

FY21 INVESTOR DAY

December 15, 2020

Agenda

VALUE CREATION STRATEGY

Jim Heppelmann
Kathleen Mitford



MARKET DEMAND

Jon Hirschtick – Onshape
Craig Livingston – Arena Solutions
Mike Campbell – Industrial AR
Steve Dertien – PTC Atlas
Craig Melrose – IoT & Solutions
Kevin Wrenn/Brian Thompson – PLM & CAD

BREAK

TOP LINE

Troy Richardson
Mike DiTullio – Go-to-Market Strategy
Eduarda Camacho – Customer Success
Wynn Grubbs – Focused Solutions Group (FSG)

BOTTOM LINE

Kristian Talvitie

LIVESTREAM Q&A

FORWARD LOOKING STATEMENTS

This presentation includes forward looking statements regarding PTC's future financial performance, strategic outlook and expectations, anticipated future operations, and products and markets. Because such statements deal with future events, actual results may differ materially from those projected in the forward-looking statements. Information concerning factors that could cause actual results to differ materially from those in the forward-looking statements can be found in PTC's Annual Report on Form 10-K, Forms 10-Q and other filings with the U.S. Securities and Exchange Commission.

IMPORTANT INFORMATION ABOUT OPERATING AND NON-GAAP FINANCIAL MEASURES

This presentation includes supplemental operating and non-GAAP financial measures and targets. The non-GAAP financial measures are not prepared in accordance with generally accepted accounting principles. The definitions of these items and reconciliations of Non-GAAP financial measures to comparable GAAP measures can be found on pages 211-217.

Value Creation Strategy





SaaS

FY'21

ARR Accretive
FCF neutral

Mid-Term

ARR and FCF
Accretive



ptc

Power To Create

Power To Create

innovative technology solutions

Power To Create

great products

Power To Create

new business models

Power To Create

double-digit impact

Power To Create

shareholder value

Delivering Shareholder Value



Pipeline



ARR



FCF

Market Demand

Digital Transformation,
Remote/Collaboration,
SaaS

Top Line

ARR Growth,
Customer Success

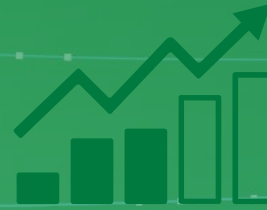
Bottom Line

Opex Discipline,
FCF growth

Delivering Shareholder Value



Pipeline



ARR



Market Demand

Digital Transformation,
Remote/Collaboration,
SaaS

Top Line

ARR Growth,
Customer Success

Bottom Line

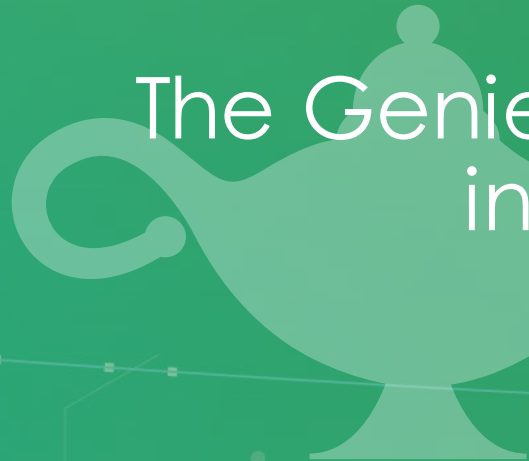
Opex Discipline,
FCF growth

Thriving in the New Normal

If there could be a “winner” of the
COVID era, it would be DIGITAL

COVID accelerated our digital
transformation journey by years

The Genie is not going back
in the bottle





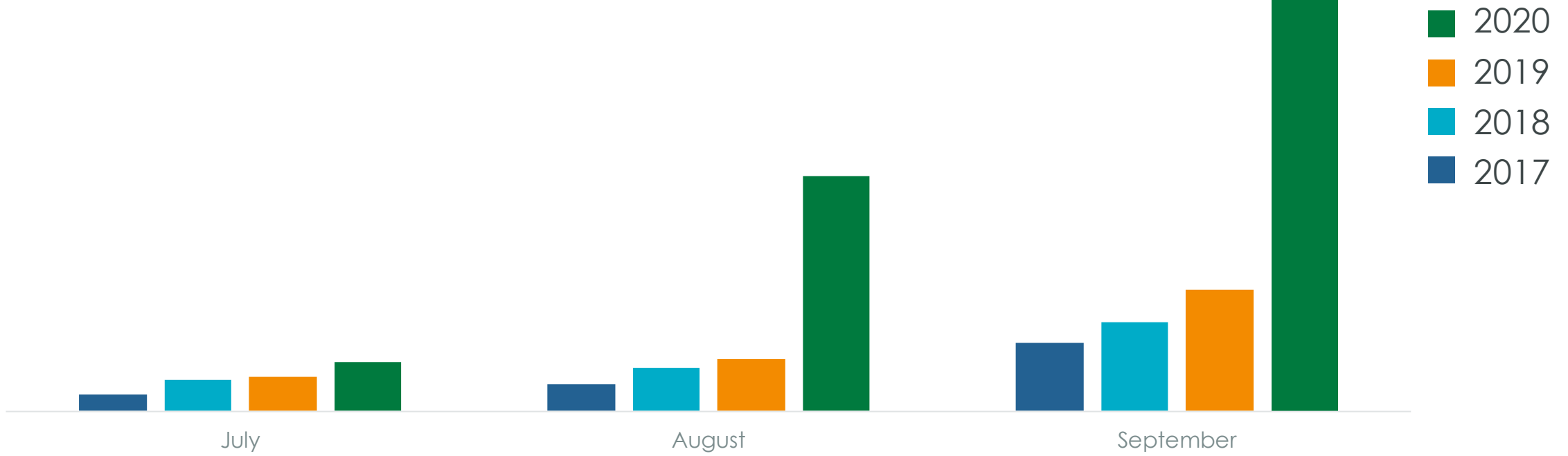
onshape[®]

Rapid Onshape Educational Adoption



360% Growth

of Signups During Annual “Back-to-School” Season



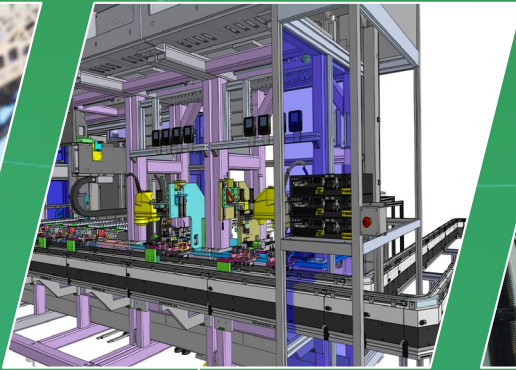
Six Capabilities For Thriving In The New Normal



freeing
desk workers



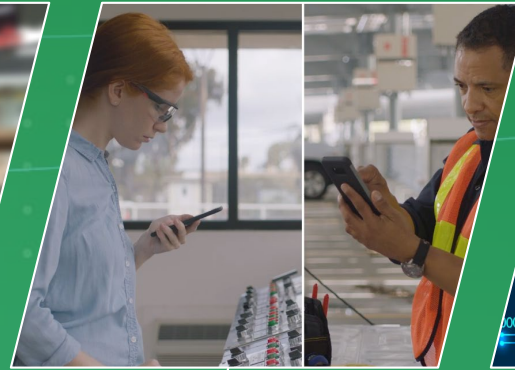
frictionless
supply chain



connecting
products and factories



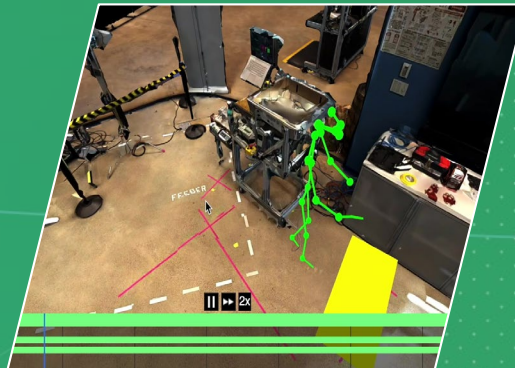
bringing digital
to the frontline



enhancing
with AI



virtualizing
with spatial computing



freeing desk workers

frictionless supply chain



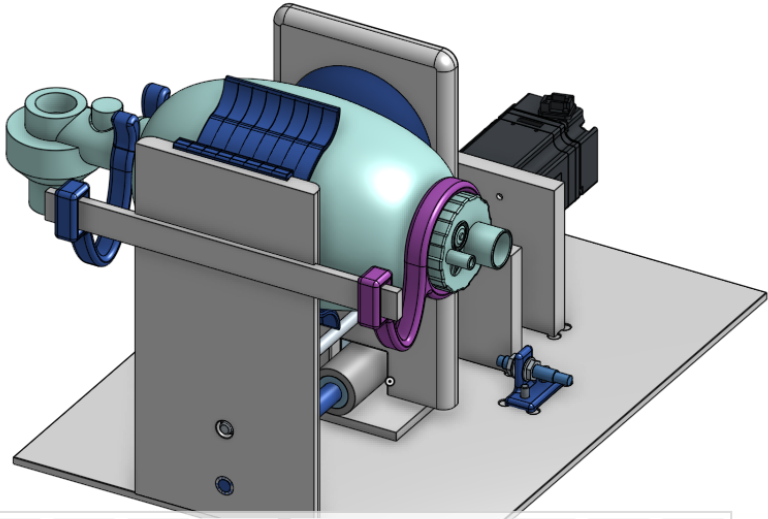
UFG ONLINE UNIVERSITY

Global Citizens, One University

Onshape **VEMPU** Main 6 9 8

This document was shared via a link and is view only.

ptc.com/respirator



Configurations
Configuration left

Instances (13)

- Pump Subassembly
 - Origin
 - PlacaBase <1>
 - VarillaLisa 8mm <1>
 - VarillaRoscada 8m...
 - PH Countersunk fla...
 - PH Countersunk fla...
 - PH Countersunk fla...
 - PH Countersunk fla...
 - SoporteAmbuArma...
 - ManoplaArmada <1>
 - SoporteHomeArma...
 - SoporteServoMoto...
 - PortaSensorArmad...
 - Guia <1>
- Items (0)
- Mate Features (19)
 - Slider Bellows Pu...
 - OrigenBase
 - PlacaBaseSoport...
 - PlacaBasePerno1
 - PlacaBasePerno2
 - PlacaBaseSoport...
 - PlacaBasePerno3
 - PlacaBasePerno4
 - SoporteAmbuAr...
 - SoporteAmbuAr...
 - VarillaLisaManopla

Tools
Home, Rotate, Translate, Scale, Mirror, BOM, Measure, Mass Properties

Assembly Tree
Installed Assembly, Pump Subassembly, Pump Subassembly Dr..., Cajon electrico, Chasis, Cajon CAD, Chasis CAD, Pump CAD

connecting products and factories

bringing digital
to the frontline

But Only for Knowledge Workers



25%

Knowledge
Workers

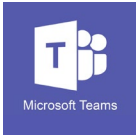
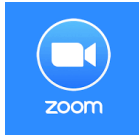










75%

Frontline
Workers

COVID has Accelerated Demand for AR



COVID-Driven Requirement	Answer For Knowledge Workers	Answer for Front-Line Workers
Remote Collaboration	   FaceTime	vuforia® chalk™ 
Remote Training	  	vuforia® studio™ 
Remote Knowledge Transfer		vuforia® expert capture™ 

enhancing with AI

virtualizing with spatial computing

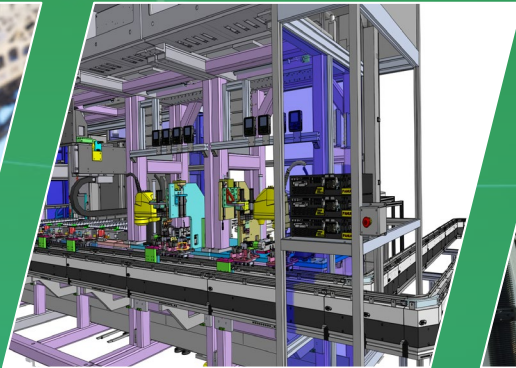
Six Capabilities For Thriving In The New Normal



freeing
desk workers



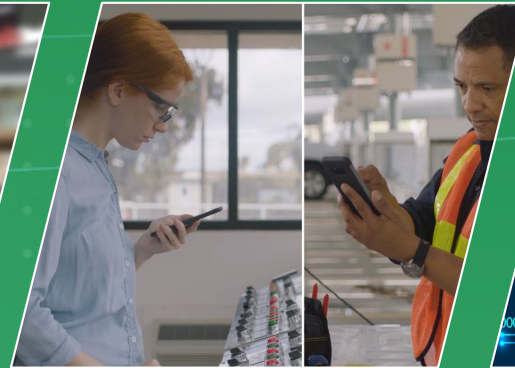
frictionless
supply chain



connecting
products and factories



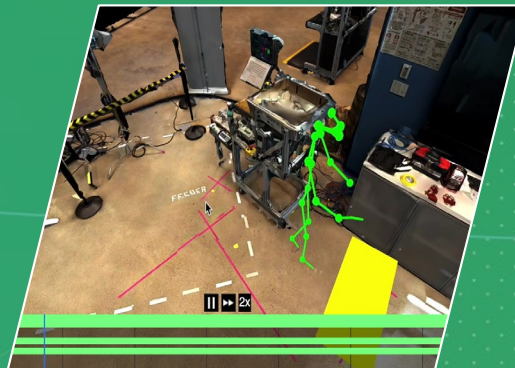
bringing digital
to the frontline



enhancing
with AI



virtualizing
with spatial computing



Key Takeaways



Necessity is
the mother
of invention

Digital
Transformation
is accelerating

PTC is poised
to capitalize

Onshape



Celebrating our
first anniversary
at PTC



Key Themes

The Only Full-SaaS
Solution

Commercial and
Academic Success

Exciting 2021 Ahead

700+

Competitive Logo
Displacements in 2020

82%

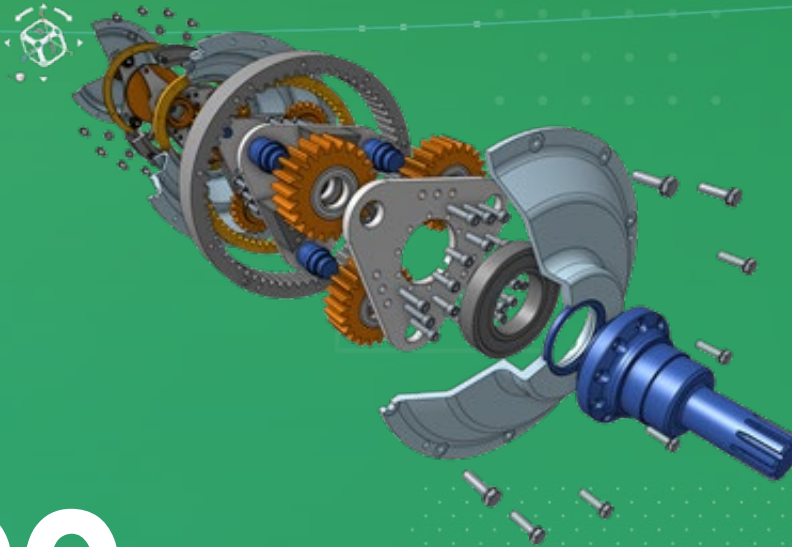
ACV Growth Q4

40+

NPS

Zero

Scheduled
Downtime



330%

Education User
Growth Q4

15,000,000

Usage Hours

16

Major Releases FY20



KICHLER®



FORMULATRIX®

Garrett
ADVANCING MOTION

musictribe

VIKEN
DETECTION

TREK

Hire**bot**ics

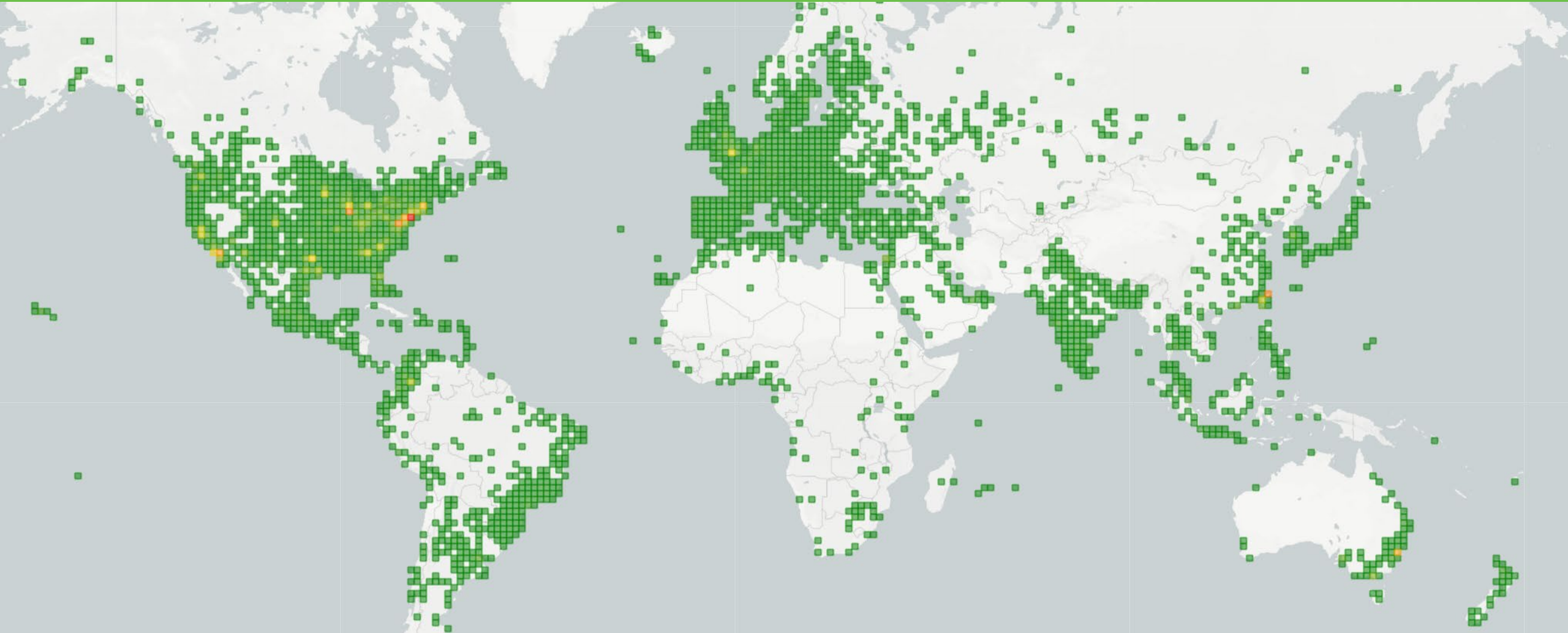


CUTSFORTH
THE POWER OF INNOVATION™

**ABSOLUTE
MACHINERY**

Onshape In Education

Nearly 1,000,000 Onshape Education Users



FIRST Robotics Competition



[PRODUCT](#) [PRICING](#) [RESOURCE CENTER](#) [INNOVATION BLOG](#)

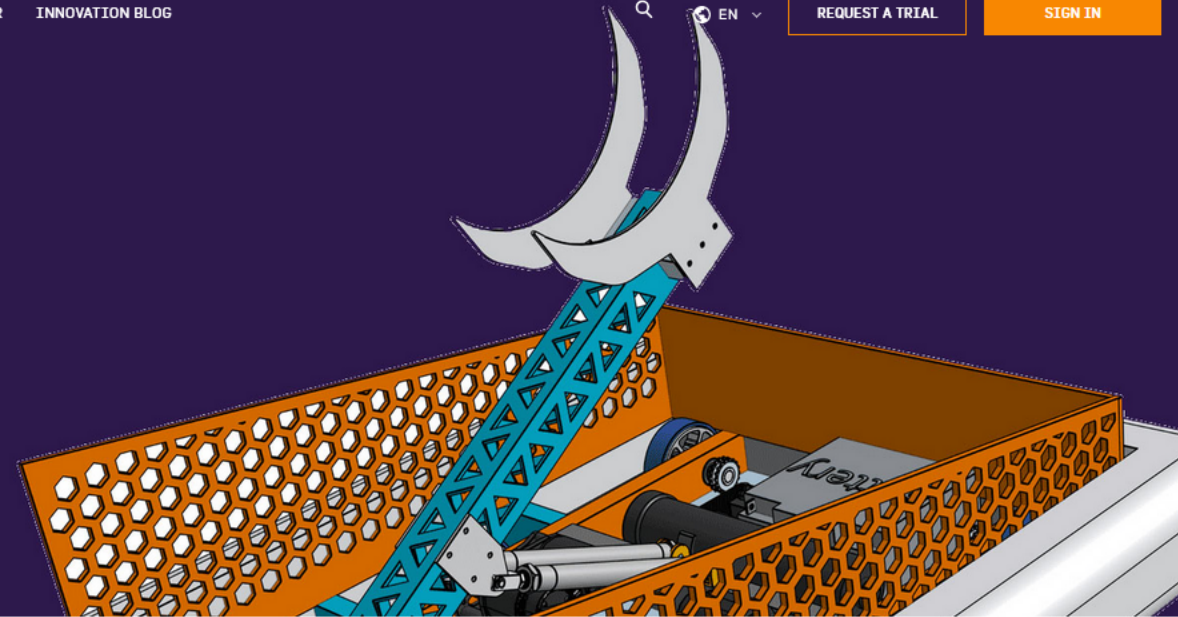
[EN](#)

[REQUEST A TRIAL](#)

[SIGN IN](#)

ROBOTS TO THE RESCUE

The "Robots to the Rescue" student design challenge from PTC for *FIRST*® Robotics!



In May, we held our first Robots to the Rescue student design challenge! This Online competition brought FIRST teams together on the Onshape platform to design robots that solved a world problem. Watch the recording of our live awards ceremony in case you missed it.



Onshape 2021



Expand our full-cloud
SaaS Product Lead

More depth, more breadth

Continued high pace of
enhancement:

Core modeling, data
management, collaboration,
etc.

Expand into exciting new areas:

Generative, Simulation, and
more

Sales Growth

Cross-sell with PTC sales

Global expansion

Monetizing Academic
Success

Market-leading
Customer Success

That's what it's all about



onshape®

Key Takeaways



The ONLY
full-cloud,
full-SaaS
Platform in our
industry

Momentum in
Commercial
and Education
Markets

Expanding
product lead
and go-to-
market



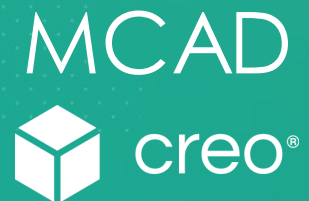
PLM

PDM

MCAD
Tool

ECAD
Tool

Other
Tools



ECAD
Tool

Other
Tools



Other
Tools



Executive Summary



Helping leading-edge product
companies change the world
through improved development
and quality processes

Arena Solutions – Leader in Cloud PLM and QMS



CORPORATE INFORMATION

- **Headquarters:** Foster City, CA
- **Employees:** 155 as of 09/30/2020
- **CEO:** Craig Livingston
- **Ownership:** JMI Equity

COMPANY OVERVIEW

Arena Solutions ("Arena" or the "Company") is the sole provider of a true multi-tenant cloud offering for product lifecycle management ("PLM") and quality management ("QMS") software systems

UNIQUE MARKET POSITIONING

Arena's PLM & QMS solutions are built upon a single cloud platform



World Class Management Team



Craig Livingston, CEO

- Joined Arena in 2008
- 30+ years of experience

Prior Firms

ORACLE think3 PeopleSoft Borland



Jeff Cross, CFO

- Joined Arena in 2017
- 30+ years of experience

Prior Firms

abila. TravelClick
a anadotus company dun & bradstreet



Wenxiang Ma, EVP of Engineering and CTO

- Joined Arena in 2011
- 25+ years of experience

Prior Firms

ORACLE Borland EY



Andrea Pitts, SVP of Global Sales

- Joined Arena in 2011
- 35+ years of experience

Prior Firms

ORACLE think3 ADP



Fred Waugh, SVP of Marketing

- Joined Arena in 2017
- 30+ years of experience

Prior Firms

INVODO SailPoint convio



Nathan Martin, VP of Customer Success

- Joined Arena in 2006
- 20+ years of experience

Prior Firms

think3 sgi



Erin Teter, VP of Human Resources

- Joined Arena in 2017
- 20+ years of experience

Prior Firms

abila. sage



George Lewis, VP of Business Dev. and Strategy

- Joined Arena in 2005, Oracle / Propel '17-'19, rejoined Arena in 2019
- 25+ years of experience

Prior Firms

ORACLE propel

Strong Tailwinds Driving the Market Forward



Modern product development needs are becoming ever-more demanding and complex



Digital Transformation

- Increased product complexity
- Shift to the cloud
- Connected products via IoT



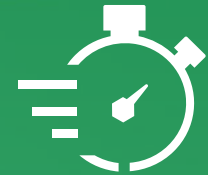
Increasing Impact of Compliance

- Regulatory requirements
- Environmental requirements



Global Supply Chains

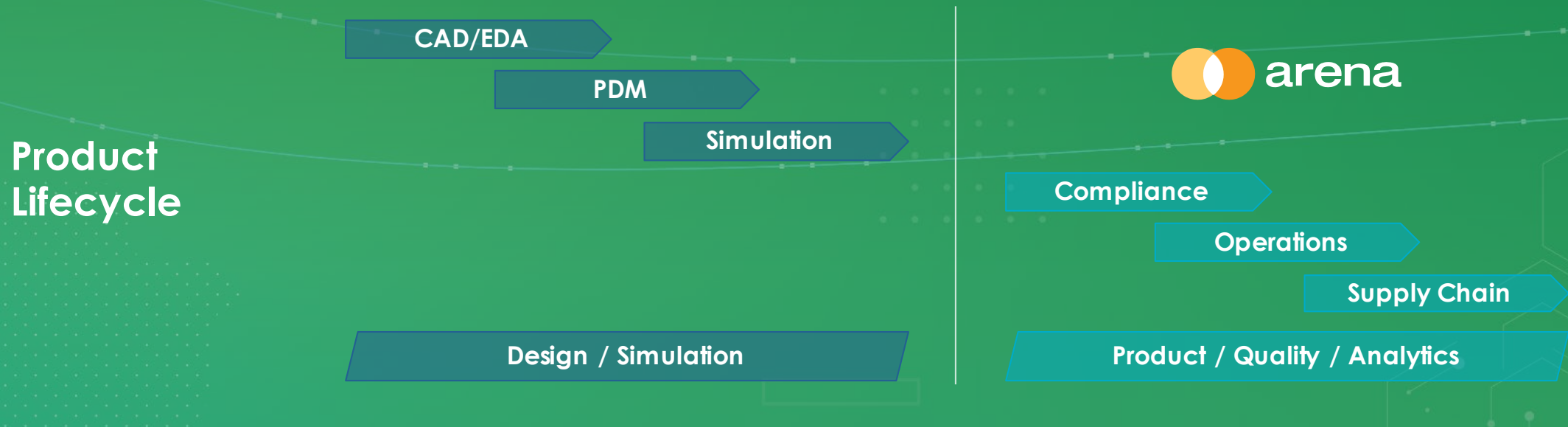
- Diverse teams
- Numerous suppliers
- Expanding geographies



Accelerating Speed of Innovation

- Release cycles defined in months, not years
- Heightened competition
- Product seasonality

Arena Delivers a Unique 'Operations-Centric' Cloud Platform



Legacy Solution Shortfalls

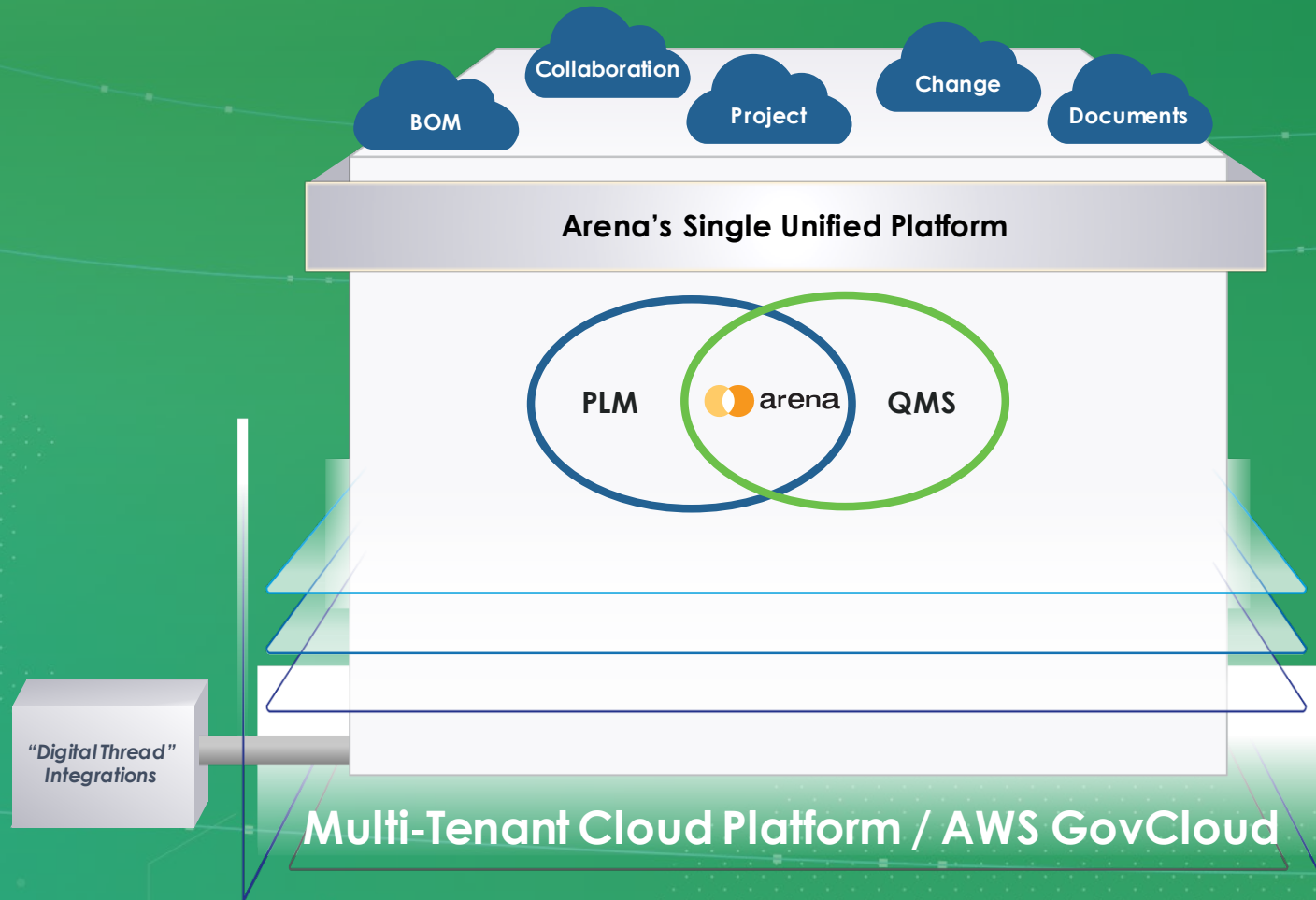


Point Solutions for
PLM and QMS



Collaboration and
Analytical Limitations

Arena's Modern Cloud Platform



Highly Attractive Customer Base



High Tech

Consumer Electronics, Internet of Things, Computer Networking & Hardware

affirmed

eero

ENPHASE

legrand

lyfe

NUTANIX

paloalto
NETWORKS

PELOTON

SONOS

TOPCON

Life Sciences

Medical Devices, Biotechnology, Pharma

align

BIO FIRE
BY BIONEUREUX

Allergan

ETHICON
PART OF THE Johnson & Johnson FAMILY OF COMPANIES

BIO RAD

Insulet Corporation

reflexion

Aerospace & Defense (A&D)

Electronic Defense Suppliers, Transportation Electronics, ITAR / EAR Regulation

ANALOG DEVICES

DRS Technologies
A Finmeccanica Company

FLIR SYSTEMS

MOS
GAS TURBINE ENGINE SOLUTIONS



Triumph Group, Inc.

1,250+ Customers Spanning 80+ Countries Worldwide

Arena's Winning Formula



Easy to Use / Easy to Deploy



Scales with Customer Growth



Deep Vertical Expertise



Unified Cloud Platform



Enables Global Collaboration



Analytics-Driven Insights

Industrial AR

Key Themes

AR Opportunity

FY'20 Successes

Product Plans

Customer Value

A man in a blue polo shirt, dark overalls, and a white face mask is working in a factory. He is holding a vertical metal rod or wire. In the background, there is a large industrial machine with several yellow lights and a control panel with a red emergency stop button. The scene is brightly lit, and the overall tone is professional and industrial.

3 out of 4 workers
are on the frontline



**Aging & retiring
workforce**



**Traditional
training methods
are ineffective**



**Negative
perceptions of
industrial work**



**Current state
of frontline
technology is
insufficient**



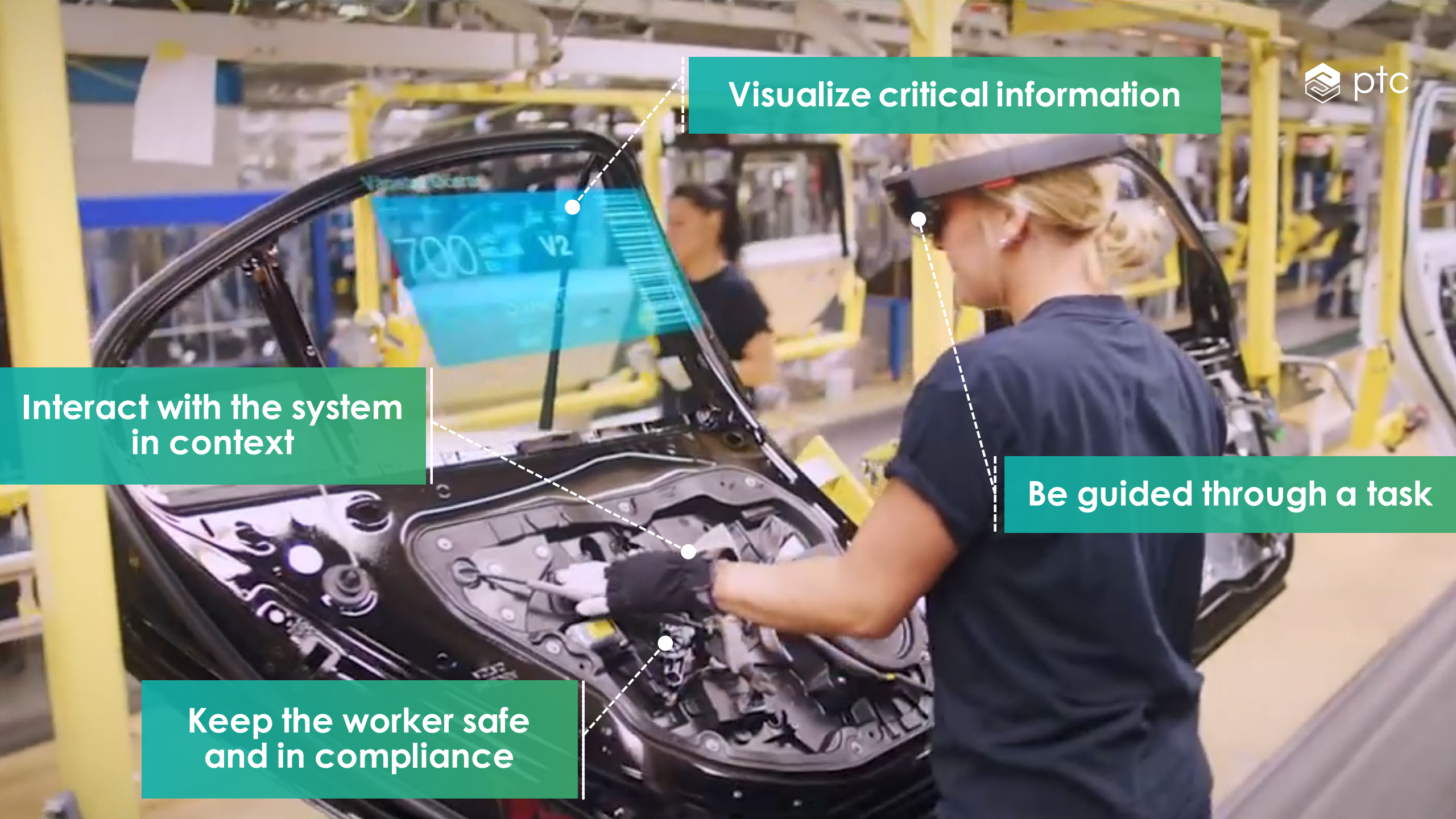
**Coronavirus
crisis has
changed the
way we work**

Visualize critical information

Interact with the system
in context

Be guided through a task

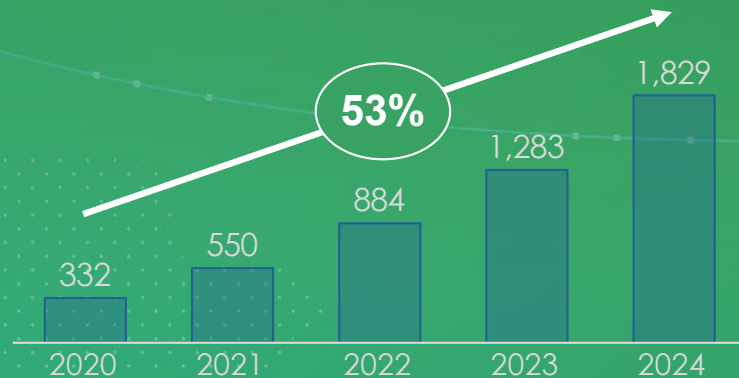
Keep the worker safe
and in compliance



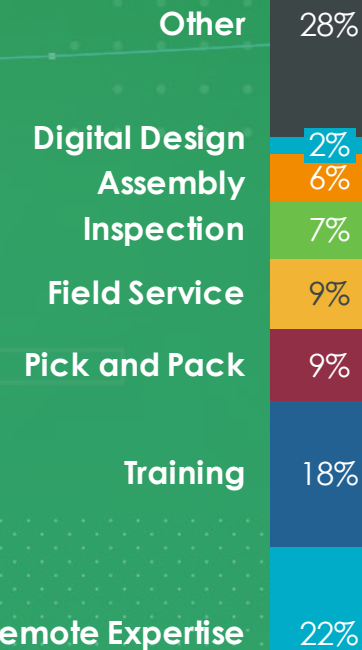
Enterprise AR Software Market Growth And Use Cases



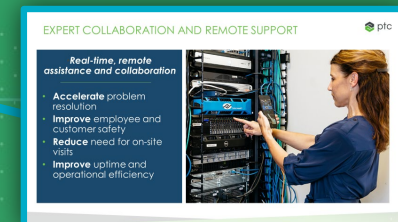
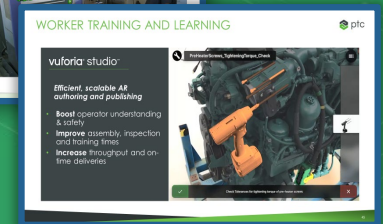
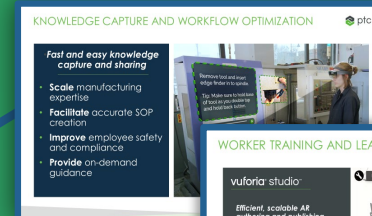
Enterprise AR Software Market (\$M)



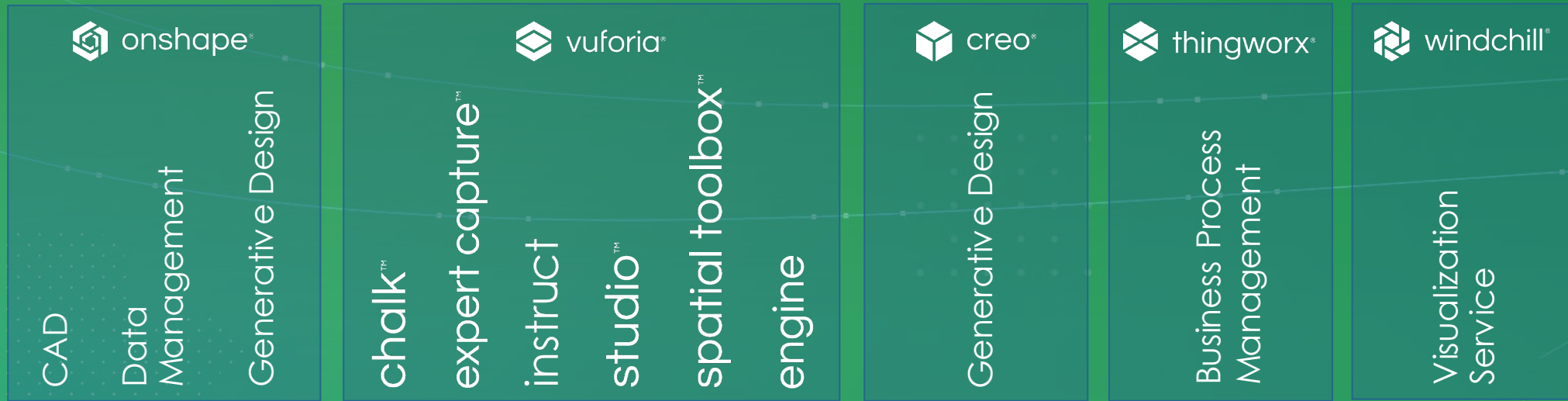
Enterprise AR Revenue by Use Case (ABI Research)



2020



PTC Atlas Platform & PTC SaaS Offerings



PTC Atlas SaaS Platform

AWS, Azure, et al.

*Easy-to-sell offerings that
deliver a fast time-to-value*

+

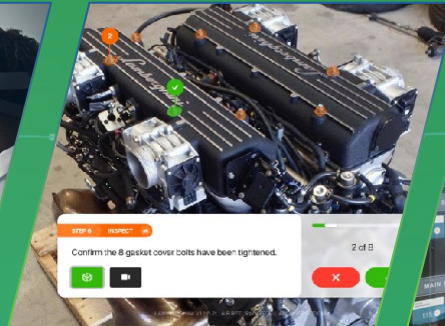
*Highly differentiated,
innovative, flexible technology*



vuforia® chalk™



vuforia® expert capture™



vuforia® instruct



vuforia® studio™



vuforia® spatial toolbox™



vuforia® engine

“Solution-centric”

“Platform-centric”

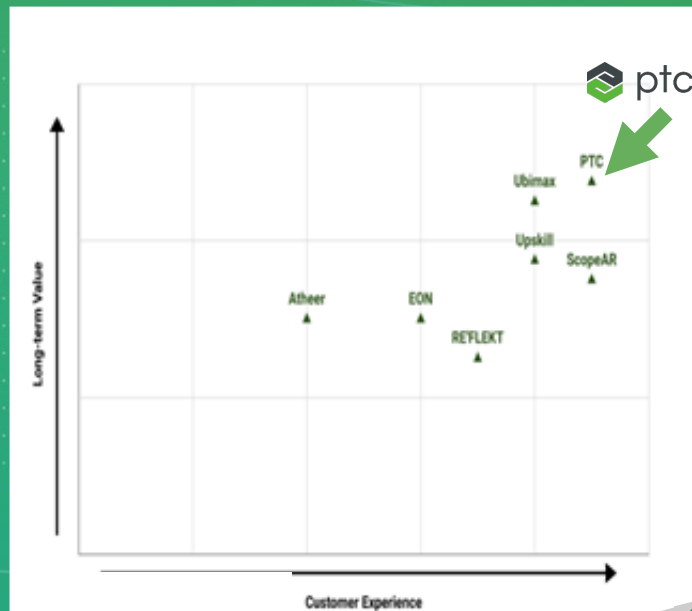
PTC Atlas SaaS Platform

AWS, Azure, et al.

PTC Ranked Leader for Enterprise AR Platforms



Greenlight
Insights



2019

ABIresearch®



2019

telknowlogy | PAC



2019, 2020

+80%
ARR Growth

10%
Contribution to
PTC New ACV

+75%
FY'20 Growth in
Six-Figure Deals

~500
New AR Logos

~100
Expansions



✓ Keep employees connected and safe

✓ Collaborate with remote experts

✓ Enable customer self-service

vuforia® chalk™

“With our 32 Laundry and Home Care plants we are providing household and hygiene products globally. We must ensure that our production continues even in these difficult times and Vuforia Chalk has helped us significantly. The application makes it remarkably easy to maintain uptime for a wide range of users – from line workers, to machine operators, to management and engineers.”

*– Stefan Goeris
Process Consulting Manufacturing Digital Business*

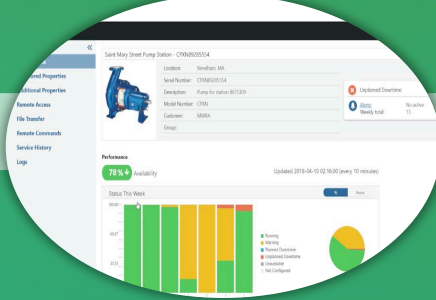
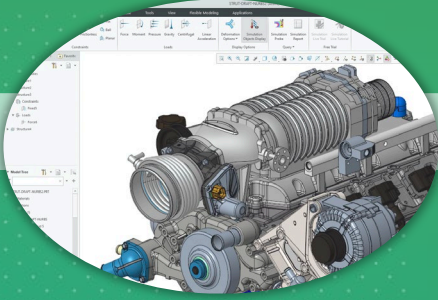


Vuforia Chalk as the Tip of the SpeAR



CAD &
PLM

Digital
Transformation
Solutions



Industrial
IoT



Vuforia
Enterprise AR
Suite



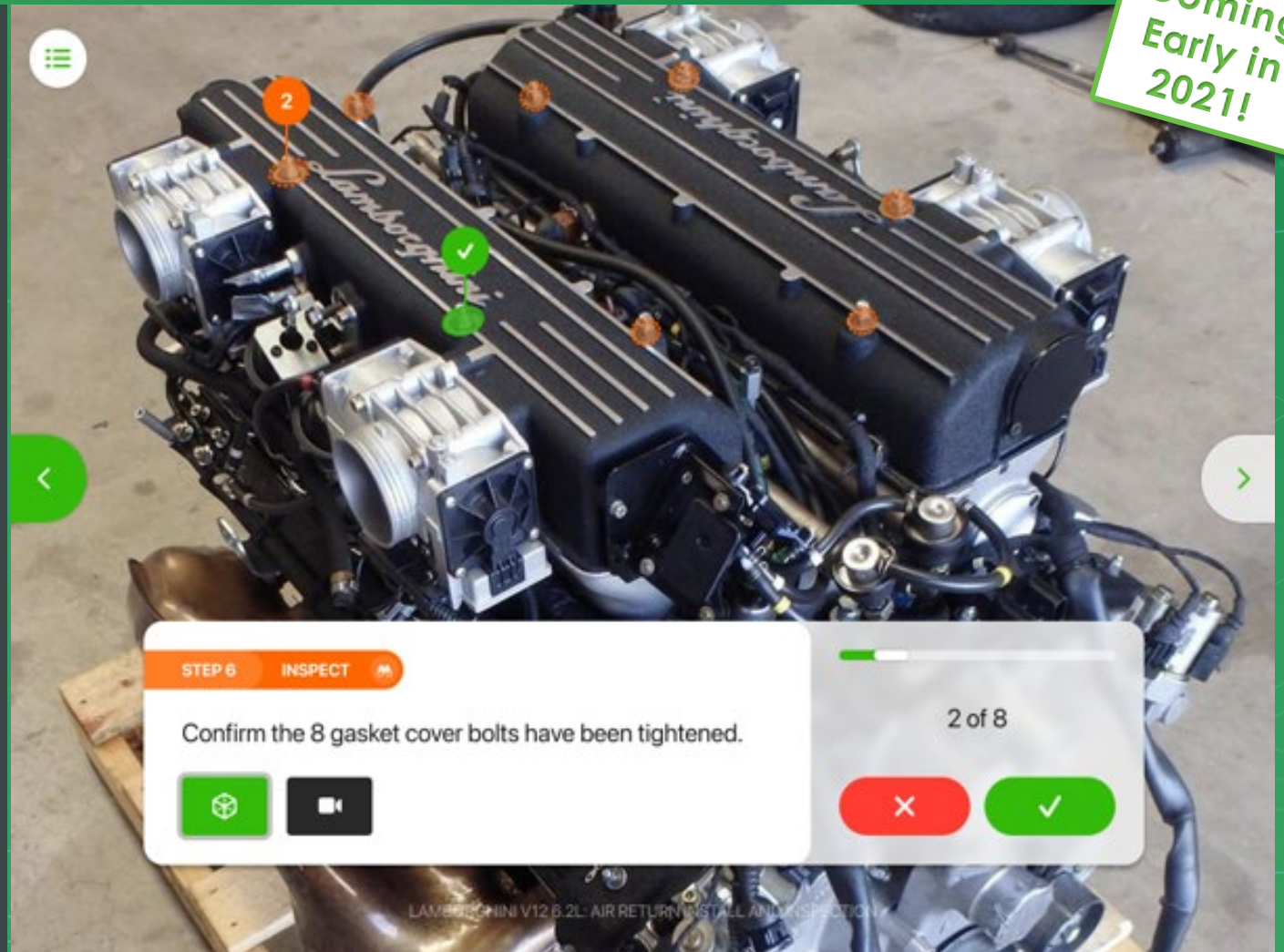
Vuforia
Chalk

vuforia® instruct

*Fast and scalable authoring
and sharing of augmented
work instructions*

- **Scale** engineering excellence
- **Digitize** manufacturing processes
- **Improve** quality and compliance
- **Boost** confidence

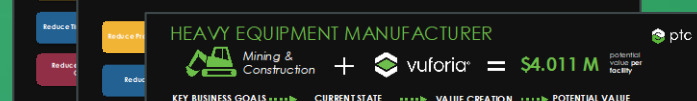
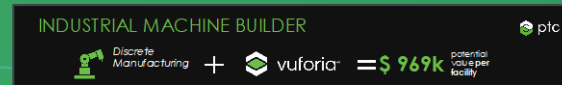
Coming
Early in
2021!



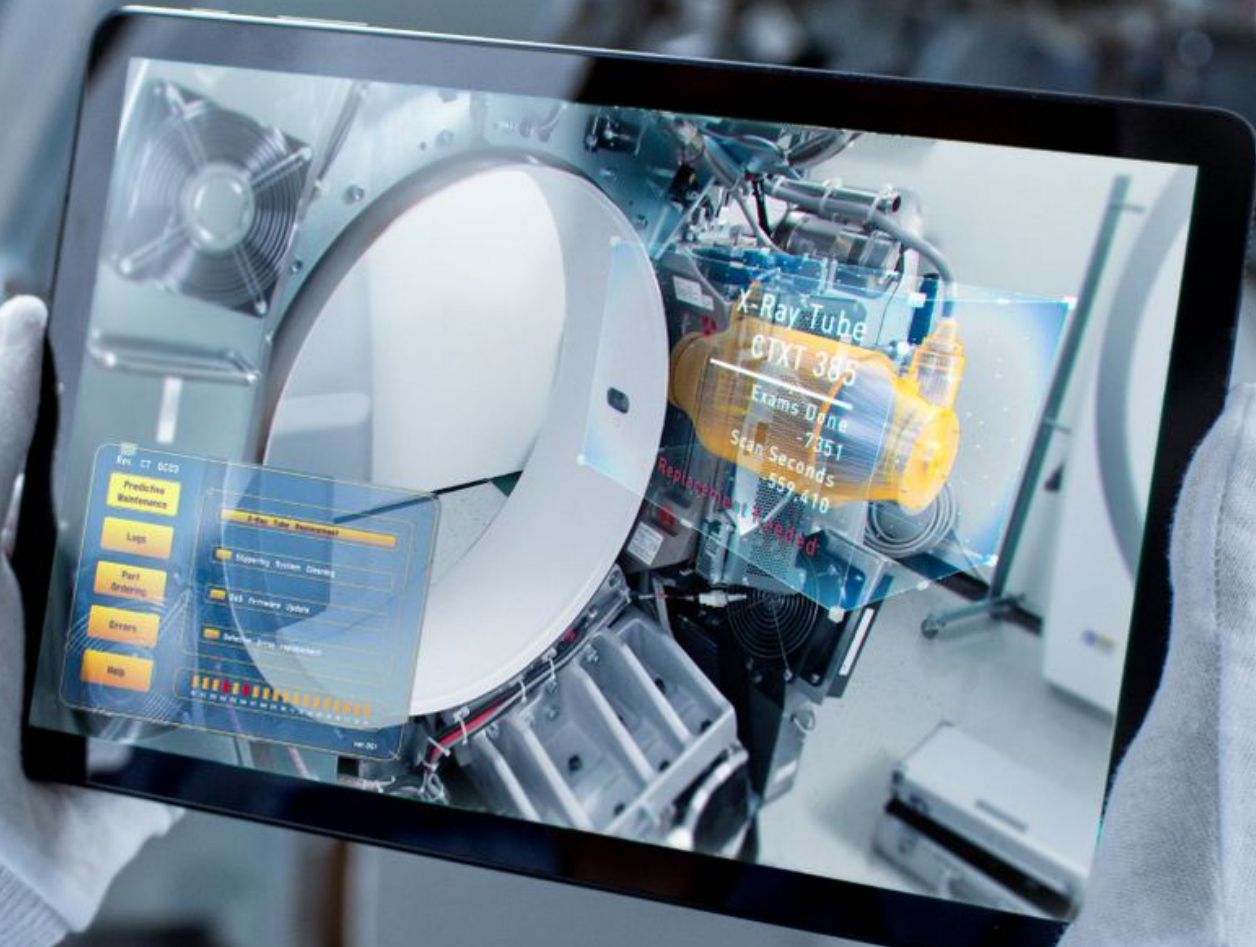
Value-Centric Customer Engagement Throughout



Value-centric strategy and approach



Value workshops backed by proven metrics and robust customer references



Improving training and reducing cost



GE Healthcare

Key Themes

AR Opportunity

FY'20 Successes

Product Plans

Customer Value

Key Takeaways



Strong Market
Demand

Compelling
New
Offerings

Momentum
from FY'20

Driving
Customer
Value

PTC Atlas

Key
Themes

Culture
Platform
Capabilities

Schools & Universities Using Onshape



Continuously Available



How many sessions can I do in a day?

You can have as many sessions as you need (not concurrently, of course). Make sure you save the work before ending the session. You won't be able to close the browser's tab until you confirm you want to Leave. This is as designed to prevent an accidental closing of the site.

I get a message that no servers are available. What do I do?

If the system reaches capacity, you will need to wait for someone else to end a session. You should simply retry after a couple of minutes.



You can have as many sessions as you need (not concurrently, of course). **Make sure you save the work before ending the session.** You won't be able to close the browser's tab until you confirm you want to Leave. This is as designed to prevent an accidental closing of the site.

I get a message that no servers are available. What do I do?

If the system reaches capacity, you will need to wait for someone else to end a session. You should simply retry after a couple of minutes.

3DEXPERIENCE platform – Customers Cloud Status

US East

<p>11/25/2020 09:11 UTC+2 - US East: impossible to access the platform</p> <p>Start: Nov 25, 2020 - 08:55 UTC+2Estimated Time of Return: Nov 25, 2020 - 09:10</p> <p>UTC+2Details: We are dedicated to solve this issue as soon as possible. Please subscribe to the RSS Feed to get notified of the incident end Dassault Systèmes Support – https://www.3ds.com/support</p>	<p>11/08/2020 18:38 UTC+2 - US East: planned maintenance scheduled</p> <p>Start: Nov 09, 2020 - 06:00 UTC+2Estimated Time of Return: Nov 09, 2020 - 10:00</p> <p>UTC+2Details: During this preventive maintenance, only a limited number of cloud users are impacted and may face issue with data (Search, Save, Open). Dassault Systèmes Support – https://www.3ds.com/support</p>	<p>11/07/2020 03:04 UTC+2 - US East: under maintenance</p> <p>Start: Nov 07, 2020 - 03:00 UTC+2Estimated Time of Return: Nov 07, 2020 - 18:00</p> <p>UTC+2Details: Scheduled upgrade to 3DEXPERIENCE R2021x FD03 started. Dassault Systèmes Support – https://www.3ds.com/support</p>
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[https://media.3ds.com/console/rss/customers_\[US East\].rss](https://media.3ds.com/console/rss/customers_[US East].rss)

US West

<p>12/06/2020 13:22 UTC+2 - US West: impossible to access the platform</p> <p>Start: Dec 06, 2020 - 12:45 UTC+2Estimated Time of Return: Dec 06, 2020 - 13:30</p> <p>UTC+2Details: We are dedicated to solve this issue as soon as possible. Please subscribe to the RSS Feed to get notified of the incident end Dassault Systèmes Support – https://www.3ds.com/support</p>	<p>11/25/2020 09:11 UTC+2 - US West: impossible to access the platform</p> <p>Start: Nov 25, 2020 - 08:55 UTC+2Estimated Time of Return: Nov 25, 2020 - 09:10</p> <p>UTC+2Details: We are dedicated to solve this issue as soon as possible. Please subscribe to the RSS Feed to get notified of the incident end Dassault Systèmes Support – https://www.3ds.com/support</p>	<p>11/07/2020 03:04 UTC+2 - US West: under maintenance</p> <p>Start: Nov 07, 2020 - 03:00 UTC+2Estimated Time of Return: Nov 07, 2020 - 18:00</p> <p>UTC+2Details: Scheduled upgrade to 3DEXPERIENCE R2021x FD03 started. Dassault Systèmes Support – https://www.3ds.com/support</p>
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[https://media.3ds.com/console/rss/customers_\[US West\].rss](https://media.3ds.com/console/rss/customers_[US West].rss)

Europe

<p>11/25/2020 09:11 UTC+2 - Europe: impossible to access the platform</p> <p>Start: Nov 25, 2020 - 08:55 UTC+2Estimated Time of Return: Nov 25, 2020 - 09:10</p> <p>UTC+2Details: We are dedicated to solve this issue as soon as possible. Please subscribe to the RSS Feed to get notified of the incident end Dassault Systèmes Support – https://www.3ds.com/support</p>	<p>11/07/2020 03:04 UTC+2 - Europe: under maintenance</p> <p>Start: Nov 07, 2020 - 03:00 UTC+2Estimated Time of Return: Nov 07, 2020 - 18:00</p> <p>UTC+2Details: Scheduled upgrade to 3DEXPERIENCE R2021x FD03 started. Dassault Systèmes Support – https://www.3ds.com/support</p>	<p>11/03/2020 15:37 UTC+2 - Europe: impossible to access the platform</p> <p>Start: Nov 03, 2020 - 15:25 UTC+2Estimated Time of Return: Nov 03, 2020 - 16:00</p> <p>UTC+2Details: We are dedicated to solve this issue as soon as possible. Please subscribe to the RSS Feed to get notified of the incident end Dassault Systèmes Support – https://www.3ds.com/support</p>
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[https://media.3ds.com/console/rss/customers_\[Europe\].rss](https://media.3ds.com/console/rss/customers_[Europe].rss)

3DEXPERIENCE platform – Customers Cloud Status

11/08/2020 18:38 UTC+2 - US East: planned maintenance scheduled 4w

Start: Nov 09, 2020 - 06:00 UTC+2
Estimated Time of Return: Nov 09, 2020 - 10:00 UTC+2
Details: During this preventive

maintenance, only a limited number of cloud users are impacted and may face issue with data (Search, Save, Open). Dassault Systèmes Support – <https://www.3ds.com/support>

3DEXPERIENCE...



11/07/2020 03:04 UTC+2 - US West: under maintenance 4m

Start: Nov 07, 2020 - 03:00 UTC+2
Estimated Time of Return: Nov 07, 2020 - 18:00 UTC+2
Details: Scheduled upgrade to

3DEXPERIENCE R2021x FD03 started. Dassault Systèmes Support – <https://www.3ds.com/support>

3DEXPERIENCE...



11/07/2020 03:04 UTC+2 - Europe: under maintenance 4m

Start: Nov 07, 2020 - 03:00 UTC+2
Estimated Time of Return: Nov 07, 2020 - 18:00 UTC+2
Details: Scheduled upgrade to

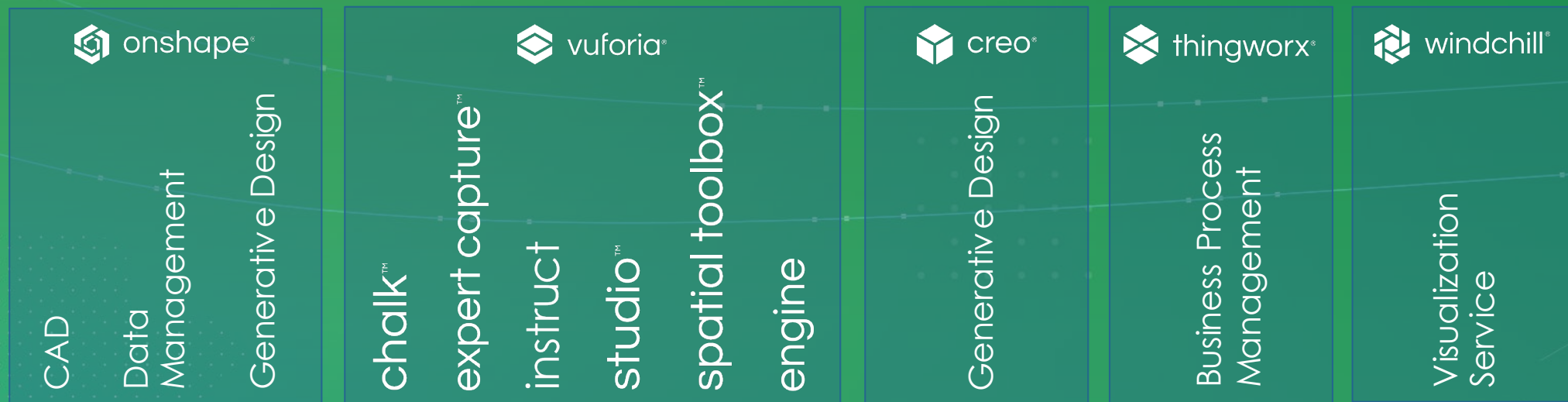
3DEXPERIENCE R2021x FD03 started. Dassault Systèmes Support – <https://www.3ds.com/support>

3DEXPERIENCE...



ptc[®] atlas[™]

PTC Atlas Platform & PTC SaaS Offerings



PTC Atlas SaaS Platform

AWS, Azure, et al.



**Enhance
the Platform**



**Expand
the Capabilities**



**Evolve
the Rest of PTC
to SaaS**

High Level Functions



Search



Collaboration



Automation and
Scalability



Enterprise Identity
Management



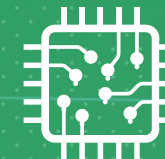
Content and Data
Management



Analytics

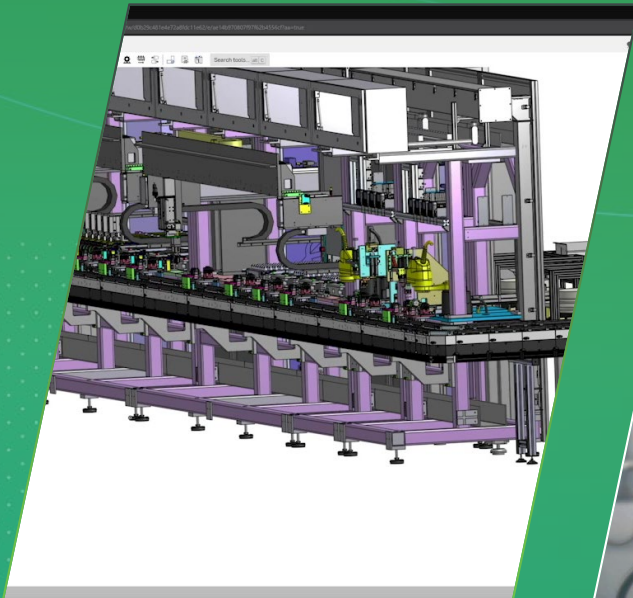


Orchestration





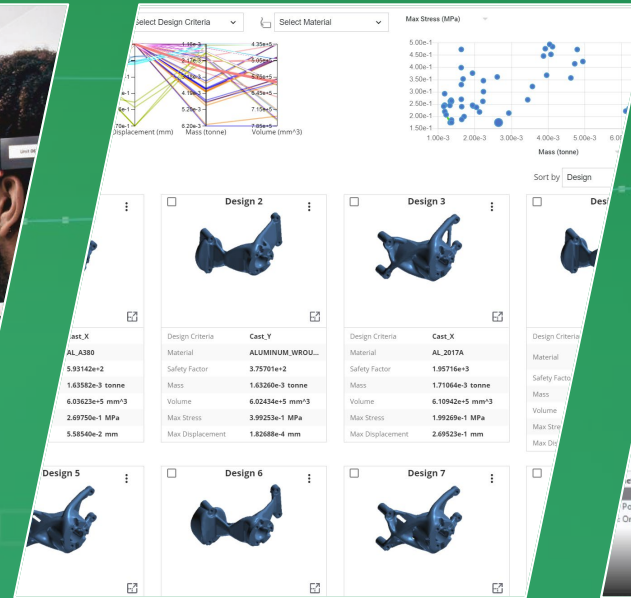
PTC Atlas SaaS Platform



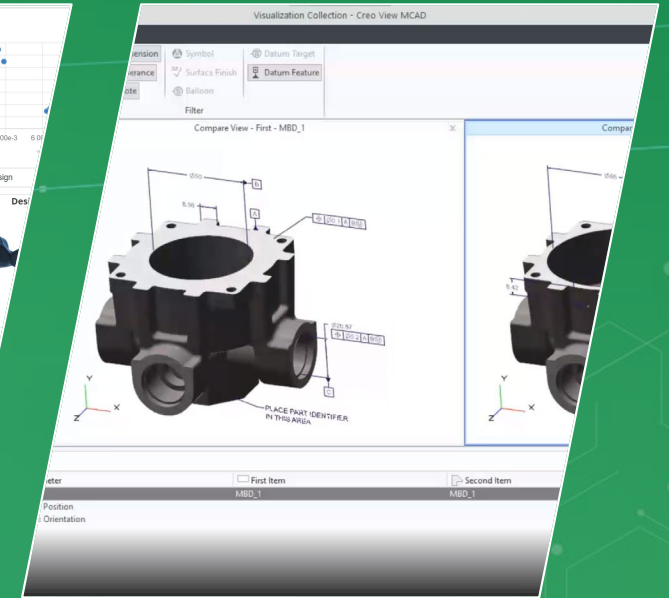
Onshape



Vuforia



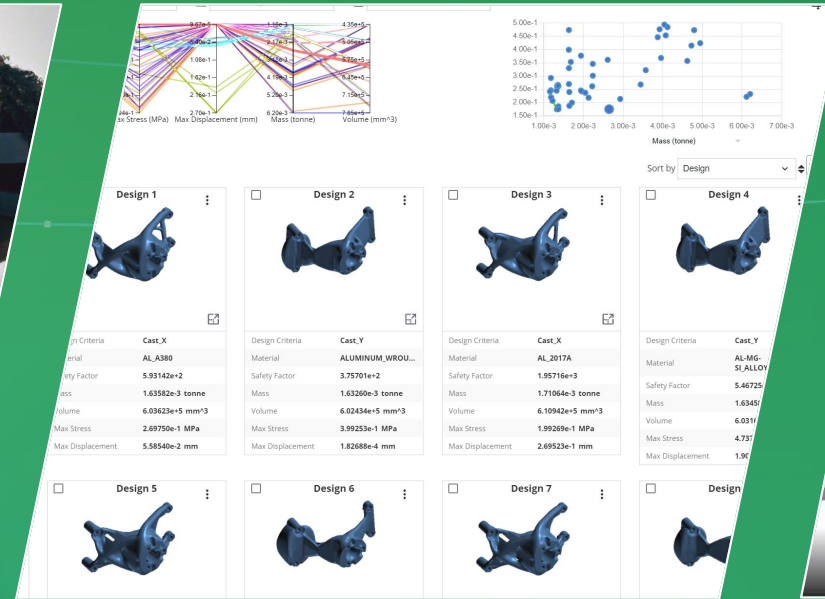
Creo
Generative
Design



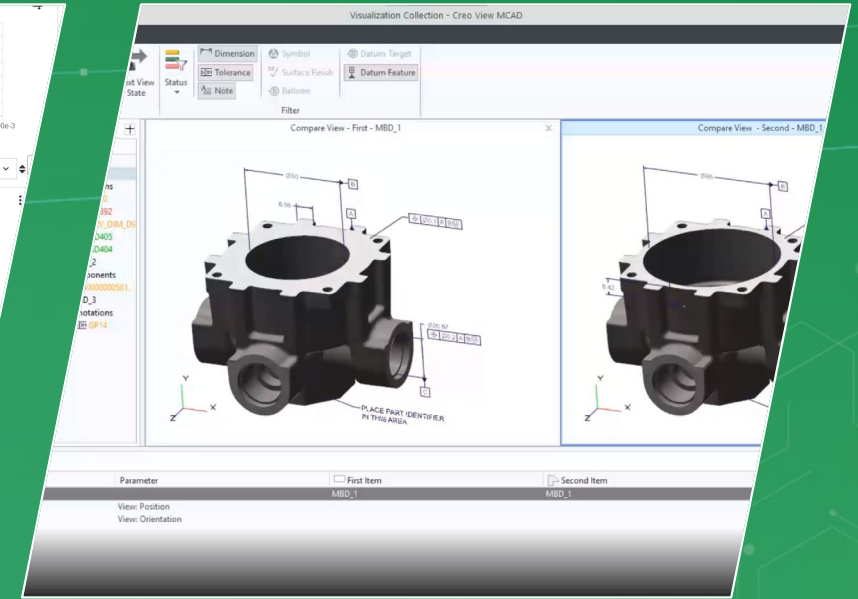
Windchill
Visualization
Service



Vuforia



Creo Generative Design



Windchill Visualization Service

2 Years

Faster to Full Feature Parity



creo®

Generative Design

12 Months

Faster to Market



onshape[®]

Generative Design



PTC Atlas SaaS Platform



creo®



windchill®

ptc[®] atlas[™]

Key Takeaways



Full-SaaS
Platform

Accelerated
Product
Innovation

Highly
Scalable
Solutions

IoT & Solutions

Key Themes

Current State of IOT

PTC's Shift to Solutions

Digital Performance
Management



Challenges in FY20

+9%

New ACV
Growth

+17%

ARR Growth

Bright Spots

+73%

Expansion ACV
for Deals \$500K+

+57%

Expansion Deals
\$500K+

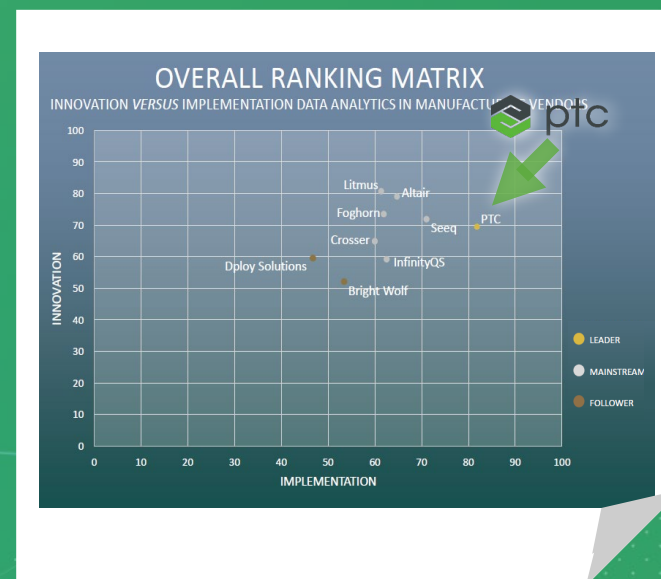
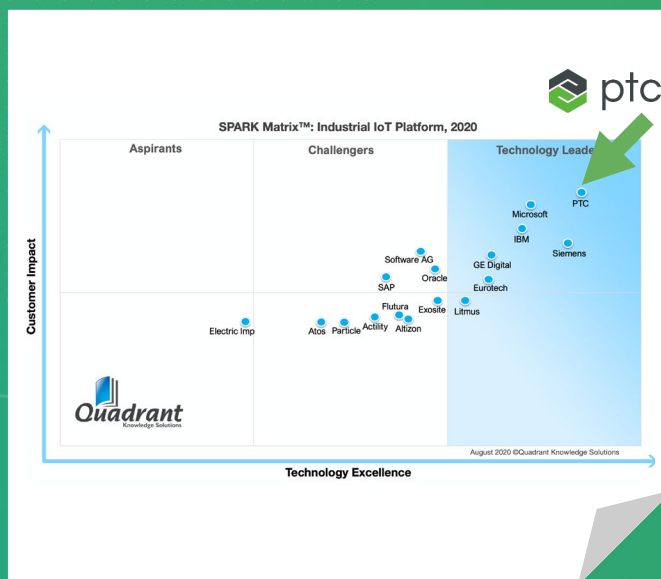
Strong Outlook

33%

Increase in
Backlog

3X

Pipeline heading
into FY21 vs. FY19



2020

~\$3B

Total Addressable Market

\$600M

PTC Customer Base



~20%

Penetration with
existing customers

2023

~\$6B

Total Addressable Market

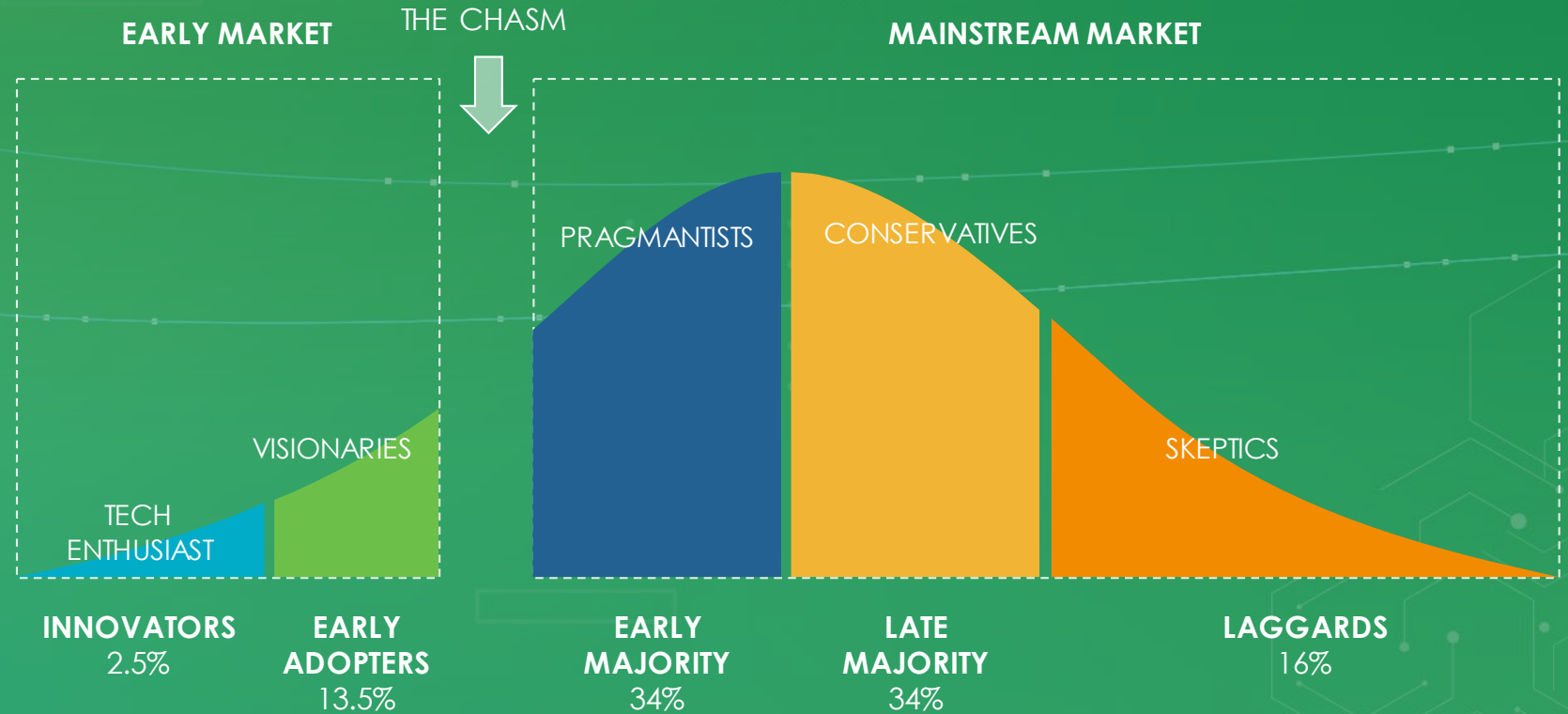
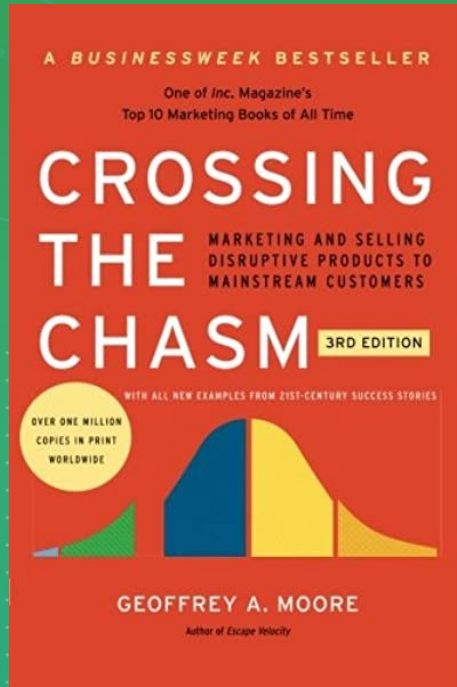
~\$1.3B

Cross sell and
expansion
opportunity with
PTC customers

*"Despite focus and enthusiasm, **companies are experiencing pilot purgatory.** They have significant activities underway. **But they are not seeing meaningful bottom-line results.**"*

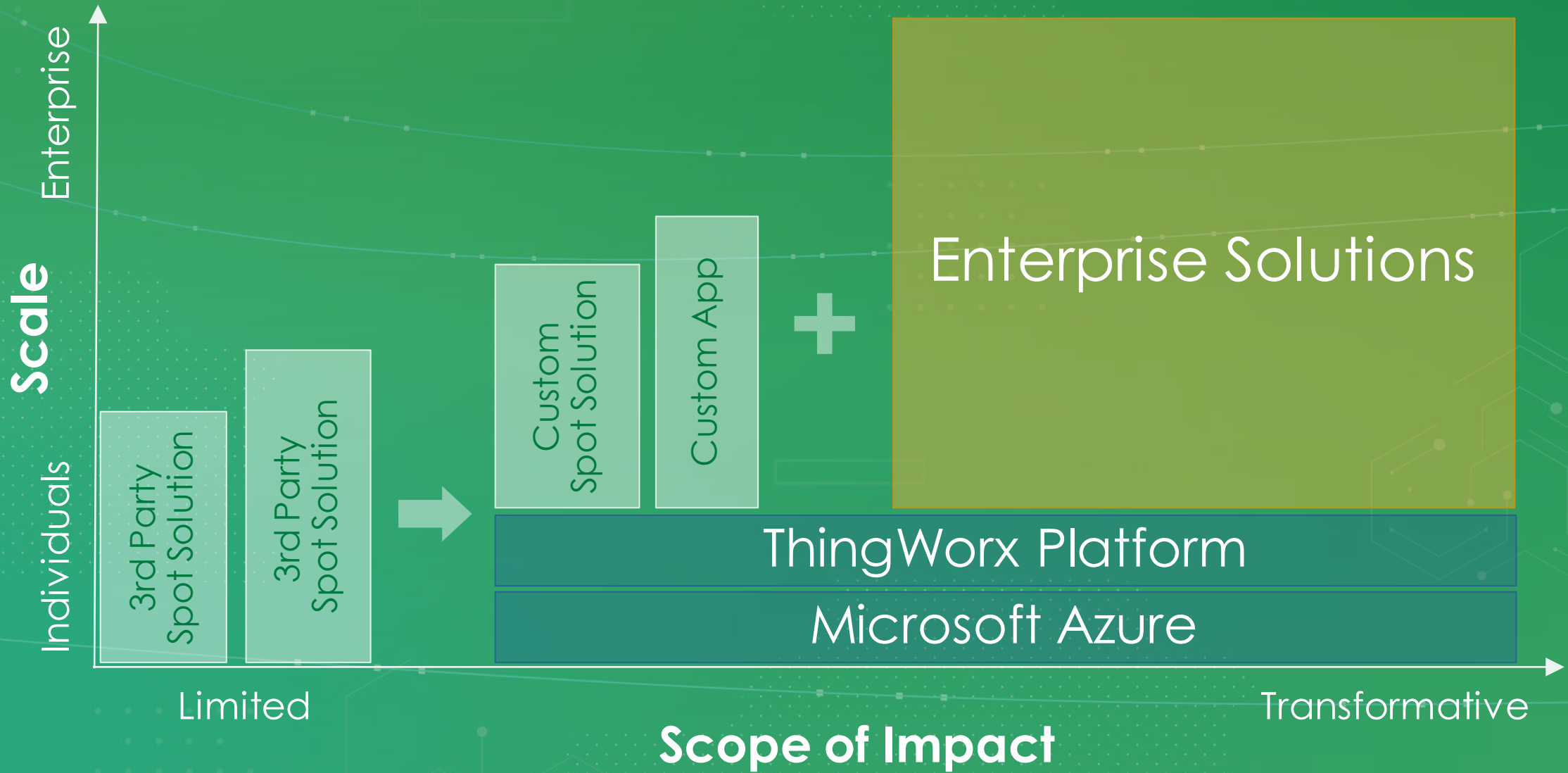
***The challenge is to roll out** successful pilot projects **to the entire organization.** That's what makes transformation happen."*

– Richard Kelly, McKinsey & Company



Pilot Purgatory

Enterprise Scale Impact





Service
Optimization

~\$40M
service cost savings

~5%
service cost
reduction

~\$55M
planned incremental
revenue

~10%
incremental
revenue growth

Engineering
Excellence

~\$20M
annual cost
savings

~5%-10%
EBITDA
improvement

Sales and Marketing
Experiences

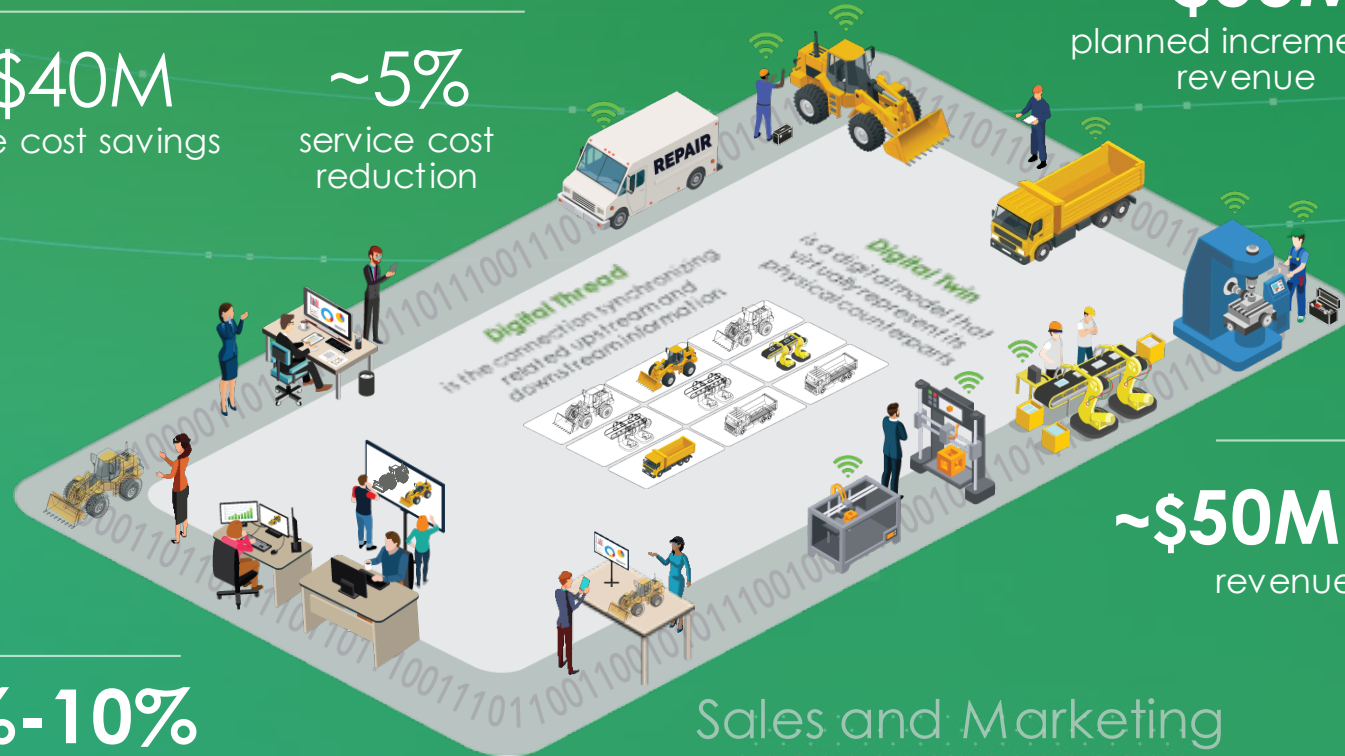
~\$20M
selling cost reduction

~10%
revenue increase

Manufacturing
Efficiency

~\$50M-250M
revenue increase

~5-10%
operating cost
reduction





Manufacturing Efficiency

~\$50M-250M
revenue increase

~5-10%
operating cost reduction

Engineering
Excellence

Sales and Marketing
Experiences

**Manufacturing
Efficiency**

Product and Service
Innovation

Service
Optimization

Financial Value*

\$50M-250M

Increase revenue¹

5-10%

Reduce operating cost²

Operational Impact

5-60%

Increase worker productivity

5-20%

Increase throughput

5-30%

Increase yield

20-30%

Reduce unplanned downtime

Top Use Cases

Real-time Production
Performance Monitoring

Asset Monitoring and Utilization

Digital and Augmented Work
Instruction

Connected Work Cell

Predictive Analytics for Quality
and Maintenance

Augmented Remote Assistance

Technologies

 **thingworx®**

 **vuforia®**

 **windchill®**

CUSTOMER SUCCESS STORIES

Vestas

BAE SYSTEMS

 **brembo**

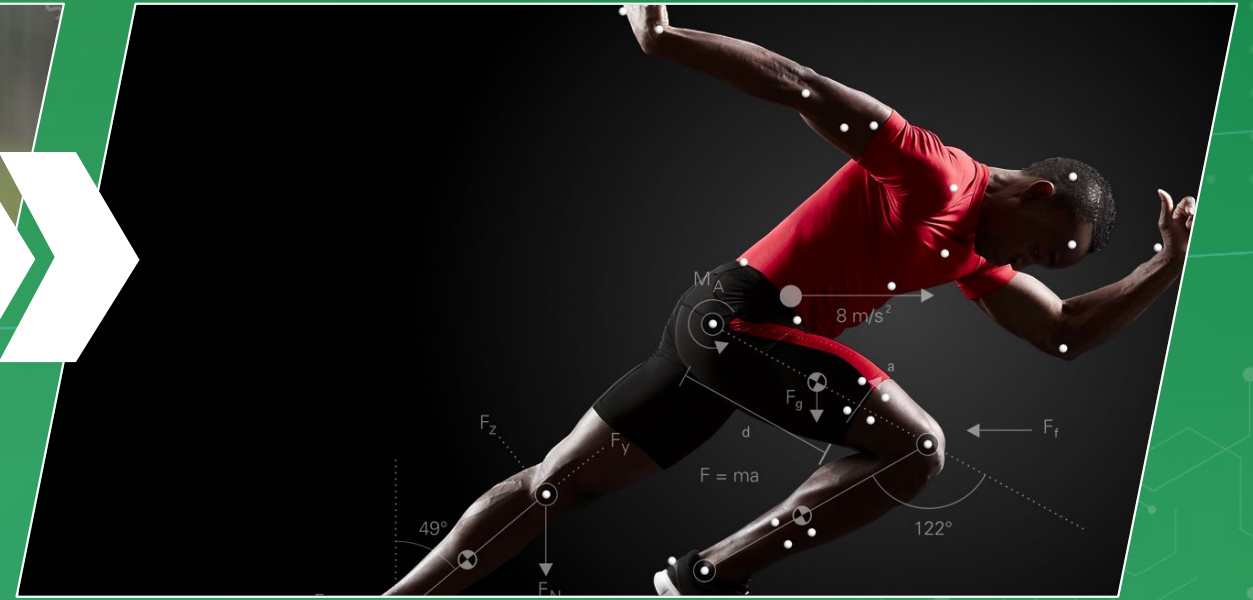
CIMC

 **WOODWARD**

 **Carlsberg
Group**

¹For \$5B manufacturer with 24/7 production and capacity constraints ²Based on World Economic Forum, McKinsey, industry analysts reports and PTC customers' experience

Digital Performance Management



*transform how we measure and
manage high performing systems*



*transform your data from
high level and lagging to
precise and real-time...*

*...and value creation from
diffuse and incremental to
prioritized and double digit*

Age Group	Percentage
18-24	~10%
25-34	~15%
35-44	~10%
45-54	~10%

Bottleneck Chart - Work Center A

Work Center	Cycle Time	Category
Work Center A	~450	Management of Material Change
Work Center B	~550	Management of Material Change
Work Center C	~650	Management of Material Change
Work Center D	~750	Management of Material Change
Work Center E	~850	Management of Material Change
Work Center F	~950	Management of Material Change
Work Center G	~1050	Management of Material Change
Work Center H	~1150	Management of Material Change
Work Center I	~1250	Management of Material Change
Work Center J	~1350	Management of Material Change
Work Center K	~1450	Management of Material Change
Work Center L	~1550	Management of Material Change
Work Center M	~1650	Management of Material Change
Work Center N	~1750	Management of Material Change
Work Center O	~1850	Management of Material Change
Work Center P	~1950	Management of Material Change
Work Center Q	~2050	Management of Material Change
Work Center R	~2150	Management of Material Change
Work Center S	~2250	Management of Material Change
Work Center T	~2350	Management of Material Change
Work Center U	~2450	Management of Material Change
Work Center V	~2550	Management of Material Change
Work Center W	~2650	Management of Material Change
Work Center X	~2750	Management of Material Change
Work Center Y	~2850	Management of Material Change
Work Center Z	~2950	Management of Material Change

1

[illegible]

2



Scorecard

North America | Midwest | Speaking

Category	KPI	Target	Actual	Variance
Safety	ResponsibleIncidents	10	8	▲ 2
Safety	New MinorIncidents	2	1	▼ 1
Quality	DefectsPerUnit	2.00	3	▼ 1.00
Efficiency	CycleTimePerUnit	100	90	▼ 10.00
Cost	SpentPerUnit	0	2	▲ 2.00
Performance	Overall	88	89.5	▲ 1.5

Performance: Overall (88-90%)

Legend: Target (blue line), Actual (green line)

Target: 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100

Actual: 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100

Top Line Reasons

Reason	Value	Reason	Value
1. Safety: Incidents	2	100% Increase	100%
2. SMT: Material Issue	5	100% Increase	100%
3. SMT: Quality: Assembly	5	0	0
4. QA: Operator Issue - Operator Training	4	0	0
5	0	0	0
6	0	0	0
7	0	0	0

5

The screenshot shows a dashboard titled "Virtual Performance Management". It features a sidebar with navigation icons for Home, Reports, People, Projects, and Settings. The main content area is divided into several sections:

- Dashboard:** A top section with a profile card for "John Doe" (Sales Manager), a "72%" progress indicator, and a "Production Status" section showing "On Track" with a green circle and "100,000" units.
- Production Key:** A table with columns for "Production Key", "Value", and "Unit". It lists "Target" (100), "Actual" (95), and "Variance" (5).
- Production Breakdown:** A bar chart showing production volume by month from January to December. The bars are color-coded: red for January, orange for February, and green for the rest of the year.
- Top Sales:** A table listing top sales representatives with columns for "Rep Name", "Sales Volume", and "Percentage". It lists "John Doe" (120 units, 15%), "Jane Smith" (85 units, 10%), and "Mike Johnson" (70 units, 8%).



A bar chart with 10 vertical bars of decreasing height, colored in a gradient from dark blue to light blue. The bars are set against a light gray background with a white grid.

The screenshot displays a 'Digital Performance Management' dashboard. The main chart is titled 'Pareto Loss - Press #2'. The Y-axis is labeled 'Time (min)' and ranges from 0 to 30. The X-axis is labeled 'Global Loss Categories'. The chart shows a bar chart with red bars representing loss categories and a blue line representing cumulative loss. The categories are: Machine Oily Impregnated (28 min), Automated Jam Loading (18 min), Manual Jamming (3 min), Manual Jamming (3 min), Manual Jamming (3 min), Manual Jamming (3 min), Manual Jamming (3 min), Manual Jamming (3 min), Manual Jamming (3 min), and Manual Jamming (3 min). The chart is titled 'Pareto Loss - Press #2' and includes a legend for 'Pareto Loss' and 'Loss Trend'.

3

[illegible]

4

5-20% Increase Throughput Enables ...



Increase Revenue



Demand



Capacity

~5-20% More Volume

~ \$100+ M

(across 50 plant enterprise
~\$2M per factory)

Reduce Operating Costs



Demand



Capacity

~5-20% Less hours

~ \$50 M

(across enterprise 12 hours OT/wk,
\$30/Hour, per factory)

Increase Service Level



Demand



Capacity

~5-20% More Changeovers

Shorter lead time

Greater product mix

Higher margin product

Less Inventory/Working Capital

(~1 wk reduction for every 6 wks)

Crossing the Chasm



Key Takeaways



IoT is strong,
healthy, and
well positioned
for FY'21

PTC developing
Solutions for highest
value use cases to
scale and speed
customer impact

DPM is PTC's first
enterprise solution,
coming to market
in the second
half of FY'21

PLM & CAD

Key Themes

Strong Performance

Digital Transformation
is Driving Demand

Opportunity in the Base
and in Consolidation

Digital Transformation



windchill[®]

14%
ARR Growth

5%
Churn



Raytheon
Technologies



LOCKHEED MARTIN



THALES



Baxter

JABIL
HEALTHCARE

Johnson & Johnson

mindray

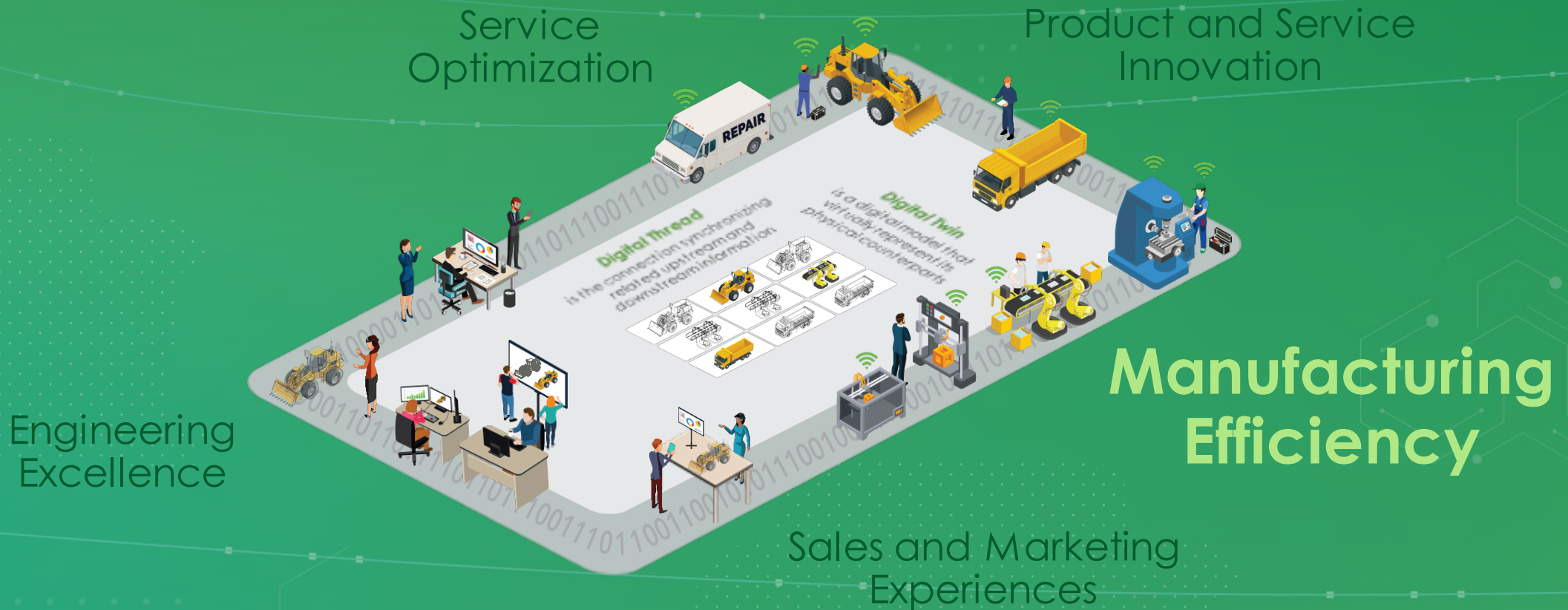


ST. JUDE MEDICAL™

The Digital Thread is Managed and Orchestrated by PLM



The Digital Thread is Managed and Orchestrated by PLM



The Digital Thread is Managed and Orchestrated by PLM



Service
Optimization

Product and Service
Innovation

Engineering
Excellence

Manufacturing
Efficiency

Sales and Marketing
Experiences



The Digital Thread is Managed and Orchestrated by PLM



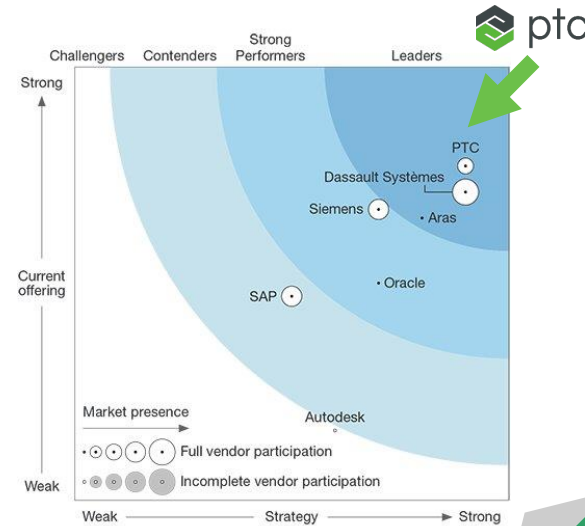
FROST & SULLIVAN

FORRESTER®

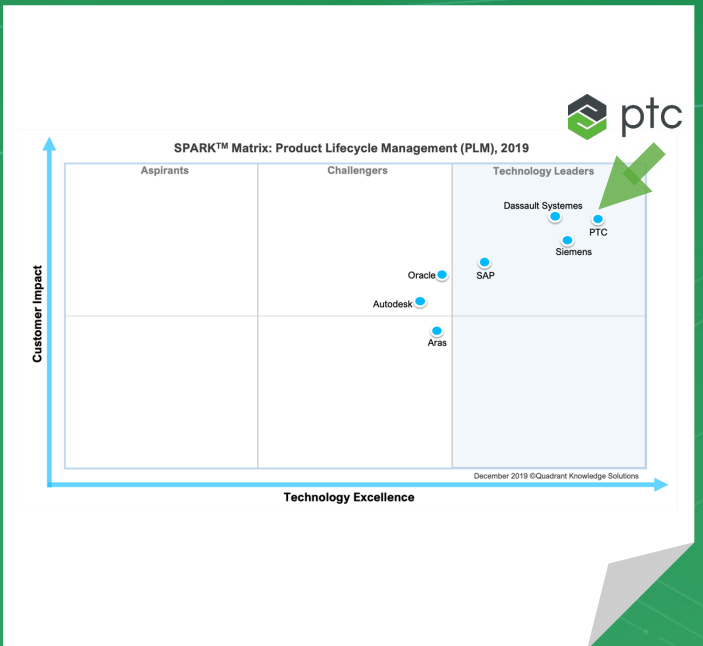
Quadrant
Knowledge Solutions



PLM Leader for
Digital Transformation



Strongest PLM Solution



Technology Leader in
the Global PLM Market

JABIL

↑ 400%

increase in number of projects

 **Vaillant**

↑ 53%

improvement in first-pass yield

MBDA
MISSILE SYSTEMS

↑ 42%

faster Product Development

Nidec

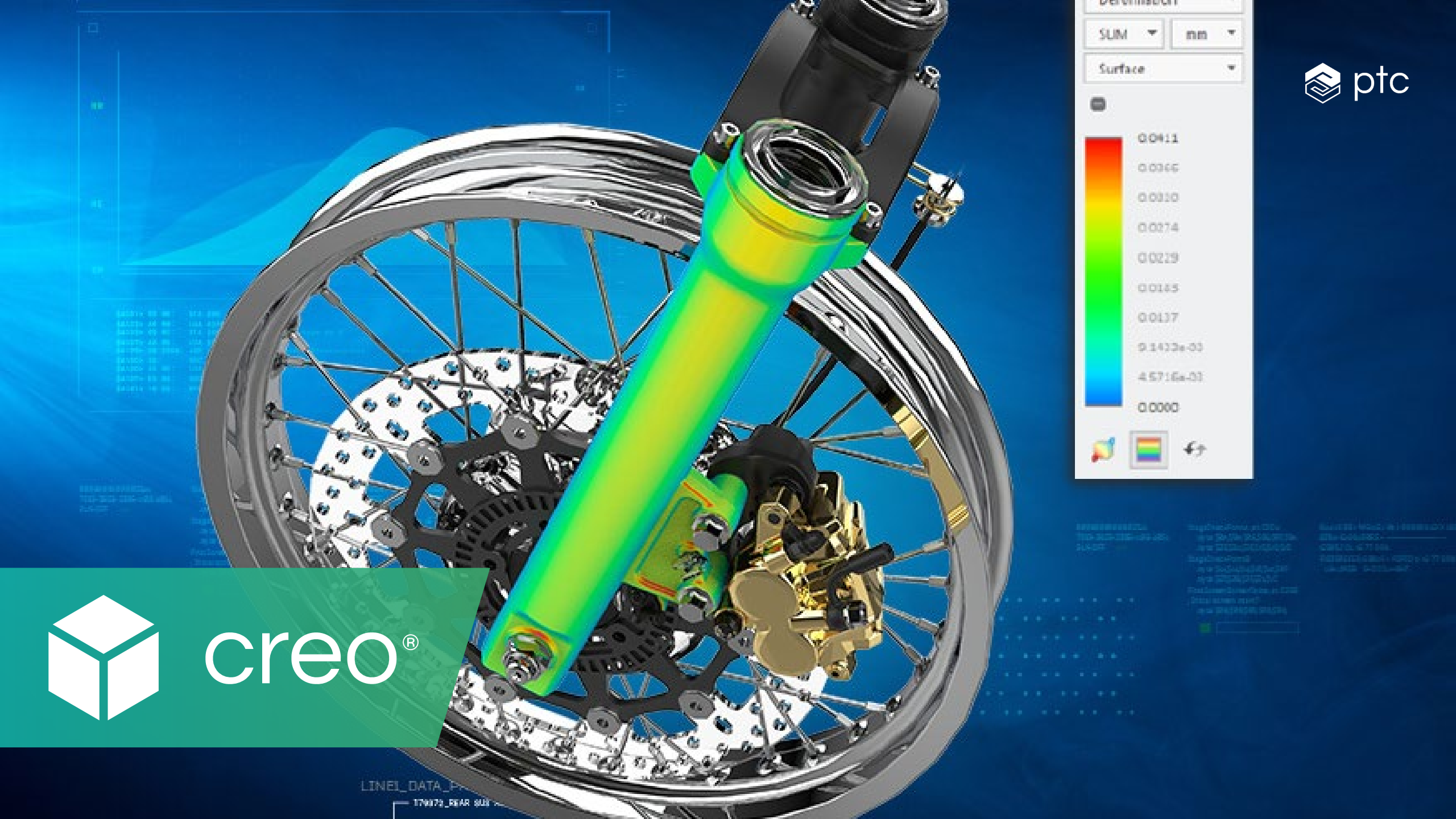
↓ 40%

reduction in the cost of poor quality



↓ 25%

decrease in time to Industrialization





Permittivity

SUM mm

Surface

0.0411
0.0346
0.0310
0.0274
0.0219
0.0145
0.0137
9.1433e-03
4.5716e-03
0.0000



creo®

LINEL_DATA_P
T7W072_REAR SUM

+8%
ARR Growth

vs.

4%
Market Growth

+7%

*Direct ARR
Growth¹*

+9%

*Channel ARR
Growth*

1,300+

*New
Customers*

6%

Churn



creo[®] 7.0

57.042 A

```
TO BASE = 0.000 + 0.000
TO BASE = 0.000
TO OF SETS = -1.000 BASE = 0.000 -1.000 0.000
TO FROM BASE = 0.000
TO BASE = 0.000 + 1.000
TO OF SETS = 0.000 + 0.000 + 0.000 THEN APPROXIMATE = 0.000 + 0.000
TO DATA = 0.000
TO DATA = 0.000
TO DATA = 0.000
TO DATA = 0.000
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TO DATA = 0.000
TO DATA = 0.000
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TO DATA = 0.000
```

R5_CORE_SMP
1514.54088

PROCESSING

Al Dean

Develop3D Editor in Chief



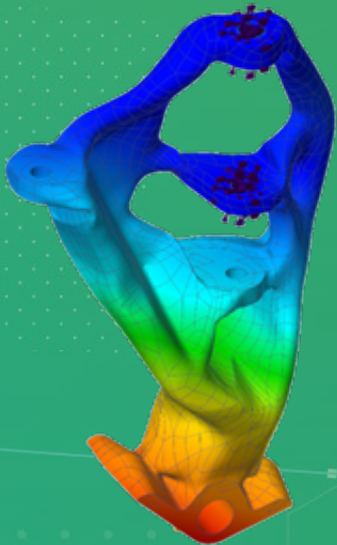
“This, if I’m honest, is one of the most impressive releases of a 3D design and engineering system that I’ve seen in a good few years.”

– Al Dean on Creo 7.0



creo®

 Ansys

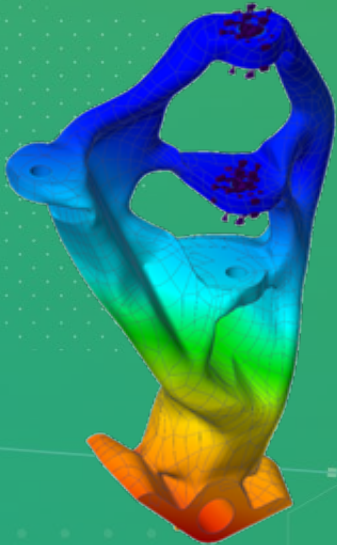


creo® simulation live



creo®

Ansys



creo® simulation live

creo® ansys simulation



creo®

ptc® atlas™

Key Takeaways



Strong
FY'20

Digital
Transformation
is Driving
Demand

Opportunity in
the Base and
in Consolidation

Delivering Shareholder Value



Pipeline



ARR



FCF

Market Demand

Digital Transformation,
Remote/Collaboration,
SaaS

Top Line
ARR Growth,
Customer Success

Bottom Line

Opex Discipline,
FCF growth

Lifecycle Execution For Sustainable Growth



Drive Top-Line **Growth**

Drive High **Retention**

A Self-Reinforcing Cycle

Go-to-Market Strategy

Key Themes

Our Transformations

Our GTM Orientation

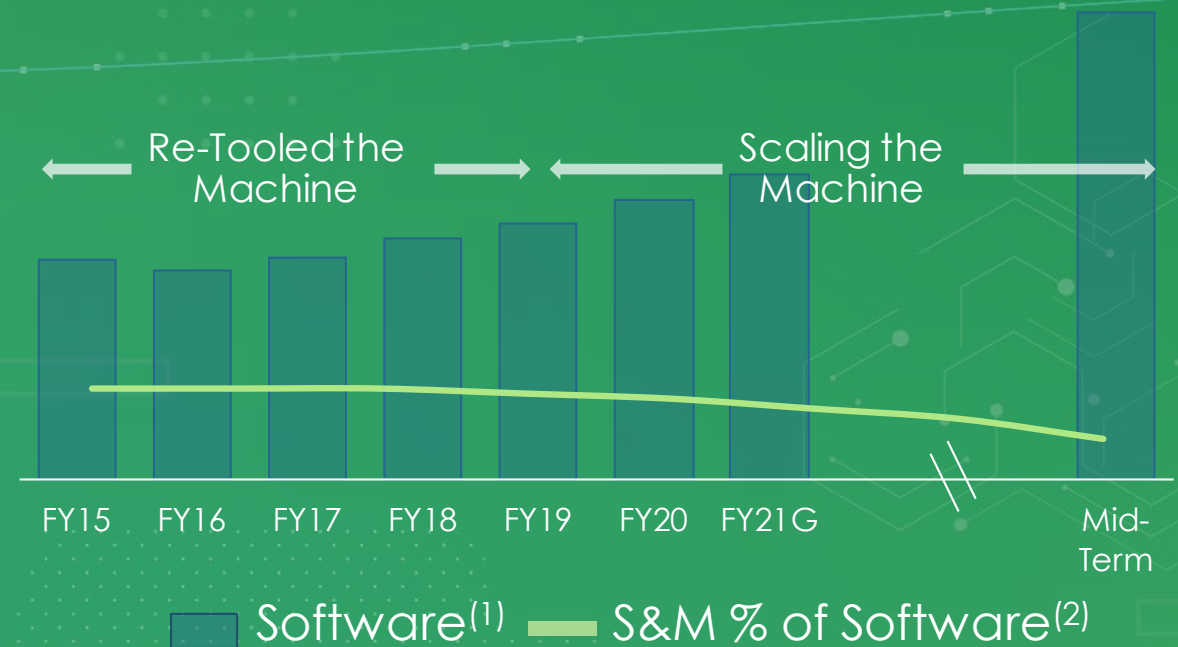
Driving Growth
Through Scale

PTC Significant Transformations



Retooled & Scaling Sales & Marketing Machine

1. High Growth Markets
2. Subscription Model
3. Digital
4. SaaS Solutions



Illustrative purposes only

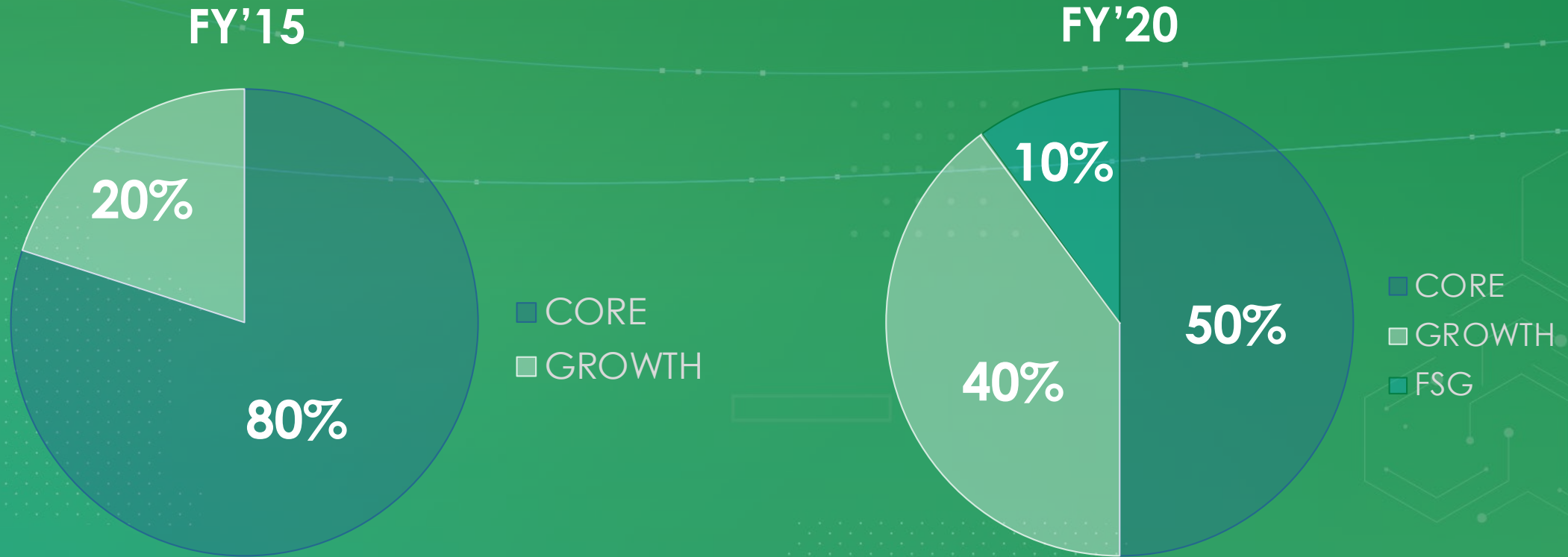
⁽¹⁾ Software = ARR + Perpetual license revenue

⁽²⁾ Non-GAAP S&M costs

Re-Tooled Our Sales Engine



% of Total Sales Headcount



...increased Growth Products GTM capacity **by over 100%**
while still driving above-market growth in our Core business

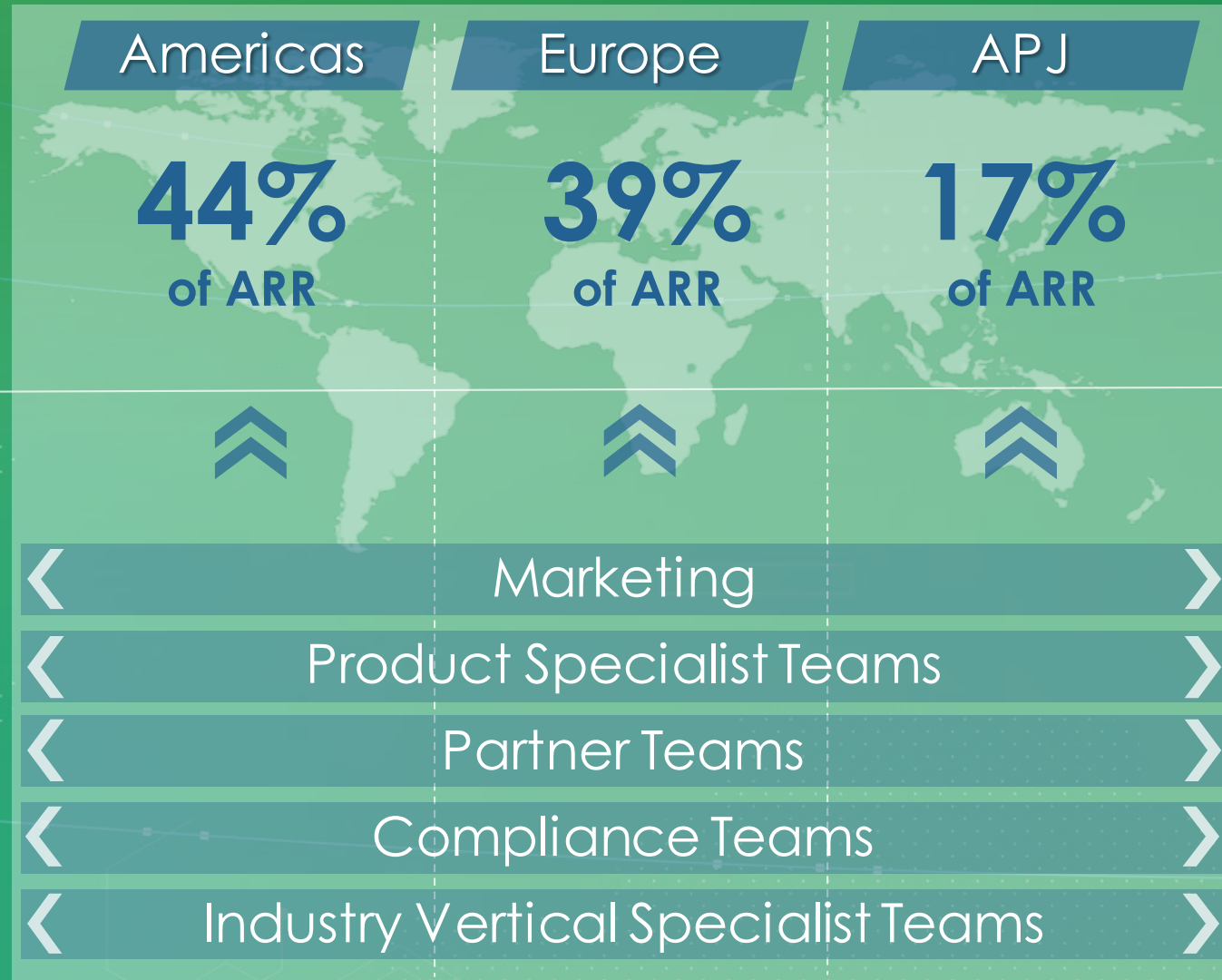
OUR S&M GTM Orientation



Geographic
Teams



Horizontal
Centers of
Excellence



1,300
PTC Sales &
Marketing
Professionals

1,800
Reseller Partner
Sales Reps

50+
Alliance
Partners

The Right People in the Right Place



Customer-Centric

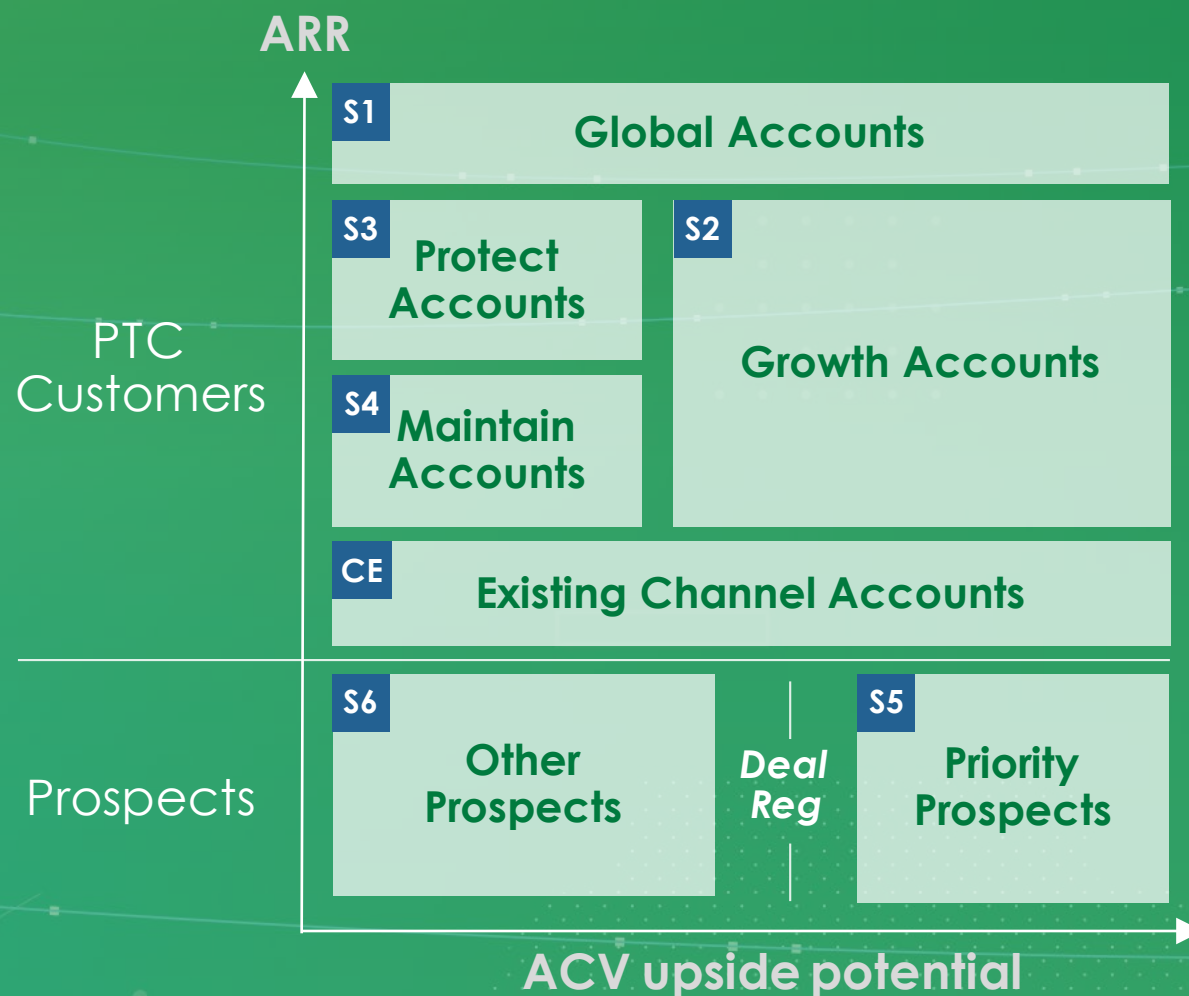


Defined Customer
Segmentation

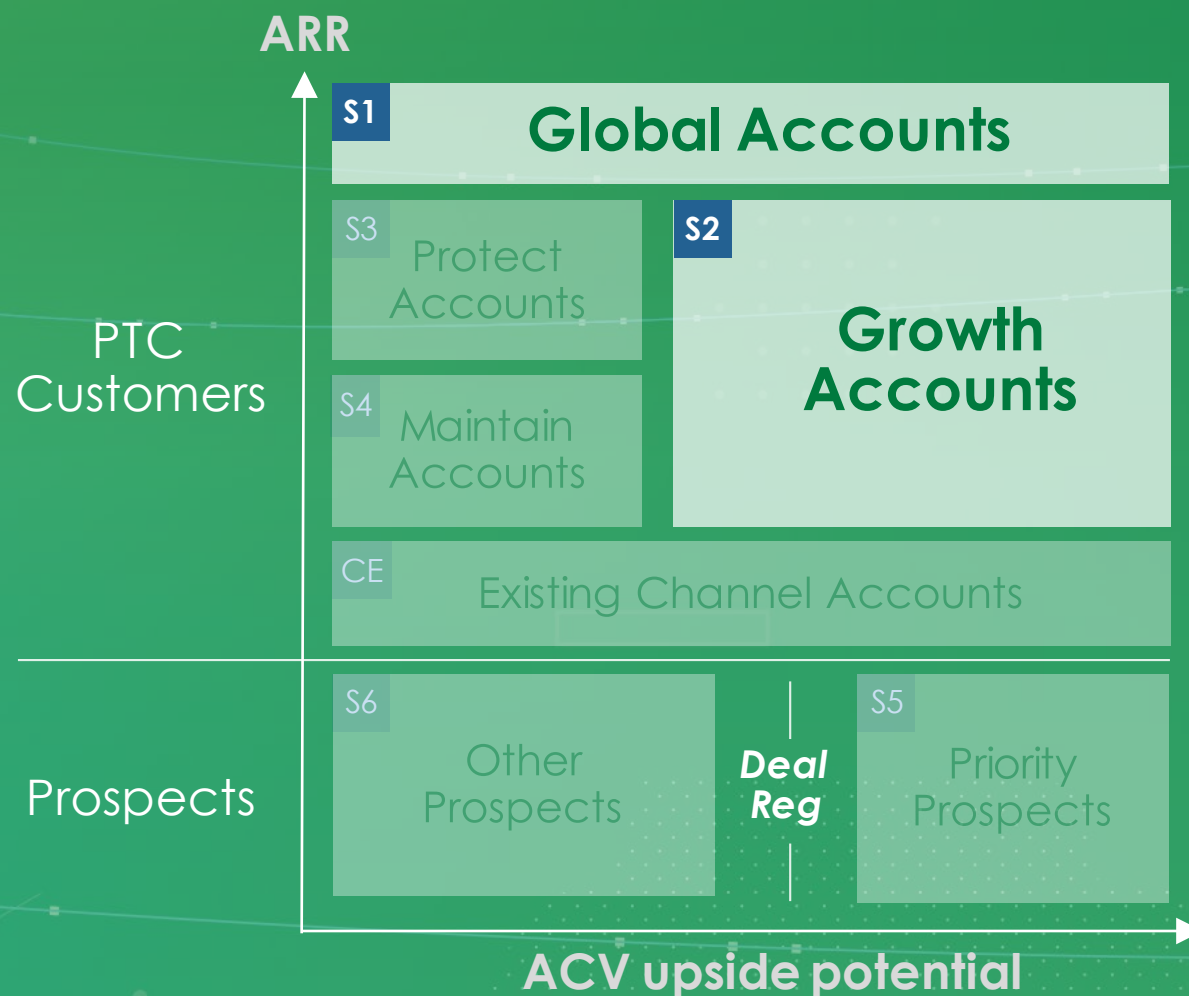


Clear Role
Responsibilities

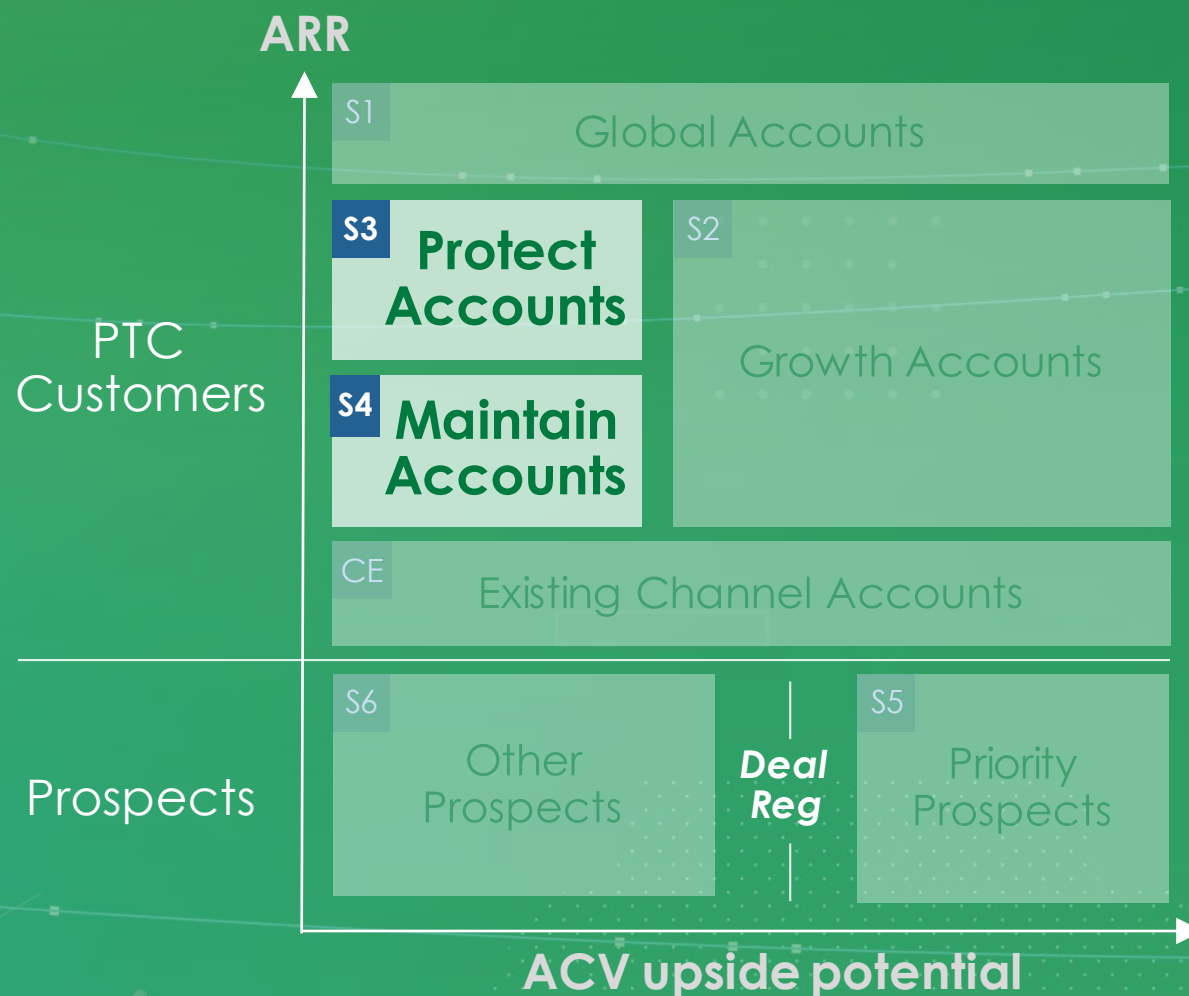
Customer Account Segmentation Model



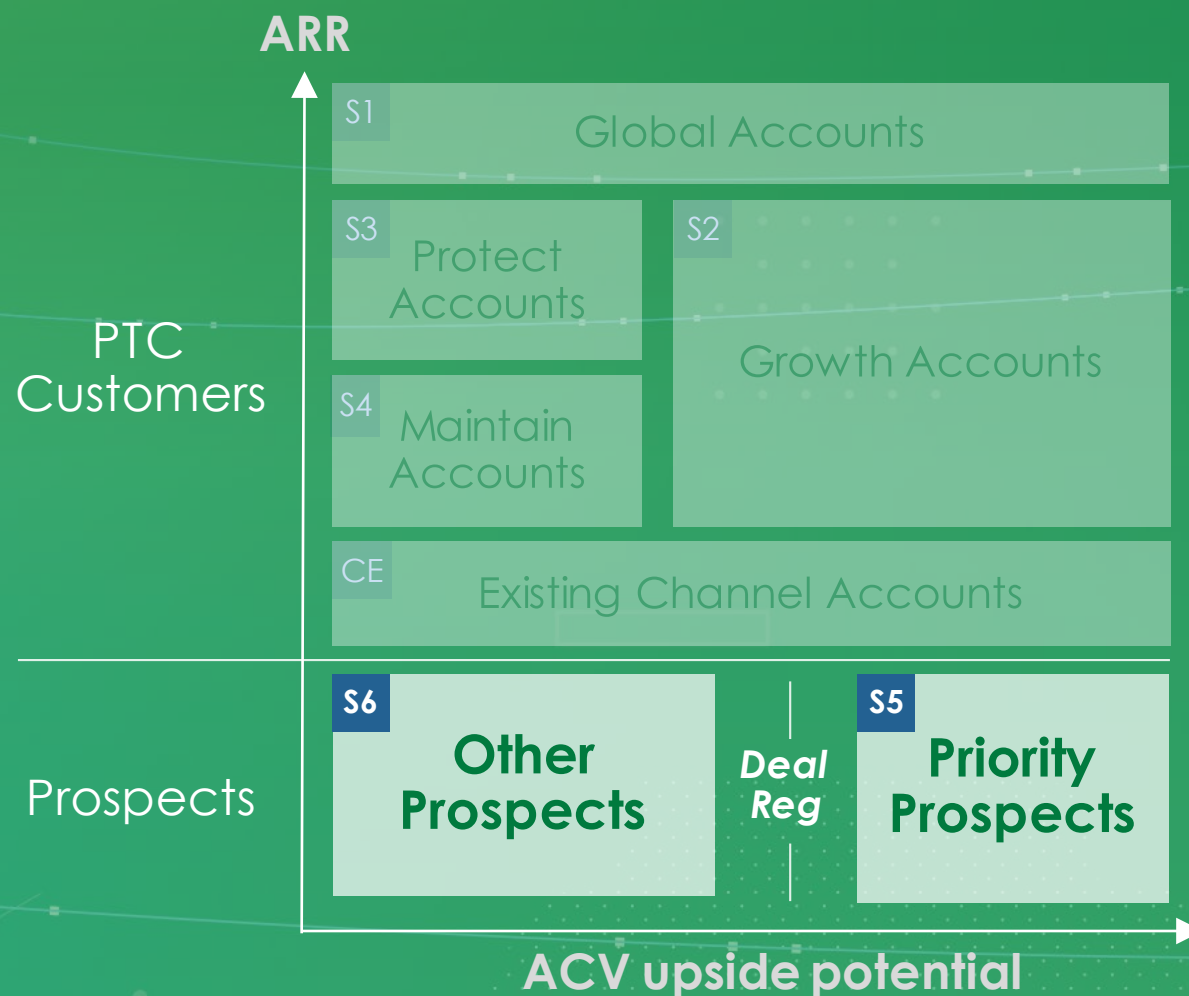
Customer Account Segmentation Model



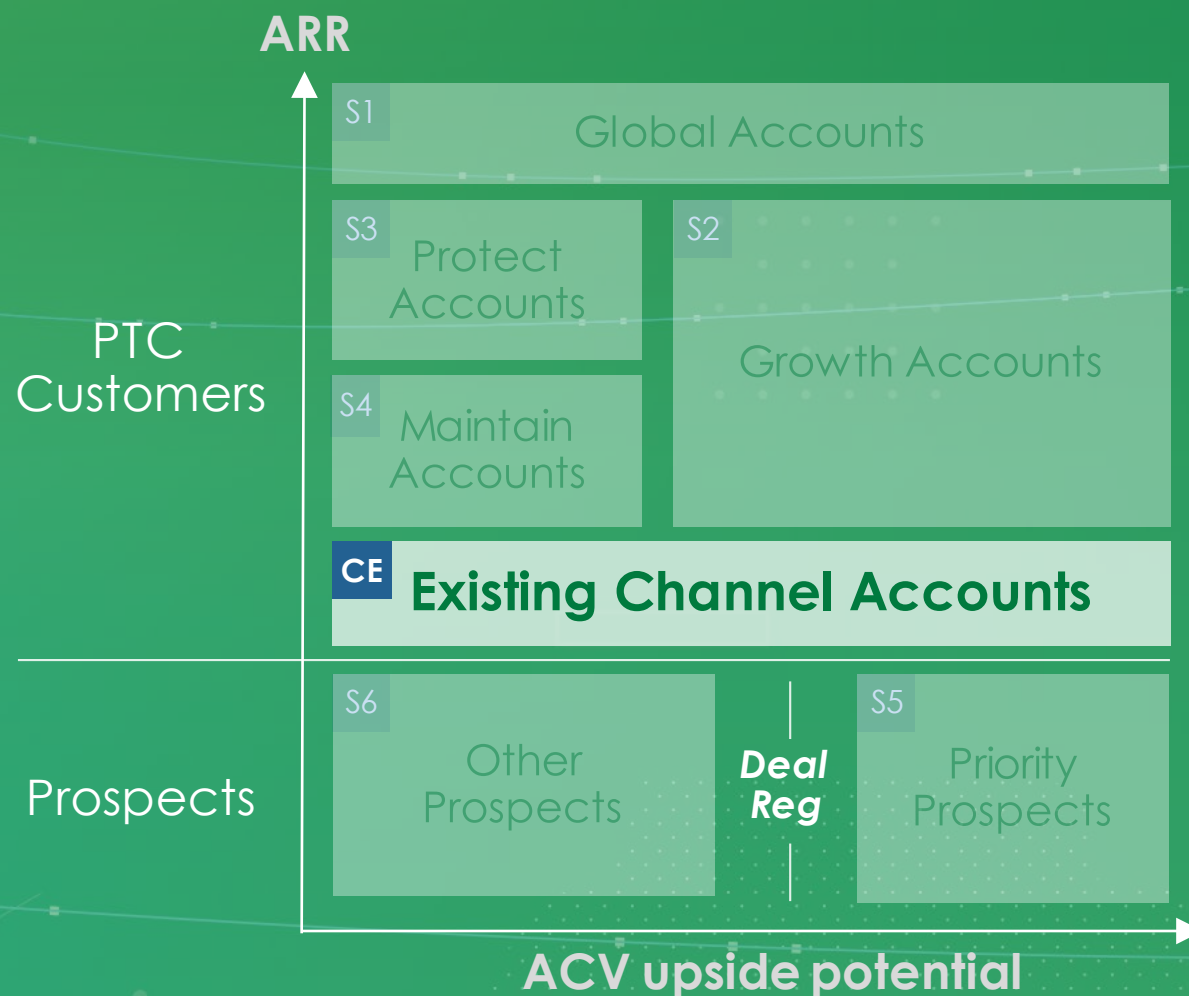
Customer Account Segmentation Model



Customer Account Segmentation Model



Customer Account Segmentation Model



Driving Growth Though Scale

Modernized Digital Marketing & Selling



Everywhere. All the time.

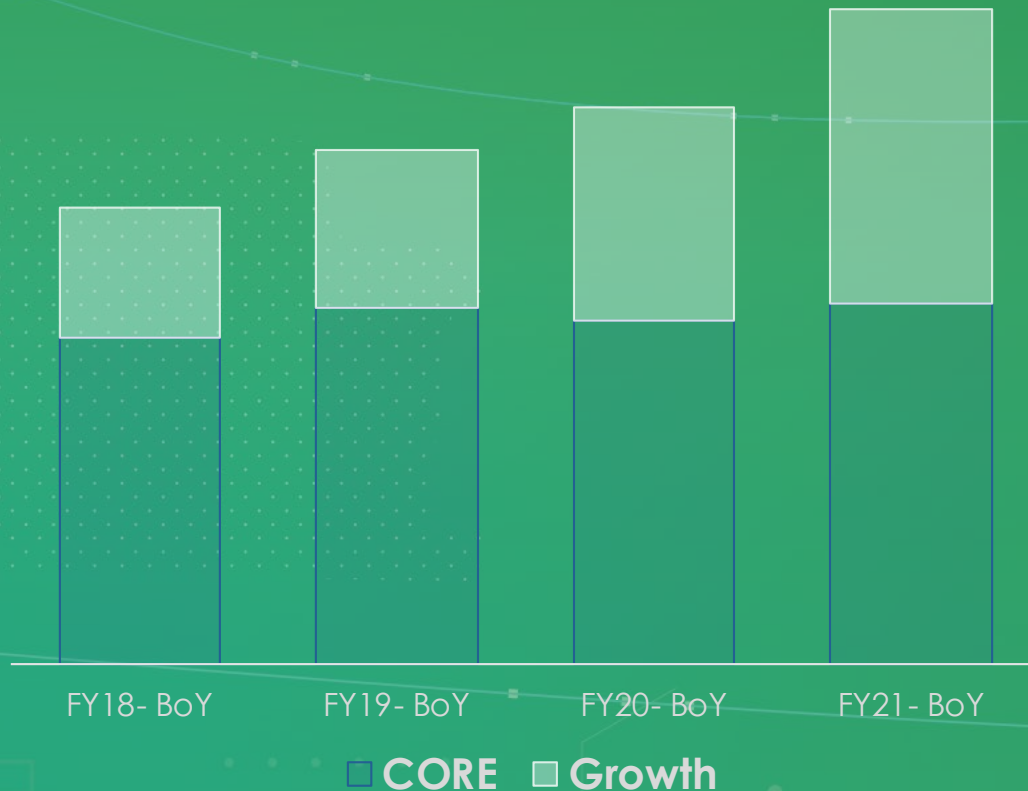


- Buyer intent
- Account-based Marketing
- Telemetry data
- AI for predictive selling
- Execution in "PODs"



Our Modern Pipeline Engine is Working

4Q Beginning of the Year New ACV Pipeline



- Marketing contributed 30% of pipeline creation in FY'20
- 4Q pipeline growth of ~20% YoY entering FY'21
- FY'21 pipeline provides ample coverage to achieve our bookings plan

Alliance Partners Impacted 30% of New Sales in FY20



Rockwell has become our largest IOT/AR bookings partner in just 2 years with 1,500 sellers

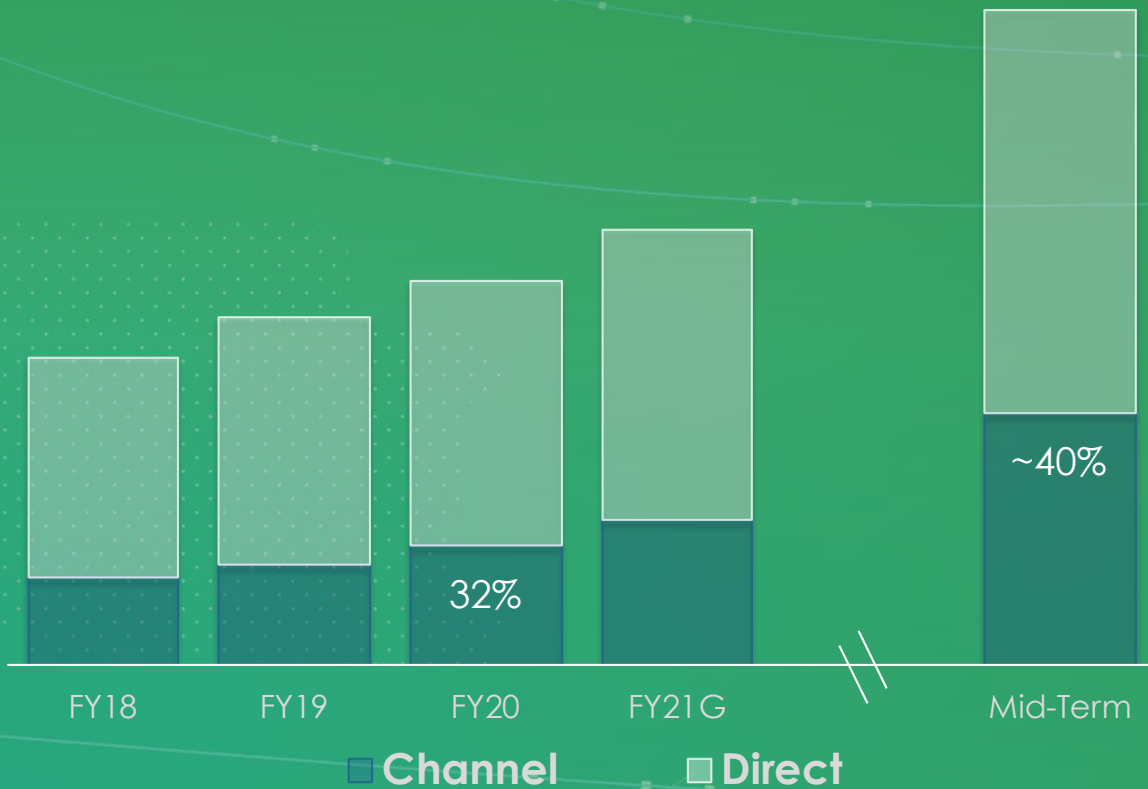
Microsoft relationship grew 30% over last year with expansion across IOT, AR and now PLM

GSIs & Advisory firms assisted with 37% of our IOT deals and 29% of PLM deals in FY20

75% of our top 20 deals in FY20 had one or more partners source, influence or resell

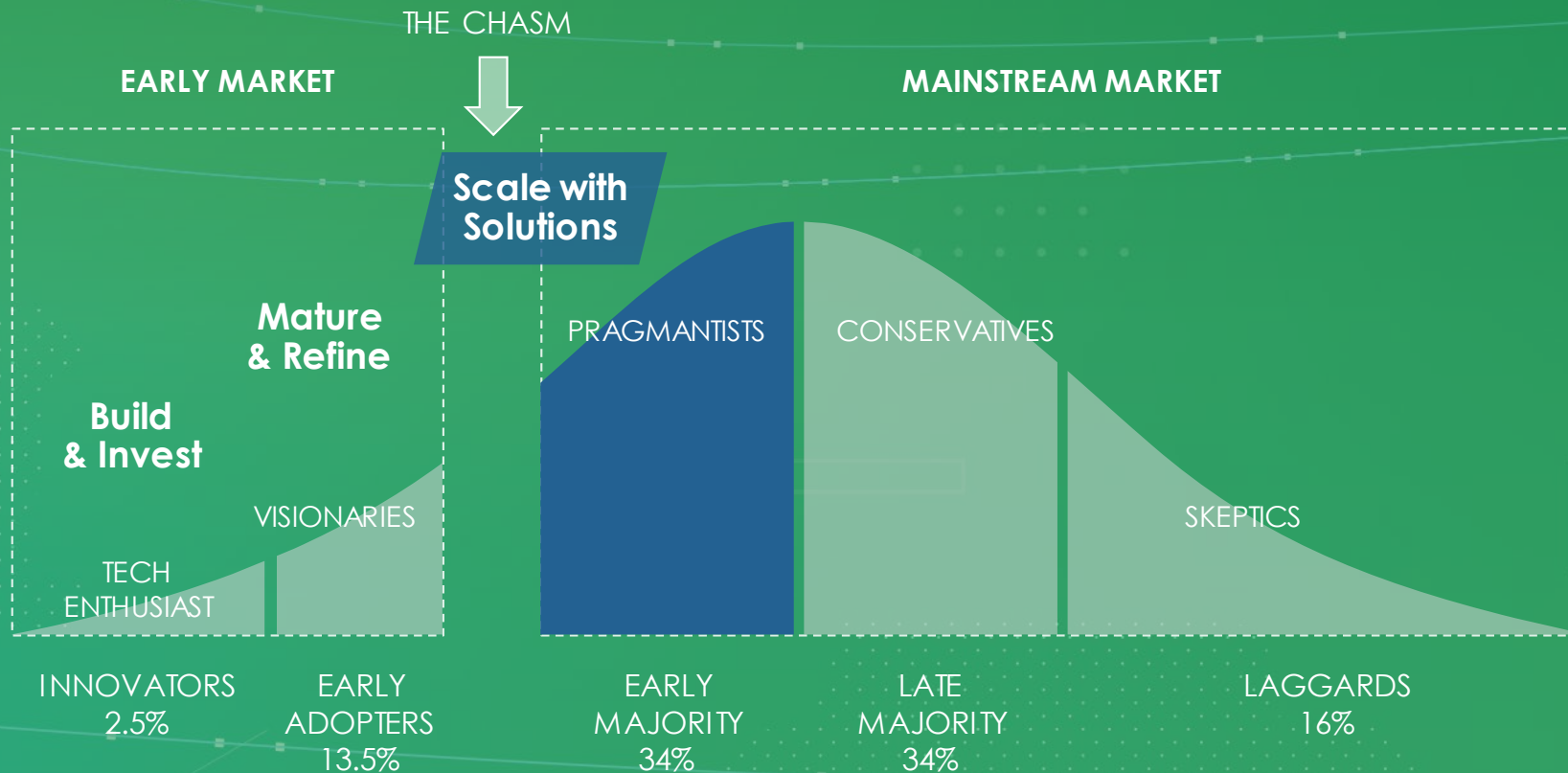


Winning With Channel Partners



- 32% of ARR in FY'20 growing to ~40%
- Capacity:
 - **~800 Partners**
(+140% vs. FY'16)
 - **~1,800 Partner Sales Reps**
(+70% vs. FY'16)

Growth Business Maturing As It Crosses The Chasm In FY'21



Key Themes

Our Transformations

Our GTM Orientation

Driving Growth
Through Scale

Key Takeaways



Optimized
GTM Model

Broad
Partner
Ecosystem

Scalable
Growth

Lifecycle Execution For Sustainable Growth



Drive Top-Line **Growth**

Drive High **Retention**

A Self-Reinforcing Cycle

Customer Success

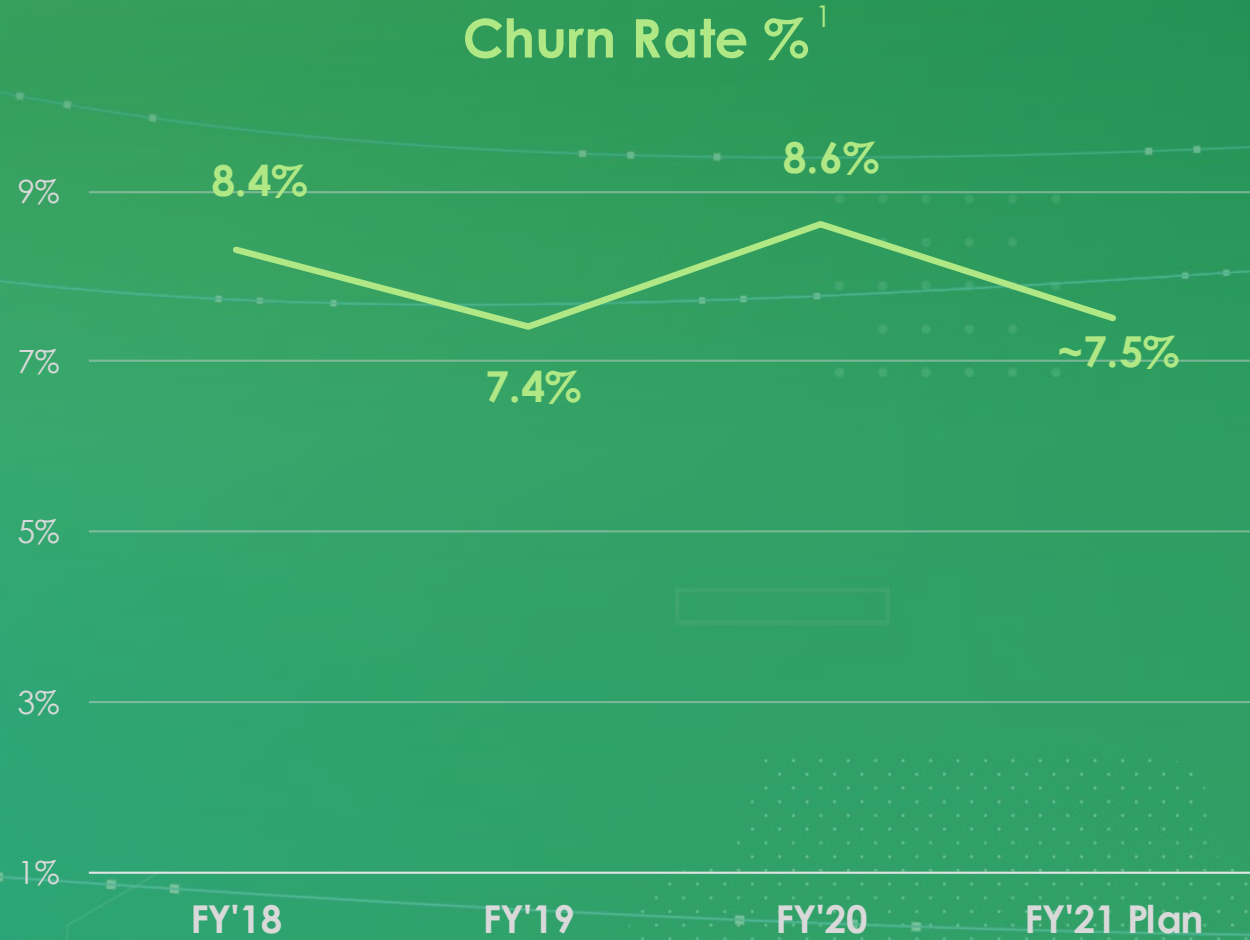
Key Themes

Scaling Proactive
Customer Success

Maximizing Customer
Lifetime Value

Elevating the Customer
Experience

FY'21 Churn Improvement



¹Churn = Gross churn, net of price increases

Our Mission in Customer Success



Understand Customer Expectations and Needs

Accelerate Our Customers' Success To Go Further Than They Thought Possible

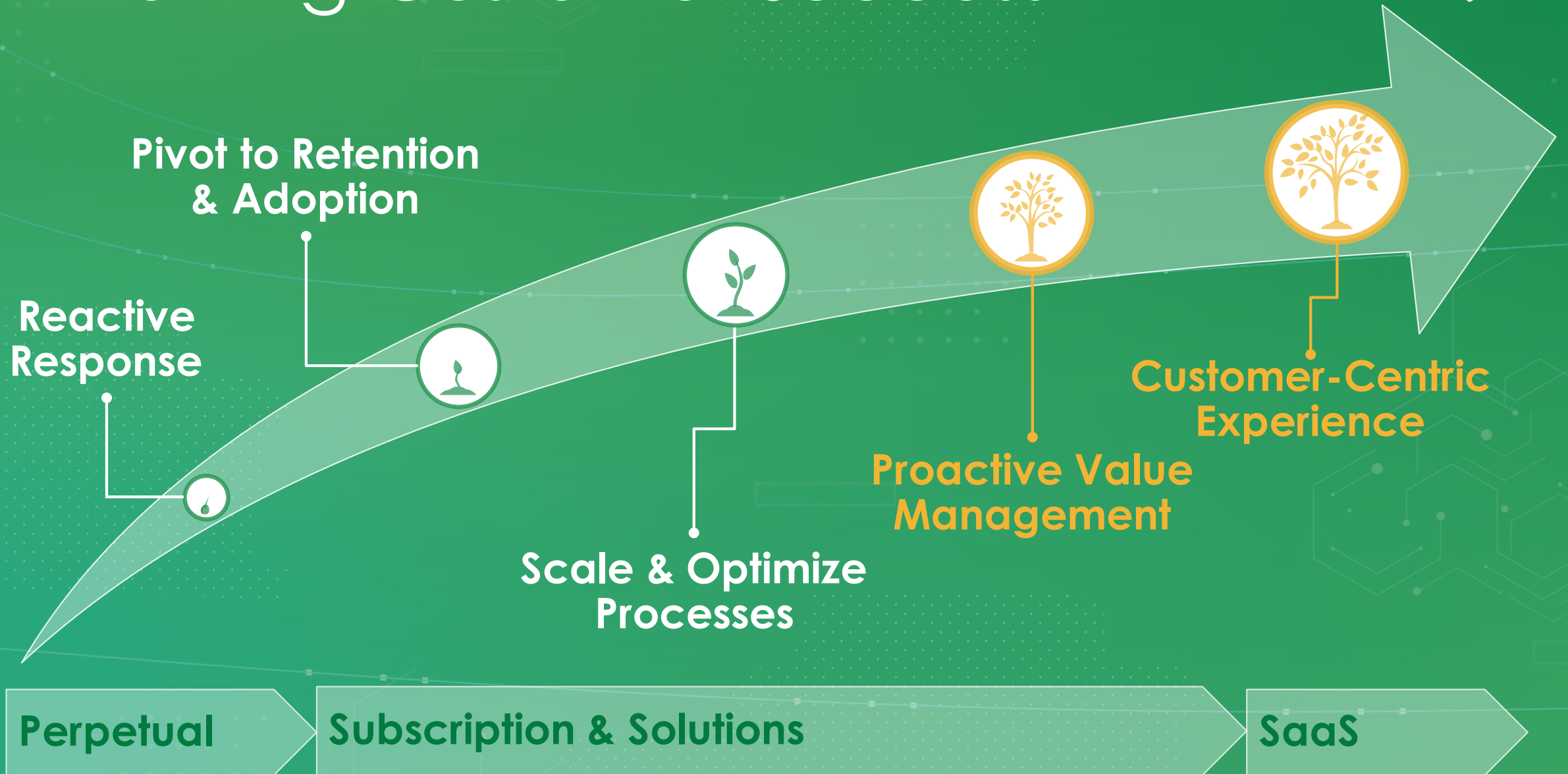
Protect and Grow PTC's ARR

Quick Facts

1,300+
Customer Success Professionals across all Major Geos

CSM
Cloud
Customer Experience
Field Services
Renewals
Technical Support

Evolving Customer Success



Proactive Customer Success at Scale

Driving Success in FY'21



Growth



Protect



Utilization



Time to Value



**Customer
Satisfaction**



**Time to
Expansion**



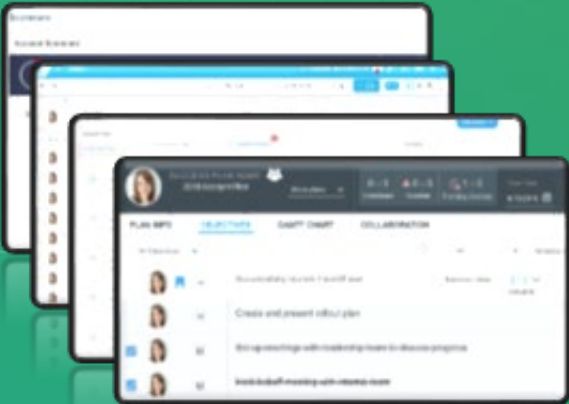
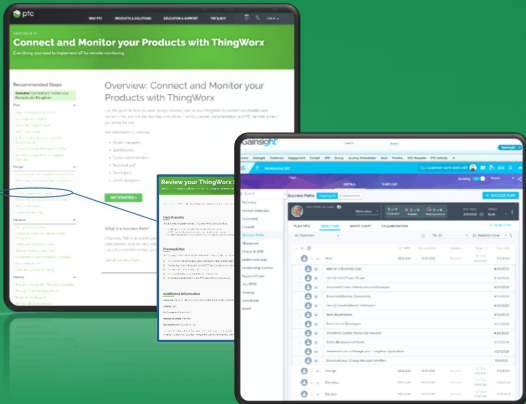
Digital Engagement

Executing for Growth



Experience

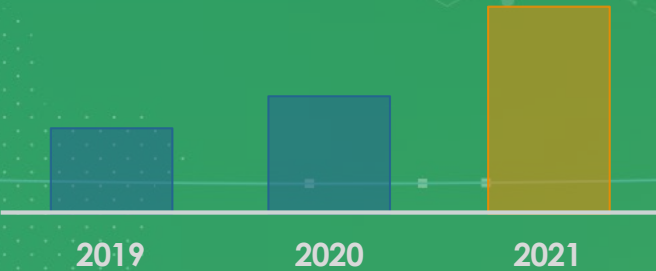
Engagement



Infrastructure

Coverage

Total CSMs



Successful Go-Lives



Maximizing Customer Lifetime Value

Protect and Grow ARR



Commercial
Programs



Managing
the Risk



Aligned
Execution



Aligned Execution



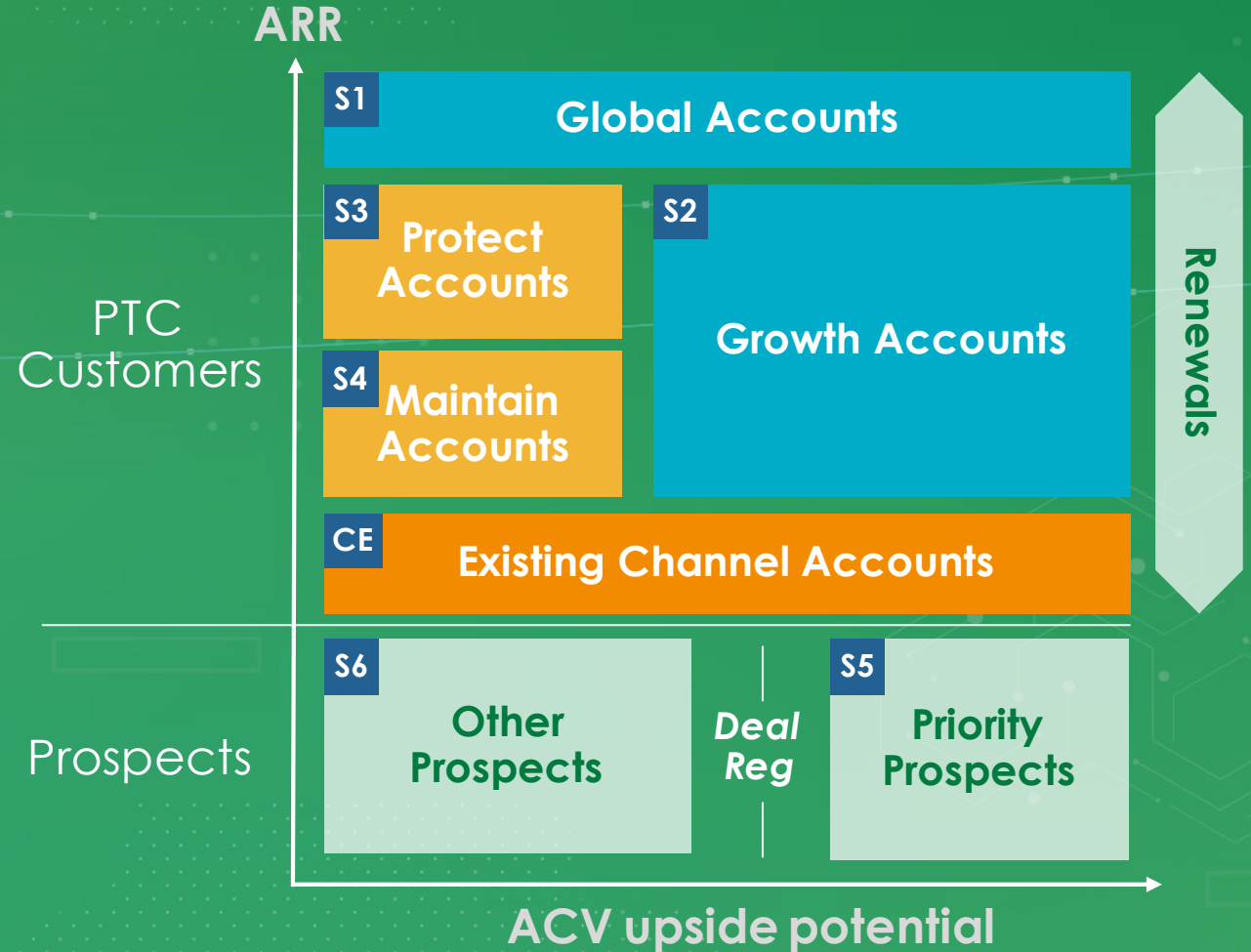
Centralized Strategies



Common Objectives



Tailored Engagement

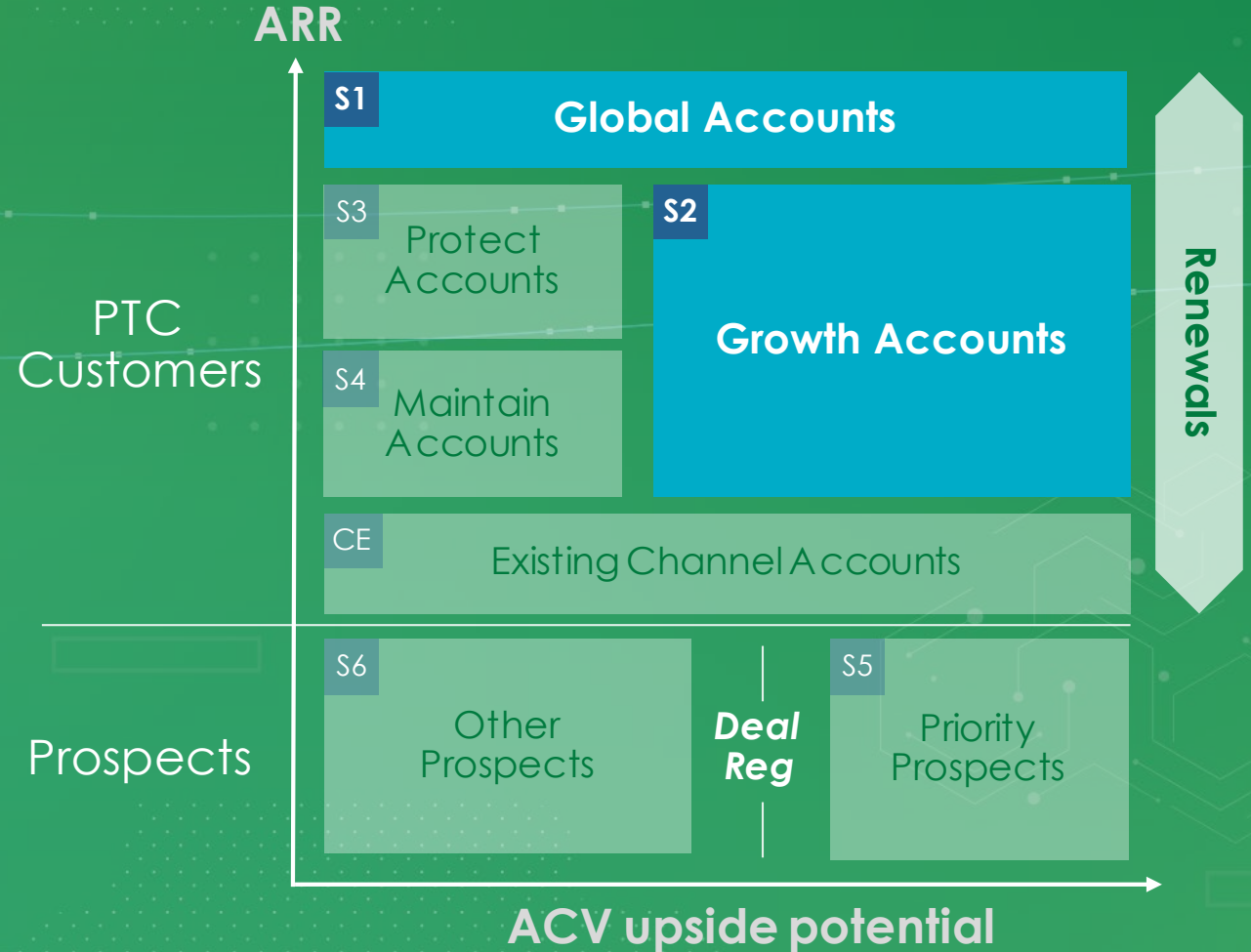


Aligned Execution



Strategic Account Sales Managed

with full suite of expert support

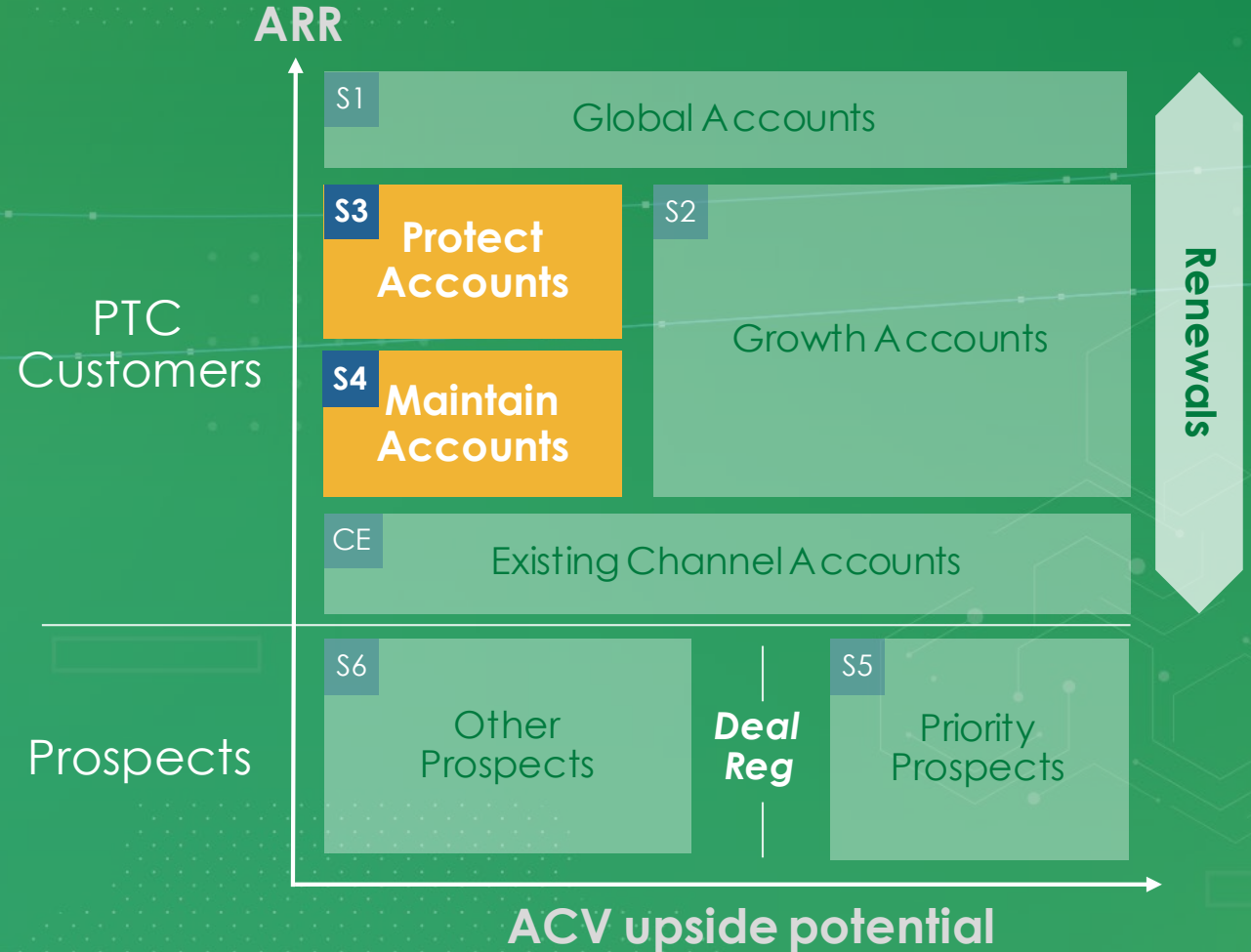


Aligned Execution



Customer Success Managed

*focus on protecting,
targeted expansions*

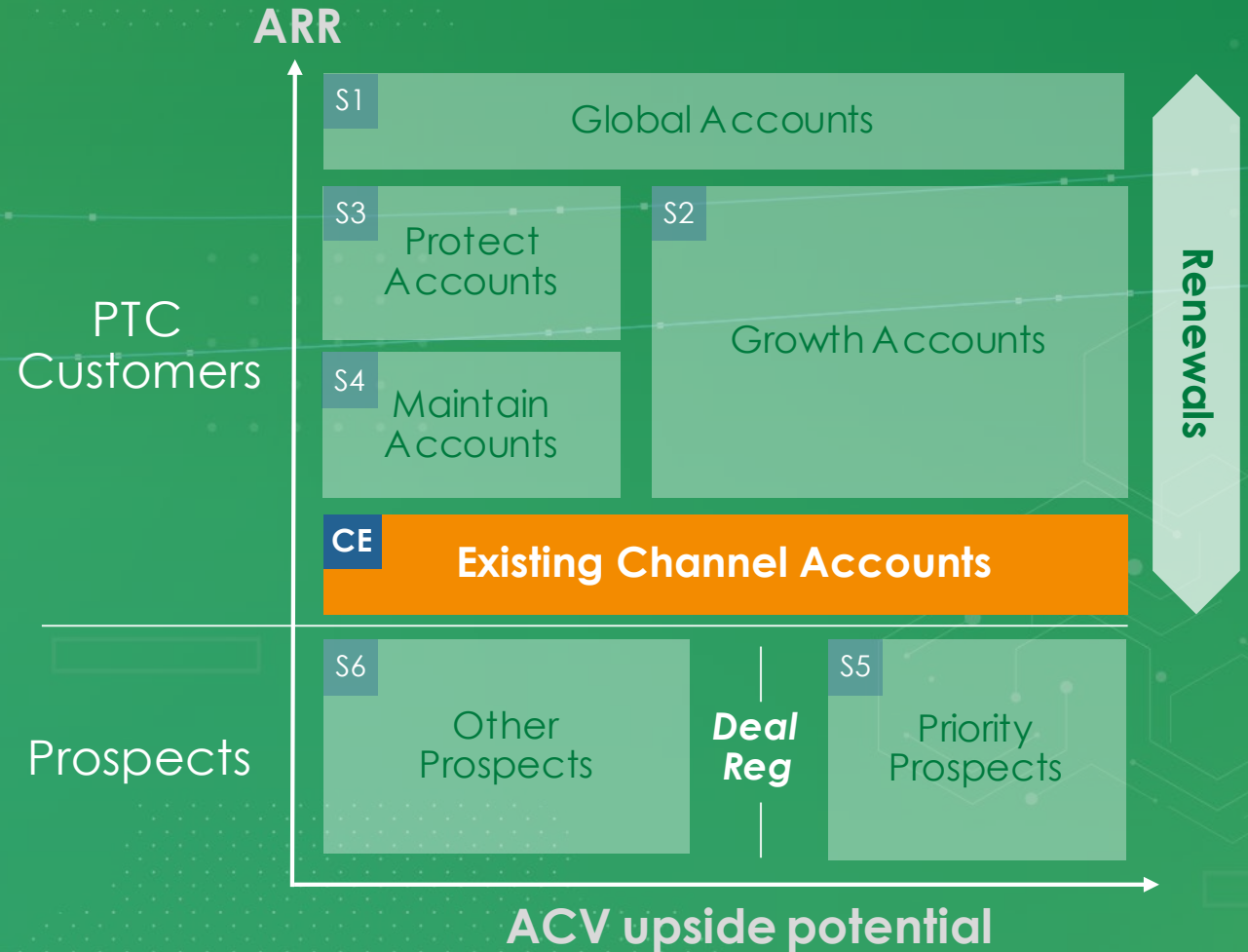


Aligned Execution



Channel Partner Managed

Programmatic and with support to our partner community



Elevating the Customer Experience

Power To Create

values



**Customer
First**



3x

Value delivered by
engaged customers
in one year

**Customer Experience
Transformation Office**



**Aspiration and
Purpose**



**Business
Transformation**



**Critical
Enablers**

Our Results

Our Results



Mitigating Churn

>8%

YoY churn improvement
in China

100 bps

YoY churn improvement
in Growth Products

Consistent **low churn** in Core

Accelerating Expansion

10%

Faster
Time to Expansion

2.2x

Average
ARR expansion

200 bps

More new logos expanding

Improving NPS



"...Always **very motivated to solve real problems.** They go out of their way to **connect you with the right content, right people or right module.**".

Key Themes

Scaling Proactive
Customer Success

Maximizing Customer
Lifetime Value

Elevating the Customer
Experience

Key Takeaways



Driving Strong
Retention

Executing for
Growth

Maximizing
Customer Lifetime
Value

Focused Solutions Group (FSG)

Key Themes

Broad FSG Portfolio

Successful Business
Framework

Leading Product and
Customers

Headwinds, Tailwinds
and Look Ahead

Focused Solutions Group

arbortext / classic products group / retail / servigistics / systems & software engineering

5

Lines of Business

~15%

of ARR

***Highly
Profitable***

23

Products

~\$180M

ARR

***Cloud-First
Approach***

3,500+

Customers

**Low Single
Digit Growth**

BUSINESS FRAMEWORK



Business Units work independently, limit the reliance on PTC ecosystem

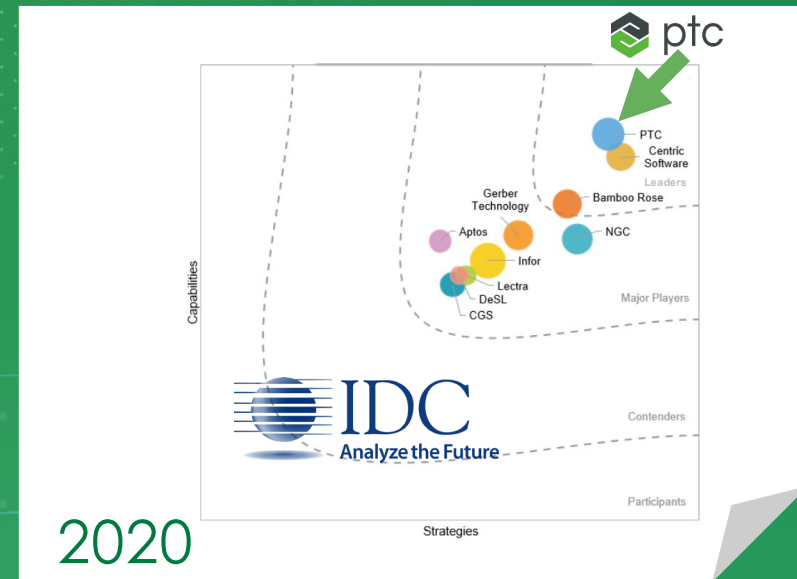
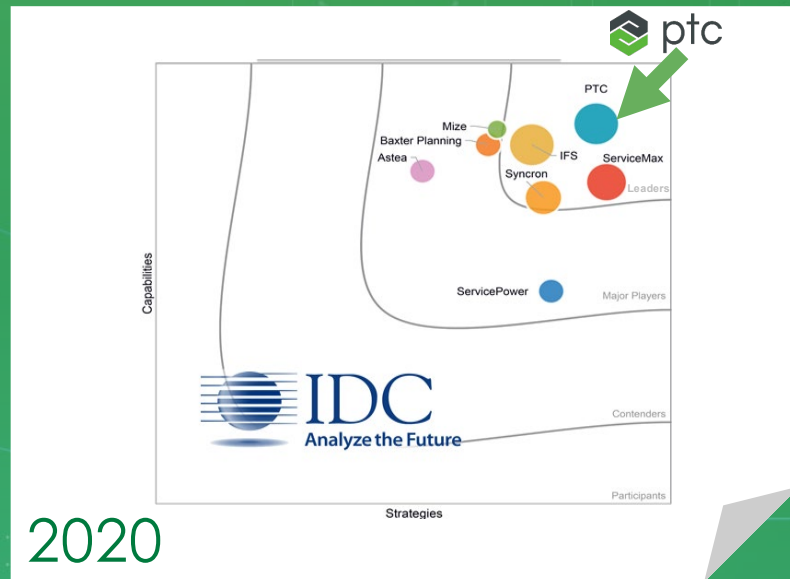
Operate healthy bottom-line businesses providing funding for other PTC investment areas

Entrepreneurial mindset



Create loyal longstanding customers

Effective and efficient Execution



Servigistics



U.S. AIR FORCE



Hewlett Packard
Enterprise



LOCKHEED MARTIN



Retail



Arbortext

CPG

SSE



Servigistics

Retail



Headwinds

Slower Growth
Markets
(SSE, ATXT, CPG)

COVID-19
(Airlines & Retail)

Large Deal
Impact
(SVG & Retail)

Tailwinds

Feature-Rich
Leading Products

Strong
Referenceable
Customer Base

Cloud
First/Stickiness

Outlook

Continued low
single-digit
growth

High
contribution
margin

Sustainability

Key Takeaways



Mature Market
Leading Solutions

Loyal Customer
Base of Industry
Leaders

Sustainable FCF
Business Framework

Delivering Shareholder Value



Pipeline



ARR



FCF

Market Demand

Digital Transformation,
Remote/Collaboration,
SaaS

Top Line
ARR Growth,
Customer Success

Bottom Line

Opex Discipline,
FCF growth

Delivering Shareholder Value



Pipeline



ARR



FCF

Market Demand

Digital Transformation,
Remote/Collaboration,
SaaS

Top Line

ARR Growth,
Customer Success

Bottom Line

Opex Discipline,
FCF growth

Range of Strong Outcomes for ARR and FCF



November 2019
Long-Range
Scenarios

“Optimist” ~\$900M

“Market” ~\$850M

“Pessimist” ~\$750M

“Recession” ~\$700M

ARR → FCF

FY17

FY18

FY19

FY20G

FY21E

FY22E

FY23E

FY24E

G = Guidance E = Estimate

Growth drivers and Opex algorithm intact

Re-affirming ARR and FCF ranges

Go-forward financial guidance to focus
on near-term

Key Themes

Q1 and FY'21 Outlook

ARR Growth

Margin Expansion

Capital Structure

Outlook



FY'21

ARR growth of
9% to 12% CC

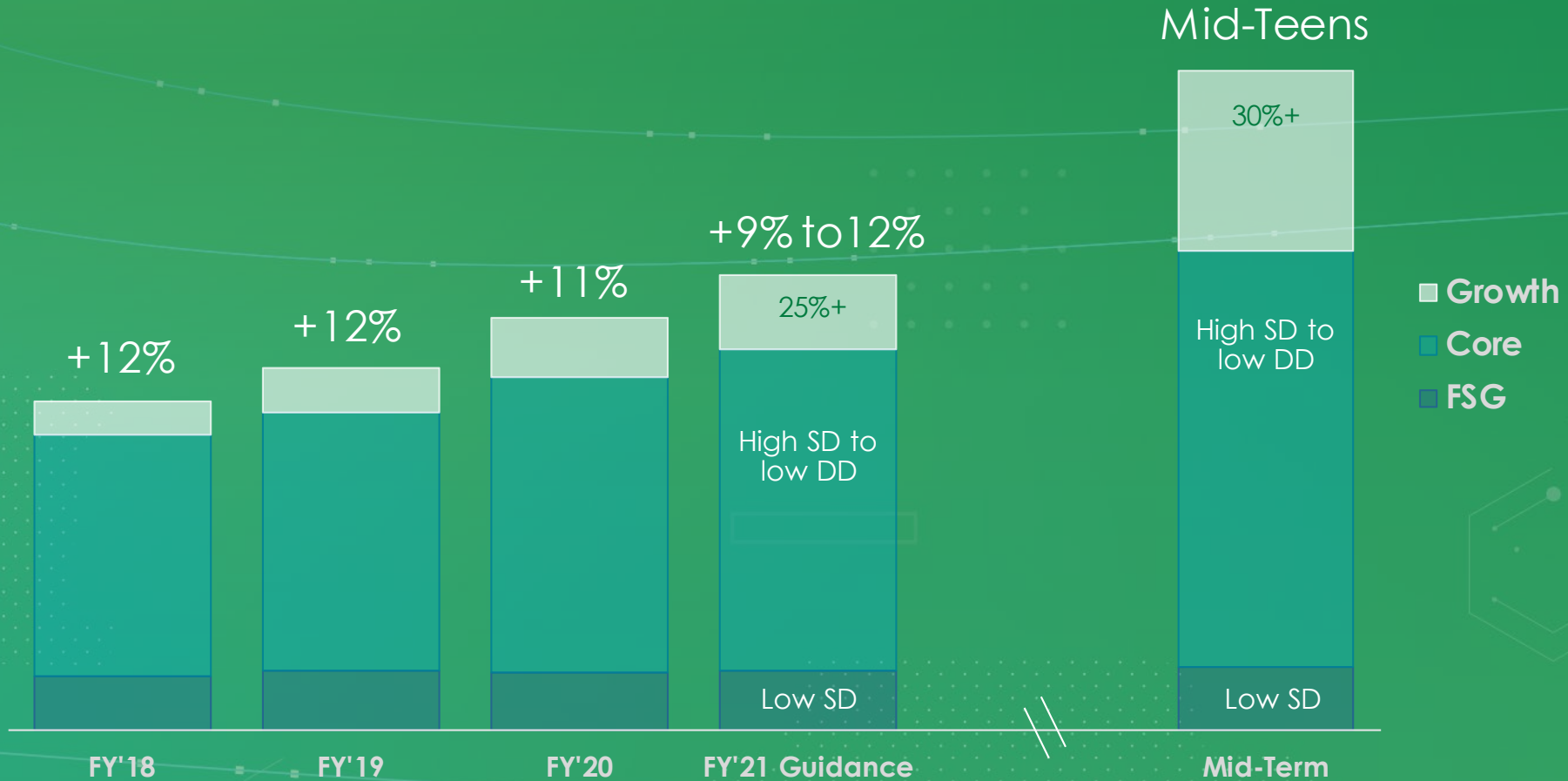
FCF of ~\$340m
(+~60% YoY)

Q1

ARR tracking to
midpoint of
\$1.28b to \$1.32b
guidance range

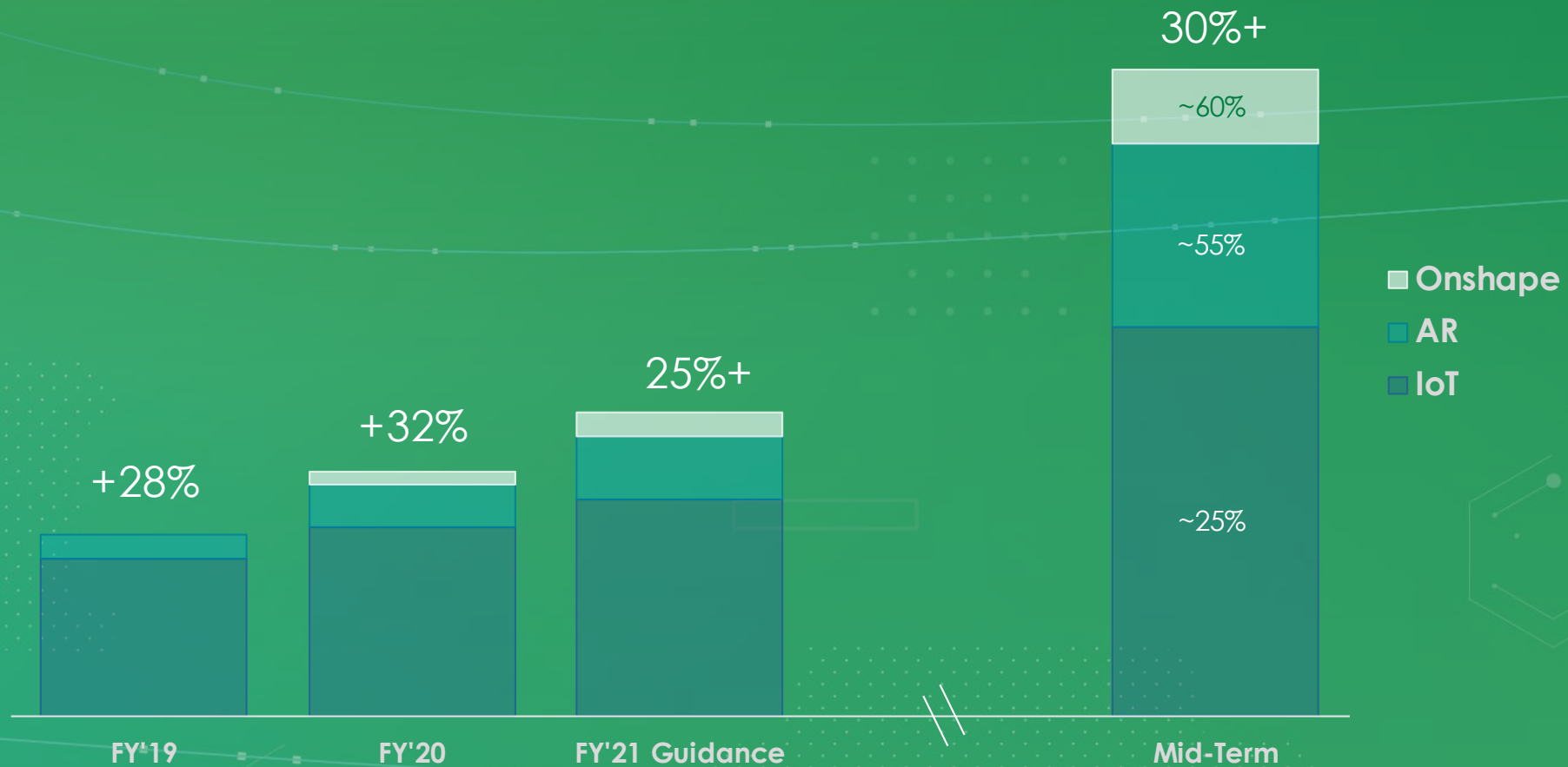
FCF of \$100m+

Delivering Double-Digit ARR Growth¹



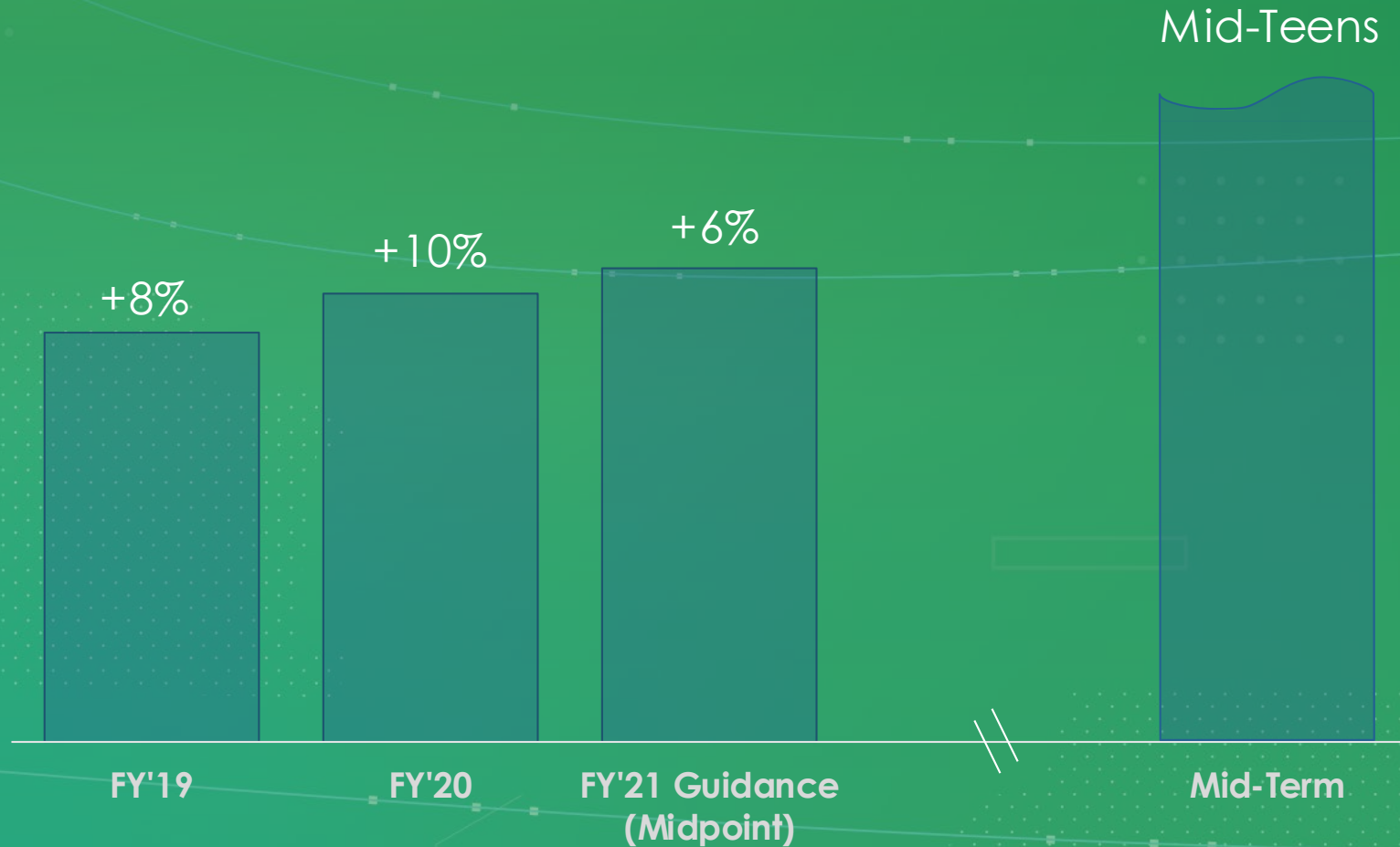
¹Constant Currency growth

Growth Products ARR Scaling



Note: Growth rates in Constant Currency

Targeting Mid-Teens New ACV Growth¹

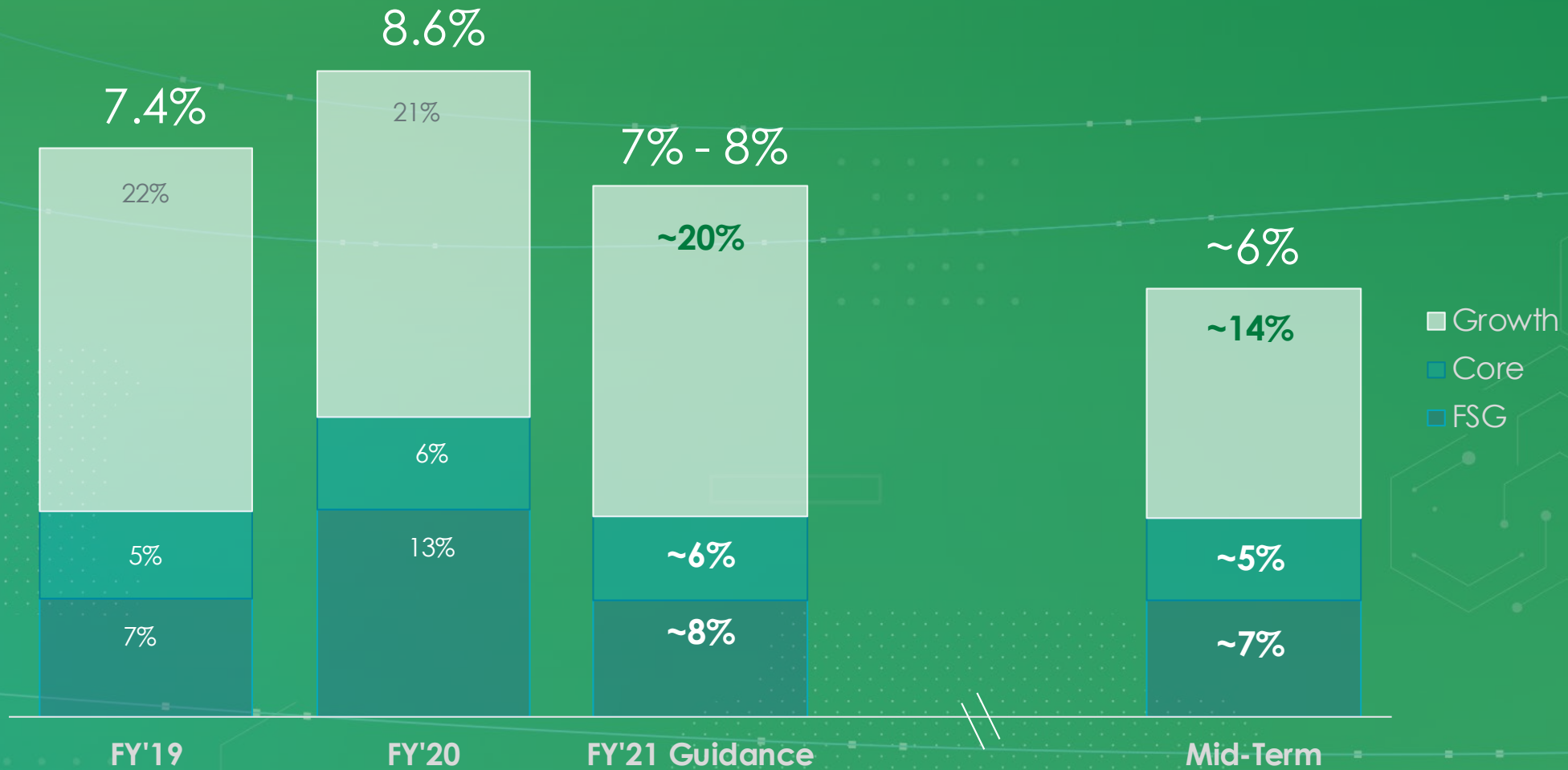


FY'21 New ACV

- 1H ~ flat YoY
- 2H + low DDs YoY

¹Constant Currency growth

Targeting ~6% Churn¹



¹Churn = Gross churn net of price increases

Operating Leverage as Business Scales



	FY'20¹	Mid-Term
Gross Margin	80%	~82%
Sales & Marketing	28%	~24%
R&D	16%	~15%
G&A	8%	~7%
Total PTC	28%	35%+

¹Non-GAAP expense % of Cash Generation where Cash Generation = ARR + Perpetual Revenue + Professional Services Revenue

Attractive Free Cash Flow Growth



Note: Free Cash Flow = Cash from Operations – Capex

Strong Capital Structure



Attractive
long-term debt

Aggregate
interest rate of
3.8% with long-
term maturities

Low Debt/EBITDA
ratio

Exited FY'20 at
2.34x leverage

Lean cash balance
and ample liquidity

\$335m of cash and
marketable securities
a/o 9/30/20

~\$1b capacity on
revolving credit facility¹

¹Prior to Astronaut acquisition

Capital Allocation Framework



Organic Growth Investments

- Targeted GTM
- Strategic R&D
- SaaS (e.g., Atlas)

Enhance Growth through M&A

- Targeted acquisitions
- Deepen Product portfolio
- Enhance SaaS offerings

Return Capital to Shareholders

- Excess capital returned through repurchases
- \$1b authorized through end of FY'23

Key Takeaways



Re-affirming
Mid-Teens
ARR Growth

Strong FCF
Growth

Scale Drives
Leverage

Attractive
Capital
Strategy

Delivering Shareholder Value



Pipeline



ARR



FCF

Market Demand

Digital Transformation,
Remote/Collaboration,
SaaS

Top Line

ARR Growth,
Customer Success

Bottom Line

Opex Discipline,
FCF growth



ptc

FY21 Financial Guidance Summary

In millions except per share amounts	Guidance	YoY
ARR	\$1,385 - \$1,420	9% - 12%
Cash from Operations	~365	~55%
Free cash flow ⁽¹⁾	~\$340	~60%
Revenue	\$1,550 - \$1,600	6% - 10%
GAAP Operating Margin	13% - 14%	~flat
Non-GAAP Operating Margin	28% - 29%	~flat
GAAP EPS	\$1.03 - \$1.23	(9)% - 9%
Non-GAAP EPS ⁽²⁾	\$2.65 - \$2.85	3% - 11%

(1) Cash from operations and free cash flow include ~\$15 million of restructuring payments, and free cash flow is net of capital expenditures of ~\$25 million.

(2) The FY'21 non-GAAP guidance excludes the estimated items outlined in the table below, as well as any tax effects and discrete tax items (which are not known nor reflected).

In millions	FY21
Intangible asset amortization expense	\$53
Stock-based compensation expense	\$175
Total estimated Pre-Tax GAAP adjustments	\$228

Operating and Free Cash Flow Reconciliation

In millions except per share amounts	FY'19 ¹	FY'20 ²	FY'21 (G) ³
Free cash flow			
Net cash provided by (used in) operating activities	\$ 285	\$ 234	\$ 365
Capital expenditures	(64)	(20)	(25)
Free cash flow	\$ 221	\$ 214	\$ 340

¹ Cash from operations and free cash flow include \$24.7 million of restructuring payments, in 2019

² Cash from operations and free cash flow include \$42.0 million of restructuring payments, in 2020

³ Cash from operations and free cash flow include ~\$15.0 million of restructuring payments, in 2021

Non-GAAP Financial Measures and Reconciliations

PTC Inc. NON-GAAP FINANCIAL MEASURES AND RECONCILIATIONS (UNAUDITED) (in thousands, except per share data)				
	Three Months Ended		Twelve Months Ended	
	September 30, 2020	September 30, 2019	September 30, 2020	September 30, 2019
GAAP revenue	\$ 390,981	\$ 335,004	\$ 1,458,415	\$ 1,255,631
Fair value adjustment of acquired deferred revenue	-	192	-	787
Non-GAAP revenue	<u>\$ 390,981</u>	<u>\$ 335,196</u>	<u>\$ 1,458,415</u>	<u>\$ 1,256,418</u>
GAAP gross margin	\$ 306,366	\$ 249,587	\$ 1,124,144	\$ 930,253
Fair value adjustment of acquired deferred revenue	-	192	-	787
Fair value adjustment to deferred services cost	-	(88)	-	(308)
Stock-based compensation	4,761	3,152	13,969	11,939
Amortization of acquired intangible assets included in cost of revenue	6,856	6,874	27,391	27,306
Non-GAAP gross margin	<u>\$ 317,983</u>	<u>\$ 259,717</u>	<u>\$ 1,165,504</u>	<u>\$ 969,977</u>
GAAP operating income	\$ 67,012	\$ 46,551	\$ 210,863	\$ 63,042
Fair value adjustment of acquired deferred revenue	-	192	-	787
Fair value adjustment to deferred services cost	-	(88)	-	(308)
Stock-based compensation	41,544	14,792	115,149	86,400
Amortization of acquired intangible assets included in cost of revenue	6,856	6,874	27,391	27,306
Amortization of acquired intangible assets	7,346	6,055	28,713	23,841
Acquisition-related and other transactional charges included in general and administrative	552	1,895	8,616	3,110
Restructuring and other charges, net	378	5,650	32,716	51,114
Non-GAAP operating income ⁽¹⁾	<u>\$ 123,688</u>	<u>\$ 81,921</u>	<u>\$ 423,448</u>	<u>\$ 255,292</u>
GAAP net income (loss)	\$ 53,406	\$ 9,826	\$ 130,695	\$ (27,460)
Fair value adjustment of acquired deferred revenue	-	192	-	787
Fair value adjustment to deferred services cost	-	(88)	-	(308)
Stock-based compensation	41,544	14,792	115,149	86,400
Amortization of acquired intangible assets included in cost of revenue	6,856	6,874	27,391	27,306
Amortization of acquired intangible assets	7,346	6,055	28,713	23,841
Acquisition-related and other transactional charges included in general and administrative	552	1,895	8,616	3,110
Restructuring and other charges, net	378	5,650	32,716	51,114
Non-operating charges ⁽²⁾	-	-	18,451	-
Income tax adjustments ⁽³⁾	(18,295)	29,317	(63,283)	29,719
Non-GAAP net income	<u>\$ 91,787</u>	<u>\$ 74,513</u>	<u>\$ 298,448</u>	<u>\$ 194,509</u>

Non-GAAP Financial Measures and Reconciliations (cont.)

PTC Inc.
NON-GAAP FINANCIAL MEASURES AND RECONCILIATIONS (UNAUDITED)
(in thousands, except per share data)

	Three Months Ended		Twelve Months Ended	
	September 30, 2020	September 30, 2019	September 30, 2020	September 30, 2019
GAAP diluted earnings (loss) per share	\$ 0.46	\$ 0.08	\$ 1.12	\$ (0.23)
Fair value adjustment of acquired deferred revenue	-	-	-	0.01
Stock-based compensation	0.35	0.13	0.99	0.73
Amortization of acquired intangibles	0.12	0.11	0.48	0.43
Acquisition-related and other transactional charges	-	0.02	0.07	0.03
Restructuring and other charges, net	-	0.05	0.28	0.43
Non-operating charges	-	-	0.16	-
Income tax adjustments	(0.16)	0.25	(0.54)	0.25
Non-GAAP diluted earnings per share	<u>\$ 0.78</u>	<u>\$ 0.64</u>	<u>\$ 2.57</u>	<u>\$ 1.64</u>
GAAP diluted weighted average shares outstanding	117,097	115,897	116,267	117,724
Dilutive effect of stock-based compensation plans	-	-	-	990
Non-GAAP diluted weighted average shares outstanding	<u>117,097</u>	<u>115,897</u>	<u>116,267</u>	<u>118,714</u>
(1) Operating margin impact of non-GAAP adjustments:				
	Three Months Ended		Twelve Months Ended	
	September 30, 2020	September 30, 2019	September 30, 2020	September 30, 2019
GAAP operating margin	17.1%	13.9%	14.5%	5.0%
Fair value adjustment of acquired deferred revenue	0.0%	0.1%	0.0%	0.1%
Fair value adjustment to deferred services cost	0.0%	0.0%	0.0%	0.0%
Stock-based compensation	10.6%	4.4%	7.9%	6.9%
Amortization of acquired intangibles	3.6%	3.9%	3.8%	4.1%
Acquisition-related and other transactional charges	0.1%	0.6%	0.6%	0.2%
Restructuring and other charges, net	0.1%	1.7%	2.2%	4.1%
Non-GAAP operating margin	<u>31.6%</u>	<u>24.4%</u>	<u>29.0%</u>	<u>20.3%</u>

(2) We recognized \$15 million of expense in the second quarter of 2020 related to penalties for the early redemption of the 6.000% Senior Notes due in 2024 and wrote off approximately \$3 million of related debt issuance costs in the third quarter of 2020.

(3) We have recorded a full valuation allowance against our U.S. net deferred tax assets. As we are profitable on a non-GAAP basis, the 2020 and 2019 non-GAAP tax provisions are being calculated assuming there is no valuation allowance. Income tax adjustments reflect the tax effects of non-GAAP adjustments which are calculated by applying the applicable tax rate by jurisdiction to the non-GAAP adjustments listed above.

Non-GAAP Financial and Operating Measures

PTC provides non-GAAP supplemental financial information to its financial results. We use these non-GAAP financial measures, and we believe that they assist our investors, to make period-to-period comparisons of our operational performance because they provide a view of our operating results without items that are not, in our view, indicative of our operating results. These non-GAAP financial measures should not be construed as an alternative to GAAP results as the items excluded from the non-GAAP financial measures often have a material impact on our financial results and such items often recur. Management uses, and investors should consider, non-GAAP financial measures in conjunction with our GAAP results.

Non-GAAP revenue, non-GAAP operating expense, non-GAAP operating margin, non-GAAP gross profit, non-GAAP gross margin, non-GAAP net income and non-GAAP EPS exclude the effect of the following items: fair value of acquired deferred revenue, fair value adjustment to deferred services cost, stock-based compensation, amortization of acquired intangible assets, acquisition-related and other transactional charges included in general and administrative costs, restructuring and other charges, debt early redemption premium and write-off of issuance costs associated with the extinguished debt and income tax adjustments. We exclude the debt early redemption premium because, although paid in cash in May 2020, it was not modelled in our guidance for the year; excluding it enables investors to view our results in the context of our guidance. Additional information about the items we exclude from our non-GAAP financial measures and the reasons we exclude them can be found in “Non-GAAP Financial Measures” of our Annual Report on Form 10-K for the fiscal year ended September 30, 2020.

Non-GAAP Financial and Operating Measures

Free Cash Flow - PTC also provides information on “free cash flow” to enable investors to assess our ability to generate cash without incurring additional external financings and to evaluate our performance against our announced long-term goal of returning approximately 50% of our free cash flow to shareholders via stock repurchases. Free cash flow is net cash provided by (used in) operating activities less capital expenditures. Free cash flow is not a measure of cash available for discretionary expenditures.

Constant Currency Metric - We present CC information for revenue, EPS, and ARR to provide a framework for assessing how our underlying business performed excluding the effects of foreign currency rate fluctuations. To present CC revenue, current and comparative prior period results for entities reporting in currencies other than United States dollars are converted into United States dollars using the foreign exchange rate as of September 30, 2020, excluding the effect of any hedging, rather than the actual exchange rates in effect during that period.

Operating Measure

ARR - To help investors understand and assess the performance of our business as an on-premise subscription company we provide an ARR (Annual Run Rate) operating measure. ARR represents the annual value of our portfolio of active renewable customer contracts as of the end of the reporting period, including subscription software, cloud, and support contracts. ARR includes IoT and AR orders placed under our Strategic Alliance Agreement with Rockwell Automation and includes orders placed to satisfy contractual quarterly minimum commitments. We believe ARR is a valuable operating metric to measure the health of a subscription business because it captures expected subscription and support cash generation from new customers, existing customer renewals and expansions, and includes the impact of churn, which reflects gross churn, offset by the impact of any pricing increases. Because this measure represents the annual value of renewable customer contracts as of the end of a reporting period, ARR does not represent revenue for any particular period or remaining revenue that will be recognized in future periods.

2020 ARR Growth Rates

Product	Actual	CC
CAD	12%	8%
PLM	17%	14%
Core	14%	11%
FSG	-2%	(4%)
IoT	20%	17%
AR	80%	78%
Growth	34%	32%
Total PTC	14%	11%

Distribution	Actual	CC
Direct	10%	7%
Channel	23%	19%
Total PTC	14%	11%