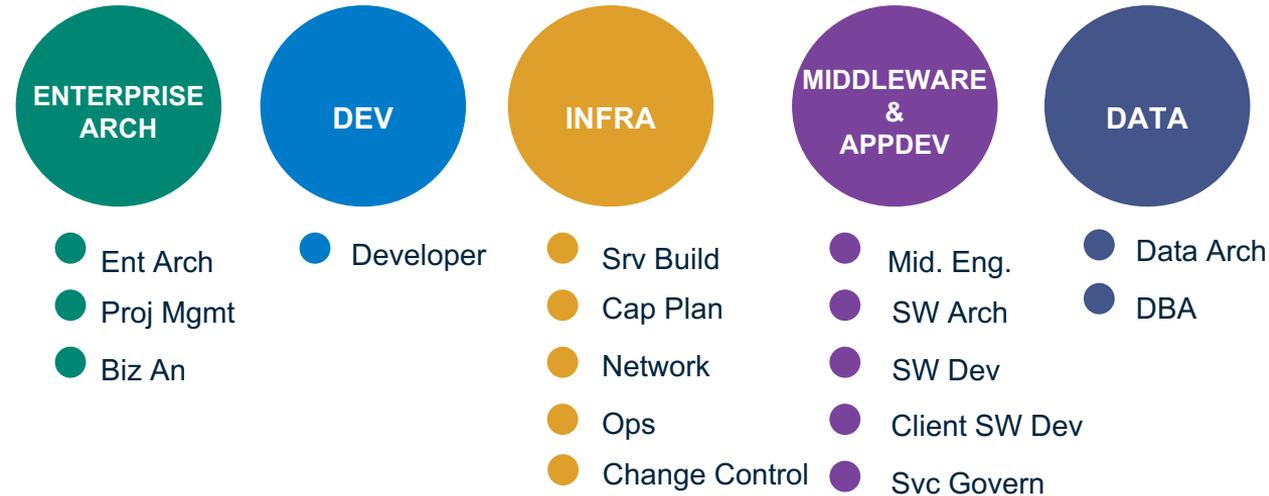
- Optimized for cost & repeatability

- Requires coordination overhead

- Locally optimized

- Elusive responsibly for final outcome

- Often lacks design & product management

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Product centric, balanced teams

Design
Will users like this?

Desirable
"What pains exist today for the user? How might we solve those pains? Are they able to use the system effectively? Will they adopt this product?

Development
Can we build this?

Product

Product Management
Will this help the business?

Feasible
"What are the technical complexities necessary to satisfy the project and product goals best? How can we build a system that will respond well to change?

Viable
"By solving these specific user problems with these specific solutions, are we creating valuable business outcomes? How might we measure those outcomes?

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From coding 20% of the time coding to coding 90% of the time

An agile methodology, proven over 25+ years:

- **Balanced teams w/all roles needed, dedicated to the product**

- **Paired programming, & beyond**

- **Test-driven Development**

- **Short iterations**

- **Continuous Integration & Continuous Delivery**
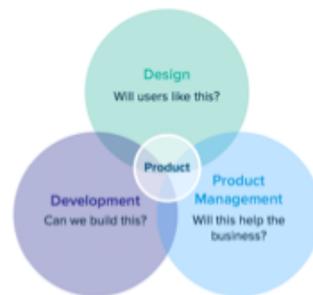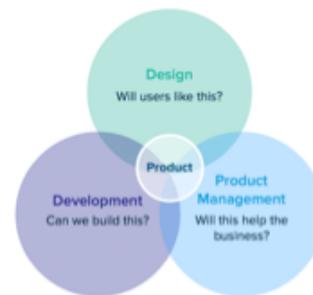
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Closer to a product organization...

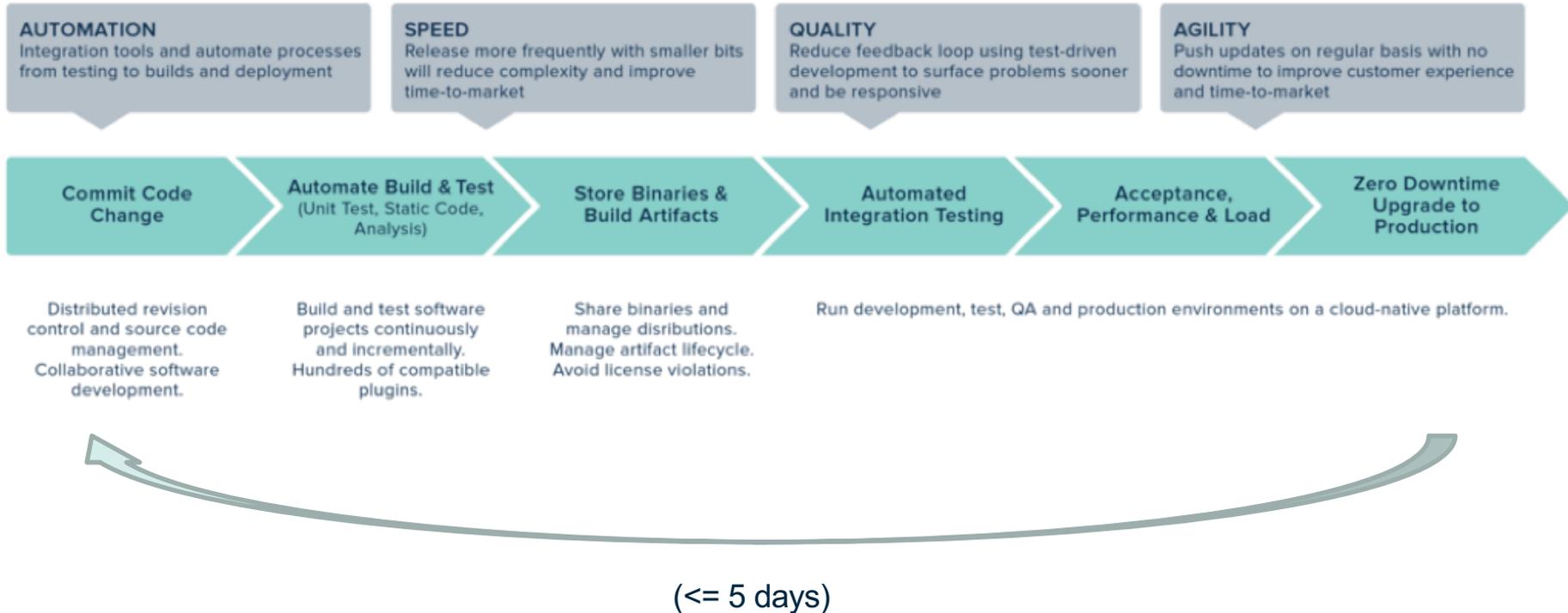Mobile payments

Mortgage application

Mortgage approval

Bill pay

Transfers

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Standardize & automate with a build pipeline

Build Pipeline Operations

AUTOMATION	SPEED	QUALITY	AGILITY
Integration tools and automate processes from testing to builds and deployment	Release more frequently with smaller bits will reduce complexity and improve time-to-market	Reduce feedback loop using test-driven development to surface problems sooner and be responsive	Push updates on regular basis with no downtime to improve customer experience and time-to-market

Commit Code Change → Automate Build & Test (Unit Test, Static Code, Analysis) → Store Binaries & Build Artifacts → Automated Integration Testing → Acceptance, Performance & Load → Zero Downtime Upgrade to Production

Tool Chain

Distributed revision control and source code management. Collaborative software development.

Build and test software projects continuously and incrementally. Hundreds of compatible plugins.

Share binaries and manage disributions. Manage artifact lifecycle. Avoid license violations.

Run development, test, QA and production environments on a cloud-native platform.

(<= 5 days)

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Burndown Chart

backlog

weeks

One Day

Weekly Build

Daily standup meeting

Retro

Release

Build Release

Test

Product backlog

Release backlog

BUSINESS

DEVELOPMENT

OPERATIONS

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OPTIMIZING DEVELOPMENT FLOW

PAST

INCEPTION
Ideation, scoping etc.

REQUIREMENTS

ARCHITECTURE & DESIGN

Hardware provisioning & hosting configuration

waiting time

IMPLEMENTATION & CONTINUOUS TESTING

DEPLOYMENT & INTEGRATION

~30 DAYS

PRESENT

INCEPTION
Ideation, scoping etc.

REQUIREMENTS

ARCHITECTURE & DESIGN

IMPLEMENTATION & CONT. TESTING

DEPLOYMENT & INTEGRATION

~2-3 DAYS

Setup of space, service skeletons, deployment pipeline and team permissions

Mercedes-Benz.iO

Source: "Adopting PCF At An Automobile Manufacturer," Thomas Seibert and Gregor Zurowski, s1p 2017. 15

How T-Mobile went from **7 months** to update software, **to same day deployments**
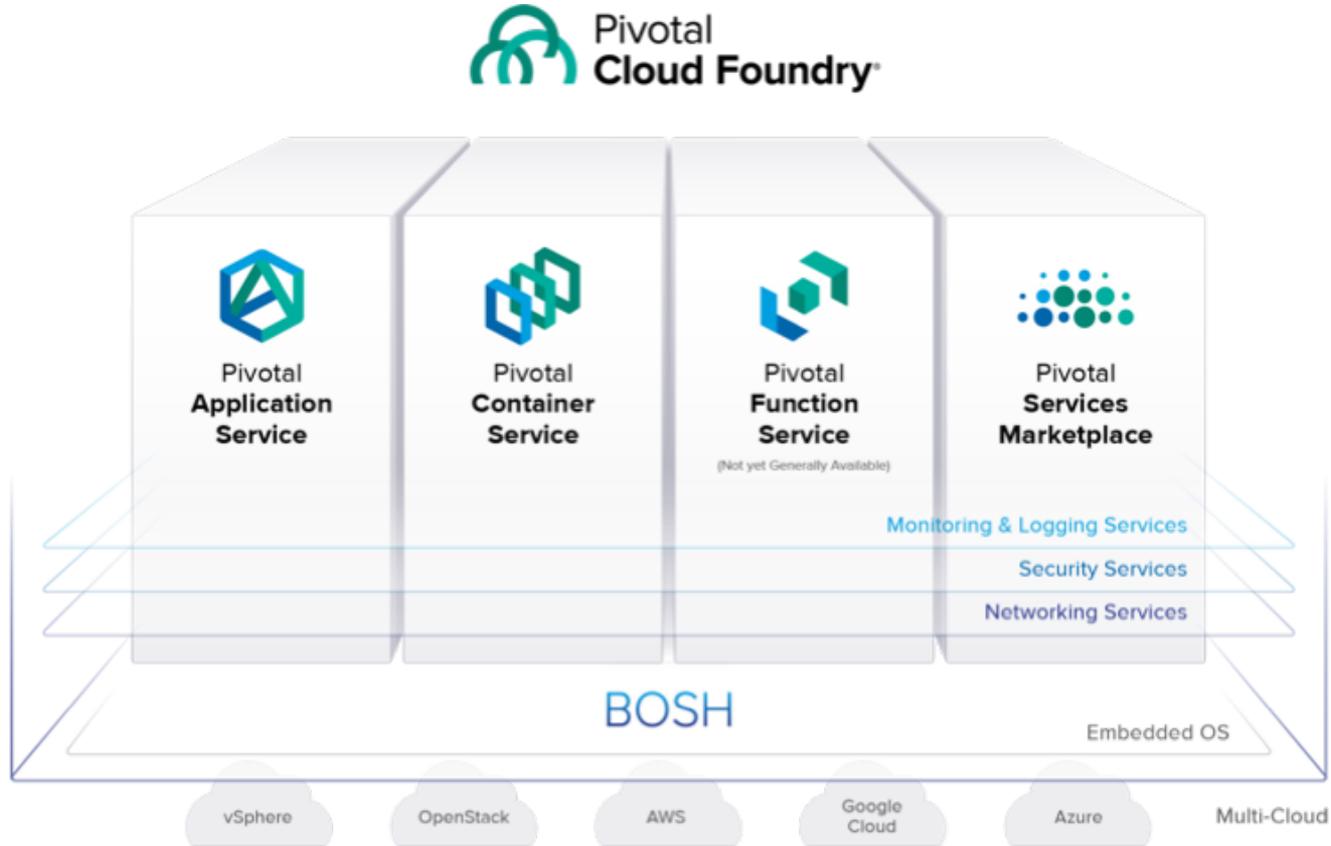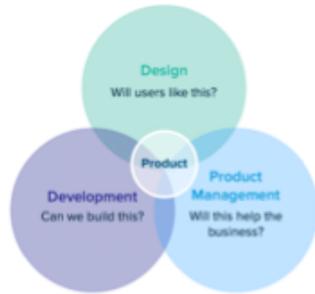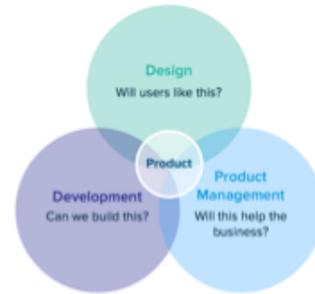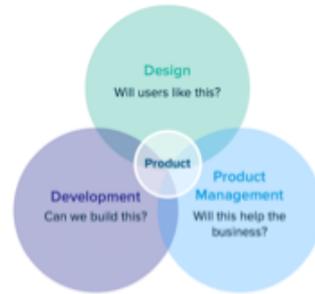
Mobile payments · Mortgage application · Mortgage approval · Bill pay · Transfers

Platform Engineers

Pivotal **Cloud Foundry**®

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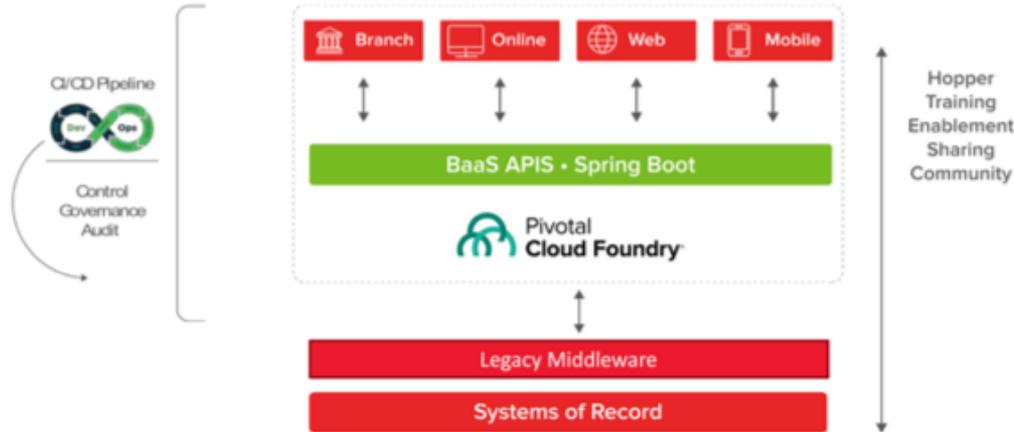# Platform as a product (aka SRE)

Platform Engineers

Functions

- Removes toil with automation & programming

- Stands up & manages the platform

- Creates shared services/middleware/etc.

- Consults with initial projects

Staffing

- T-Mobile USA: 8 ops to 300 developers, 11k containers

- Dick's Sporting Goods: 6 ops to 120 devs.

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Building a Banking as a Service platform at Scotiabank

- **"At the center of that platform is Pivotal Cloud Platform"**

- **29 teams, with 21 in production**

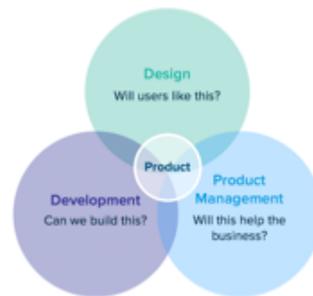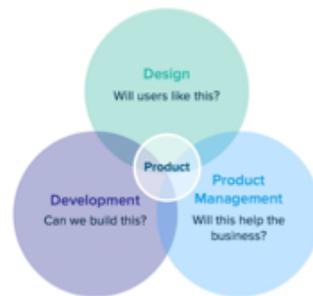- **Used in 4 countries**

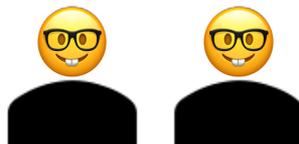- **3,000+ deploys a month**

Mobile payments · Mortgage application · Mortgage approval · Bill pay · Transfers

Pivotal **Cloud Foundry**®

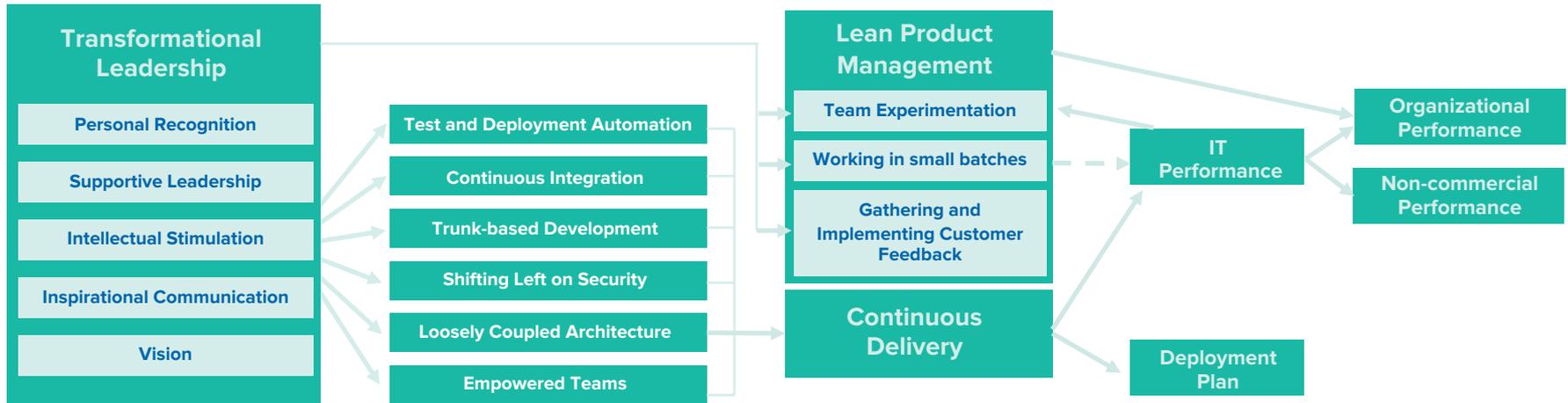Platform Engineers

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SPREAD
ANARCHY
Don't Tell Me
What To Do!!

" The promise we made to our developers is that life will get simpler."

Vincent Oostindië, Rabobank

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Building trust with leadership
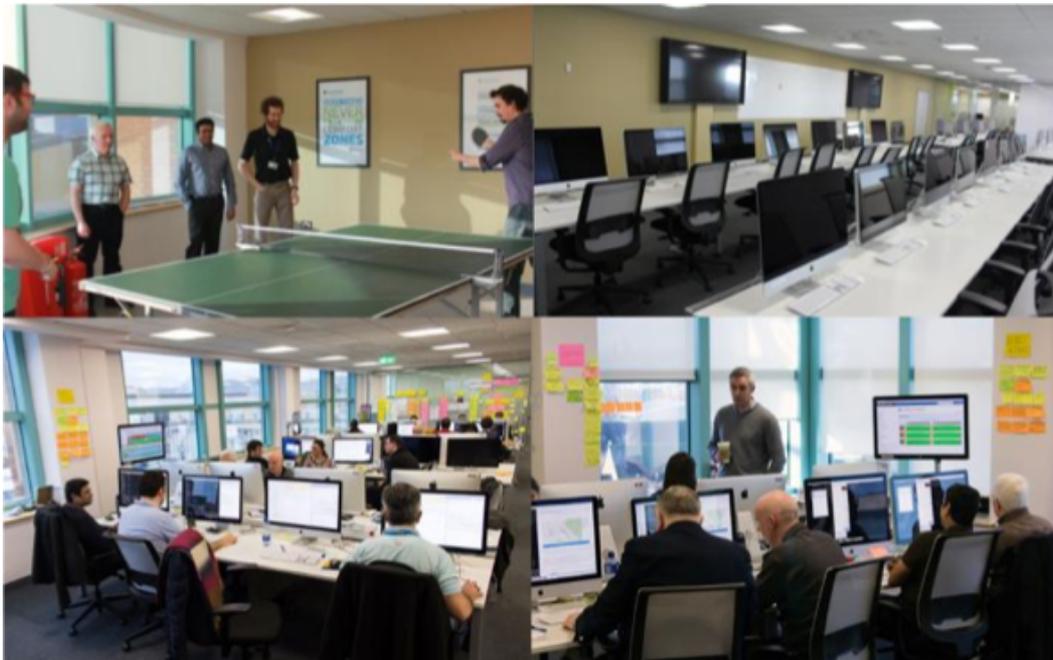
Small batch management

- Driving & explaining strategy

- Creating & championing teams

- Nurturing an innovation culture

- Transform the org. chart

- Facilities & policy changes

- Align HR & finance

- Manage scaling change

- Fight Eeyores & corporate back-stabbers

"Executive sponsorship for us was absolutely critical. Without that we could not have gotten anywhere that we needed to be."

T··Mobile··
(USA)

Source: *Leading Change*, John P. Kotter, 2012; "Navigating the Sea of 'No's,'" John Osborn, GAIC, Dec 2017; *Leading Change*, John P. Kotter, 2012; "Disruption from Within," Thomas Squeo, West Corporation, May, 2018; "Zero to 12 Million," Brendan Aye, T-Mobile USA, s1p, Dec 2017.

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Changing is often too hard, so create a new organization

- **CompoZed Labs now handles 40% of Allstate's software development**

- **Road-side assistance app delivered in 6 months**

  o **25k rescues/month**

  o **30 minute wait to 15**

  o **+$10m, +$100m planned**

Sources: Andy Zitney; "Don't Forget People and Process in Your Digital Transformation," Allstate case study, March, 2017; "How Insurance Giant Allstate Is Using Cloud Tech to Build New Businesses," Barb Darrow, June, 2017; "Allstate Technology Chief Develops The Uber Of Roadside Assistance," Perer High, Oct, 2017.

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Starting: "pilot low-risk apps, and ramp-up."
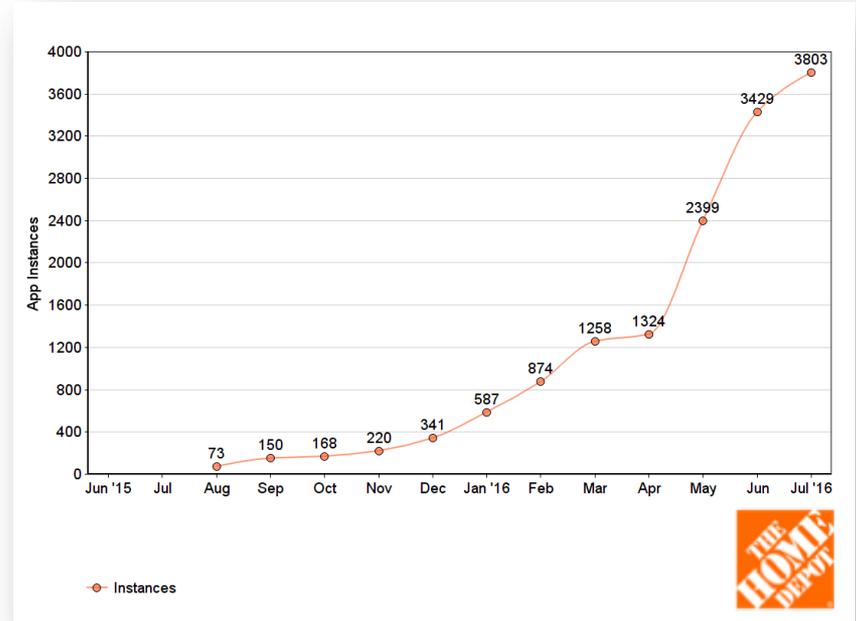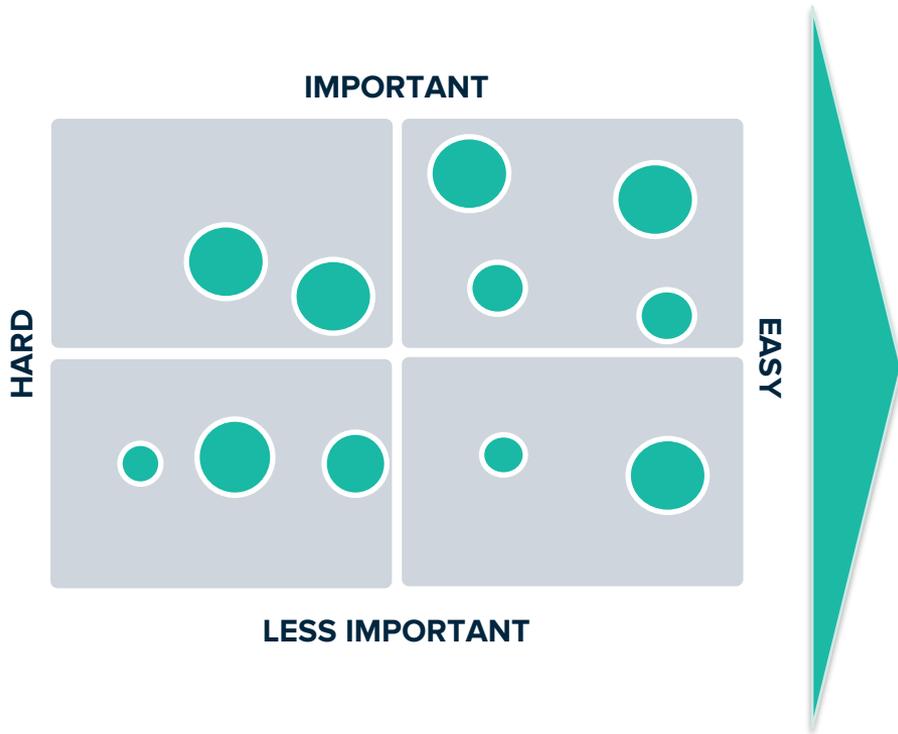
Sources: Home Depot meetup, Oct 2015; Humana at CF Summit 2015; "Getting started," Coté, Oct 2016; Comcast's Christopher Tretina at SP1 2016; "Cloud-Native at Home Depot, With Tony McCulley"; "Bottom Up Enterprise Transformation," Kyle Campos, CSAA Insurance, CF Summit EU, Oct 2017. Number of AI's equates to ~130 apps composed on ~900 services.

Internal marketing:
Everything, frequently

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A new business in 6 months, doubling avg. sales rate

40% strike rate
Compared to 20% industry average

3 minutes
Versus 10 minutes to do a referral

199 quotes
With 60 bound policies to date

#TechAtLiberty 20

Liberty Mutual Insurance

CLOUD FOUNDRY SUMMIT 2017
JUNE 13-15 | SILICON VALLEY

"We are uncovering better ways of developing software by doing it and helping others do it."

- *The Agile Manifesto*, 2001

http://cote.coffee/bettersoftware/

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