



GE Aerospace

# A Strategy for Management of Large Enterprise PLM Platforms

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PLM Road Map & PDT NA 2024  
Marriott, Lyons, Cornejo & P May



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Presentation will outline a strategy for developing Enterprise PLM Platform & management processes.

A Strategy for the Management of Large Enterprise PLM Platforms



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# Business Overview



# GE Aerospace \$31.8B Revenue

## Commercial Engines & Services



### Avio Aero



## Military Engines & Services



## Avionics & Digital Systems



## BGA & Integrated Systems



## Additive & Other



(a-Includes CFM and EA revenue  
CFM is a 50/50 Joint Venture between GE and Safran Aircraft Engines  
EA is a 50/50 Joint Venture between GE and Pratt & Whitney

# Powering the world's airline fleets with 39,000 engines

## 0:02

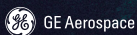
Every 2 seconds an aircraft with GE engine technology\* is taking off somewhere in the world

## 3 / 4 takeoffs

Three out of every four takeoffs are powered by GE Aerospace\*

## 400,000+

~400k people are in the air right now depending on our engines



\*Includes joint venture engines built by CFM and EA  
CFM is a 50/50 Joint Venture between GE and Safran Aircraft Engines  
EA is a 50/50 Joint Venture between GE and PW



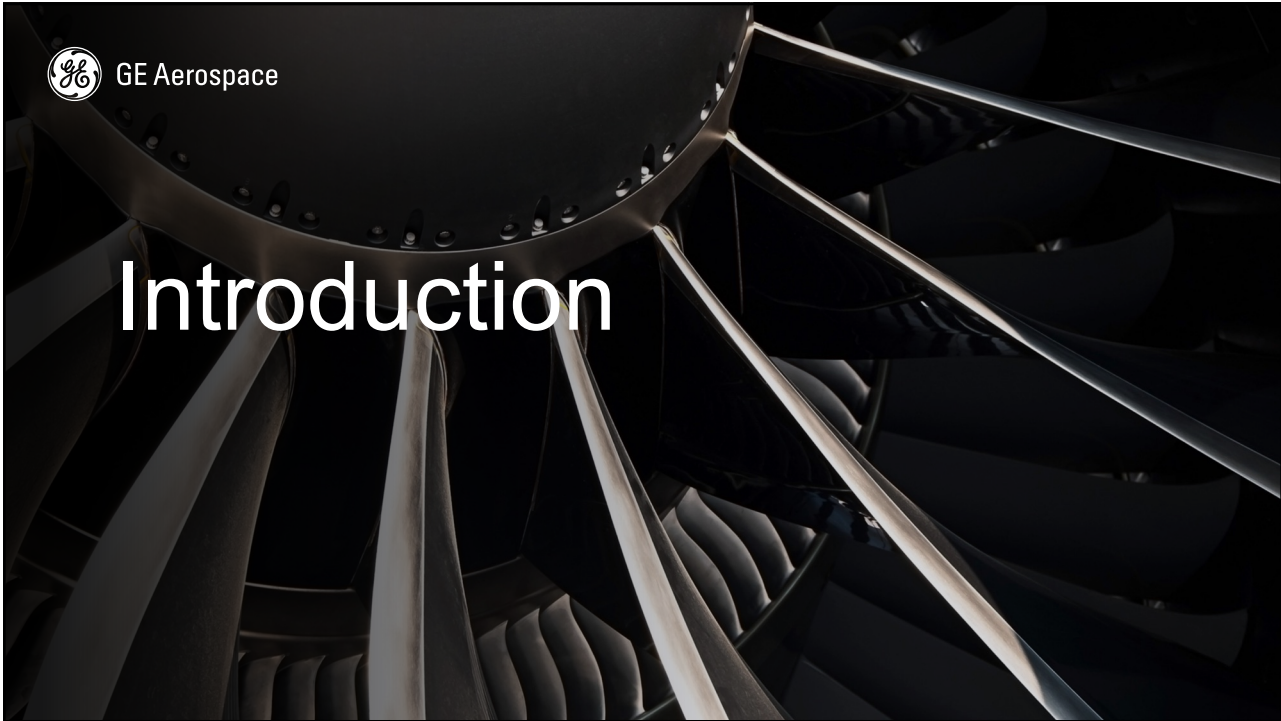


Powering the world's military fleets with 27,000 engines

<b>2/3</b> fighters in the U.S. fleet are powered by GE Aerospace	<b>2/3</b> helicopters in the US fleet are powered by GE Aerospace	<b>1/2</b> of the bombers in the Air Force fleet are powered by GE Aerospace	<b>3/4</b> gas turbine powered combat surface vessels within global Navy fleet
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# Introduction

## Introduction

### How do we manage large scale Enterprise PLM Platforms?

This presentation speaks from the point of view of managing a large Enterprise PLM Platform from an IT, DevOps, Infrastructure & Software Architecture, and Solution Development perspective

#### Just starting out?

See 2020 CIMdata Position Paper, "Why is PLM Often so Hard?" – *Simple is Best*

#### Do you have a complex & established Enterprise PLM Platform?

- Large number of users
- Large number of infrastructure components
- Large number of technology components
- High degree of complexity
- Demand for new solutions greatly exceed capacity to develop and deliver them

How do we create the capacity to achieve ambitious development goals while challenged to keep our enterprise systems humming, up to date, and secure?



## Business Drivers & Challenges

### Examples:

- Single PLM system for GE Aerospace engines
- Increased demand for building out Digital Thread capabilities & connectivity
- Increased demand for uptime
- Transforming GE into three separate businesses



- Tech Stack & Cloud Transformation





## Strategic Framework

**PURPOSE** Why is PLM important to the business?  
*Enable Users & Stakeholders to Deliver Business Outcomes through a Service Oriented Mindset*

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**VISION** What sentence sums up what you want to achieve?  
*Build People, Process, & Technology Capabilities that Deliver a Capable Enterprise PLM Platform*

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**PRIORITIES**

<i>Right Data at the Right Time Without Interruption</i> - P&A - Security	<i>Solution Development</i> - New Features & Capabilities	<i>Workforce</i> - Roles & Responsibilities - Upskill & Reskill
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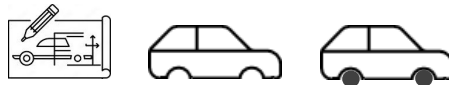
**BEHAVIORS** Organizational Strategy & Culture is out of scope for this presentation, but critical in driving behaviors required to realize your Purpose & Vision

It's not enough to define the strategy and share it. It has to be shared early and often because the minute after you are done sharing it, understanding of it may start to deteriorate and get reinterpreted.



## Enterprise PLM Platform Prioritization

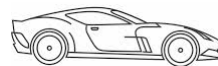
P&A



Security

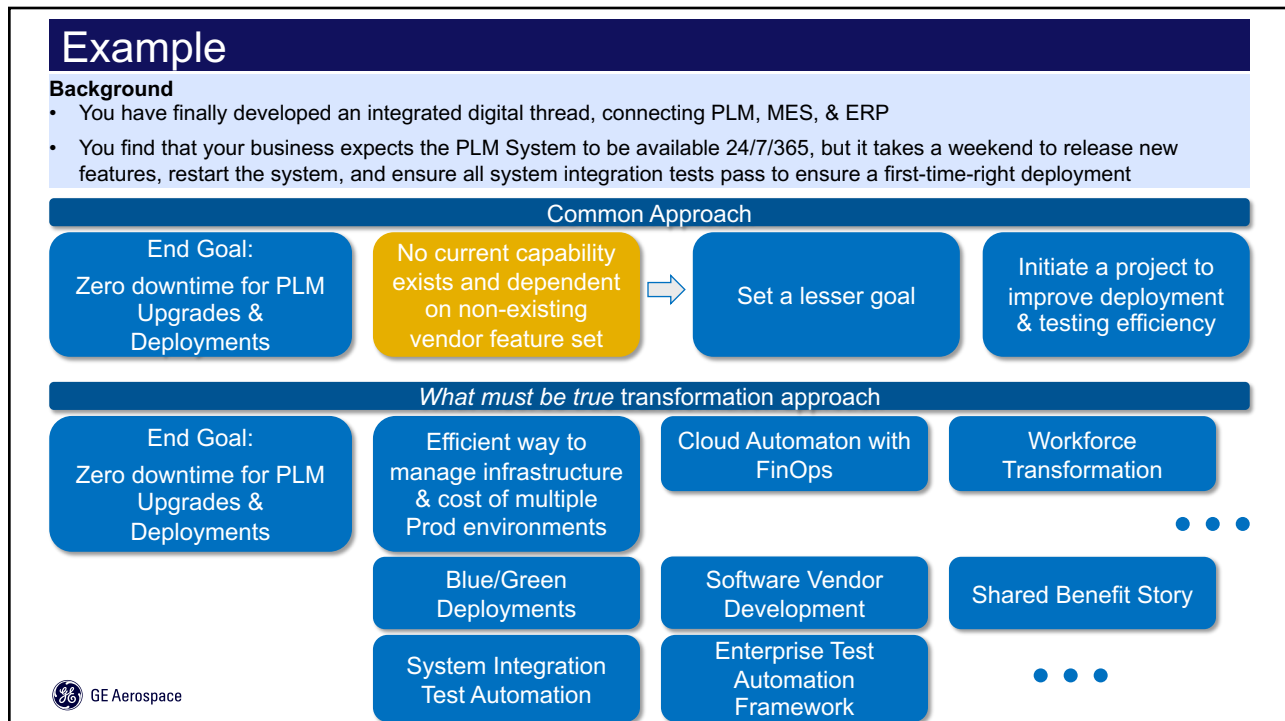
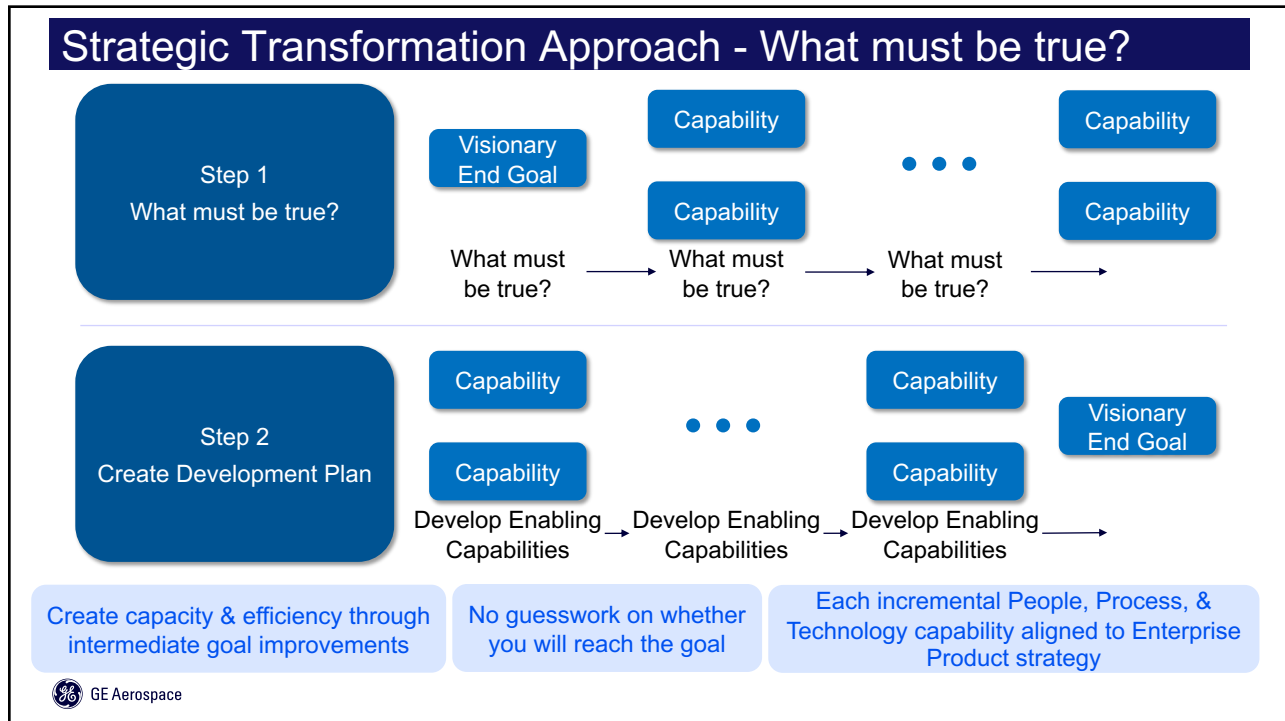


New Features



Prioritize to increase long term capacity to transform and develop new capabilities



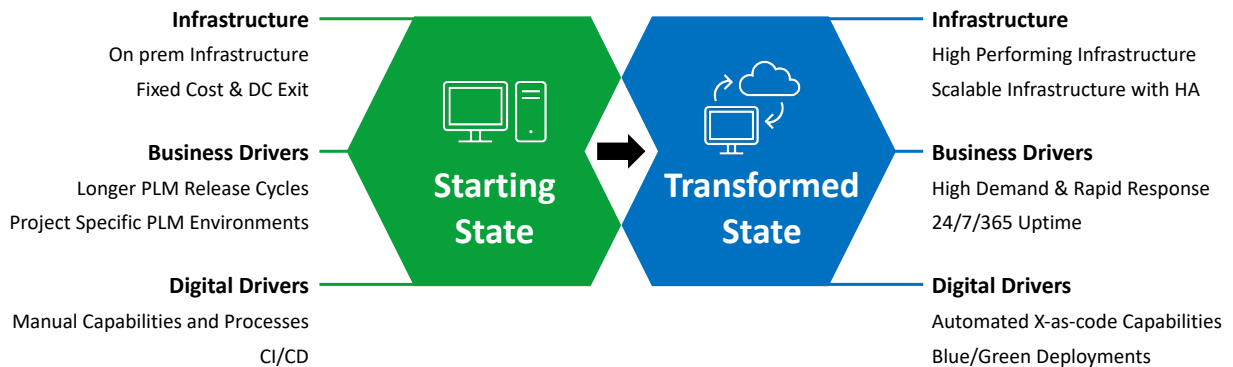






# Outcomes

Highly Performing, Stable and Secure PLM Platform with Automated and Scalable Infrastructure



New capabilities and 75% to 99.9% process improvements enabled by automation is creating capacity to reach new uncomfortably ambitious goals



Summary	
DO	DON'T
Imagine the Ideal End State	Set goals based on current constraints
Ask: What must be true?	Proceed without clarity
Create a multi-phased development strategy	Use ROI to drive short term goals as a substitute for a holistic strategy – could make it worse!
Every new People, Process, Technology capability leads you to the end goal	Develop short term improvements with long term technical debt and no clear path to the goal
<p>This may appear like common knowledge to many, but over 30 years of observation suggests it is not. I am sharing it here in the hopes that it can benefit someone out there.</p>	

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