



PTC BRIEFING:
AUGMENTED REALITY (AR)
FOR
FEDERAL AEROSPACE
AND DEFENSE (FA&D)

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October 2018

NDIA

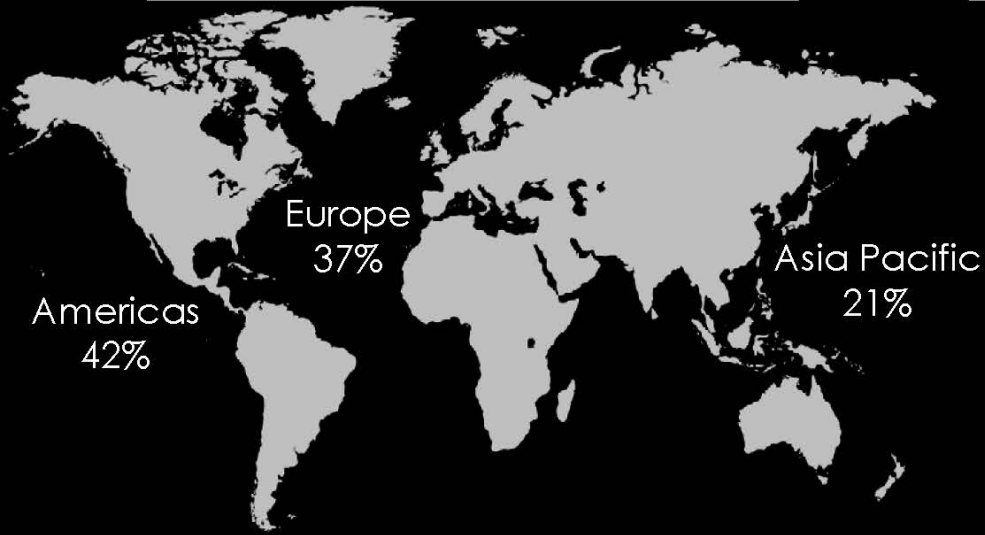
Augmented Reality Workshop

The Waterford Reception Center
Washington DC

PTC IS A GLOBAL, US SOFTWARE TECHNOLOGY COMPANY



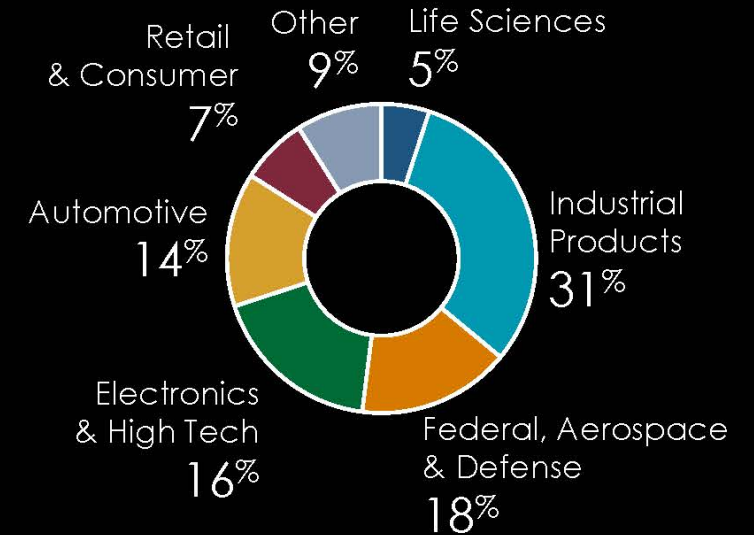
GEOGRAPHIC COVERAGE



NEW HQ: BOSTON SEAPORT



REVENUE BY VERTICAL



BRANDS



-  thingworx®
-  vuforia®
-  kepware®
-  creo®
-  windchill®
-  integrity®
-  servigistics®

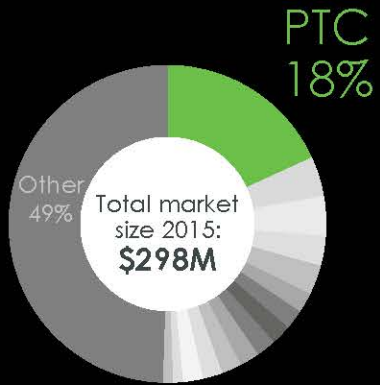
FAST FACTS

\$1.17B	\$989M	\$856M	68%	30,000	750	6,000	1,800
FY17 total revenue	FY17 software revenue	FY17 recurring software revenue	FY17 new software bookings subscription	active customers	partners	employees	universities

PTC: INNOVATION WITH GLOBAL RECOGNITION

CLEAR MARKET LEADER

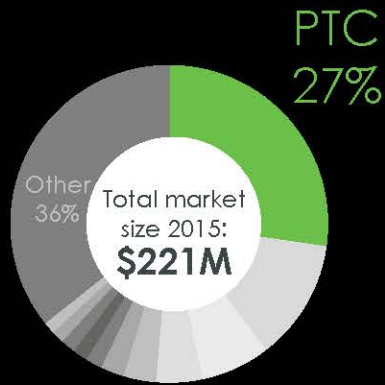
WITH 18%
MARKET SHARE



Source: IoT Analytics

CLEAR MARKET LEADER

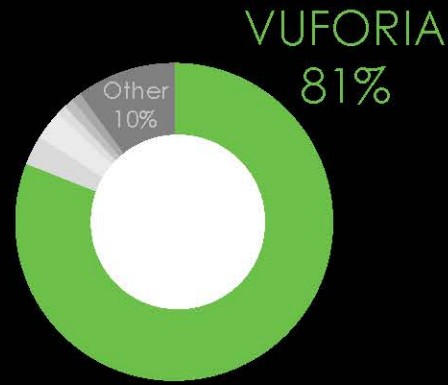
FOR IoT
TECHNOLOGY
PLATFORMS



Source: BCC Research

CLEAR MARKET LEADER

IN AUGMENTED
REALITY



Source: Aeon Mobile

CLEAR MARKET LEADER

IoT PLATFORM
MARKET



Source: Lux Research, Inc.

CLEAR MARKET LEADER

INDUSTRIE 4.0
IoT VENDOR
BENCHMARK 2016



Source: Experton
Market Insight



Gartner Magic Quadrant for Industrial IoT Platforms May 2018



Forrester Wave™, IOT Software Platforms December 2016

PHYSICAL WORLD

ThingWorx



DIGITAL WORLD

Windchill

FORRESTER



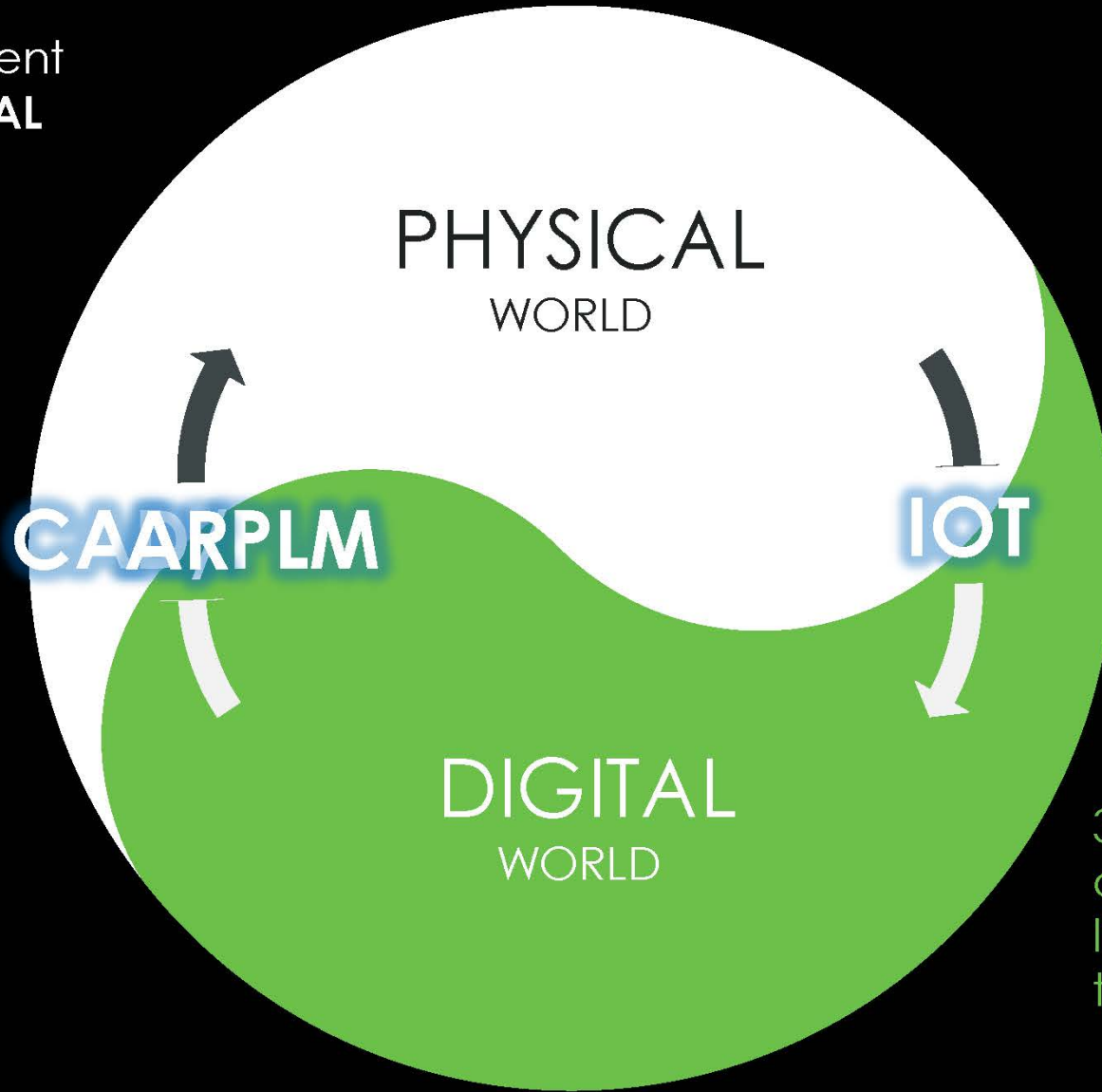
Forrester Wave™, PLM Software November 2017

CONVERGENCE HAS SHAPED OUR STRATEGY



\$1B technology investment connects to the **PHYSICAL** world and enables new experiences

SMART
CONNECTED
PRODUCTS



SMART
CONNECTED
OPERATIONS



30 year heritage in the **DIGITAL** definition, software, and lifecycle management of things

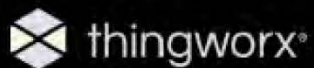
CONVERGENCE HAS SHAPED OUR IDENTITY



PHYSICAL
WORLD

Innovation Platform

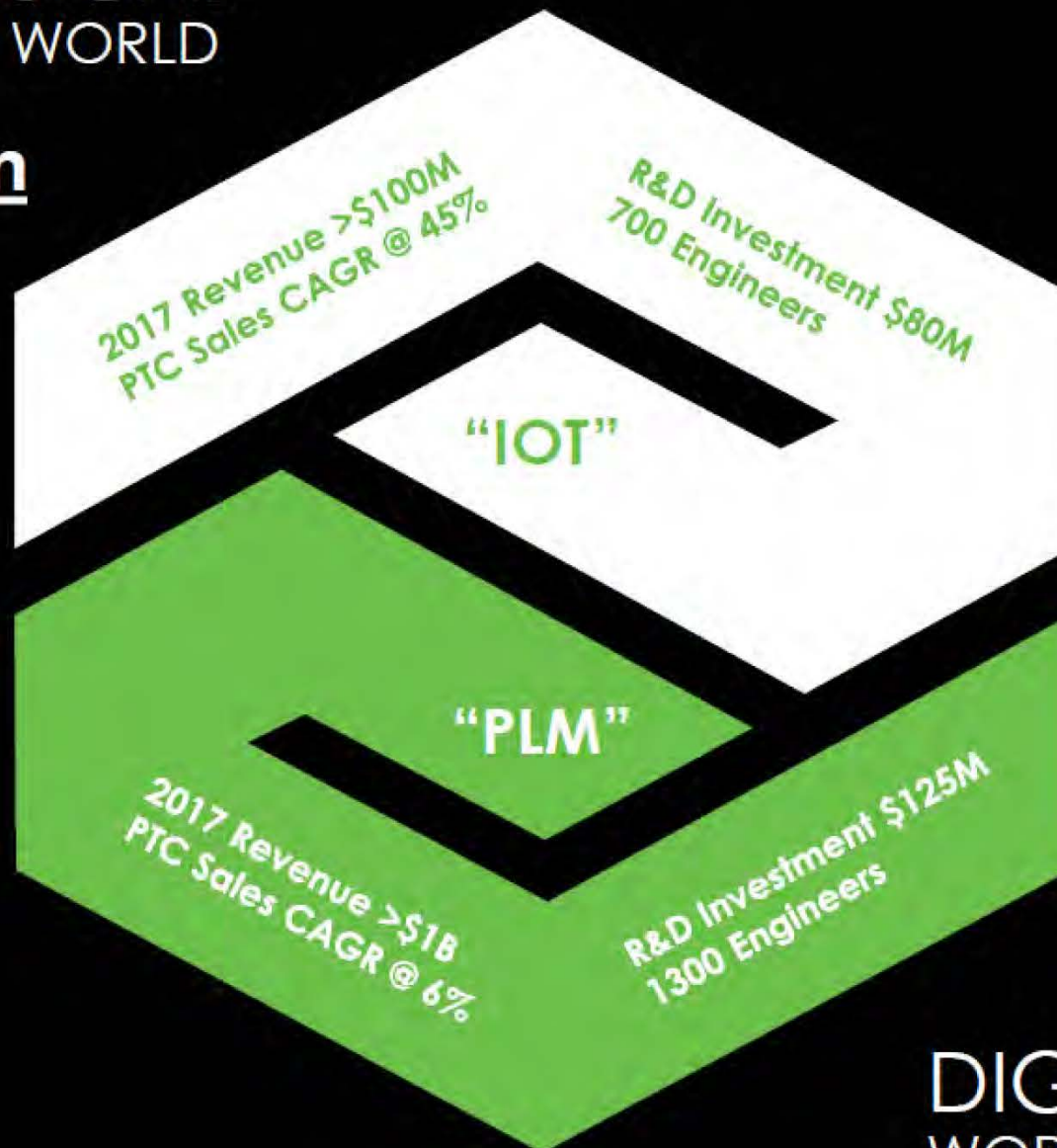
IoT &
Analytics



AR/VR



Industrial
Connectivity



PLM Solutions

CAD | creo[®]

PLM | windchill[™]

ALM | integrity[™]

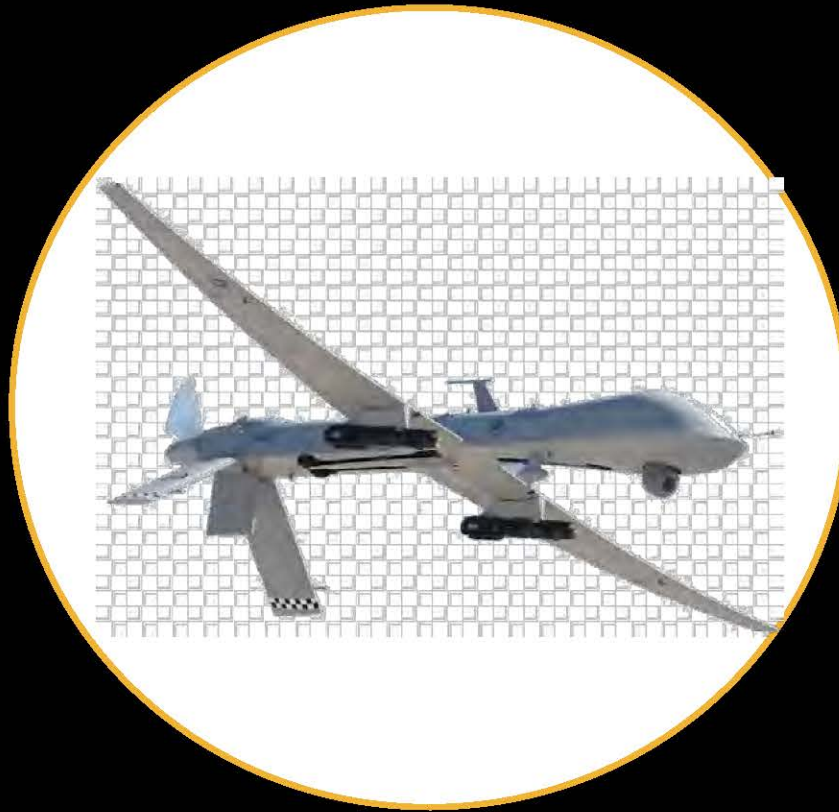
SLM | servigistics[®]

DIGITAL
WORLD

PTC AUGMENTED REALITY (AR) SOLUTION CAPABILITIES

VISUALIZE

Enhance the user's **view** of the physical world with the overlay of **real-world** or **hypothetical digital information**



INTERACT

Manipulate digital graphics or extend a product through an **AR interface**

Simulate

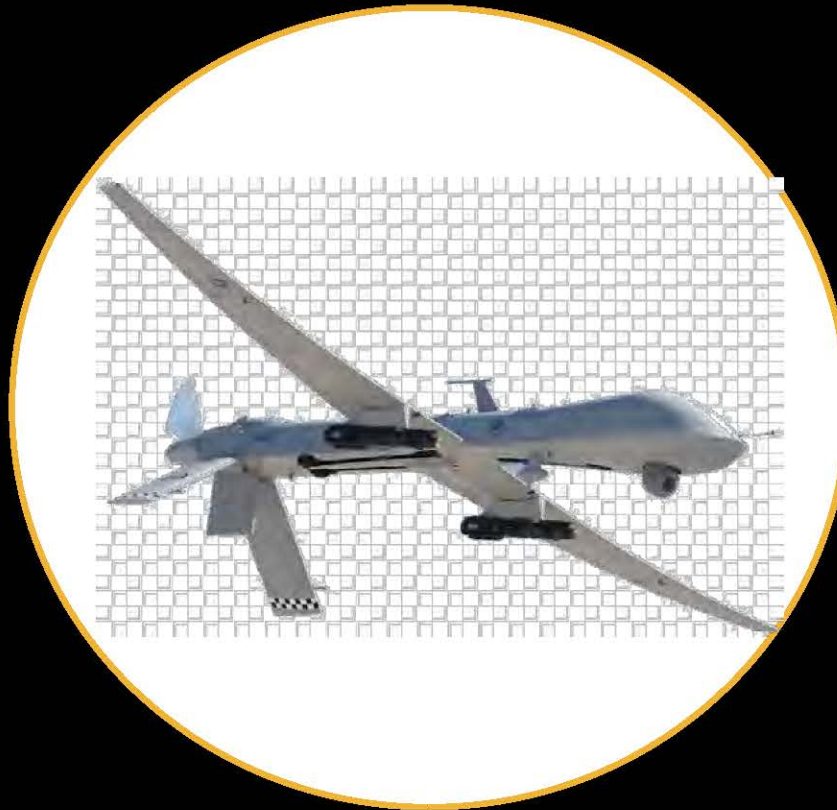
INSTRUCT

Train or guide users on how to perform a task through the overlay of **digital instructions** or **real-time expert guidance**

PTC AUGMENTED REALITY (AR) SOLUTION USE CASES

Service and Maintenance Operations

- **Depot** Scheduled Operations
- **Remote** (Field) Operations



Manufacturing

AR-guided assembly / disassembly work instructions

Industrial Workforce Training

AR-guided training and **Immersive** training
Content creation and scenario development for training

Bleed
Air
System



CFD
Flow
Lines



PreFlight
Check



TurboFan
Engine



DIGITAL INFORMATION IN CONTEXT WITH IOT DATA

