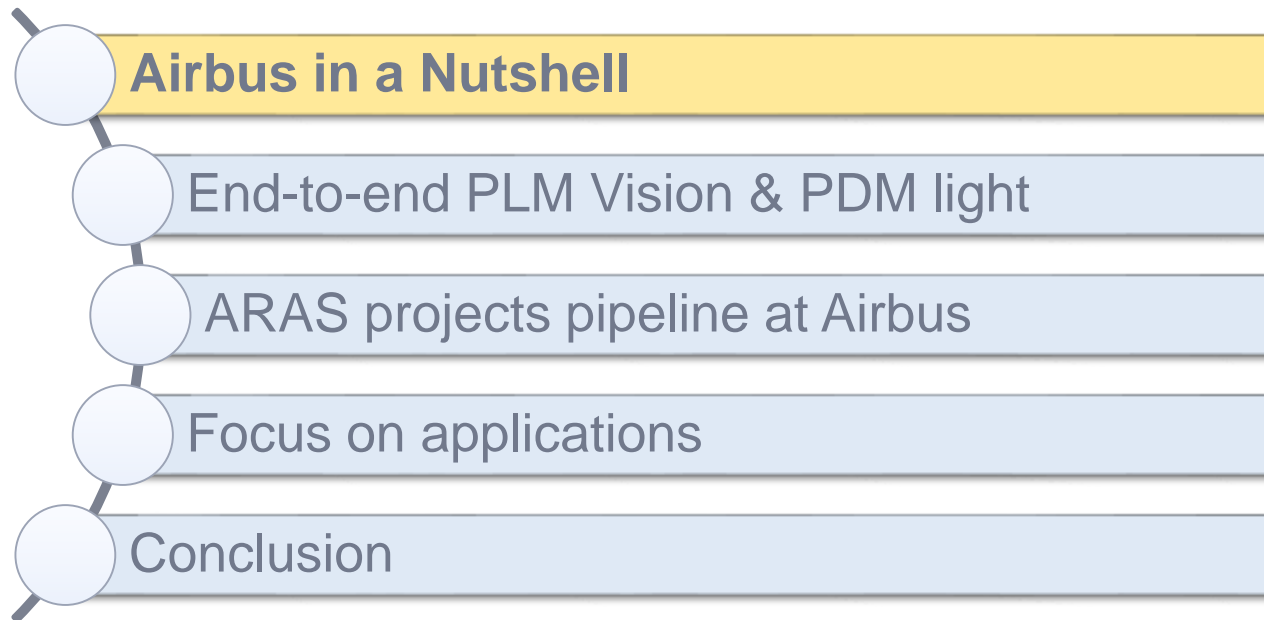




Head of Functional Design
Vincent SOUMIER

Soaring to New Heights with a PDM Light Backbone

Agenda



Aviation drives our economy

A high-angle, close-up view of the wing of an Airbus A350-900 aircraft in flight. The wing is white with a red-tipped wing fence. The tail fin is visible in the distance, bearing the 'A350-900' designation. Below the wing, a dense urban landscape with numerous skyscrapers is visible under a hazy sky.

58m

Jobs supported

50.0m

Tonnes of freight*

3.3bn

Passengers*

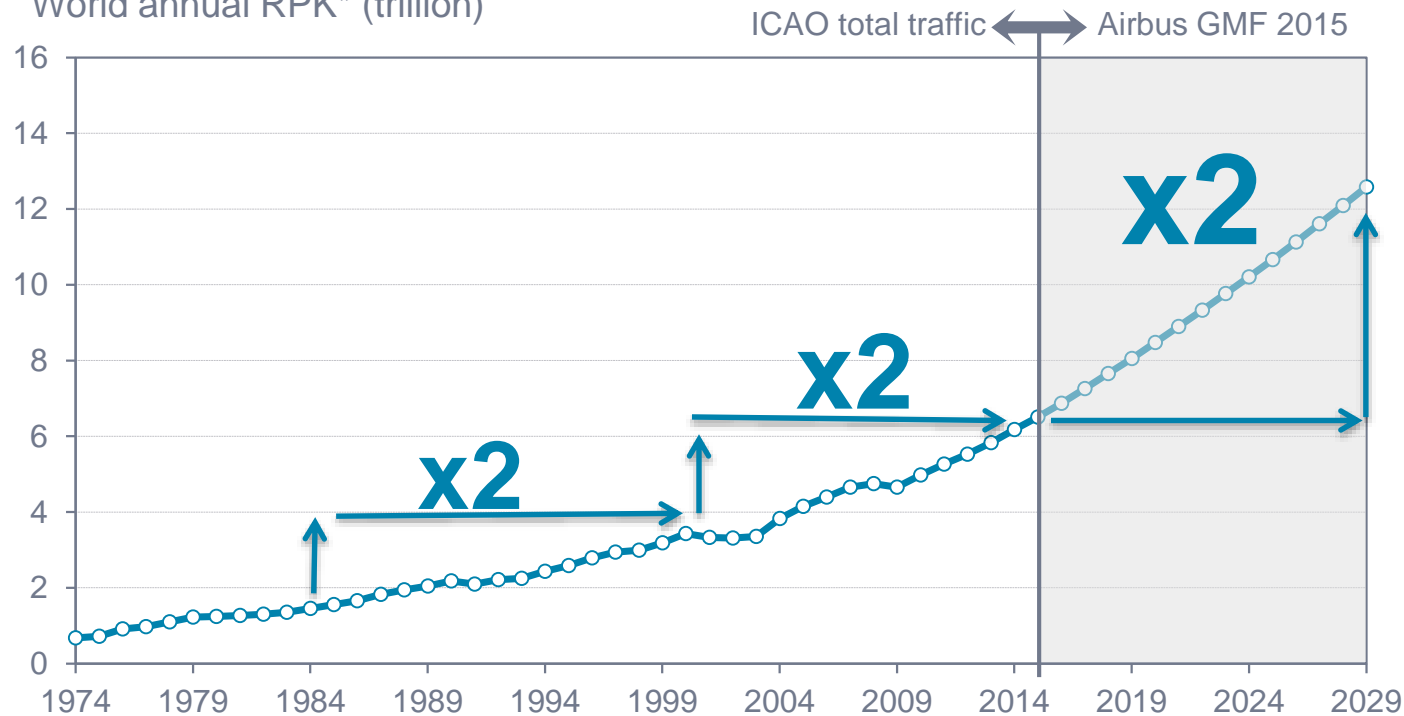
\$2.4tr

Global GDP

- * Annual figures
- Source: ATAG

World air traffic growth

World annual RPK* (trillion)



Market

**Air traffic
forecast to
double over the
next 15 years**

**4.6% average
annual traffic
growth rate
2014-2034**

Source ICAO and 2015 Airbus Global
Market Forecast



Airbus Group

136,500+
Total Workforce

€1,006bn
Order book

€64.5bn
Revenue

2015 figures



Airbus

A global aircraft
manufacturer
with **55,000**
Employees

€45.9bn
Annual Revenue*

*2015 value

The most global aerospace player – close to our customers worldwide

The numbers

-
- 11 Production sites
- 4 Assembly line locations
- 5 Training centres
- 4 Engineering centres
- 3 Customer support centres
- 10 Materials & logistics centres*

Data to end 2014

*Satair Group

Airbus is a global enterprise for a global business

France



Germany



United States



UK



Spain



China





A330 Family



A380 Family



A320 Family



A350 XWB

**>16,300
orders**

**>9,500
deliveries**

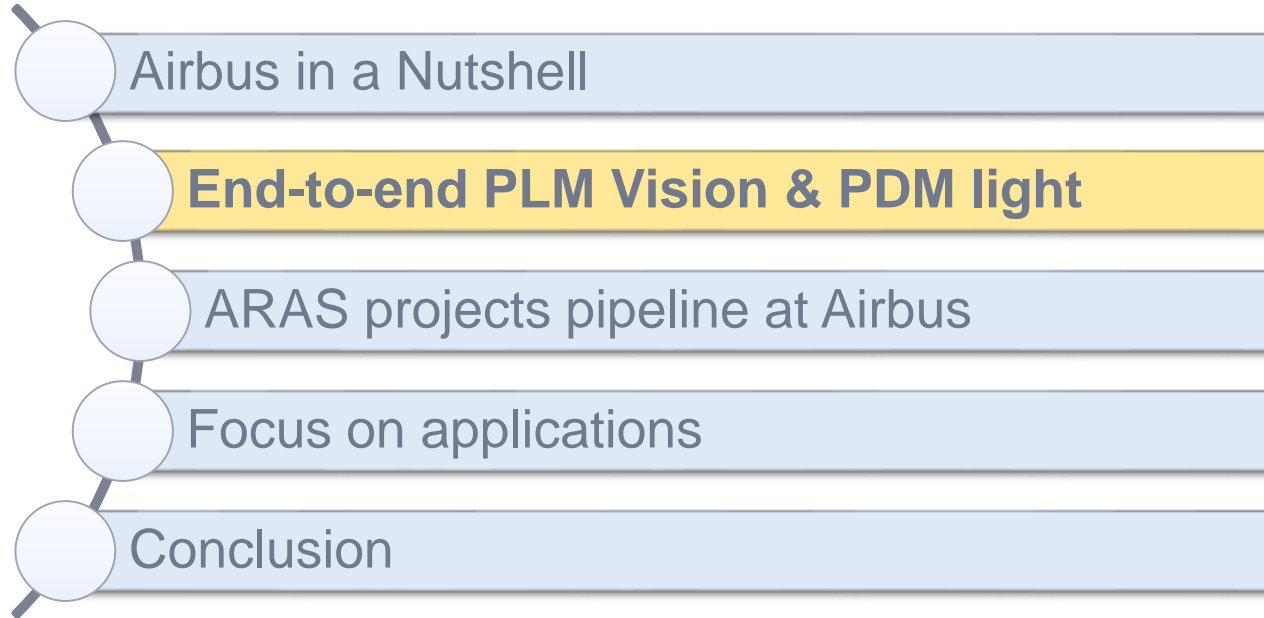
**>400
operators**

Family

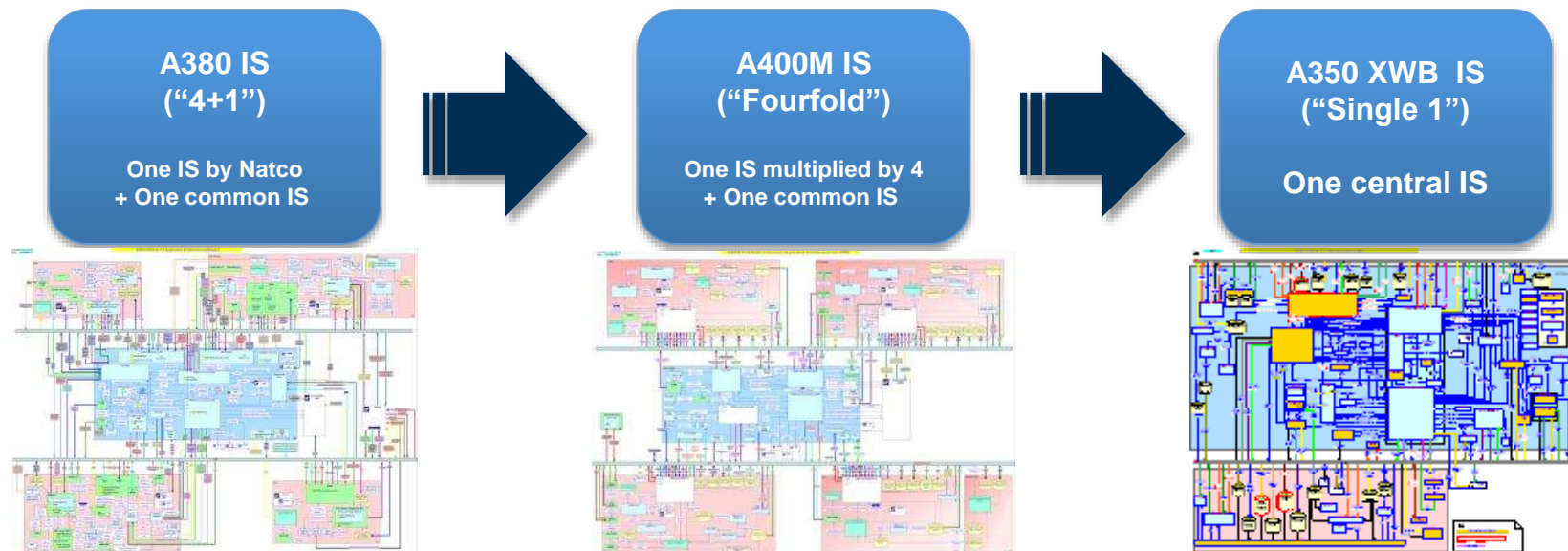
**Airbus builds a
complete range of
fuel efficient
aircraft**

End 2015

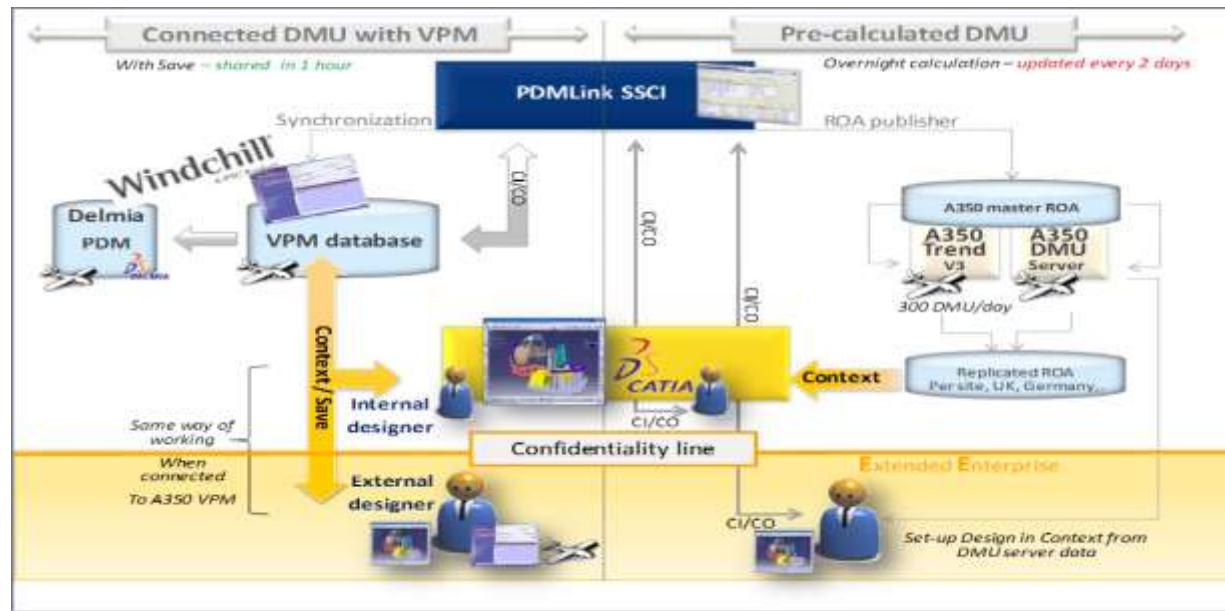
Agenda



PLM Information System “Ten years of evolution”



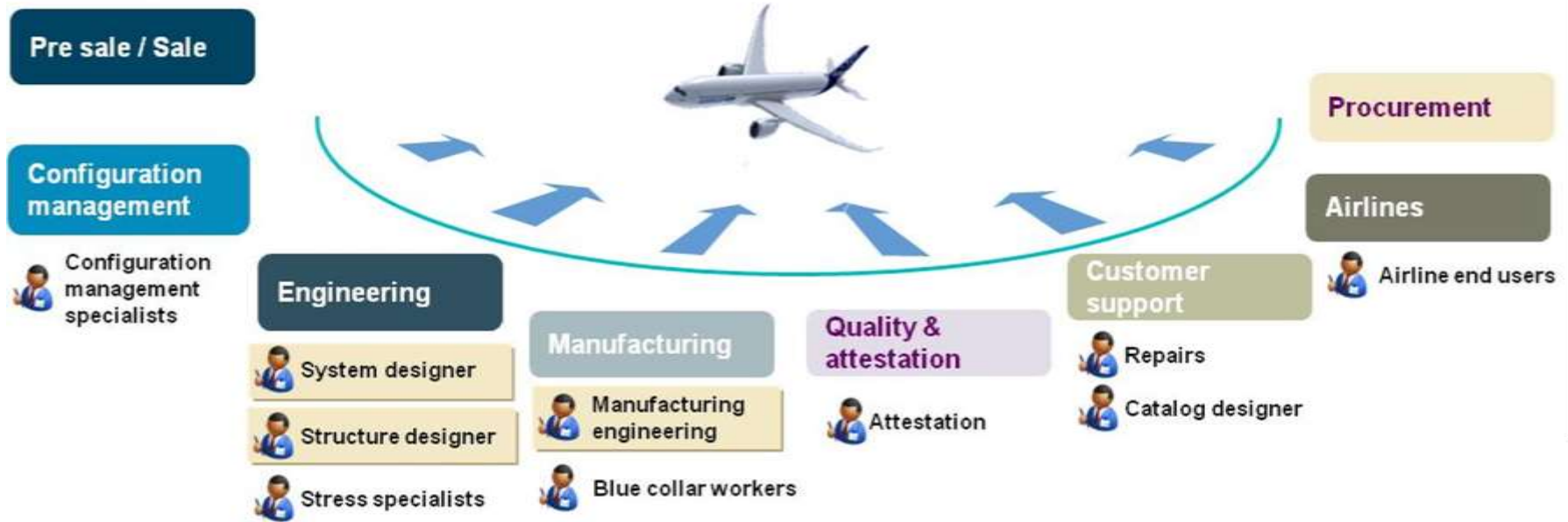
One PLM system for A350 is a reality!



Facts & Figures

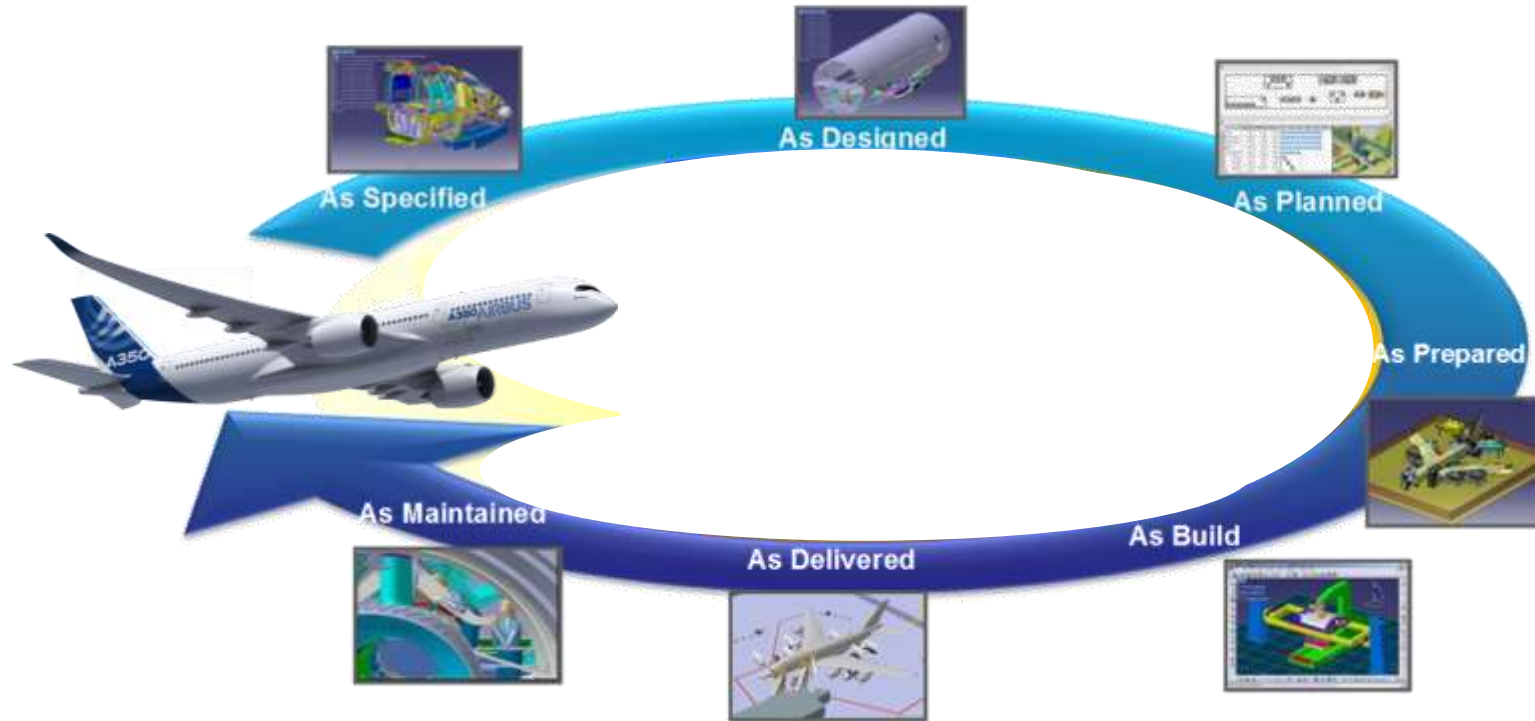
- ▶ About **100** Risk Sharing Partners connected
- ▶ PDM Mecha : **7200** users weekly connected (20000 users declared)
- ▶ VPM : **4000** users weekly connected
- ▶ **85%** users in Extended Enterprise
- ▶ **7x7 24/24** availability
- ▶ Data **doubled** every 6 months (vs 12-18 months in other industries)
- ▶ **>700** DMU computed daily
- ▶ cDMU updated **every 60 min** EE included – (no exchanges anymore)
- ▶ **DMU review** of full A/C
- ▶ Extended Enterprise connected in real time through a **configured Digital Mock-up (cDMU)**
- ▶ Design in context with **VPM**
- ▶ **Full 3D process** (Manufacturing + Engineering)

End to End PLM = Broadening the Digital Product beyond Engineering



End to End PLM = Broadening the Digital Product beyond Engineering

February 2017

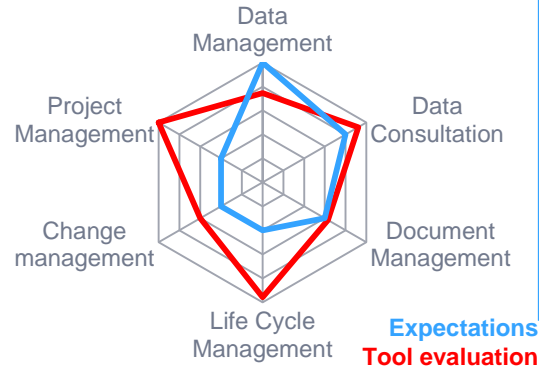


In this context, ARAS was selected to answer 'PDM Light' needs arising

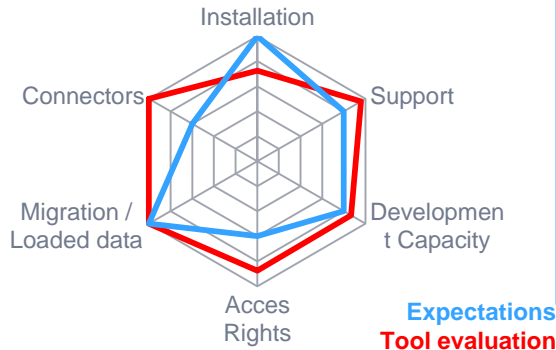
- Target:
 - Selection of a PDM platform that enables simple, agile PDM solution delivery
 - Focus on small and medium scale projects with contained functional scope
 - Product Development PLM not in the scope of 'PDM Light'

Assessment Results – ARAS v10 OOTB without developments

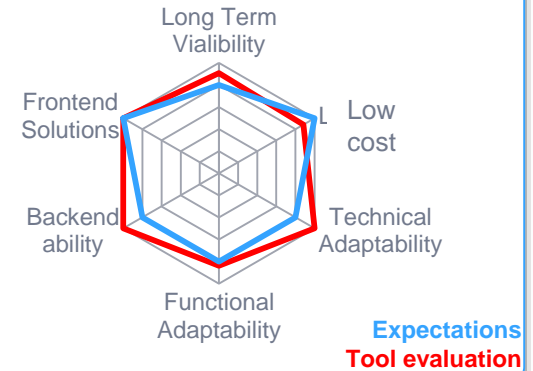
Functional Coverage



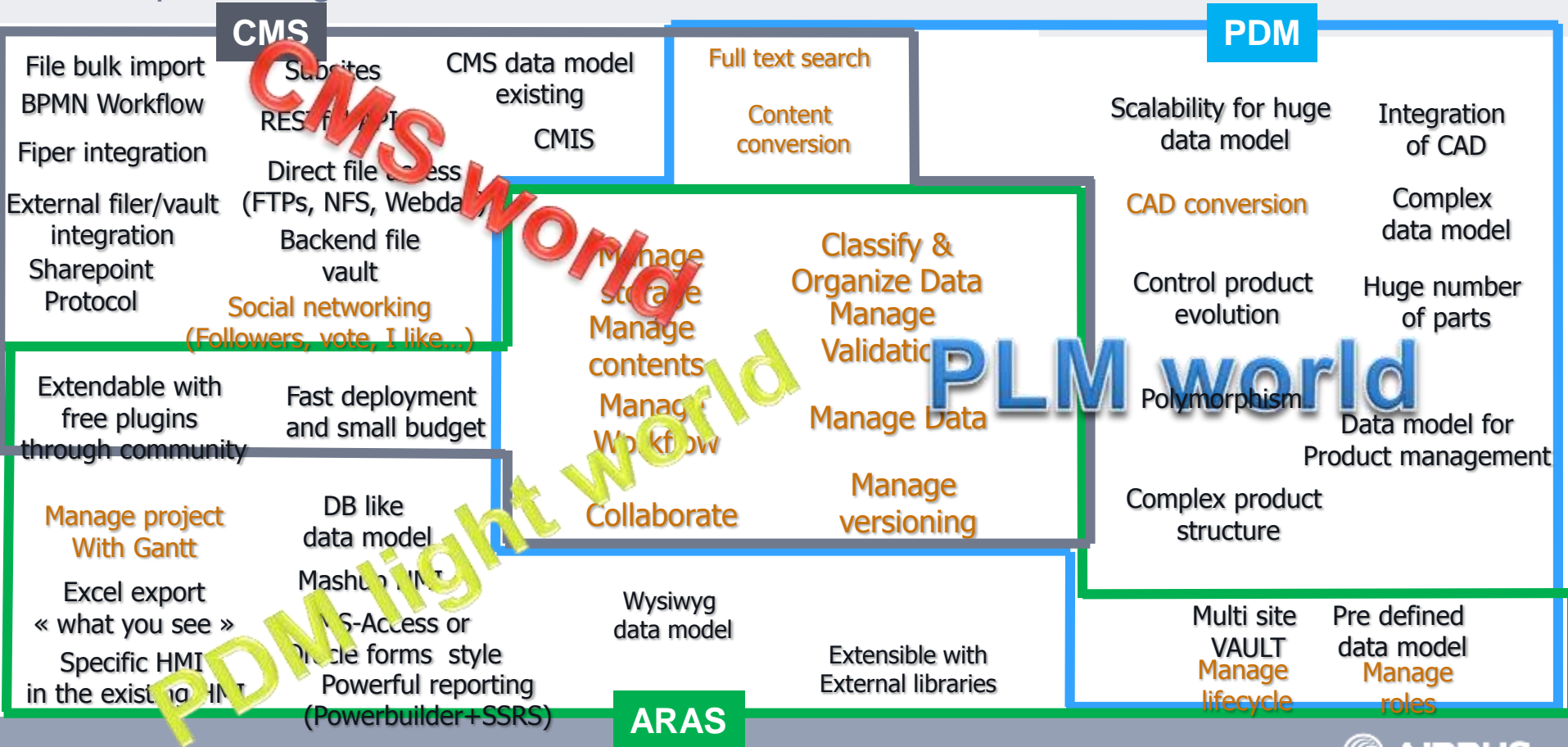
Technical Coverage



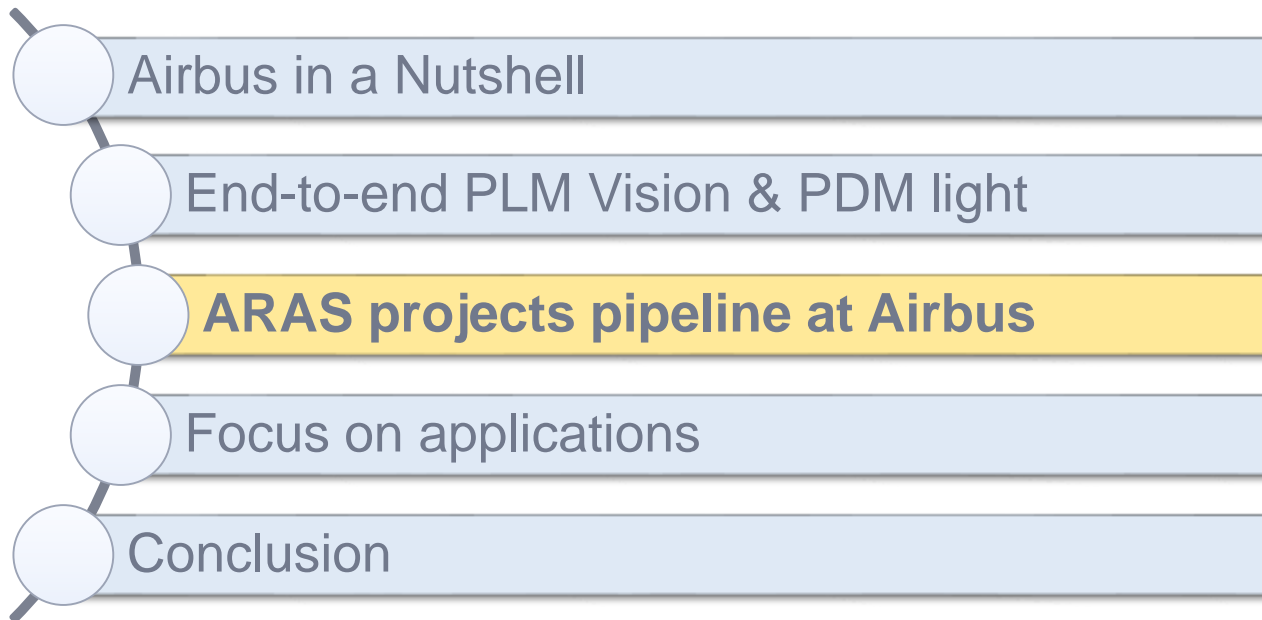
PDM Light Ability



ARAS positioning versus other backbones



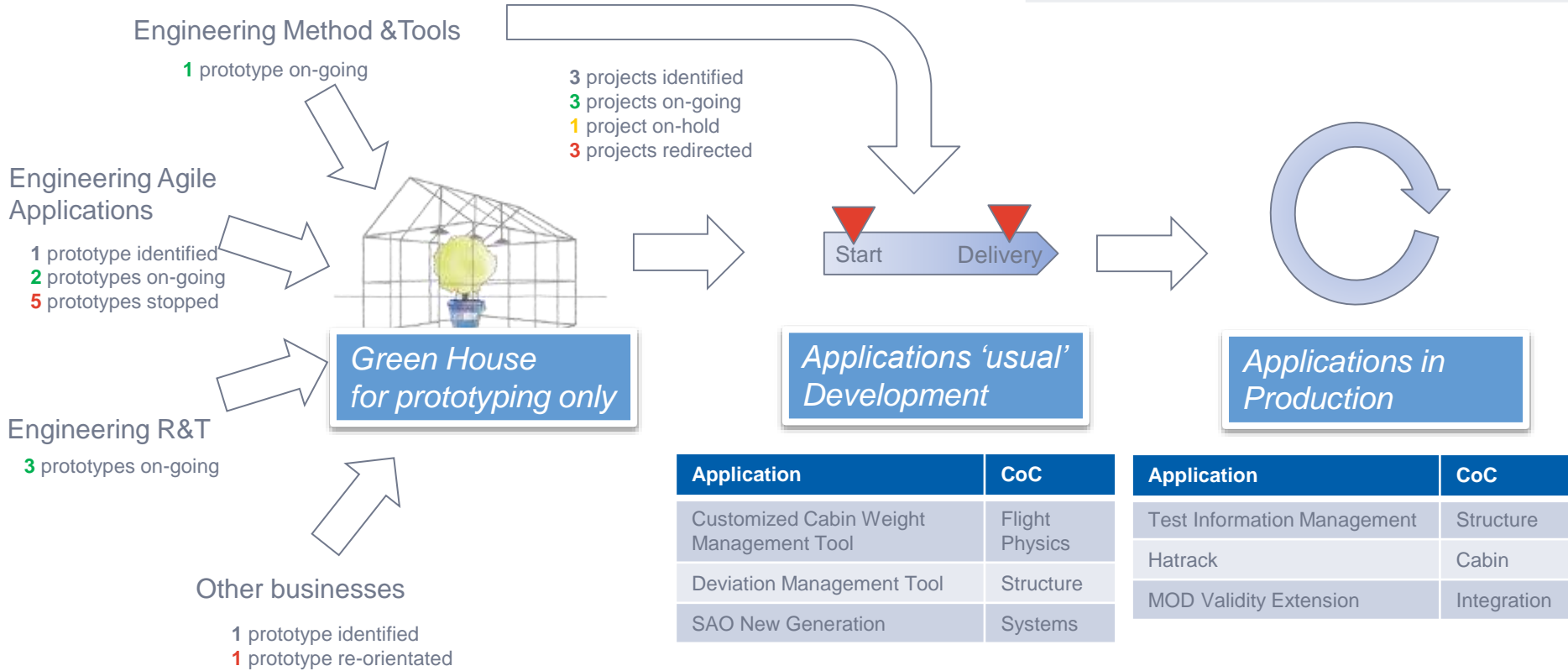
Agenda



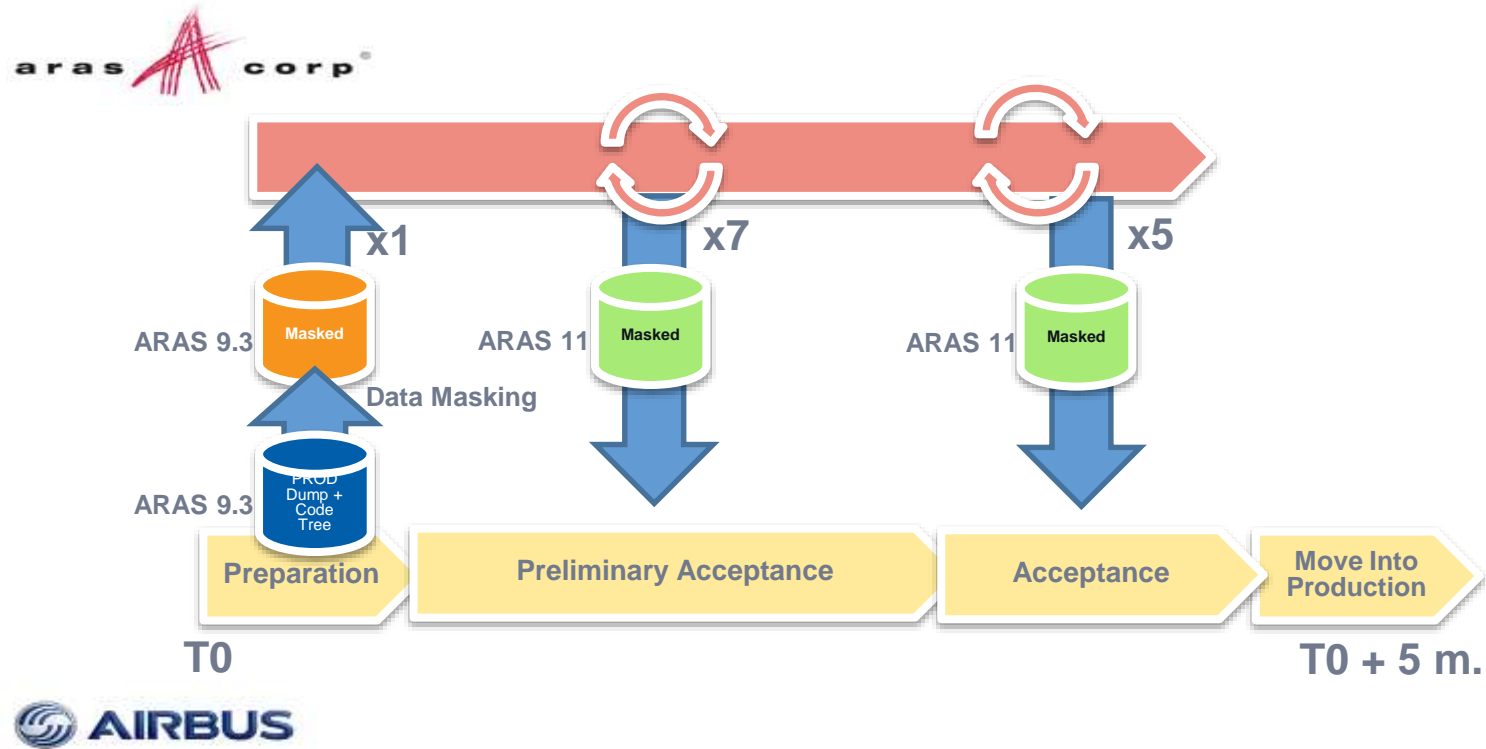
A 'Green House' for rapid prototyping leveraging ARAS agile development capabilities



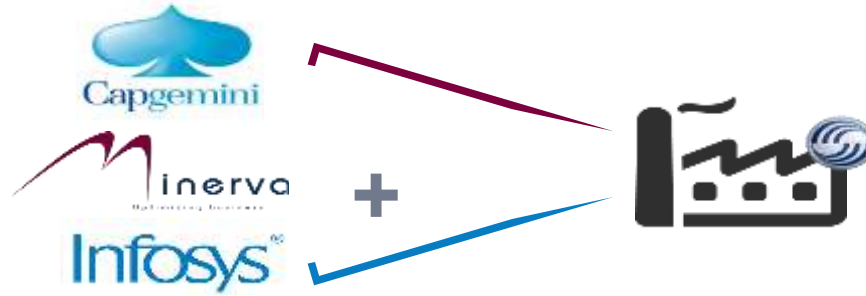
A project pipeline from rapid prototyping to production




Upgrade process was successfully tested



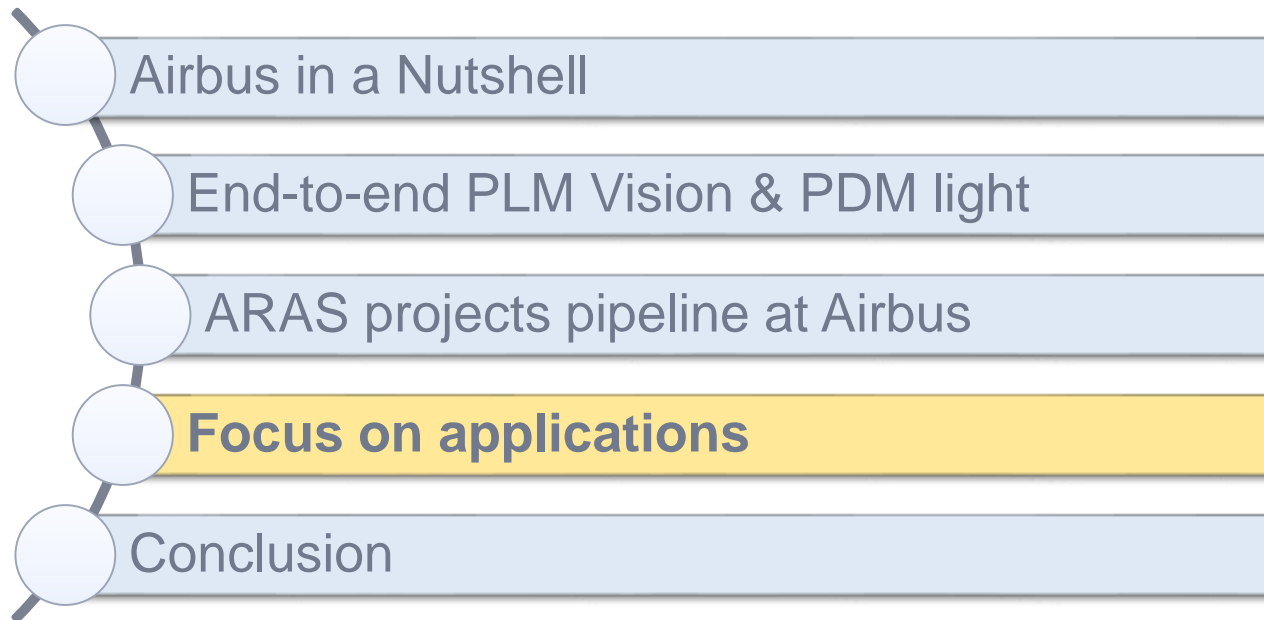
ARAS - Supply Chain supporting Centre of Competence



ARAS Center of Competence for AIRBUS

-  Architecture bundle
-  Architecture + Expertise + Development + Run
-  Integration + Development + Project Management + Run

Agenda



TIM – The First ARAS based application @ Airbus

WHAT IS TIM ?

Test Information Management

The **Web-based**
application for
Structure Tests
Management

DEFINE

Search for
existing
tests &
documents

Declare new
Test Needs

Set
Minimum
requirement
& deadlines
for test

Approve &
Authorize
new Test
Needs

Allocate Test
Reference
Number

Assign /
Identify Test
Actors

EXECUTE

Manage &
track Test
planning &
costs

Manage
actions

Allocate &
manage
Test
Facilities &
Means

Share
working files
&
documents

Track
documents
status and
consult
released
documents

REVIEW

Perform Test
Pyramid
Management
reviews

Perform
Test
Progress
reviews

Generate
reports &
extracts

- ✓ Manage test projects End to End across Structure Test Pyramid
- ✓ Daily business data management
- ✓ KPI
- ✓ Data consistency & robustness, control & secure access to data
- ✓ Support the entire Process « Define and Perform Structure Test »
- ✓ Multi-site operation incl. our extended enterprise

Material and
Component
Tests

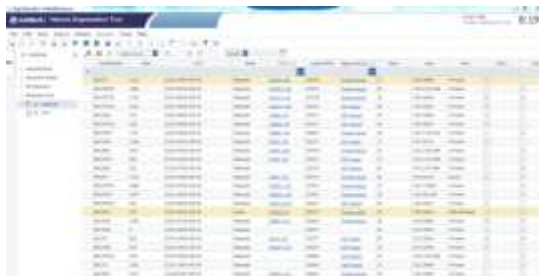
Large Assembly Test

Full
Scale
Test

Hatrack – 2nd ARAS based solution at Airbus

Context

- Hatrack is a tool for customizing Overhead Stowage Compartments (OSHC) for A320 - family (Single Aisle). It is used to finalize the description of overhead stowage compartment (hatrack), in order to generate specifications sent to suppliers.
- Change a **Legacy business tool** to a modern COTS solution to manage Hatrack information.
- Used **core ARAS features** to manage and define workflows for end users and implement business logic.
- Delivered **improved user experience** taking benefit of **standard ARAS features** for search and workflow management along with customized technical specification sheets required by business.
- **Business:** Cabin
- **Implementation timeline:** 8 months
- **Delivery Model:** Iterative



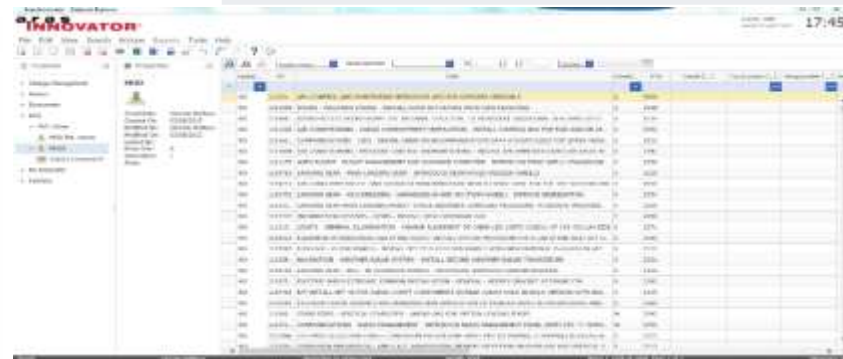
Results

- ✓ Project delivered **on Time, on Budget, on Quality.**
- ✓ **Excellent feedback** from business for the delivered tool
- ✓ A **high performance solution** with powerful search capabilities
- ✓ High level of customization feasibility in tool **allowing business administrator to make future changes** without external support.
- ✓ **Enhanced user experience** and functionalities developed within the framework of Airbus IT standards.
- ✓ Increased **operational efficiency** through improved and faster specification process

MVE – MOD Validity Extension – 3rd ARAS based solution

Context

- Objective of MVE tool is to improve efficiency through complete, correct and rapid availability of the applicable requirement list and to qualify the MODs when a new extension project is launched on a program
- Used core ARAS features to manage and define workflows for end users and implement business logic.
- Providing a new solution developed on ARAS platform to replace existing excel based way of working



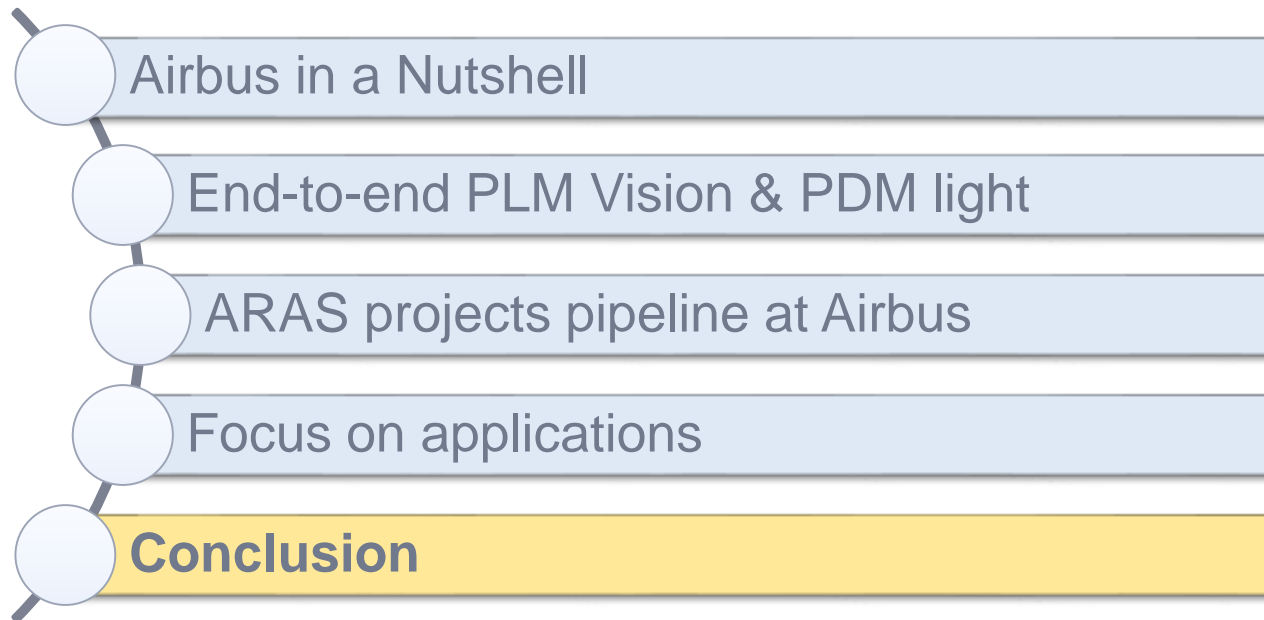
Results

- ✓ A high performance solution with excellent search and import functionalities.
- ✓ Feasibility for business administrator to define import formats for files
- ✓ User role and Identity management to manage various actors using the application
- ✓ Customization possible in defining attributes used during import of data to tool
- ✓ Effective use of Save Search functionalities to perform customised search and sharing between various users.

A screenshot of the ARAS INNOVATOR software interface showing a 'Validity Extension Project' table. The table has columns for 'state', 'Name', 'Description', 'TIG date', 'Program', 'Model', and 'Major'. The table contains several rows of project data, including 'CC01', 'A320 Neo', 'Test_CMA_01', 'Test_CMA_02', 'Test_CMA_03', 'Test_CMA_04', 'Test_CMA_05', 'Test_CMA_06', 'Test_CMA_07', 'Test_CMA_08', 'Test_CMA_09', 'Test_CMA_10', 'Test_CMA_11', 'Test_CMA_12', 'Test_CMA_13', 'Test_CMA_14', 'Test_CMA_15', 'Test_CMA_16', 'Test_CMA_17', 'Test_CMA_18', 'Test_CMA_19', 'Test_CMA_20', 'Test_CMA_21', 'Test_CMA_22', 'Test_CMA_23', 'Test_CMA_24', 'Test_CMA_25', 'Test_CMA_26', 'Test_CMA_27', 'Test_CMA_28', 'Test_CMA_29', 'Test_CMA_30', 'Test_CMA_31', 'Test_CMA_32', 'Test_CMA_33', 'Test_CMA_34', 'Test_CMA_35', 'Test_CMA_36', 'Test_CMA_37', 'Test_CMA_38', 'Test_CMA_39', 'Test_CMA_40', 'Test_CMA_41', 'Test_CMA_42', 'Test_CMA_43', 'Test_CMA_44', 'Test_CMA_45', 'Test_CMA_46', 'Test_CMA_47', 'Test_CMA_48', 'Test_CMA_49', 'Test_CMA_50', 'Test_CMA_51', 'Test_CMA_52', 'Test_CMA_53', 'Test_CMA_54', 'Test_CMA_55', 'Test_CMA_56', 'Test_CMA_57', 'Test_CMA_58', 'Test_CMA_59', 'Test_CMA_60', 'Test_CMA_61', 'Test_CMA_62', 'Test_CMA_63', 'Test_CMA_64', 'Test_CMA_65', 'Test_CMA_66', 'Test_CMA_67', 'Test_CMA_68', 'Test_CMA_69', 'Test_CMA_70', 'Test_CMA_71', 'Test_CMA_72', 'Test_CMA_73', 'Test_CMA_74', 'Test_CMA_75', 'Test_CMA_76', 'Test_CMA_77', 'Test_CMA_78', 'Test_CMA_79', 'Test_CMA_80', 'Test_CMA_81', 'Test_CMA_82', 'Test_CMA_83', 'Test_CMA_84', 'Test_CMA_85', 'Test_CMA_86', 'Test_CMA_87', 'Test_CMA_88', 'Test_CMA_89', 'Test_CMA_90', 'Test_CMA_91', 'Test_CMA_92', 'Test_CMA_93', 'Test_CMA_94', 'Test_CMA_95', 'Test_CMA_96', 'Test_CMA_97', 'Test_CMA_98', 'Test_CMA_99', 'Test_CMA_100'.

state	Name	Description	TIG date	Program	Model	Major
Opened	CC01			SA	3201	
Opened	A320 Neo	Test	01/12/2015	SA	A320-271H	
Opened	Test_CMA_01			UK	A320	
Opened	Test_CMA_02		28/07/2015	SA	A320	
Opened	Test_CMA_03	Testing report for	20/08/2015	UK		
Opened	Test_CMA_04	Testing promotions	21/08/2015	UK	A320	
Opened	Test_CMA_05	Test creation of	27/08/2015	UK	A321	
Opened	CC02	Test 25 AUG	25/08/2015	UK		
Opened	Test_CMA_06	Test		UK	A321	
Opened	Test_CMA_07	GLE tests, Run	19/08/2015	UK	A320	

Agenda



Conclusion

- ARAS was selected as a **backbone to answer 'PDM Light'** needs in the Airbus application landscape
- It enables **rapid prototyping** in the '**Green House**'
- Project pipeline leverages ARAS **agile development capabilities and upgrade process**
- The needed competence, supply chain and infrastructure is now **fully set-up and in operation**
- **Positive start** and good customer feedbacks
- Upcoming projects will **confirm benefits** and will allow **exploration of further potential**

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