

A photograph of an Airbus aircraft cabin interior, featuring blue ambient lighting, overhead storage bins, and passenger seats. The image is used as a background for the presentation slide.

How to reach the Cabin Economics Health?

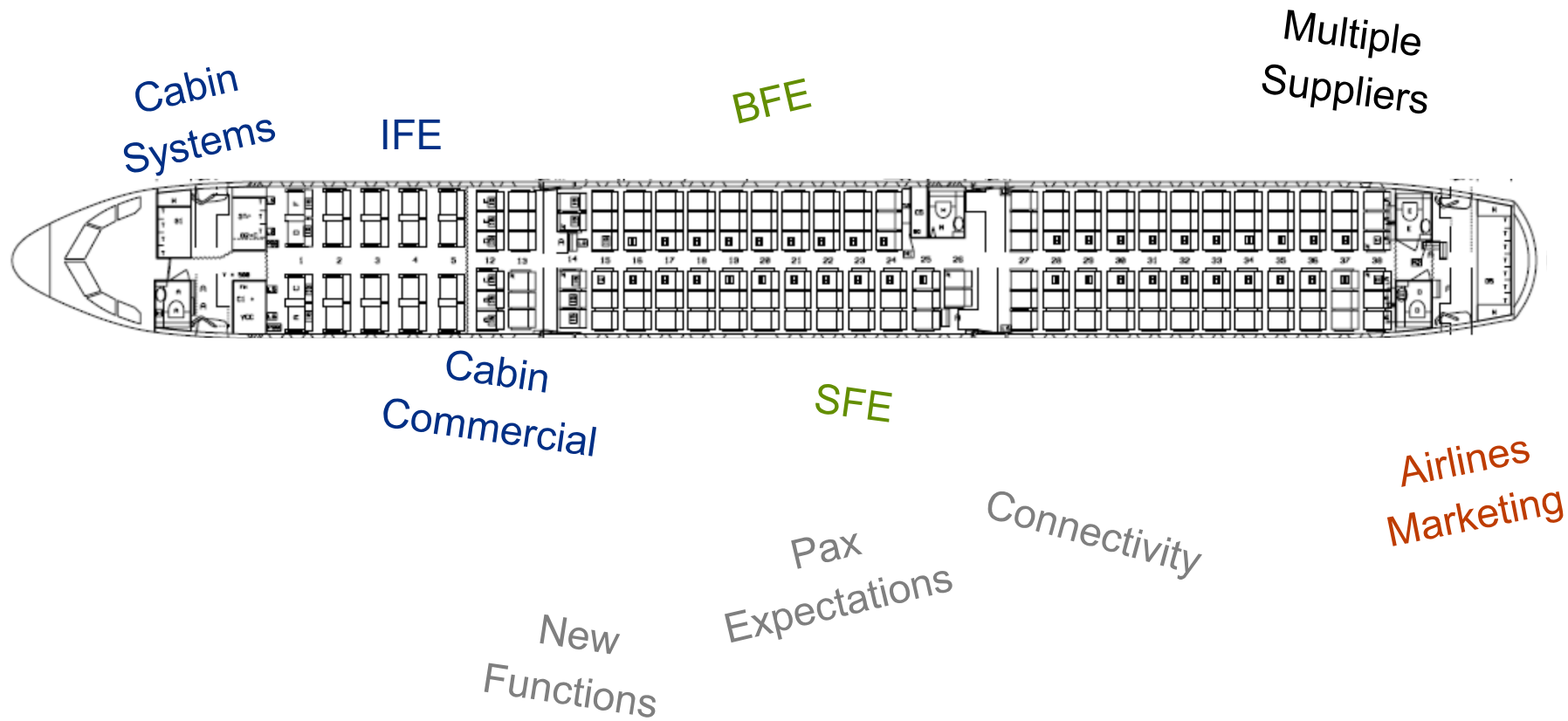
metrics for cabin economics performance

Jean-Vincent Harant
Maintenance Economics & Operational Availability
September 2018 – IATA MCC Atlanta

AIRBUS

Introduction

- Cabin Economics -



Cabin Economics

What does Cabin Economics stand for?



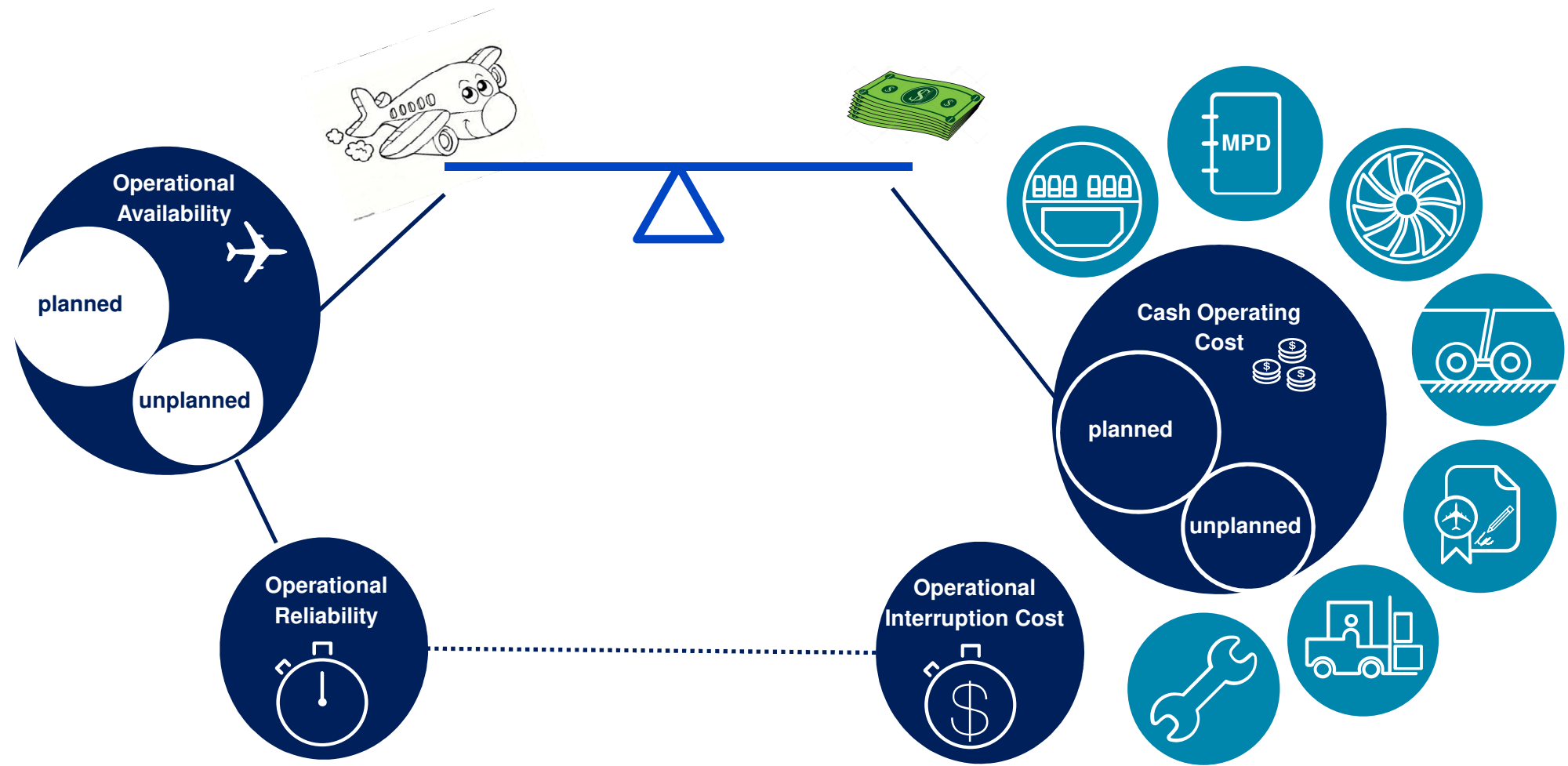
finding the right balance



Cabin Availability vs Cost of Cabin
Unavailability

We cannot optimize what we cannot measure!

Fleet Performance



Cabin Economics

Define Cabin Economics Indicators

Cabin Economics means reaching a targeted cabin performance at a defined cabin out of service cost



Cabin Economics

Cabin Functions

Cabin functions mean:

Traffic-driven
in complement to
Flight-driven

Commercial Cabin Functions



PAX SEAT



IN-FLIGHT
ENTERTAINMENT



CONNECTIVITY



FLOOR TO FLOOR

Cabin System Functions



AIR
CONDITIONING



CARGO & LOADING



CIDS



DOORS



ELECTRICITY



LAVATORY



GALLEY



CREW AREA



EMERGENCY*



EXT CONNECTIVITY



LIGHT



OXYGEN



WATER & WASTE

Cabin Operations



CREW OPERATIONS



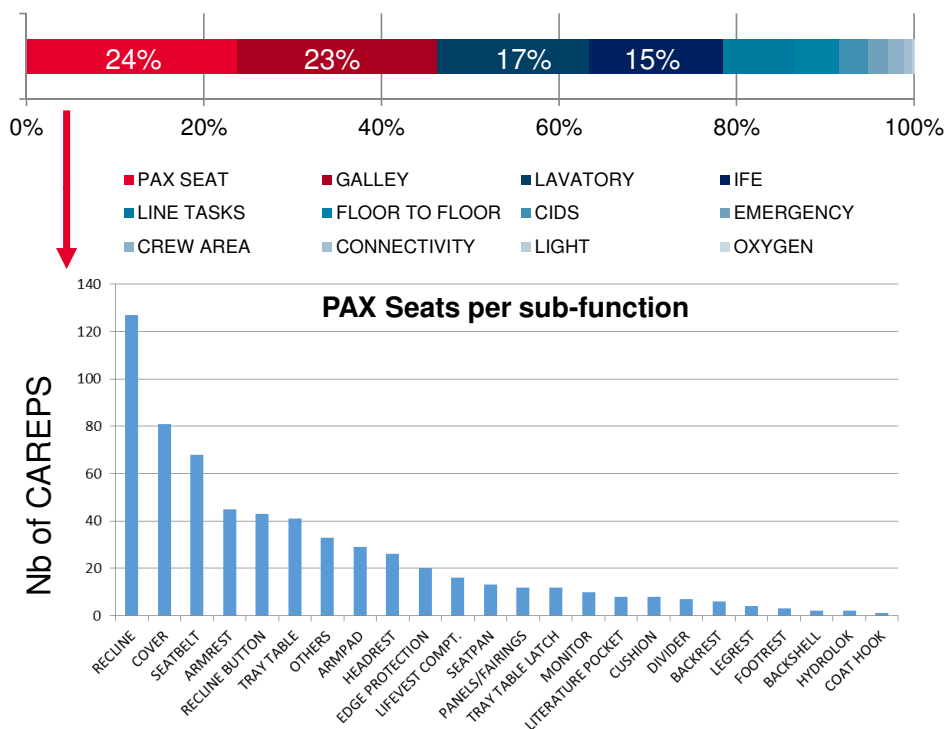
GROUND
OPERATIONS

Cabin Economics - Availability

Define Cabin Economics Indicators

Cabin Dysfunction Occurrences

CAREPS breakdown by Cabin Economics Function



Cabin Function Availability =
SL – Cabin Function Out of
Service Time

Measured in FH/TO
per cabin function

2

Example | PAX Seat Availability for Flight x

Nb of seats 297

SL 6.07 FH

Total max availability per sub-function 1803 FH/TO

Nb	Dysfunction	Unavailability in FH/TO [Dysfunction*SL]	Unavailability per Dysfunction	Severity	max weighted availability per function in FH/TO [Nb of seats*SL*Severity]	PAX Seat Availability in FH/TO [max – dysfunction]
20	Recline	121	7%	0.4	721	600
6	Seatbelts	36	2%	1 = INOP	1803	1766
10	Headrest	61	3%	0.3	541	480
10	Armrest	61	3%	0.2	361	300
					3425	3146
					PAX Seat Availability	91.85%

Severity Matrix to be elaborated
by the Airlines

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Cabin Economics - Costs

Data & Structure



What to put in shopping cart to allow detailed analysis of cabin economics?

For each cabin function on task level

- ✓ MPD
 - Access
 - Preparation
 - Task
 - Correction of findings
- ✓ Cabin Maintenance Program
- ✓ Components
- ✓ Refurbishment (incl. Upgrades)
- ✓ Aircraft Maturity
- ✓ Spares & Tooling
- ✓ OI Cost (can be extracted from database)



Grounding Time & Interval



Workload & Labour Rate



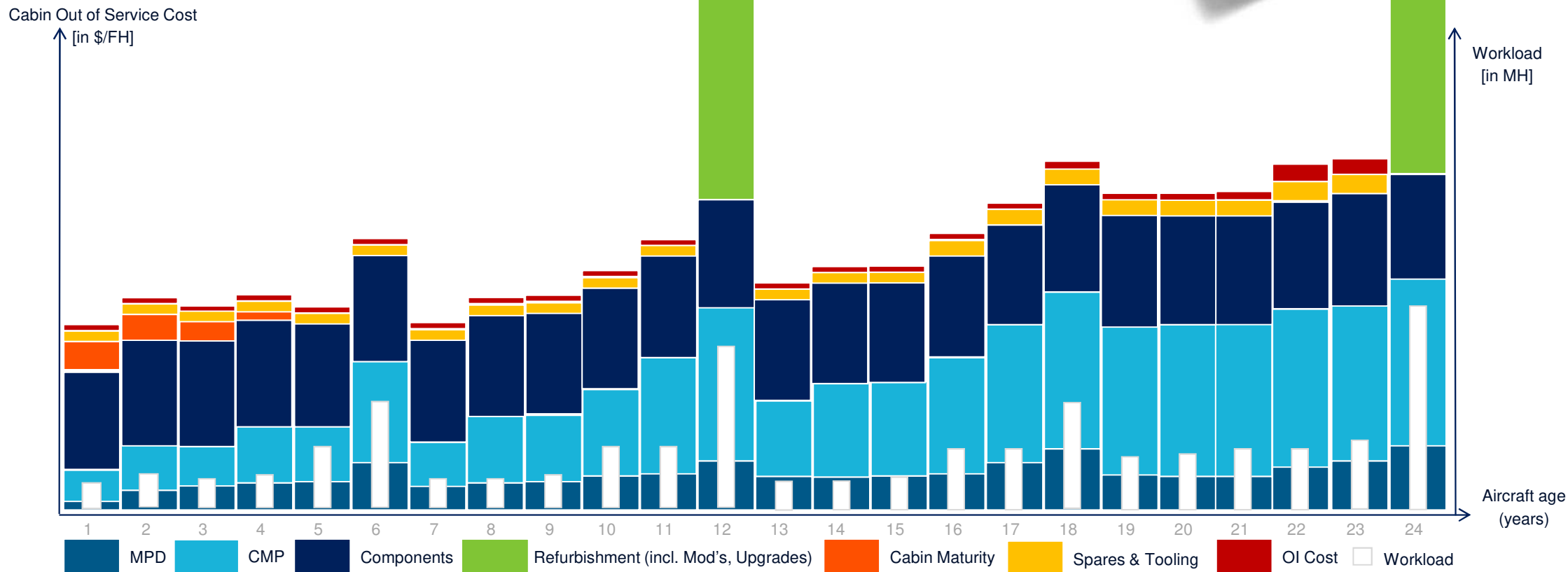
Material Cost



Cabin Economics - Costs

Develop Model Structure

Cabin Out of Service Cost and respective workload along the Aircraft Lifecycle



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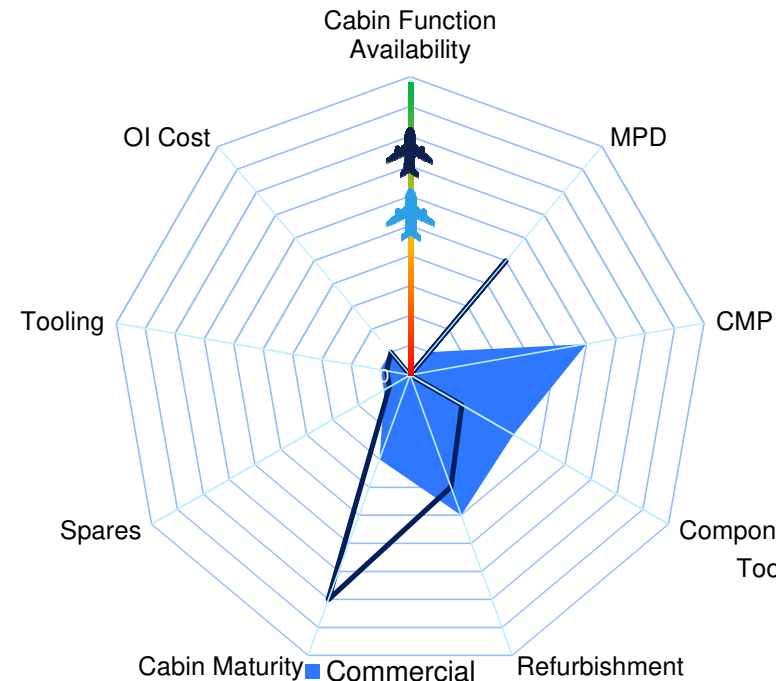
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Cabin Economics – Model Output

Develop Model Structure

CE Radar Commercial Cabin vs Cabin Systems*



Unit of measurement: ■ Commercial ■ Cabin Systems

Cost in \$/FH or Workload in MH/FH

Availability in % of FH/TO, Axis in increments of 10%

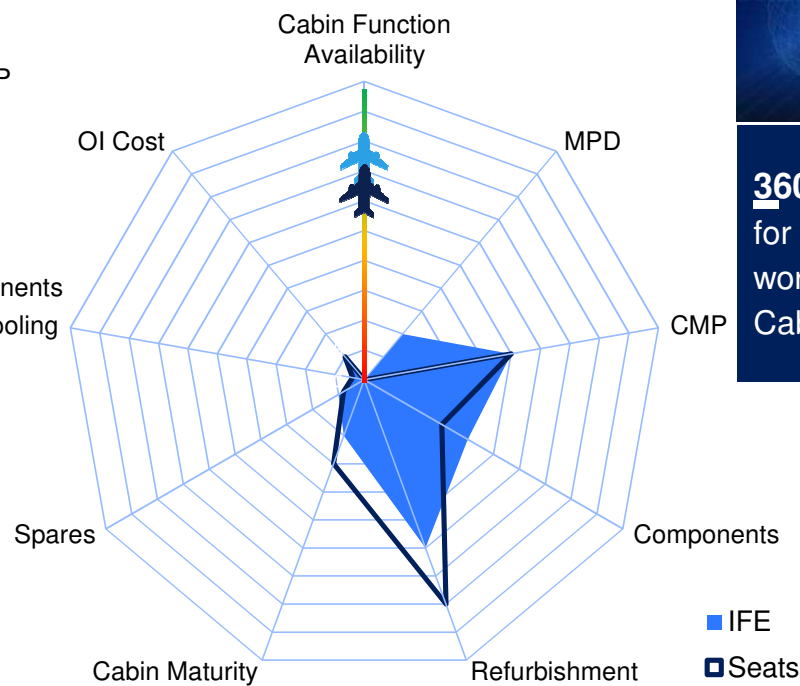


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CE Radar per Cabin Function*



360° Cabin Economics Radar
for visual identification of cost drivers per
work package and comparison Commercial
Cabin vs Cabin Systems

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Cabin Economics Initiative

Objectives

- **Elaborate** common understanding and measurement of cabin economics
- **Initiate** collaboration with operators community

To close the loop and
create new value

Thank you