



# LIVEXORX

A NEW ERA IN PRODUCT LIFECYCLE INNOVATION

SESSION ID: PL1197B

# FACING COMPLEXITY WITH A NEXT GENERATION PLM

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**Simon Heath**

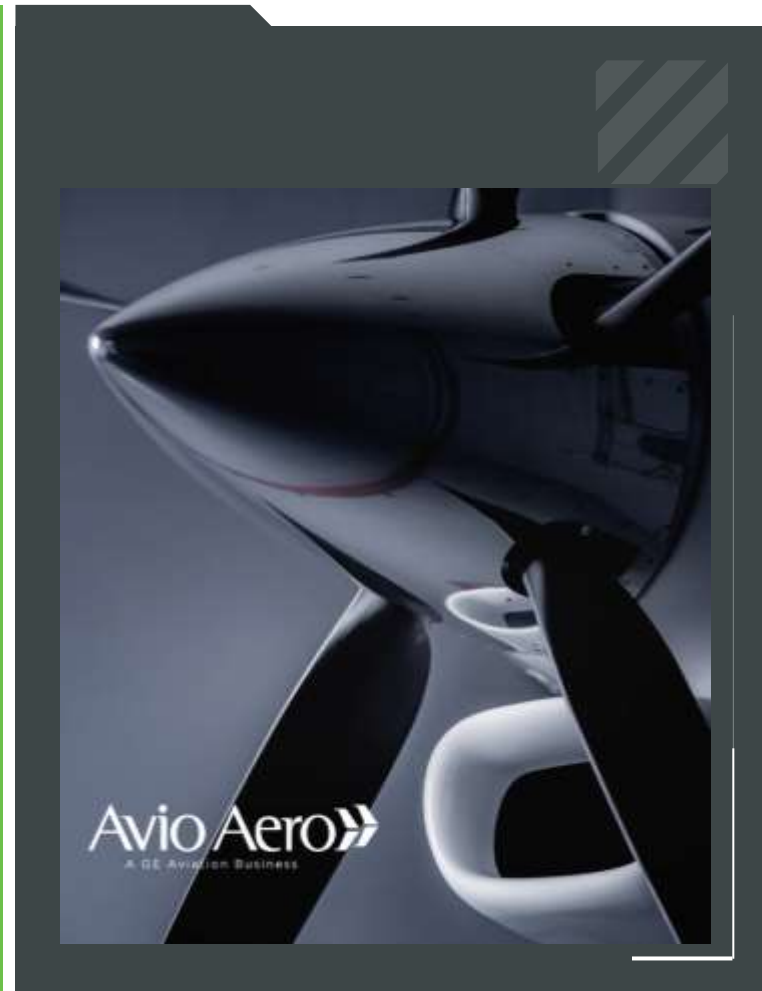
Director, Wincom PLM

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LIVEXORX.COM | #LIVEXORX

Avio Aero   
A GE Aviation Business





# THE CONTEXT

Daniele Gulmini



**FROM 1908 AT THE SERVICE OF AVIATION**

OVER 80%

OF ALL COMMERCIAL AIRCRAFTS  
FLIES WITH OUR COMPONENTS



30000+

Large  
transport  
engines



7000+

Combat  
engines



12000+

Rotorcraft  
engines



2000+

Marine  
engines

5200+

PEOPLE

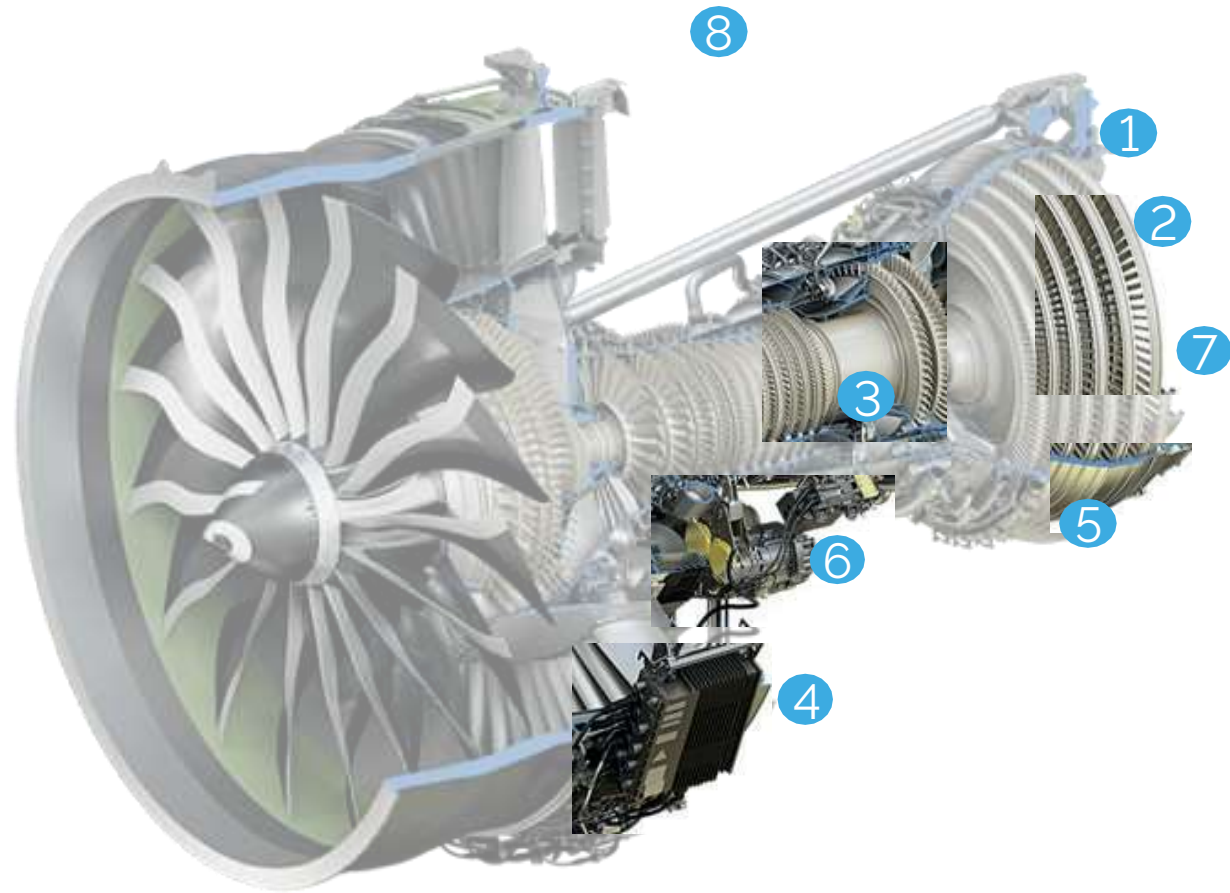
ACROSS EUROPE

Italy, Poland and Czech Republic

Revenues \$1.6B

Investment \$107M

Research & Development  
Plant & Equipment



- Additive manufacturing ①
- Airfoils ②
- Combustors ③
- Controls ④
- Frames and cases ⑤
- Mechanical transmissions ⑥
- Rotating components ⑦
- Services CRO | MRO ⑧
- Sand Casting
- Testing

# PRODUCTS AND MANUFACTURING

# MULTIPLE DIMENSIONS OF COMPLEXITY



Customers, *Coopetitors*



1970

1990

2010

2030

40+ Year Product Lifecycle

Commercial/Military/Dual Applications & Restrictions



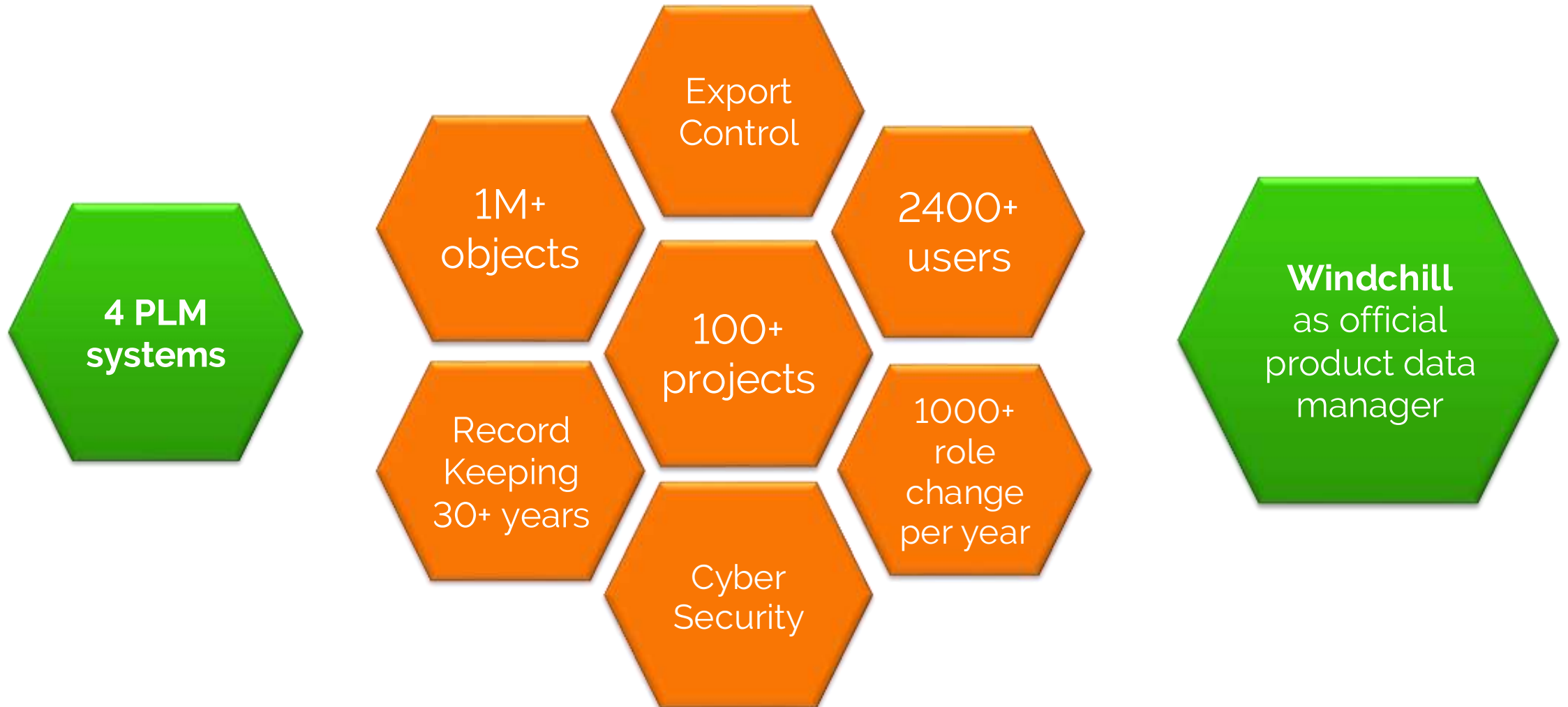
Regulatory Bodies, Certifications



# PLM LANDSCAPE

MANAGING TECHNICAL DEBT

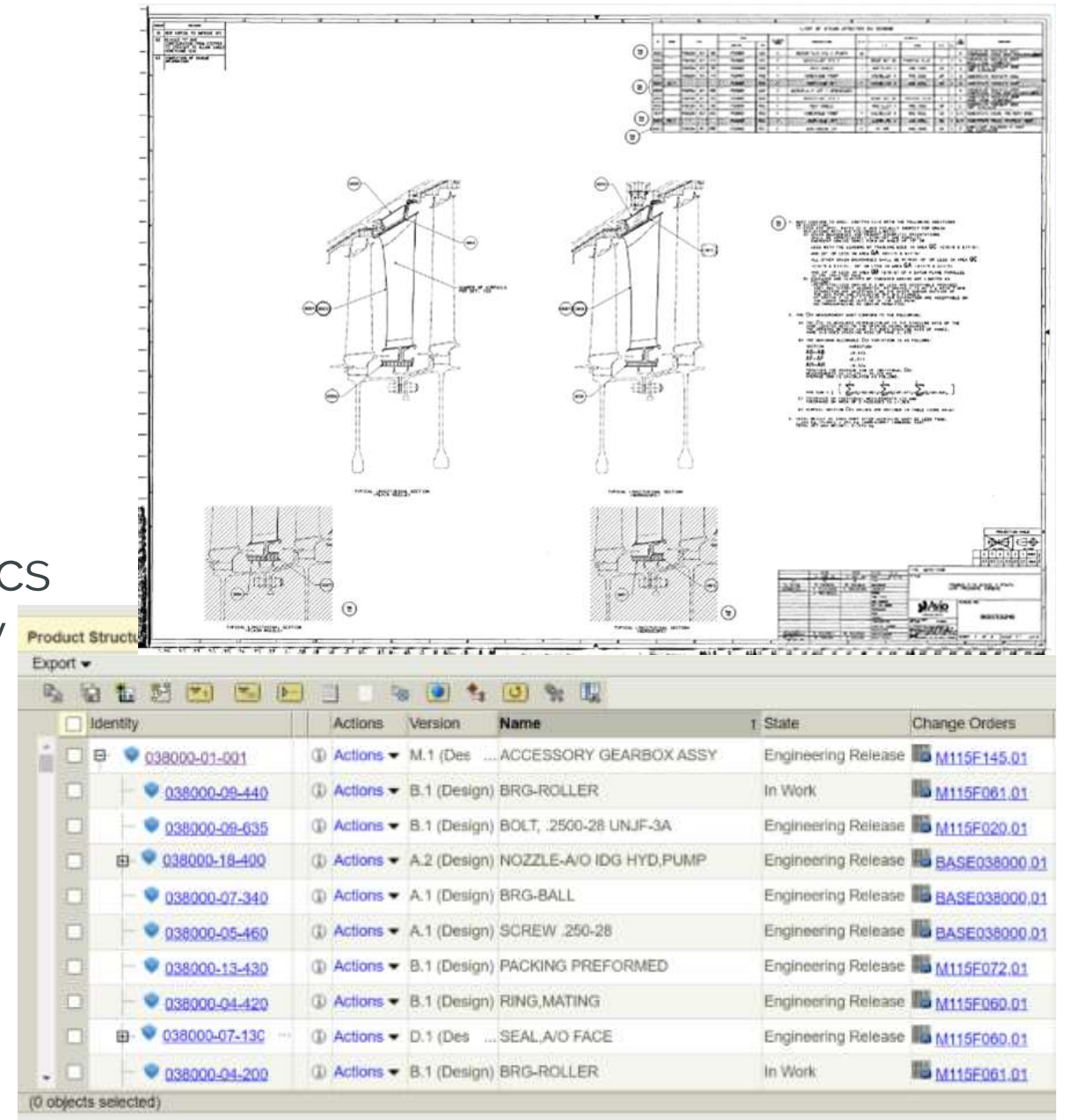
# AS IS SITUATION AND CHALLENGES





# WINDCHILL – THE OLD ONE

- Obsolete 13 Y/O Windchill 9.1, out of compliance
- Mainly 2D based product design
- BOM and Change management mimics traditional paper-based methodology
- Poor support to full lifecycle management (*i.e. manufacturing/service*)
- Heavily customized, low use of best practices and standard functionalities





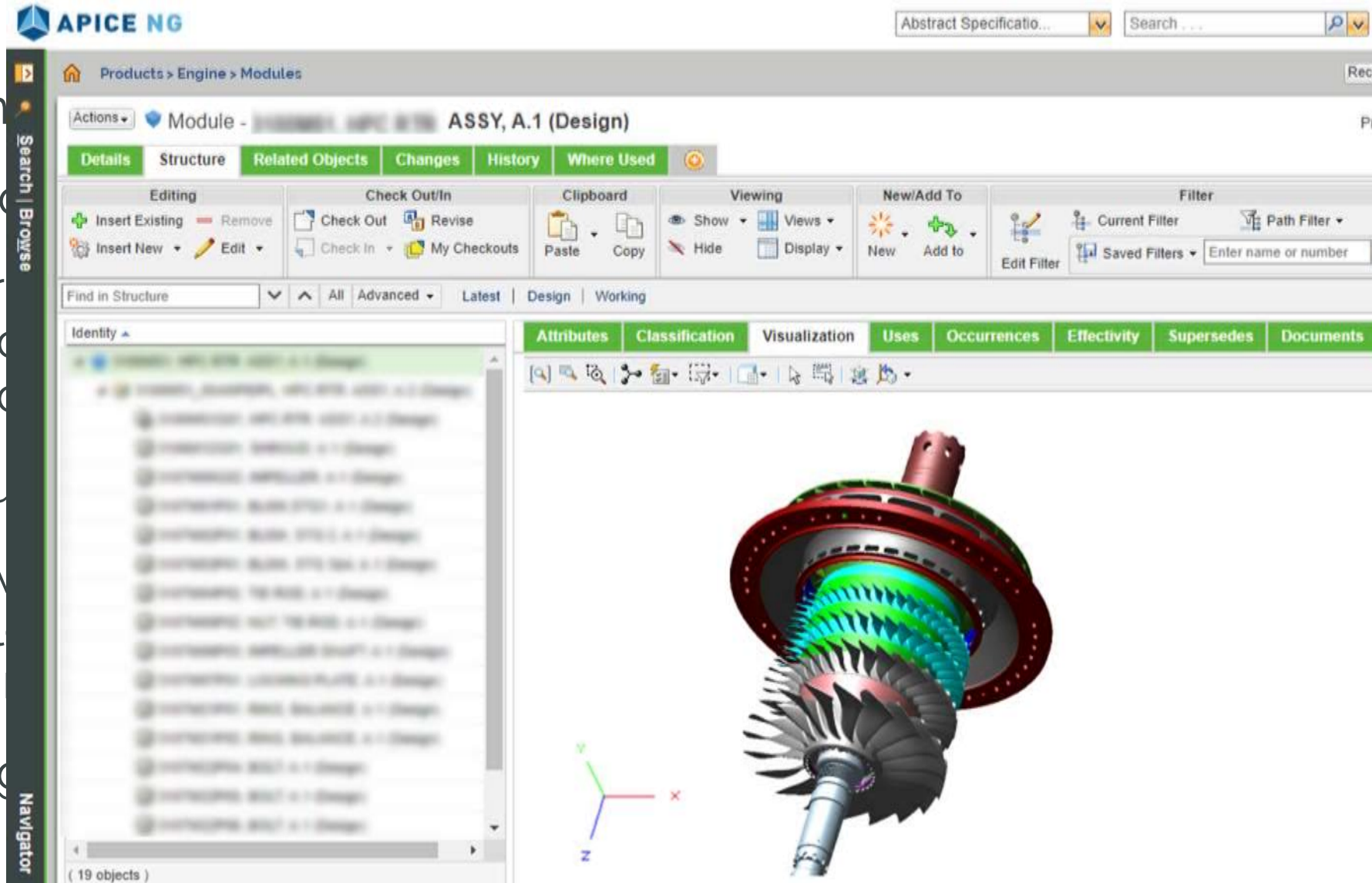
# NEXT GENERATION PLM

Stefano Picco



# NEXT GENERATION PLM - STRATEGIES

- Porting
- Hybrid
- Leveraging Windows
- De-coupling
- Renewing development pipeline
- Strong



Pre-TIONALITIES

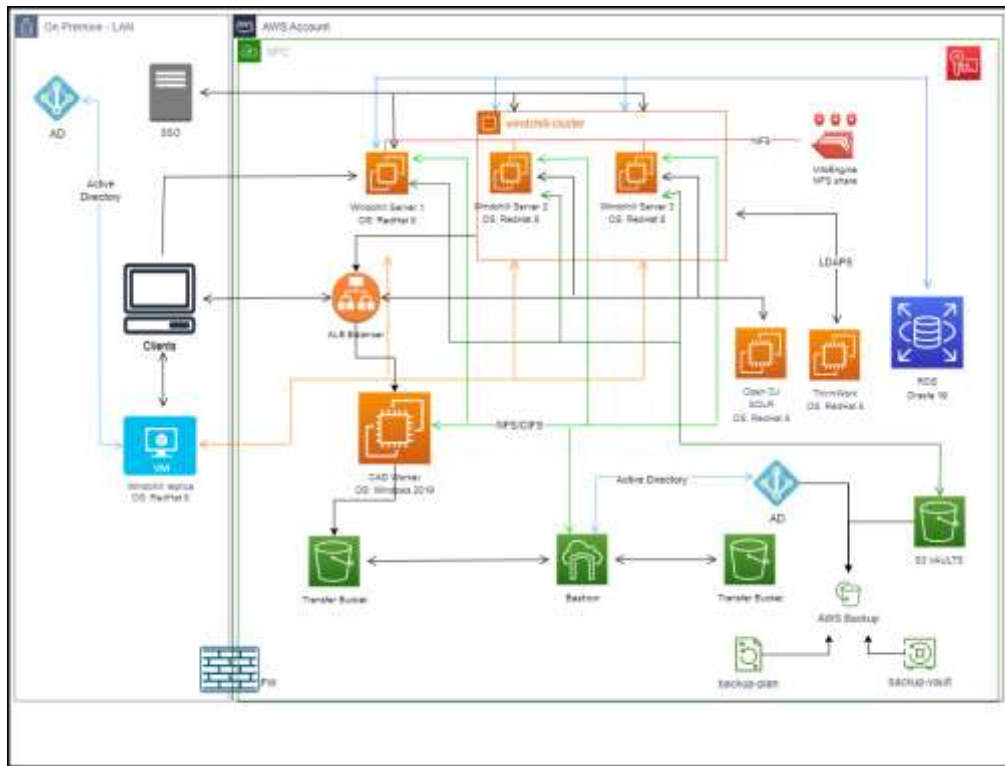
trol

e information

# NEXT GENERATION PLM - DIFFERENTIATORS

*Manage technical obsolescence and IT compliance by delivering a new smart PLM concept, migrating 30+ years of data and preserving integrity.*

- Hybrid Cloud (IaaS + SaaS + onPrem)



# NEXT GENERATION PLM - DIFFERENTIATORS

*Manage technical obsolescence and IT compliance by delivering a new smart PLM concept, migrating 30+ years of data and preserving integrity.*

- Incremental Approach:

Porting, no Big Bang

## MASSIVE USE OF ETL, BIG DATA & ANALYTICS TOOLS



ORACLE



Windchill Bulk Migrator

# NEXT GENERATION PLM - DIFFERENTIATORS

*Manage technical obsolescence and IT compliance by delivering a new smart PLM concept, migrating 30+ years of data and preserving integrity.*

- Compliance:
  - User provisioning
  - IP & Export Control

**OBJECT LEVEL ACCESS CONTROL  
SERVERLESS WORKFLOW DRIVEN  
USER PROVISIONING SYSTEM**



windchill® security label

**SailPoint**



AWS SQS



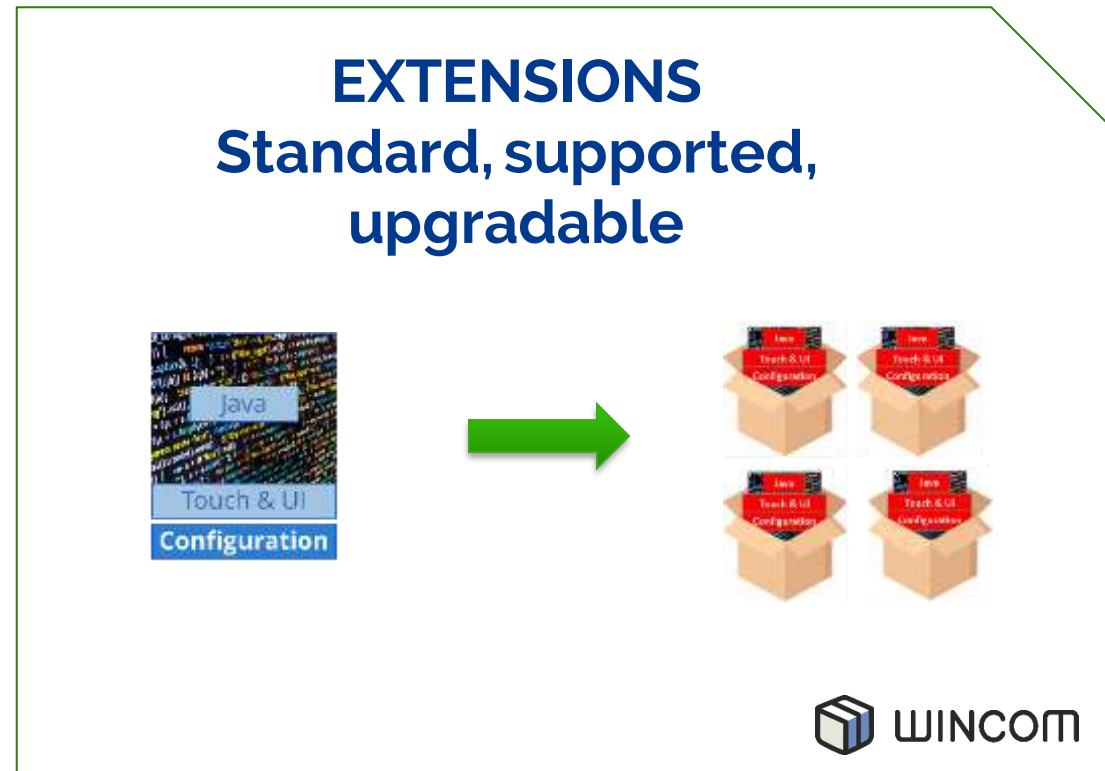
AWS Lambda

# NEXT GENERATION PLM - DIFFERENTIATORS

*Manage technical obsolescence and IT compliance by delivering a new smart PLM concept, migrating 30+ years of data and preserving integrity.*

- Governance processes & tools:

DevSecOps





# WINDCHILL EXTENSIONS

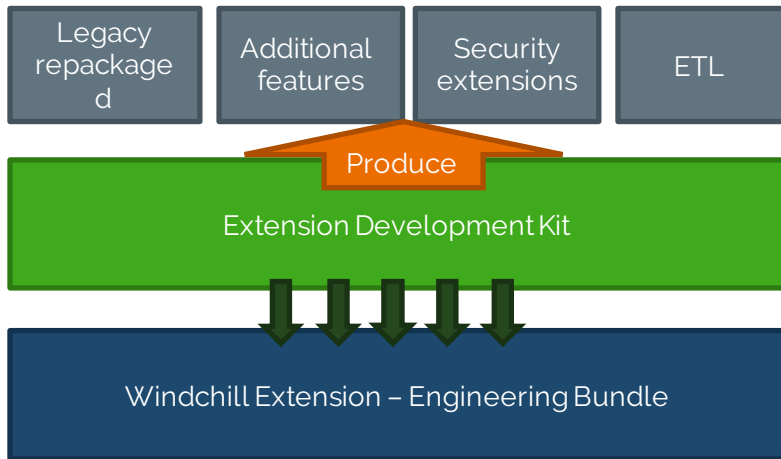
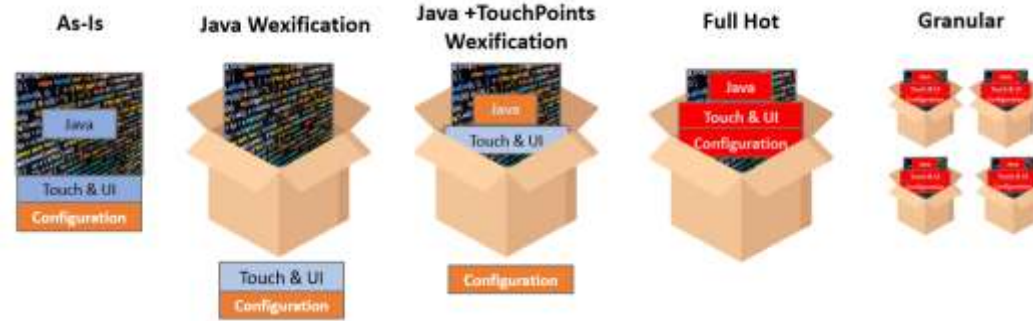
Simon Heat





# WINDCHILL EXTENSIONS

A bit of history...



- Avio Aero had some Wincom legacy apps (>10 years old)
- Objective: provide Avio Aero/EKA our latest infrastructure built on WEX



# WINDCHILL EXTENSIONS

## DevOps framework

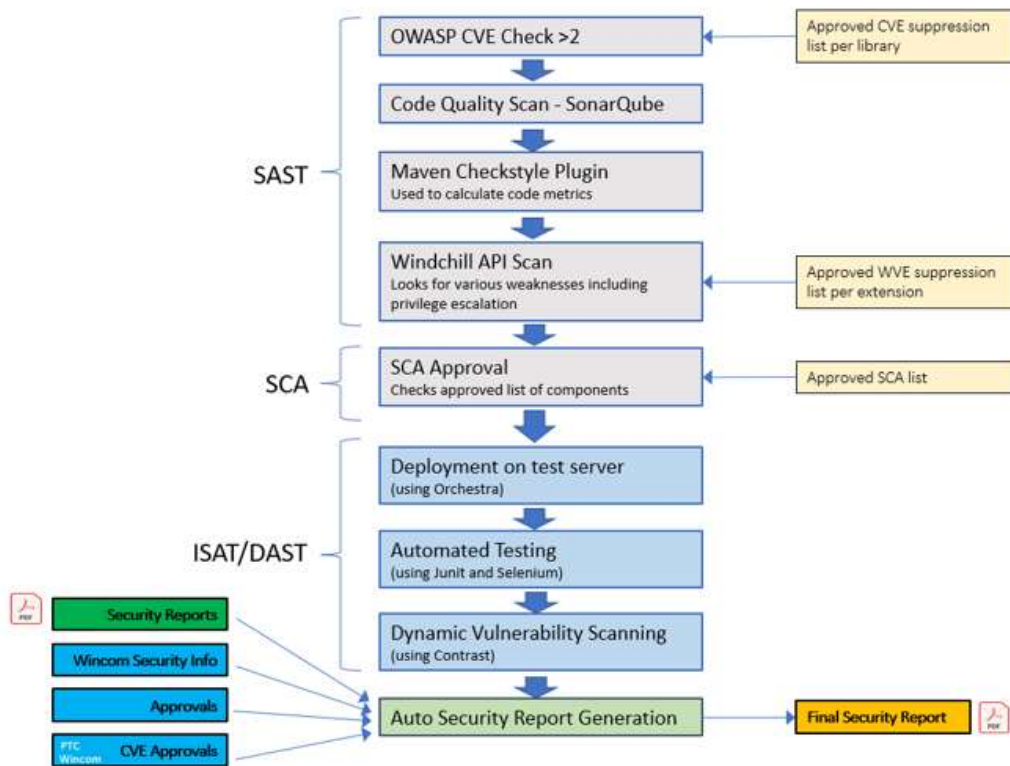


- We built a DevOps framework
- Avio Aero/EKA are working autonomously on it, we are supporting them
- Avio Aero/EKA are helping us improve the framework
- Future: Build a full CI/CD environment (Orchestra)



# WINDCHILL EXTENSIONS

## Security



- The 3 pillars of Security implementation
  - Automation
  - Traceability
  - Liability
- Need for high agility between Developers and Security team





# ENABLEMENT TECHNOLOGY

# ENABLEMENT TECHNOLOGY

## WHAT'S NEXT

### Manufacturing Data Management



### Service Instructions



### Full SaaS





# QUESTIONS?

Thank you! You can find me at:

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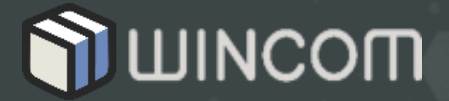


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# THANK YOU

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