



# THINGWORX INDUSTRIAL INNOVATION PLATFORM



Presenter name

Presenter title

Date



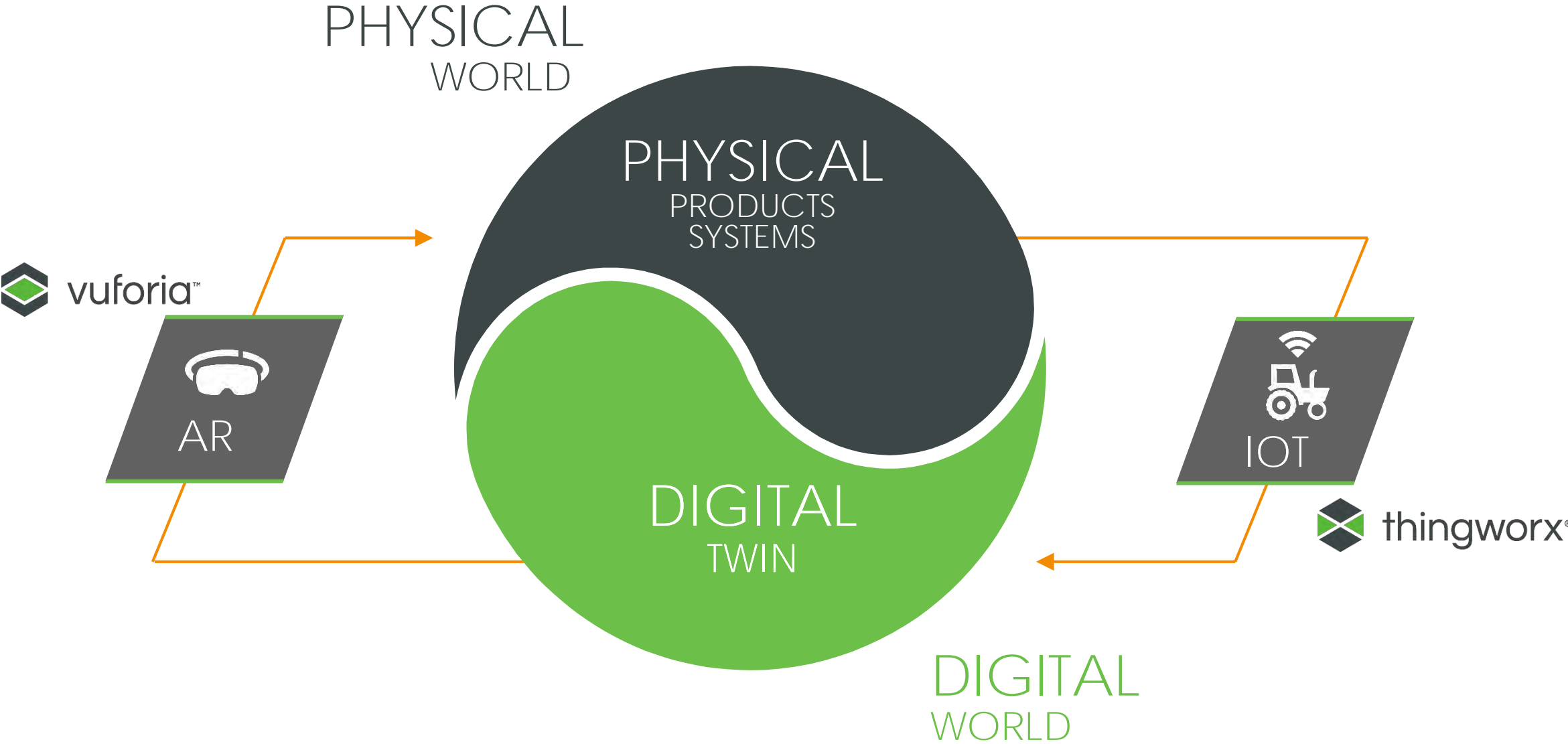
# OUR MISSION

Unlock the value  
created by the  
**CONVERGENCE** of  
the **PHYSICAL** and  
**DIGITAL** worlds.



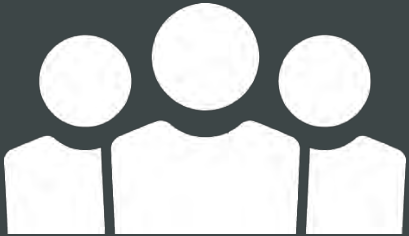





# BRIDGING THE DIGITAL AND PHYSICAL





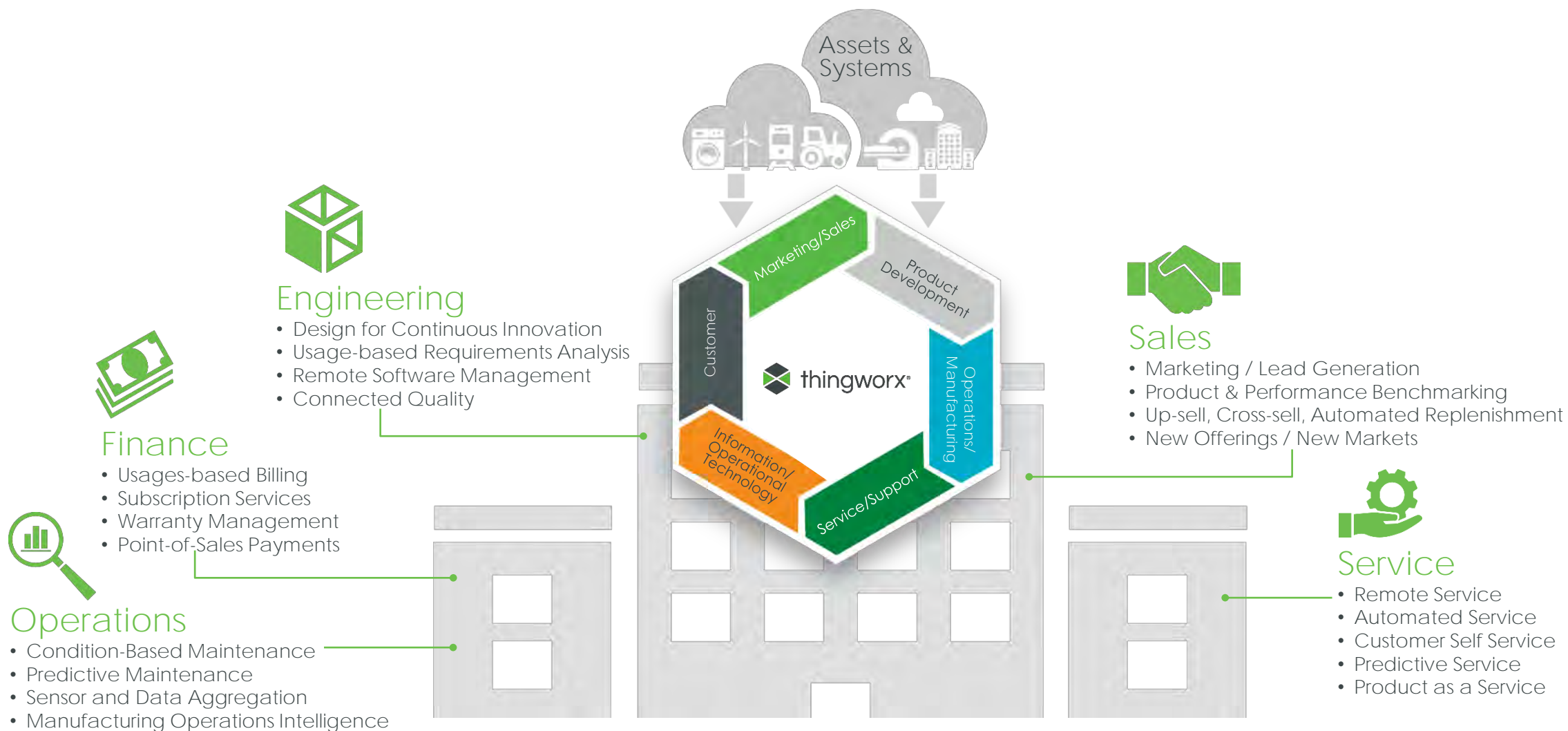
# INDUSTRIAL INNOVATION UNLOCKS BUSINESS OPPORTUNITY

			
Improve Customer Experience	Optimize Internal Processes	Differentiate Through Innovation	Drive New Revenue Streams
Leverage data from connected products and systems to increase revenues, services and profit	Increase efficiencies to reduce operations downtime while improving throughput	Accelerate innovation impacting product, service and factory operations that is secure and scalable	Unlock new business models and opportunities such as products-as-a-service, scaling to new markets








# IMPACTS EVERY FACET OF THE BUSINESS

Data from Connected Assets Enables Optimized Processes





# THINGWORX ADDRESSES THE CHALLENGES TO REALIZING THAT BUSINESS OPPORTUNITY

				
Excited about Industrial Innovation but not sure how to get started	Finding necessary resources that understands the entire stack	Unforeseen costs with maintaining and improving a DIY approach	Inability to anticipate future needs	Created one app but unable to scale or modernize





# thingworx®



The fastest way for  
industrial companies  
to unlock the value of  
physical digital  
convergence.





The background of the slide is a photograph of four white wind turbines standing on a lush green field under a clear blue sky. The turbines are arranged in a line from left to right, with the first one being the largest and closest to the viewer, and the others receding into the distance.

SMART, CONNECTED PRODUCTS





Smart, Connected  
Products



Smart Manufacturing  
& Industrie 4.0



Digital System  
Orchestration



Retail  
Innovation



Augmented  
Reality



Smart Infrastructure  
(Buildings, Energy, Water)





PLATFORM + APPS + ECOSYSTEM





PLATFORM + APPS + ECOSYSTEM

## ThingWorx Platform

INDUSTRIAL CONNECTIVITY  
FOUNDATION  
ANALYTICS  
ACCELERATORS

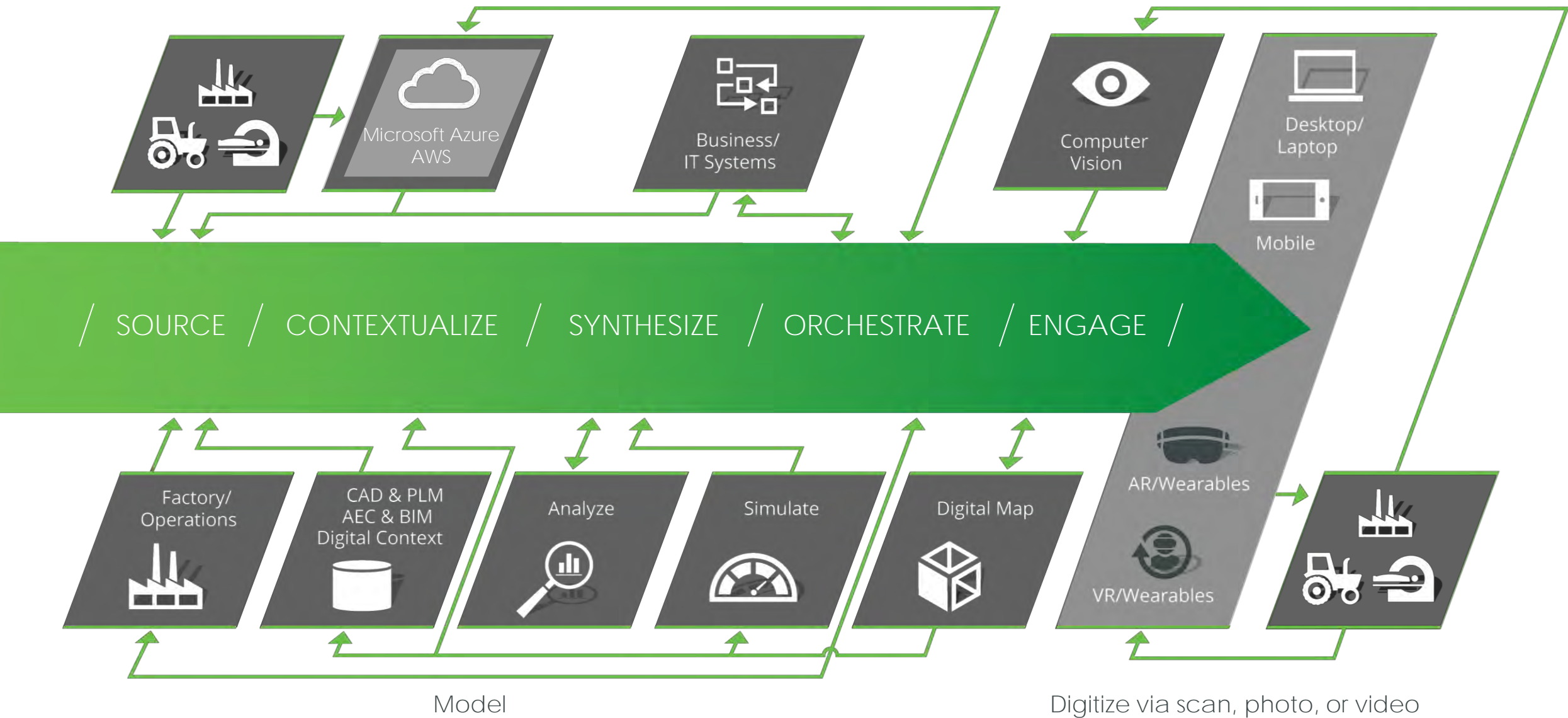
## ThingWorx Apps

THINGWORX NAVIGATE  
THINGWORX CONTROLS ADVISOR  
THINGWORX ASSET ADVISOR

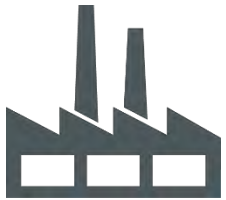
## ThingWorx Ecosystem

THINGWORX DEVELOPER PORTAL  
PTC MARKETPLACE  
PARTNER NETWORK









Purpose-Built for  
Industrial  
Innovation



Quickly Create &  
Deploy Industrial  
Apps & AR  
Experiences



Agile &  
Flexible



Wrap & Extend  
Existing Technology



Expansive  
Ecosystem



# PURPOSE-BUILT FOR INDUSTRIAL INNOVATION



- Built with the industrial technology used for connecting **5 million assets** at over **75,000 sites** around the world
- Benefitting from PTC's ongoing leadership in areas like CAD and PLM, ThingWorx has an **unmatched understanding** of how “things” are designed, operated and serviced
- Leveraging our experience and understanding of our industrial customers' needs, we have created a platform of unprecedented **simplicity, power, and flexibility**





# QUICKLY CREATE & DEPLOY INDUSTRIAL APPS AND AR EXPERIENCES



- ThingWorx is an **end-to-end industrial innovation platform** that enables you to rapidly create and deploy industrial apps
- Contains **integrated platform components** built around version of data – the **ThingModel**
- Create web & mobile apps **without writing any code**
- Deliver industrial AR experiences with **real-time connected asset and system** data with **Vuforia**





# AGILE & FLEXIBLE

- Open, flexible architecture that is designed to **compliment and extend existing investments**
- ThingWorx can be **deployed in any way** (cloud, on premise & hybrid)
- Connect **data from anywhere** and deliver **applications to anyone** on nearly **any device** (including AR hardware)
- Enables businesses to build, deploy and maintain on **their own terms**





# WRAP & EXTEND EXISTING TECHNOLOGY

- ThingWorx is designed to wrap and extend **existing technologies** – like other applications, enterprise systems and cloud technologies.
- Enables companies to **keep their existing standards** while taking advantage of the power and capabilities of ThingWorx
- ThingWorx makes industrial innovation **fast and easy** through a broad set of **deep capabilities** designed to work together





# EXPANSIVE ECOSYSTEM

- 1,000+ partners focused on industrial innovation
- PTC Marketplace offers hundreds of tools, apps, solutions, and services to accelerate solution development
- ThingWorx Developer Portal delivers trials and content to evaluate the platform
- Streamlined training and customer success offerings

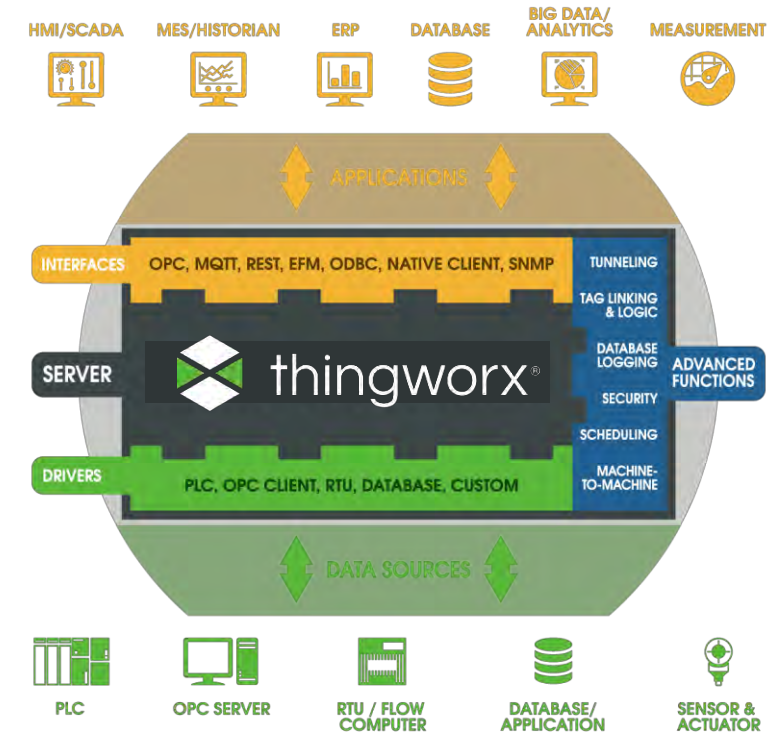




# THINGWORX INDUSTRIAL CONNECTIVITY

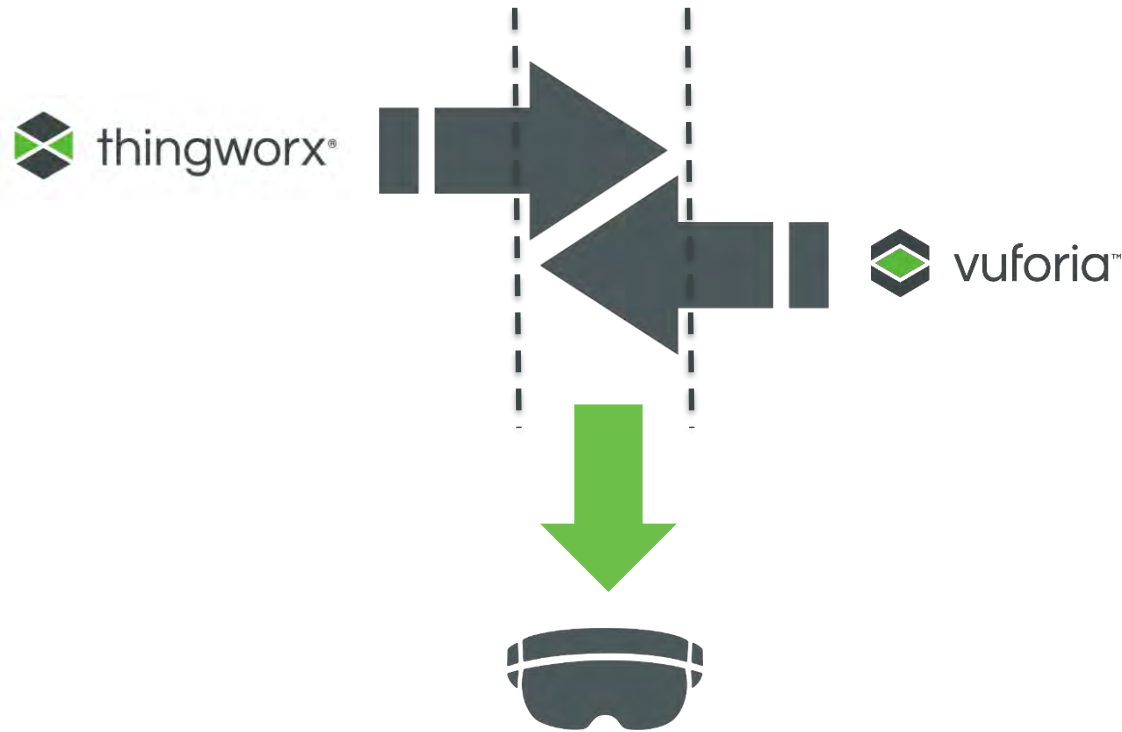


- Powered by Kepware, the **industry's leading** industrial connectivity platform
- Library of **150+** device & client drivers and advanced plug-ins — supporting thousands of devices and other data sources
- Provides **operations data** to traditional Industrial Automation clients (via OPC and proprietary protocols) and new IoT solutions (via MQTT & IT-centric protocols)
- Meets the **highest standards** of quality through **third-party validation**





# THINGWORX & AUGMENTED REALITY



Industrial AR Experiences  
w/Real-Time Asset & System Data

- ThingWorx and Vuforia come together to **deliver industrial AR experiences** that contain real-time, contextualized asset & system data.
- Vuforia delivers flexible ways for AR developers and designers to **create powerful, immersive** industrial AR experiences for their end users.
  - **Vuforia Engine** – AR Developers can build highly-customized industrial AR experiences from the ground-up using computer vision technology.
  - **Vuforia Studio** – AR Designers can reuse existing 3D content and quickly scale industrial AR experiences without writing any code.
  - **Vuforia View** – universal browser for industrial AR experiences built in Vuforia Studio. Download and install Vuforia View on mobile devices and immediately begin consuming experiences.





vuforia® studio™

Author & Publish  
AR Experiences

vuforia® view

Access & View  
AR Experiences

“  
There is nothing like **Studio**  
from any other software  
vendor. With **Studio**, Microsoft  
HoloLens customers can get to  
production **incredibly fast.**”

Kevin Collins, Microsoft





# ENABLES KNOWLEDGE TRANSFER



BOEING & IOWA STATE  
**30% faster**  
simulated wing  
assembly




































Source: AREA

SRI  
**47% faster**  
comprehending  
training instructions

Source: SRI



# VIBRANT ECOSYSTEM

Edge, Embedded & Device Clouds	Communication Service Providers	System Integrators	ISV, Business Systems & Analytics	Solution Providers
       	     	       	     	      





Leading partners have  
Centers of Excellence  
built on ThingWorx.

McKinsey&Company

**KPIT**

Capgemini

 **acatech**

**Tech  
Mahindra**

 **L&T Technology Services**







“A keyword for me with PTC is agility. In the Smart City context quite often there’s partners that are preferred or capabilities that they want to add into what we are portraying, PTC allows us to bring those in quite a flexible and adaptive way.”





# THINGWORX CUSTOMERS

- Over 1300 customers including 650 major factories
- Integral market leading AR Technology (61% share) with:
  - 50,000 published apps
  - 425,000 developers
  - 525M app installs

Industrial	Commercial Equipment	Life Sciences	Medical Devices	Augmented Reality
				
				
				
				
				
				
				
				





**Vantron**

“It was a natural progression for us to add connectivity into our devices and embedded systems and when we looked at the marketplace, we identified ThingWorx as being the premier platform... it really stands above all the other platforms in terms of maturity and partnership ecosystem.”





“By combining the ThingWorx Manufacturing Apps with our current IoT initiatives, we will be able to accelerate our efforts to bring real-time, data driven, insights to our world class production processes.”





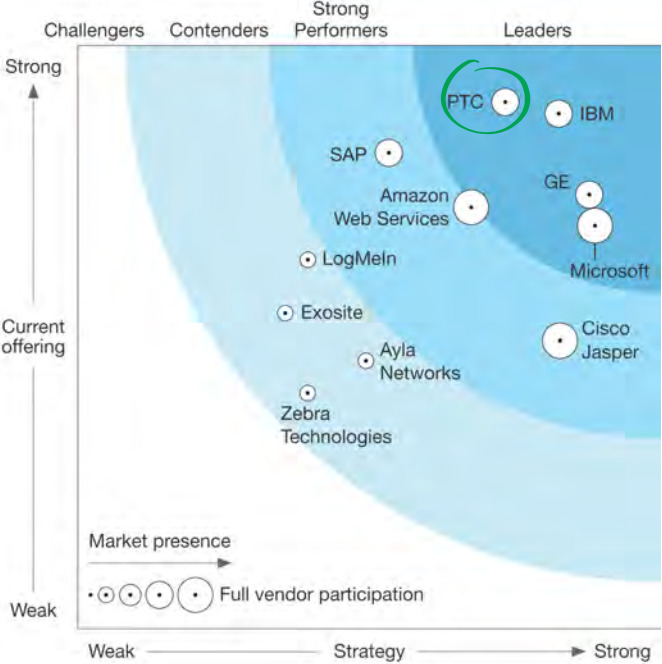
“With ThingWorx Studio we can provide customers with [virtual] products that have yet to be manufactured without having to send a unit to a location but still have to scale examples that you can walk around and see the information.”



# ANALYSTS CONFIRM OUR LEADERSHIP STATUS



## IoT PLATFORM MARKET



Forrester Research

## IoT PLATFORM MARKET



IDC

## Industrial IoT PLATFORM MARKET



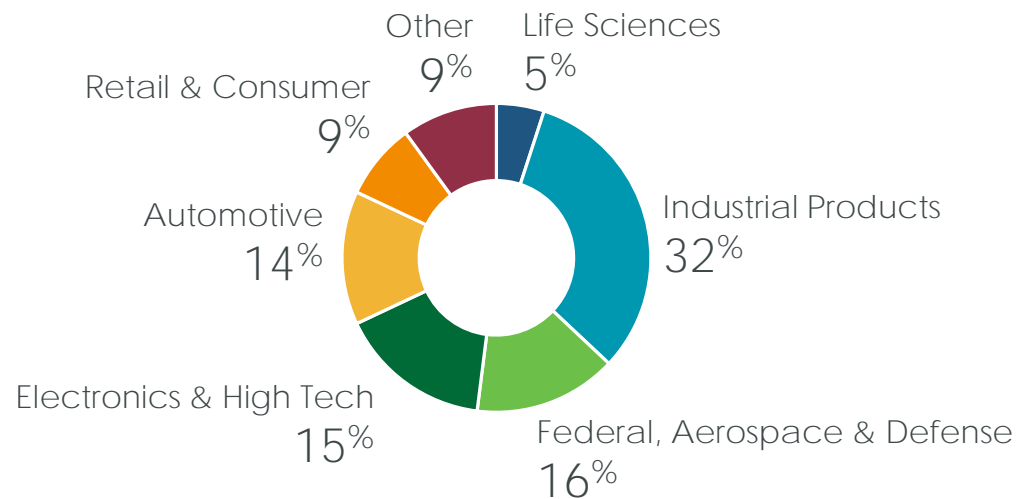
Gartner



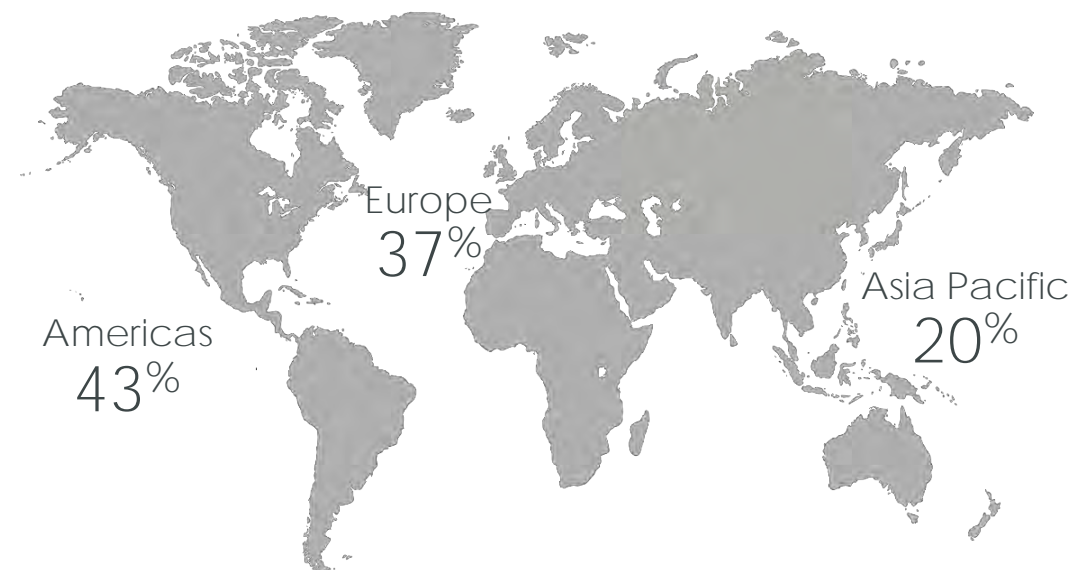
# WE ARE A GLOBAL TECHNOLOGY COMPANY



## REVENUE BY VERTICAL



## REVENUE BY REGION



## FAST FACTS

**\$1.16B**  
FY17 total revenue

**6K**  
employees

**1K**  
partners

**400K**  
ecosystem developers





thingworx®