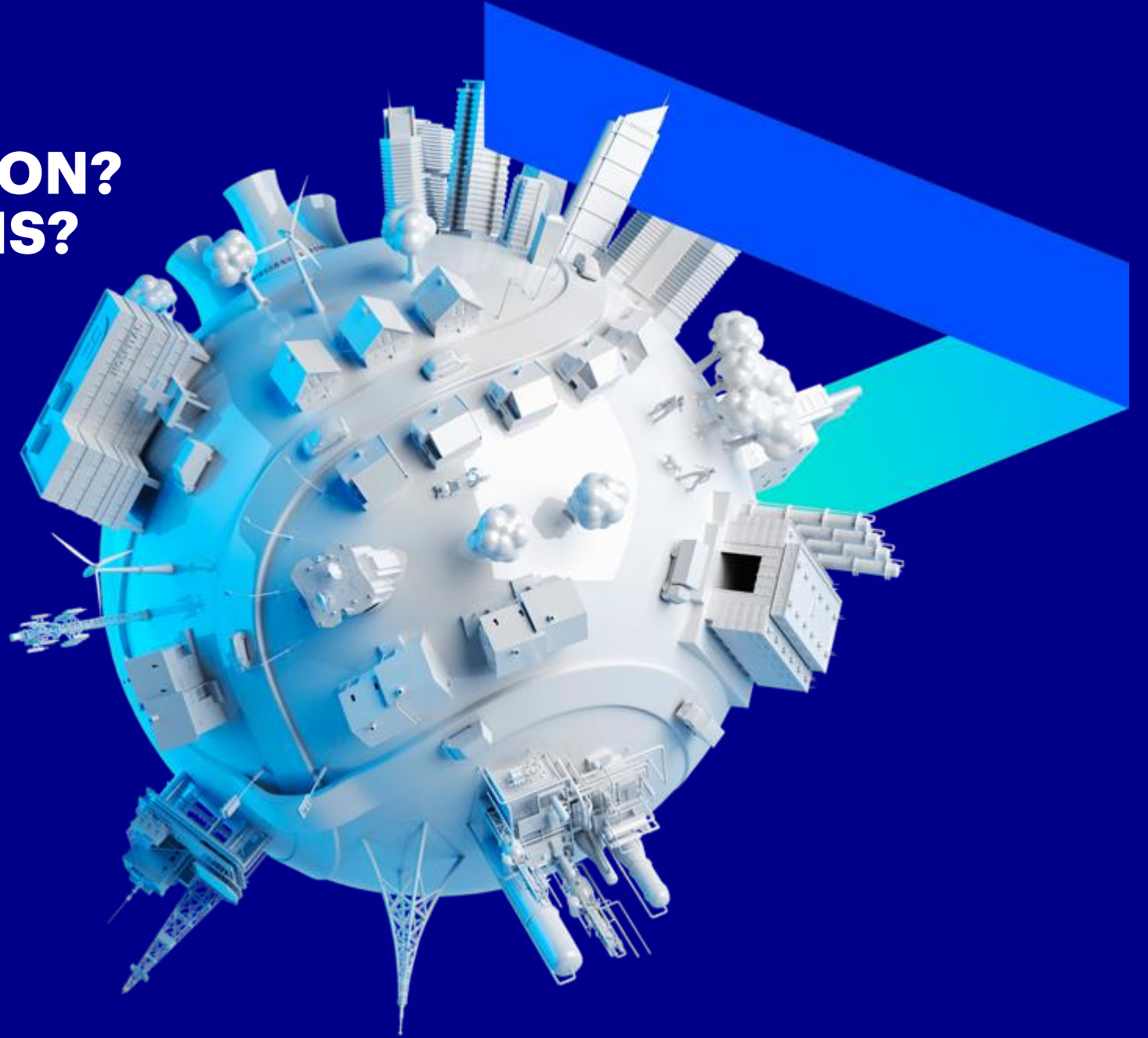




AGILE TRANSFORMATION? FOR COMPLEX SYSTEMS? ...NO WAY!

OCTOBER 1, 2018



INTRODUCTIONS



Jeff Brehm – Managing Director, Products Industry X.0 Consulting

- Live in Chicago as an avid Milwaukee Brewers fan
- 15+ years of experience in product development – Mechanical, Electrical & Embedded Systems
- Cross-industry consulting experience in Automotive and Industrial Equipment, Hi-Tech and Medical Device industries with a core focus on engineering excellence, including engineering operating model optimization, product lifecycle management transformation and modular product architecture.
- Prior industry experience with GE Healthcare – roles in mechanical systems design engineer, service productivity project leader and Engineering and Methods & Tools Lead at GE Healthcare
- Avid water skier and share my passion for boats with my wife, 2 kids and water crazed golden retriever

DID YOU KNOW...

accenture>strategy accenture>consulting accenture>digital accenture>technology accenture>operations

449,000

Employees globally

\$39.6B

In revenues ending
August 2018

120+

Countries where we
serve our clients

50+

Delivery centers across five
continents, offering
services in 45 languages

Expertise in

40+

Industries

16

Consecutive years running
on Fortune's World's Most
Admired Companies list

6000+

Patents and patent pending
applications globally

94

of the Global FORTUNE
100

are Accenture clients

75%

of the Global FORTUNE
500

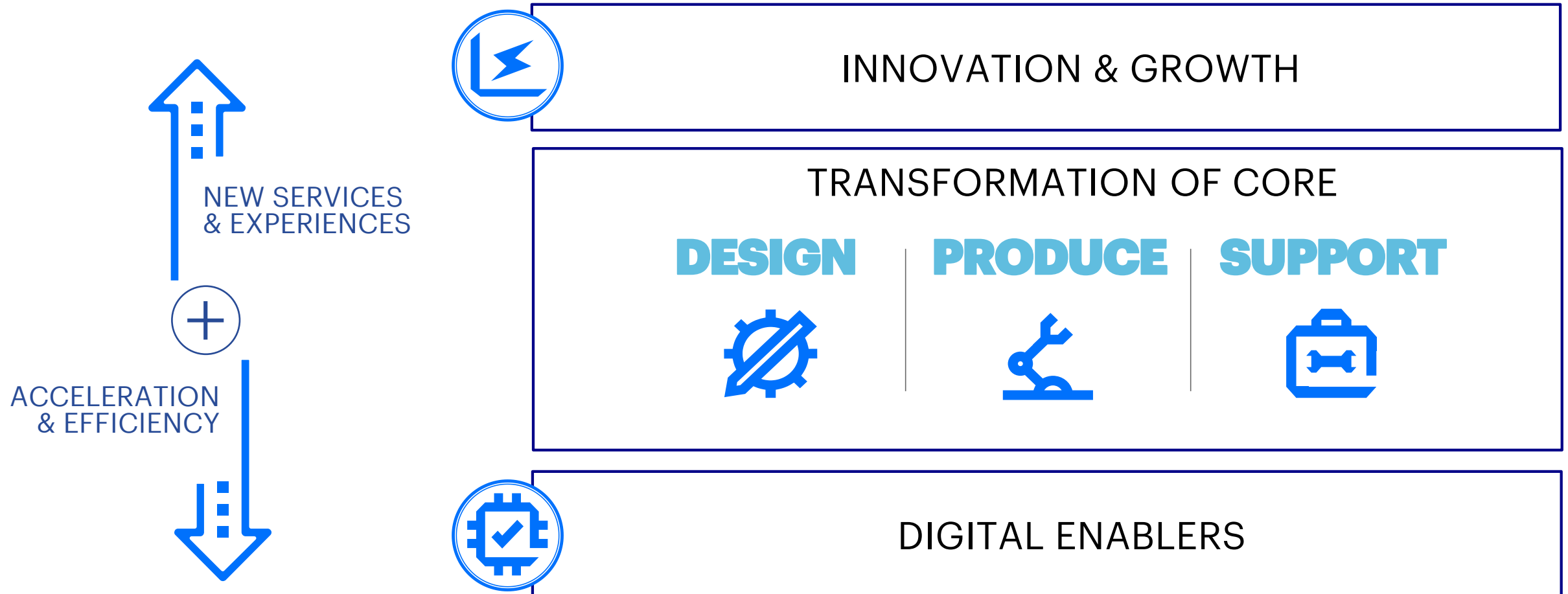
are Accenture Clients

98

of our top
100 have been our clients
for at least 10 years

WHAT IS

ACCENTURE INDUSTRY X.0



INDUSTRY DISRUPTION

AUTOMOTIVE INDUSTRY IS EXPERIENCING A COMBINATION OF PRODUCT AND BUSINESS MODEL INNOVATION...



SUPER CHARGED

Electric powertrain is simpler/
lowers the barriers to entry

Electric engines: 210 parts; Gas
engines approx. 1400 parts

Large car fleet with over 20.000
electric vehicles by the end of
2017 (e.g. DHL)



DESIGNATED DRIVERLESS

Autonomous driving can save
3,000 lives daily

Today 94% of the accidents are
due to human errors

4,5 years more lifetime due to
autonomous driving



EYES OFF THE ROAD

By 2025 - all new cars will be
connected to the Internet

37% of customers would change
auto brand for better connectivity

Drivers want new in-car services:
Entertainment (33%), working
(29%)



ARE WE SHARE YET?

One shared robo-cab replaces 8
private vehicles

Car2Go with more than 2 million
active users

Uber with more than 57 million
active users

THREE IMPERATIVES

... AND OUR CLIENTS ARE REINVENTING THEMSELVES ALONG THREE DIMENSIONS TO THRIVE IN THE NEW...



CHANGE LANES

MORPH BUSINESS MODELS from one-off transactional product sale to selling services and outcomes

Monetize Data from Cars and Customers

Develop Mobility Services beyond Cars

Move from Connected Car to Connected Life Services



BE ENGAGING

ENABLE TOP-LINE GROWTH AND CATER TO LIQUID CUSTOMER EXPECTATIONS with direct & personal customer relations

Create seamless, omnichannel, personal customer relations

Transform the retail experience – Dealer X.O

Design Future Distribution Models



BE AGILE

UNLOCK VALUE AND FREE CAPACITY by realizing efficiencies in the current business

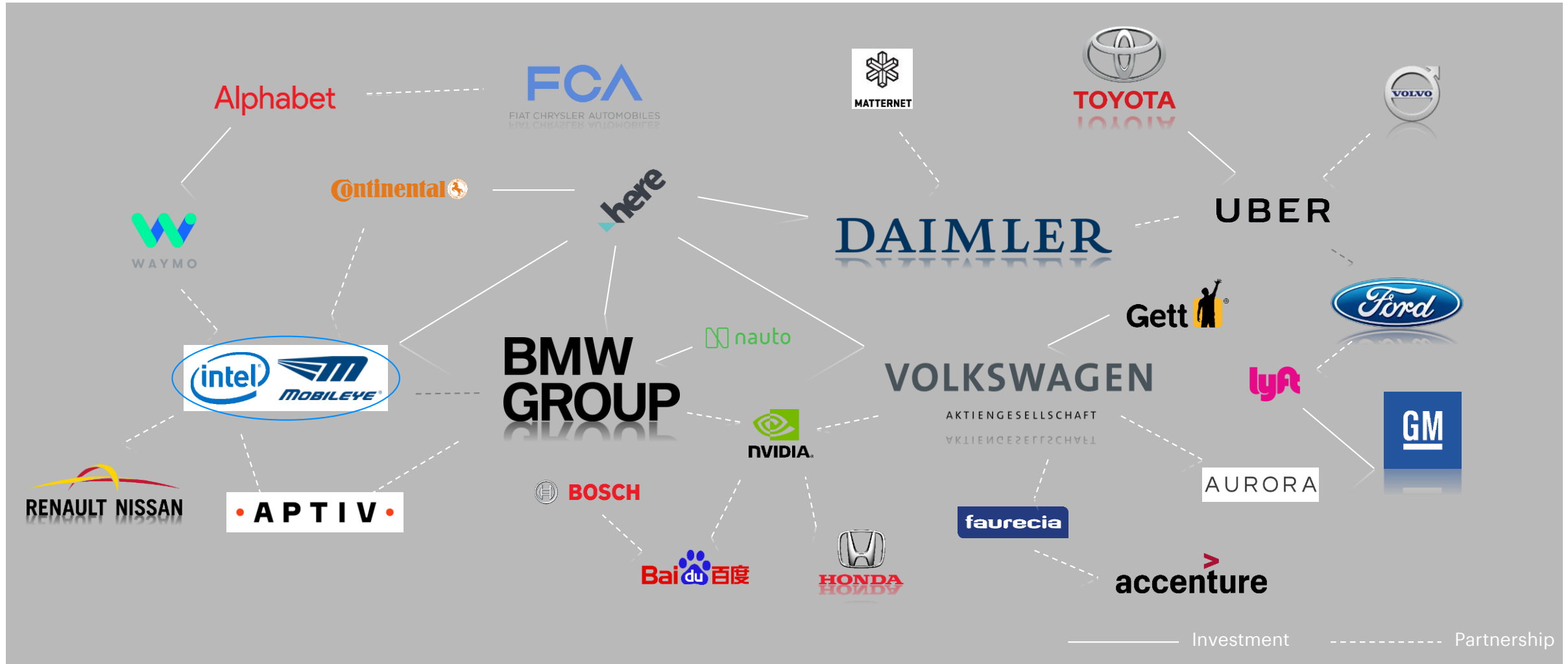
Drive Efficiencies in core functions RD and manufacturing - Industry X.O

Streamline support functions (HR, IT, Finance) with RPA and AI

Accelerate Speed to Market with New IT

AGILITY ACROSS THE INDUSTRY

A HIGH DEGREE OF AGILITY FACILITATES COLLABORATING WITH INDUSTRY PARTNERS...



WHY AGILE PRODUCT DEVELOPMENT?

COMPLEXITY AND COMPLIANCE STANDARDS HAVE OUR CLIENTS SEARCHING FOR NEW APPROACHES TO UNIFY HW & SW DEVELOPMENT

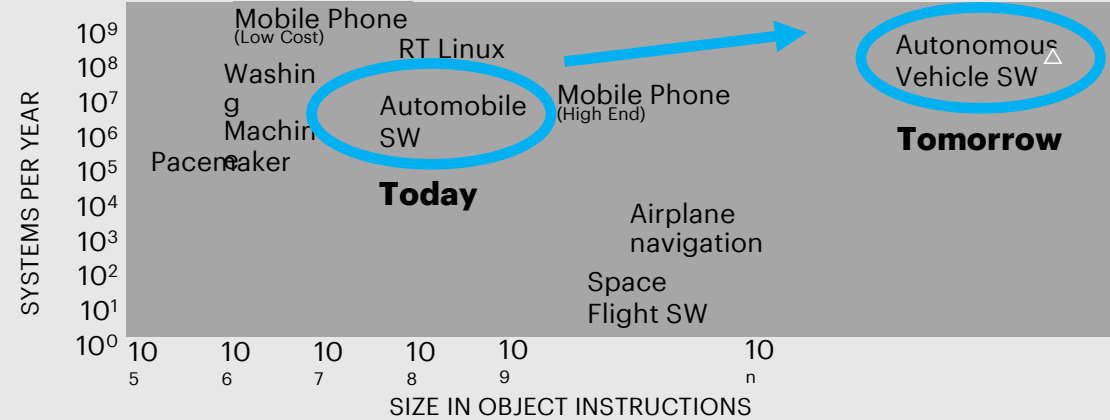
More complex E2E Systems Architecture...

Staring at a tidal wave of more software...



Cybersecurity becomes more safety critical (functional safety), highly integrated and connected.

Today, we are facing up to 100 processes and 100 MLOC.



...combined with increasing compliance standards



80+% of new innovation is coming from SW enabled features.



ISO 26262
Road Vehicles - Functional Safety



SPICE
ISO/IEC 15504

SAE J3061™

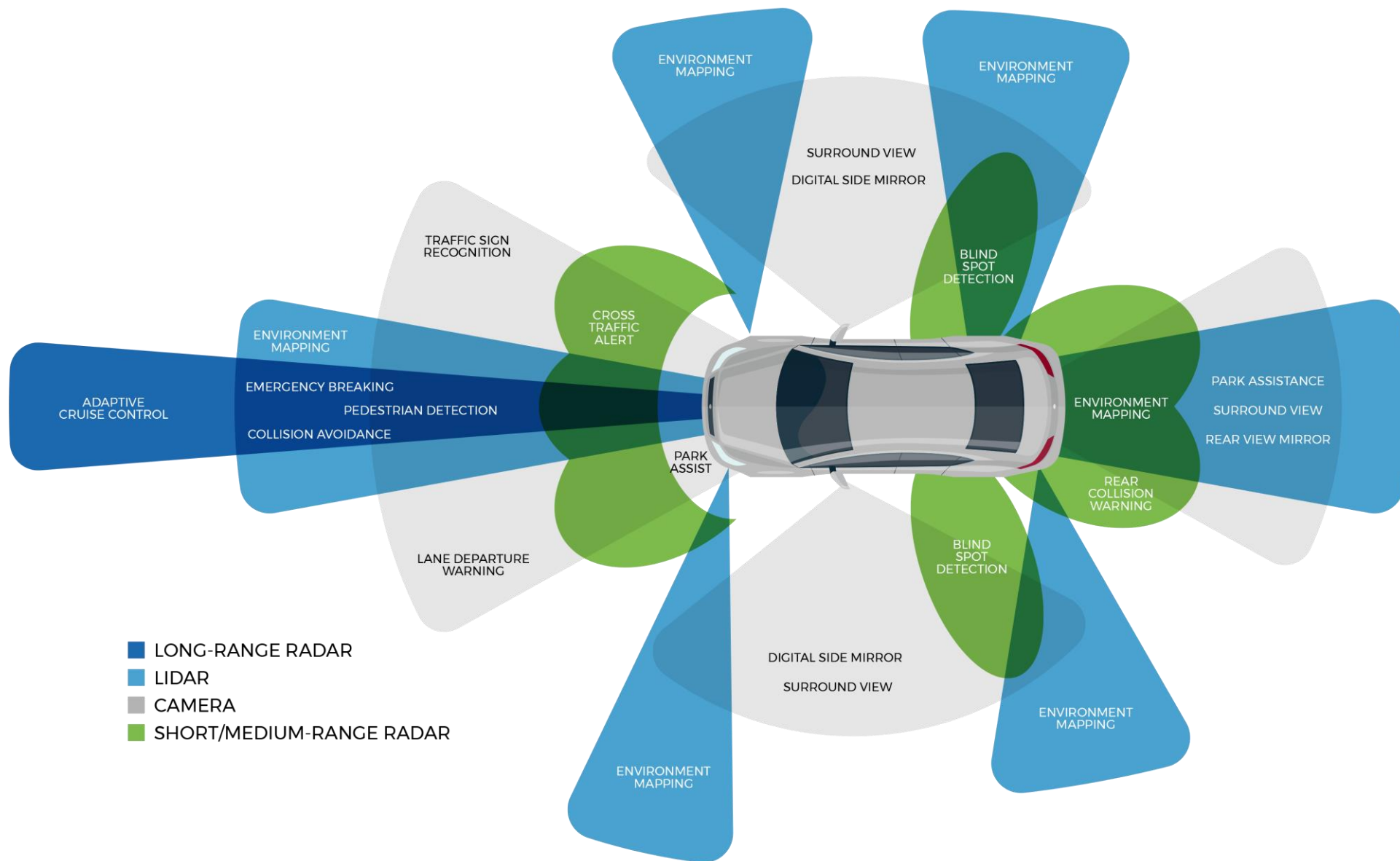
AUTOSAR

Automotive development can choose their development approach **BUT MUST BE** compliant to certain standards to win work.

Source: Ebert IEEE Computing



Ford Model T



THEY ARE SEARCHING FOR AN APPROACH THAT BALANCES AGILITY & MODERN ENGINEERING TECHNIQUES WITH COMPLIANCE

Companies are responding to these needs by utilizing a diverse set of different methods, tools & techniques...

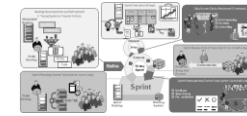
Scaling Lean-Agile Methods to **large, globally distributed** product development teams

Embedding **systems & software compliance standards** into product development process & methods

Adopting **modern engineering techniques** to handle increased product complexity



Lean PD



Scrum



Agile Scaling Frameworks



Feature Driven Development



SAE J3061™

FuSi & Cyber

AUTOSAR



Systems & Software Architecture



AutoSpice



Product Line Engineering



Model-Based Systems Engineering



DevOps / Continuous Integration



Test Automation / Touchless Testing

WE HAVE DEVELOPED LEAN-AGILE SCALING FRAMEWORK TO BRING TOGETHER THESE ELEMENTS

Why AutoScrum?

The ad-hoc approach taken to date has led to point solutions, but an ineffective E2E process



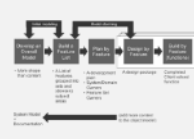
Lean PD



Scrum



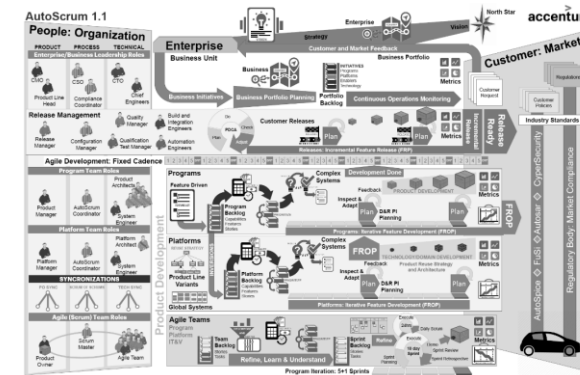
Agile Scaling Frameworks



Feature Driven Development

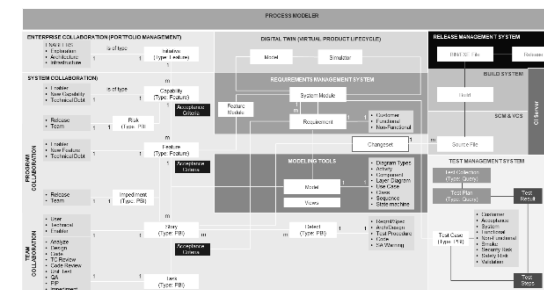
1

AUTOMOTIVE
SPECIFIC
LEAN-AGILE
APPROACH



2

MODERN
MODEL-BASED
LEAN-AGILE
PRODUCT
DEVELOPMENT
REFERENCE
ARCHITECTURE



ISO 26262
Road Vehicles - Functional Safety

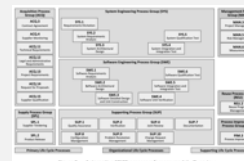
SAE J3061™

FuSi & Cyber

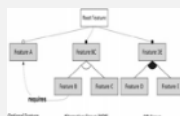
AUTOSAR



Systems & Software
Architecture



AutoSpice



Product Line
Engineering



Model-Based
Systems
Engineering



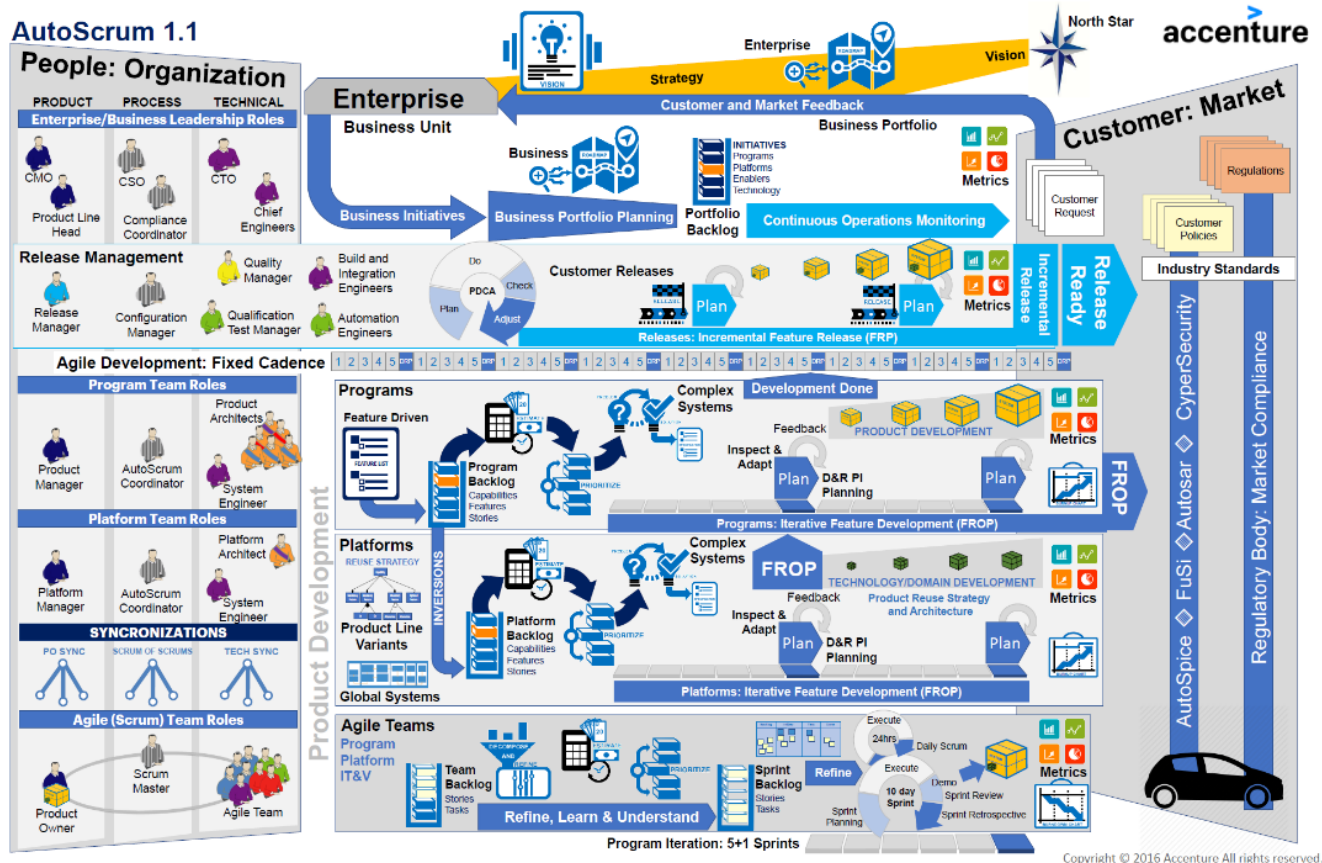
DevOps /
Continuous
Integration



Test Automation
/ Touchless
Testing

AUTOSCRUM EMBEDS LESSONS LEARNED FROM APPLYING AGILE SCALING FRAMEWORKS TO INDUSTRY CONSTRAINTS

Autoscrum Framework: lean + agile + scaling + industry constraints



AUTOSCRUM IS A LEAN-AGILE SCALING FRAMEWORK THAT PROVIDES SCALING METHODS AND PRACTICES FOR PRODUCT DEVELOPMENT ORGANIZATIONS BASED ON LEAN AND SCRUM PRINCIPLES.

ITS OBJECTIVE IS TO SUPPORT AND HARMONIZE THE AGILE WAY OF WORKING TO THE AUTOMOTIVE INDUSTRY'S BUSINESS MODEL AND MARKET CYCLES AND ITS REGULATORY AND COMPLIANCE NEEDS. KEY ATTRIBUTES INCLUDE

- Fixed Cadence
- Develop on Cadence...Release on Demand
- System Feature Driven Development
- Systems Engineering Discipline
- Model Based Engineering
- Large Scale Team Collaboration
- Synchronized Cross Discipline Work
- Supports Platform Based Engineering
- Team/Backlog Inversions



30 - 75%
TIME TO MARKET



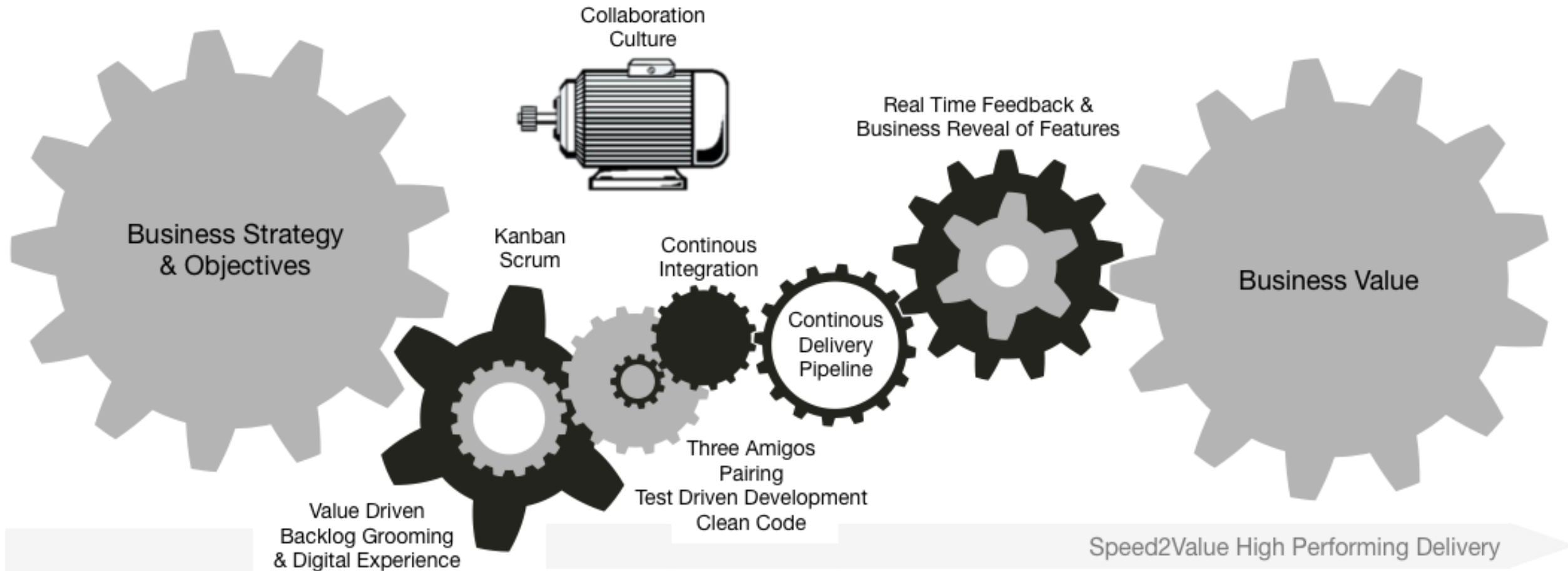
20 - 50%
R&D EXPENSE



20 - 50%
COST OF
NON-QUALITY

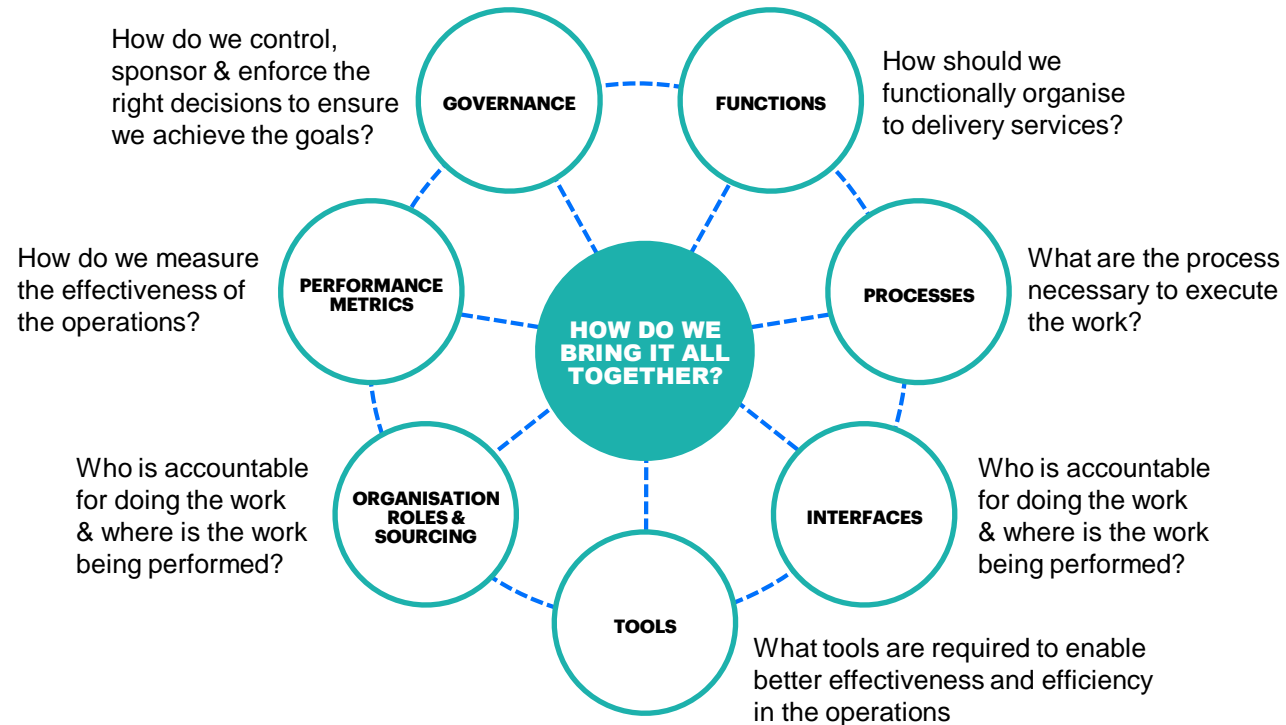
HOW DO WE BRING IT ALL TOGETHER?

IT REQUIRES A HOLISTIC APPROACH...



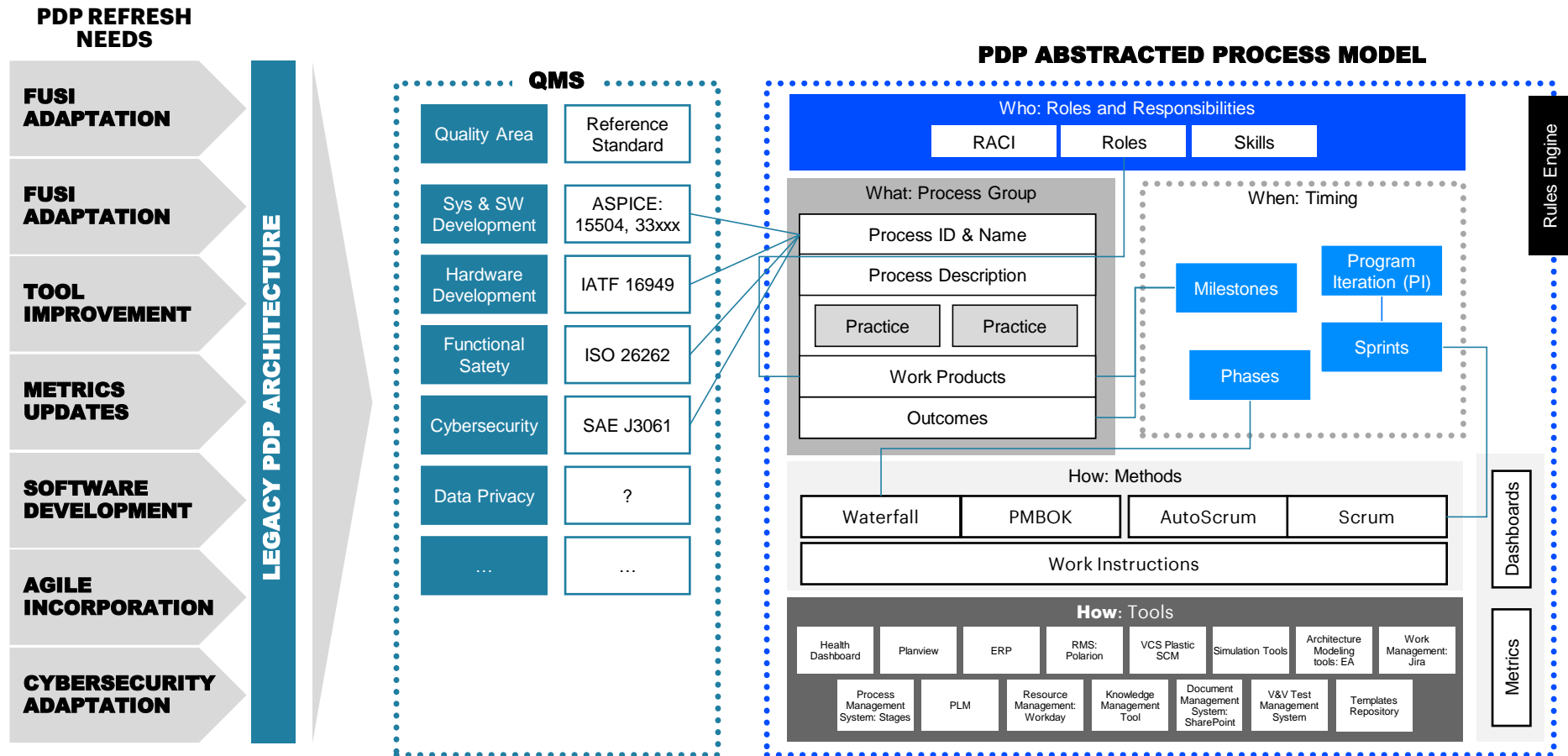
HOW DO WE BRING IT ALL TOGETHER?

...AND FREQUENTLY A NEW OPERATING MODEL EMERGES



HOW DO WE BRING IT ALL TOGETHER?

OUR CLIENTS ARE 'JUMP STARTING' PD TRANSFORMATION ACTIVITIES THROUGH THE USE OF MODERN PROCESS MODELING & MANAGEMENT CAPABILITIES TO MANAGE INCREASING PROCESS COMPLEXITY



- Improved global visibility to process definition & process performance
- Improves management of increasing process complexity
- Facilitates process harmonization & tailoring
- Continuous feedback on process performance
- Increased speed to proficiency for new resources

VISIT US AT OUR BOOTH

WE WOULD LOVE TO SHARE MORE ABOUT...

Accenture's Industry X.0 Practice

AutoScrum as an Agile scaling framework for Complex Product Development

Process Modeling as a Transformation Vehicle

Paired Programming & Test Driven Development

The LOOP by Pillar



INDUSTRY X.0

EMBRACE THE RENEW

**DIGITAL REINVENTION
OF INDUSTRY**

