

Presented by

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**A380**

BNDC > industrial design  
ECD > cabin development



# Creating and Sustaining Cabin Innovation

DGLR

Hamburg, 17.11.05



**AIRBUS**

# Creating and Sustaining Cabin Innovation

Focus



- History of the Aircraft Cabin
- Trend Analysis

- Airbus Approach
- Airbus Principles



# History of the Aircraft Cabin



In the early days of flying air travel was a privilege and an exclusive status symbol for the wealthy ones



Lufthansa Boeing B707, ca. 1965





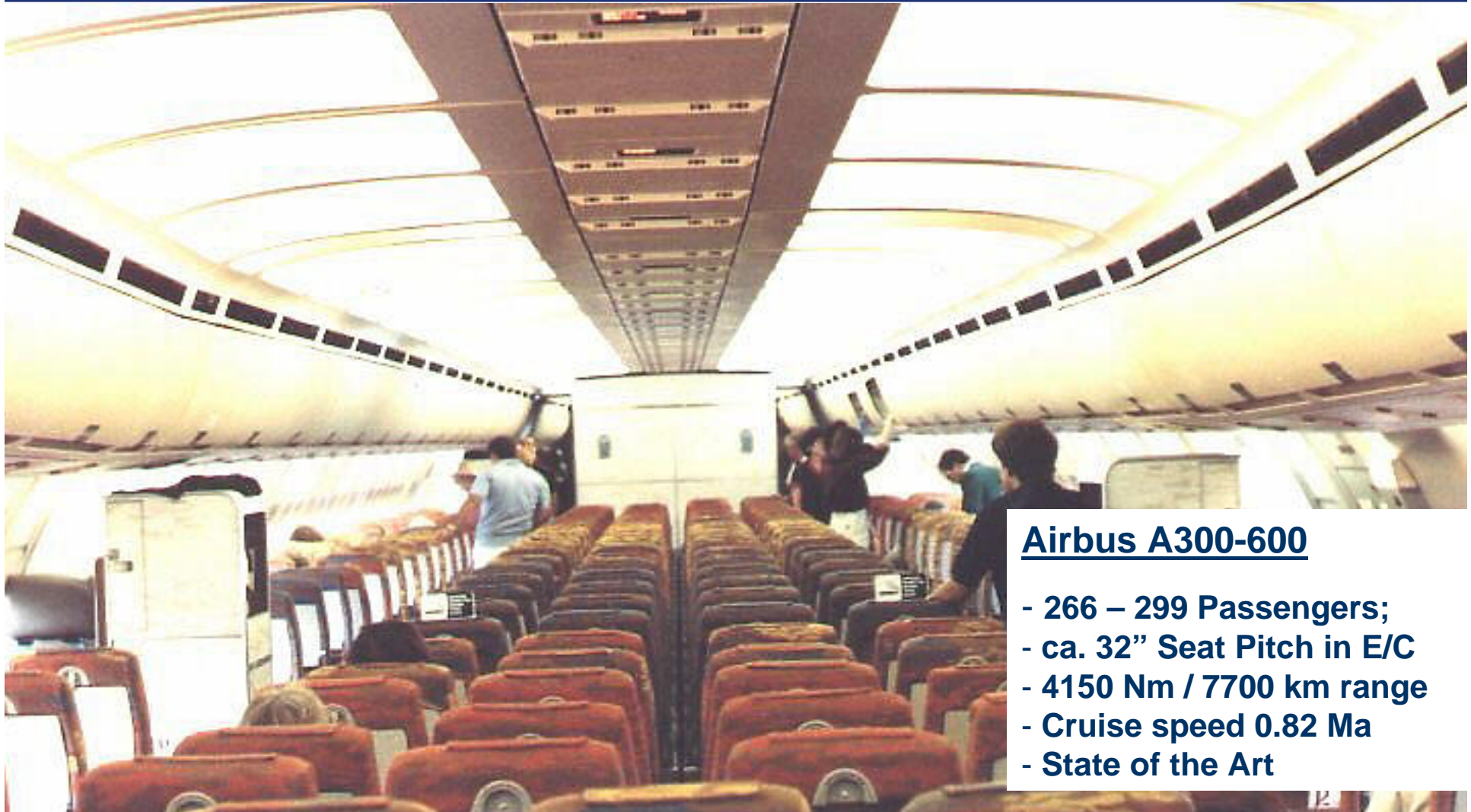
# Boeing 707 (1970)

## American Airlines B 707

- 110 – 189 Passengers
- ca. 32" Seat Pitch
- Range max. 8485 km
- Cruise Speed 540 kt
- State of the Art

LuxuryJet early 'Widebody Design' – perception of spaciousness

# Airbus A300-B2K



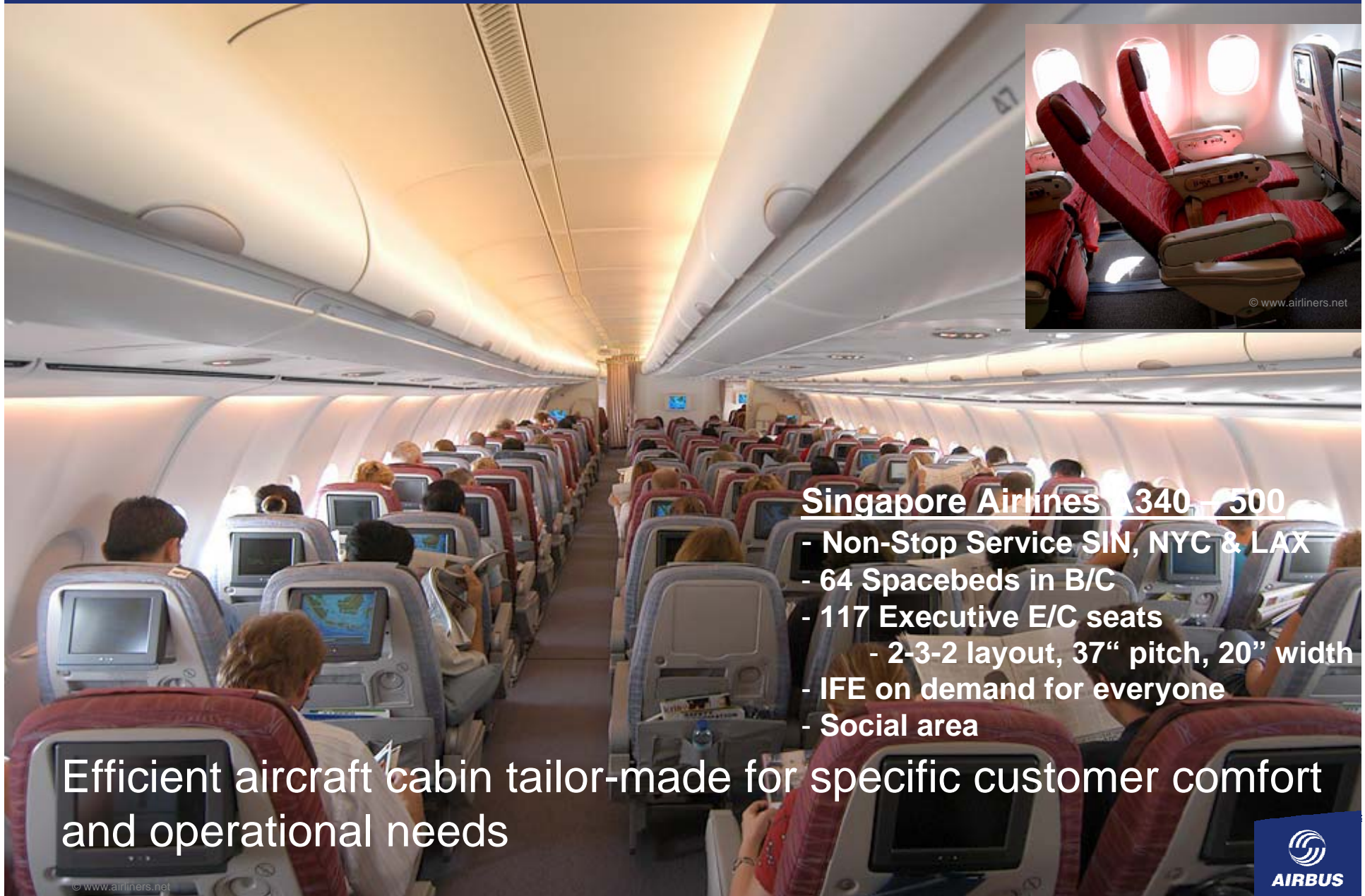
## Airbus A300-600

- 266 – 299 Passengers;
- ca. 32" Seat Pitch in E/C
- 4150 Nm / 7700 km range
- Cruise speed 0.82 Ma
- State of the Art

The A300 and A310 have introduced highest efficiency – first wide body twin engine aircraft.



# Airbus A340 – 500/600



## Singapore Airlines A340 – 500

- Non-Stop Service SIN, NYC & LAX
- 64 Spacebeds in B/C
- 117 Executive E/C seats
  - 2-3-2 layout, 37" pitch, 20" width
- IFE on demand for everyone
- Social area

Efficient aircraft cabin tailor-made for specific customer comfort and operational needs

# As time goes by...



Focus on  
Comfort & Luxury



Focus on  
Efficiency



Focus on  
Comfort & Efficiency

1960

1970

1980

1990

2000

year

Propeller  
Era

Jet  
Aircraft

Widebody / Turbofan  
Aircraft

Market Liberalisation

?

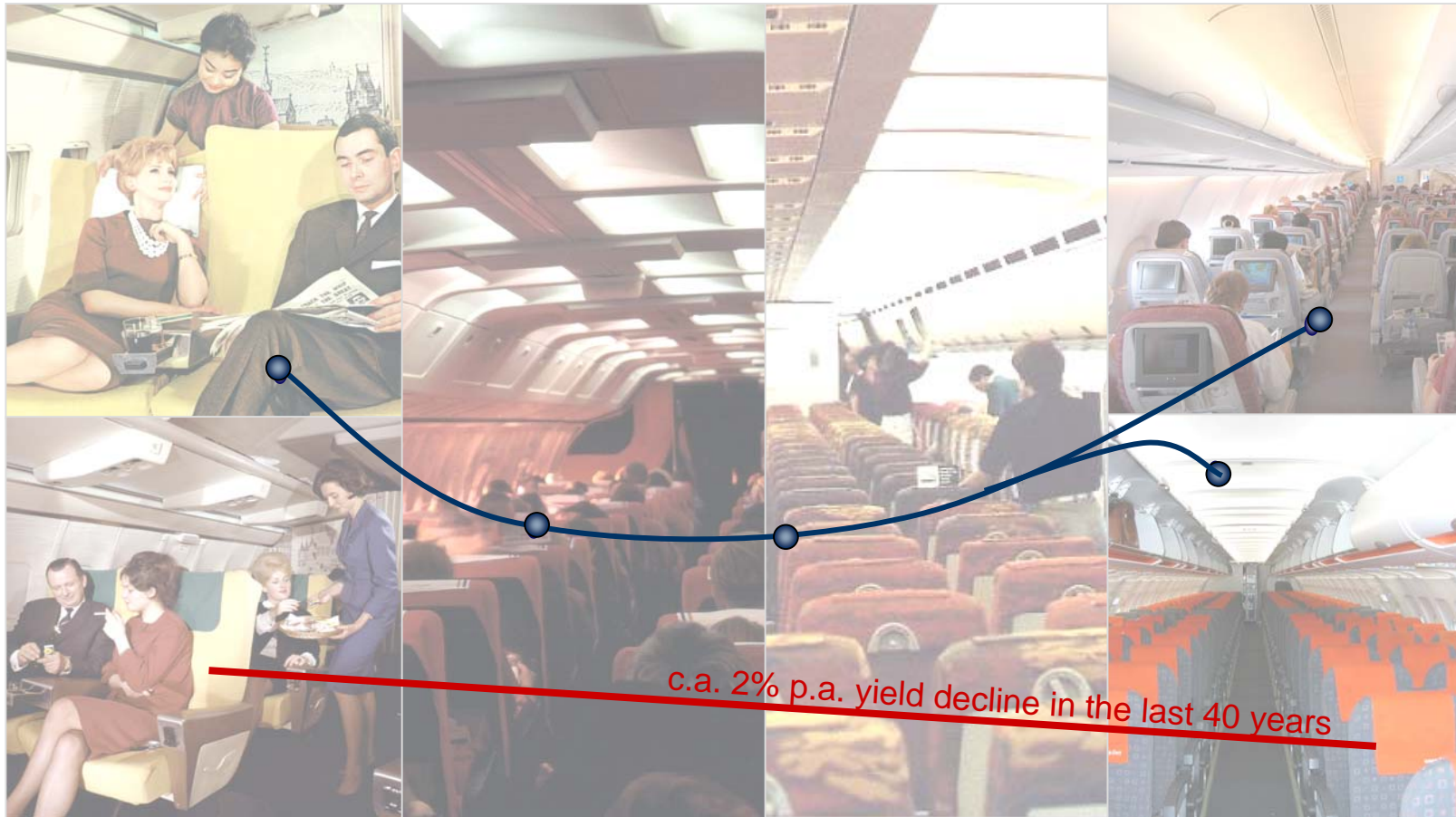
Passenger Volume & Competition



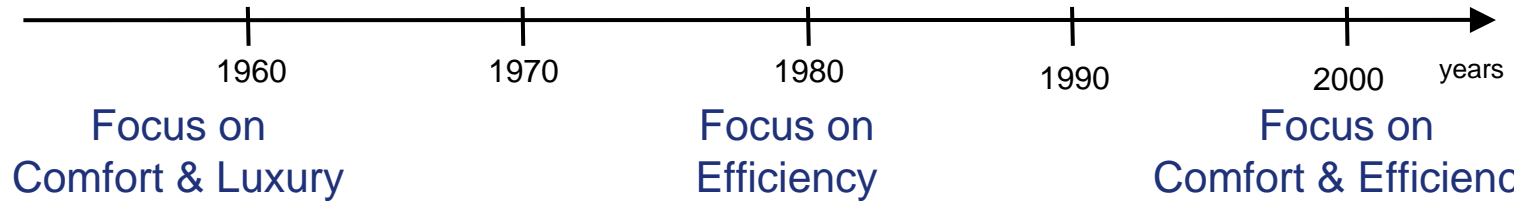
# As yield goes down...

Comfort, Services

Yield



c.a. 2% p.a. yield decline in the last 40 years





# Creating and Sustaining Cabin Innovation

Focus

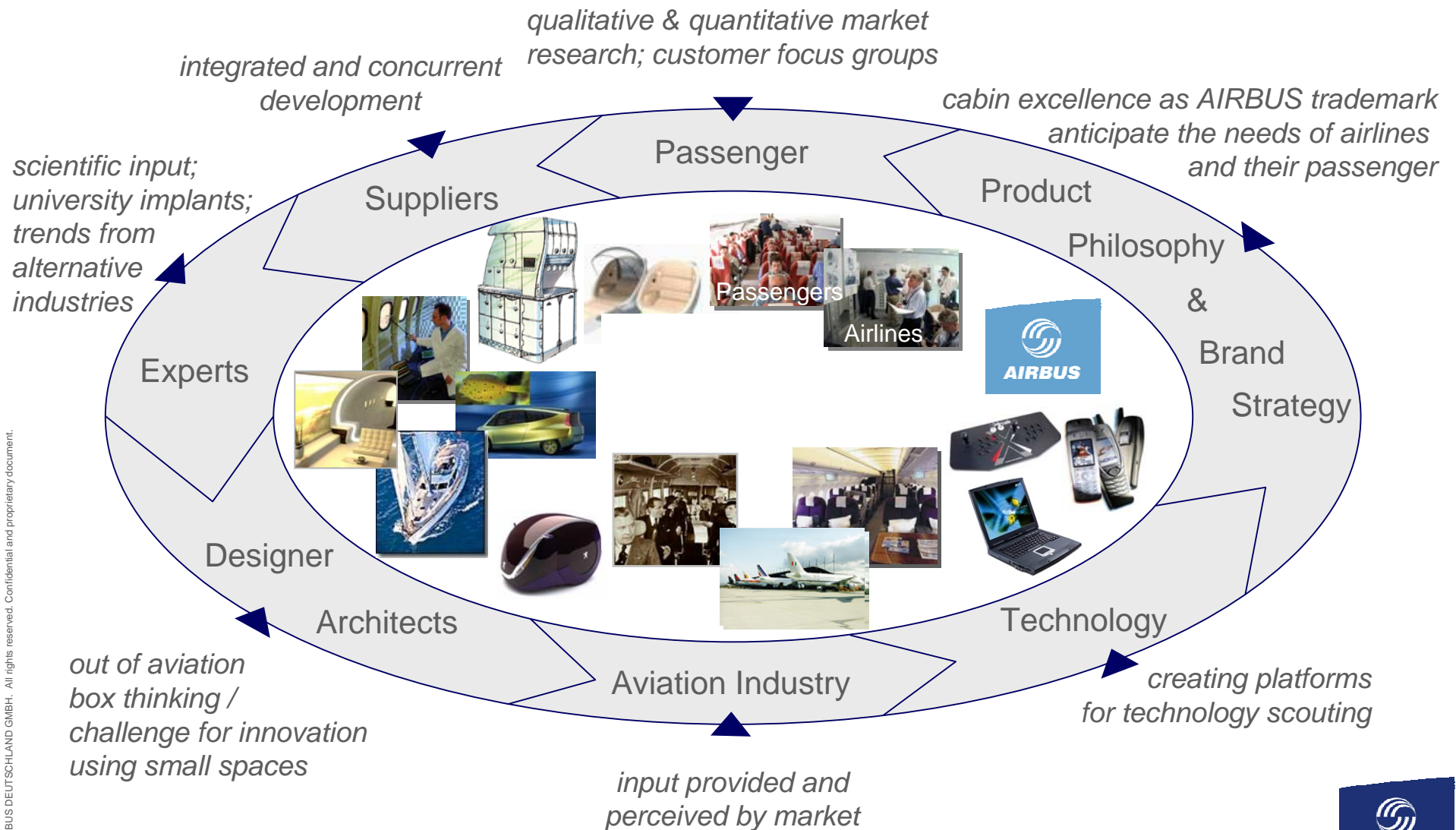


- History of the Aircraft Cabin
- Trend Analysis

- Airbus Approach
- Airbus Principles

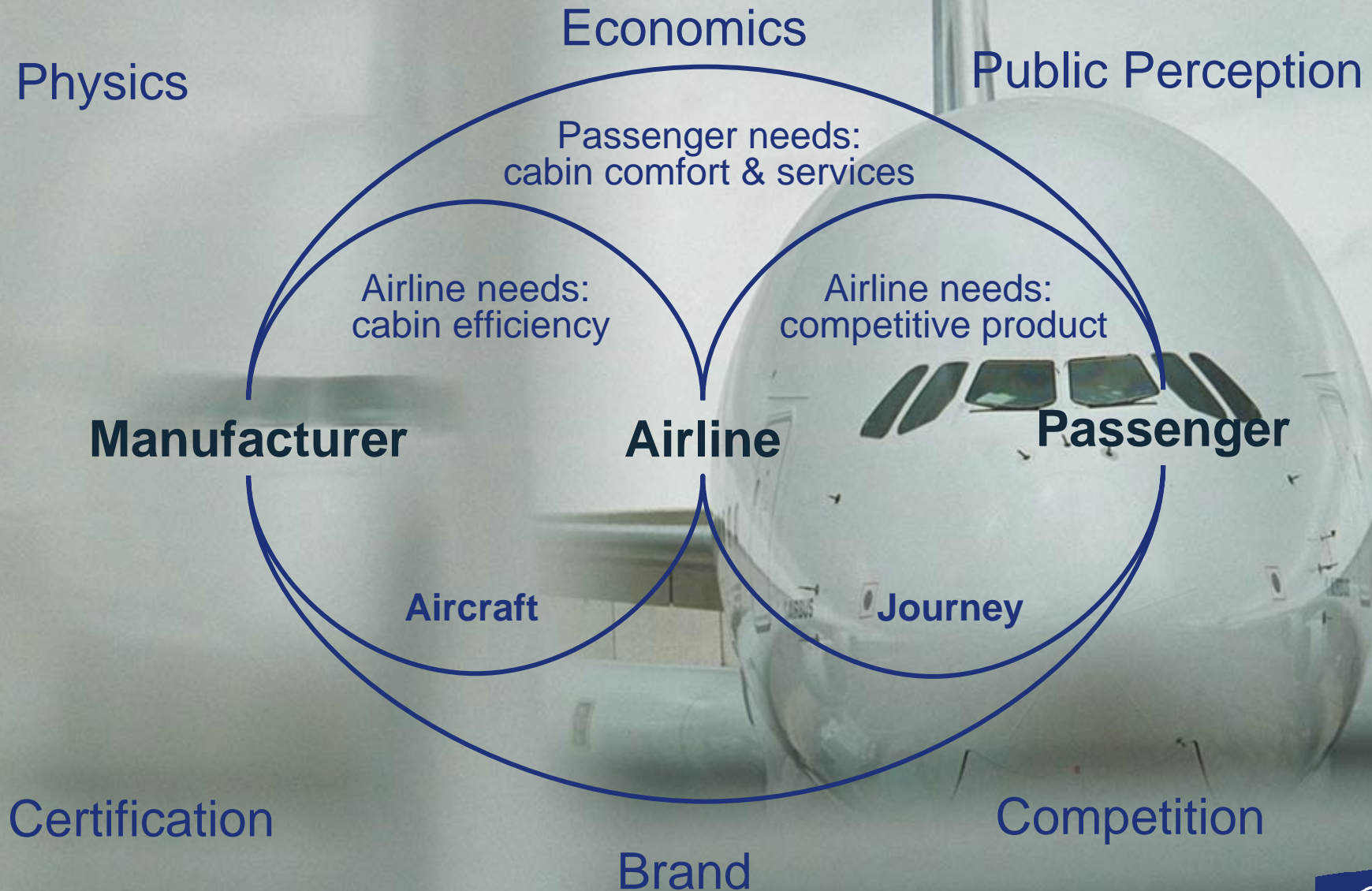
# The Airbus Innovation Circle

Airbus 'input feeding' methodology to meet efficiency and passenger demands

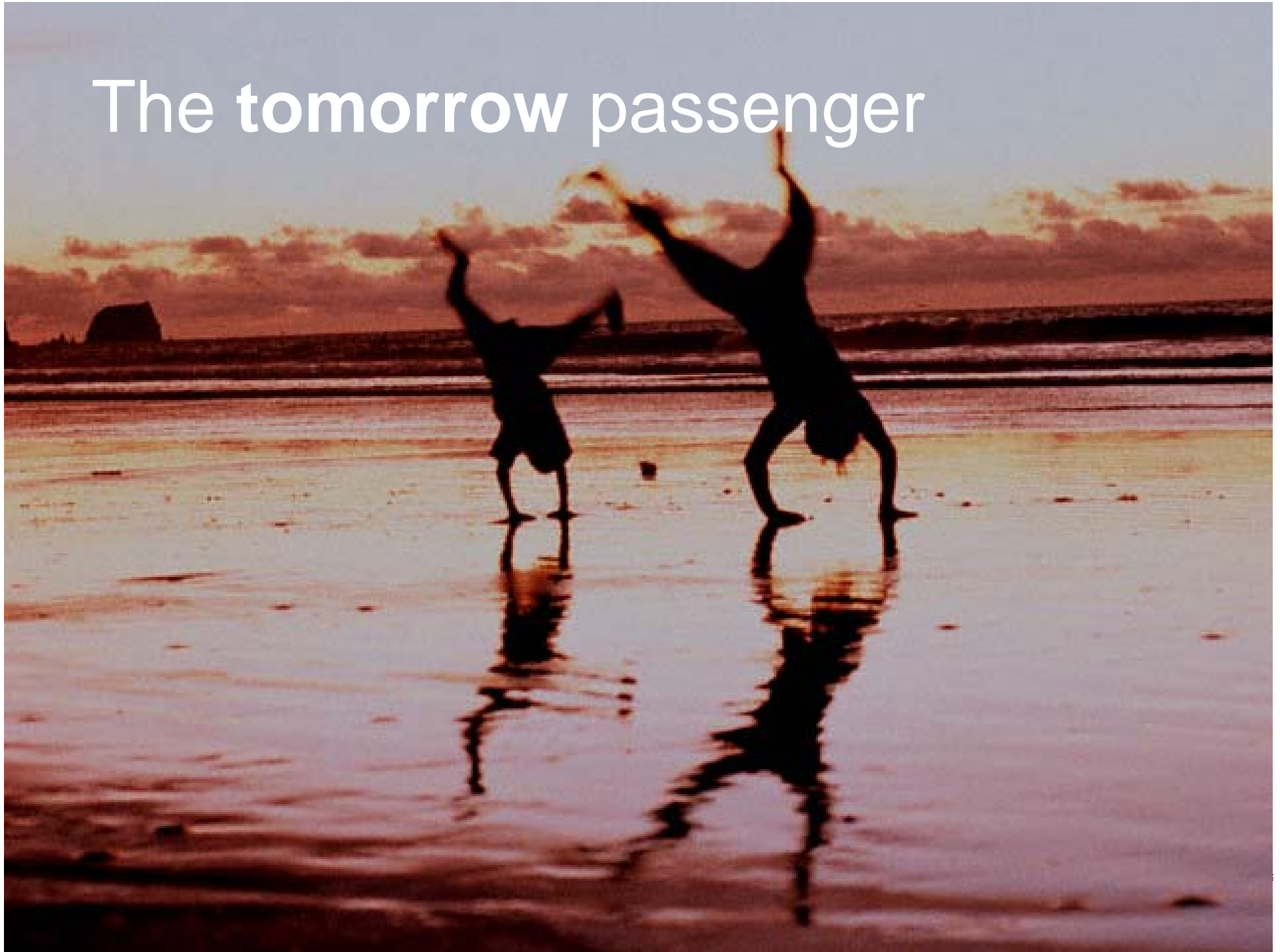




# Understand the Customer and reflect their needs



# The tomorrow passenger








The city breaker

Ease

Immediacy

Relevance



The well-being weekender

Trust

Quality

Expertise





The extreme adventure seeker

Knowledge

Inspiration

Insight

## The cocooned family

Ease

Reassurance

Professionalism





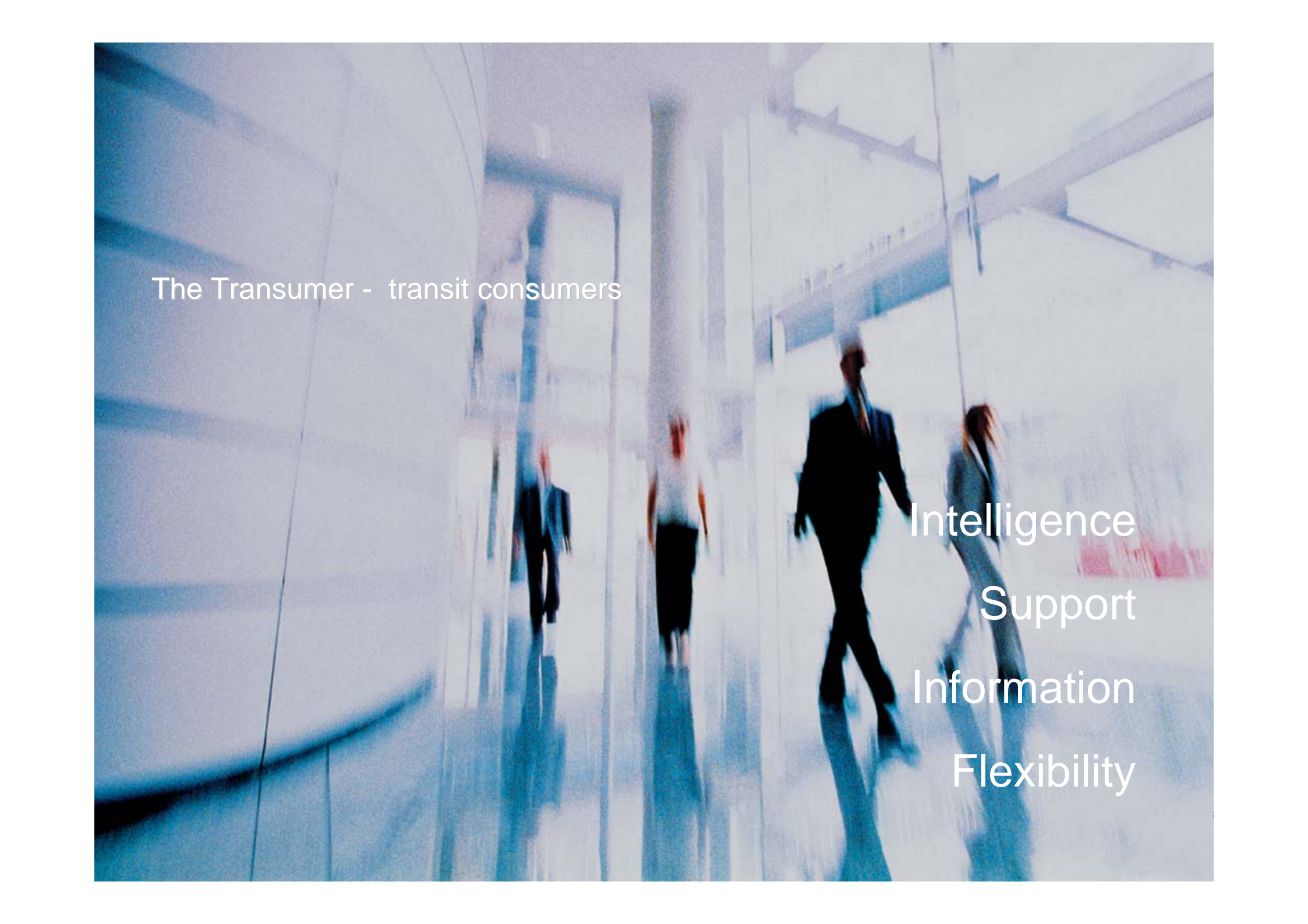
Knowledge

Inspiration

Ease

The culture connectors



A blurred, blue-tinted photograph of a modern office hallway. Several people in business attire are walking away from the camera, their figures softened by motion blur. The architecture features clean lines, large windows, and a bright, airy atmosphere. The overall mood is professional and dynamic.

The Transumer - transit consumers

Intelligence  
Support  
Information  
Flexibility



Insight

Opinion

Experience

Creativity

The experience seekers



Ease

Creativity

Appropriateness

The business trippers



# Developing the future cabin



The city breaker  
Well-being weekender  
Extreme adventure seeker  
The cocooned family  
The culture connectors  
The transumer  
Experience seeker  
The business tripper

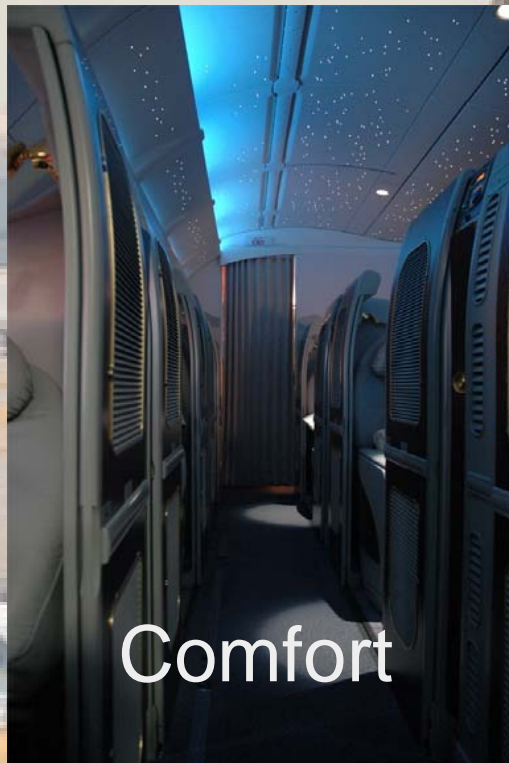
- Service
- Comfort

& Efficiency

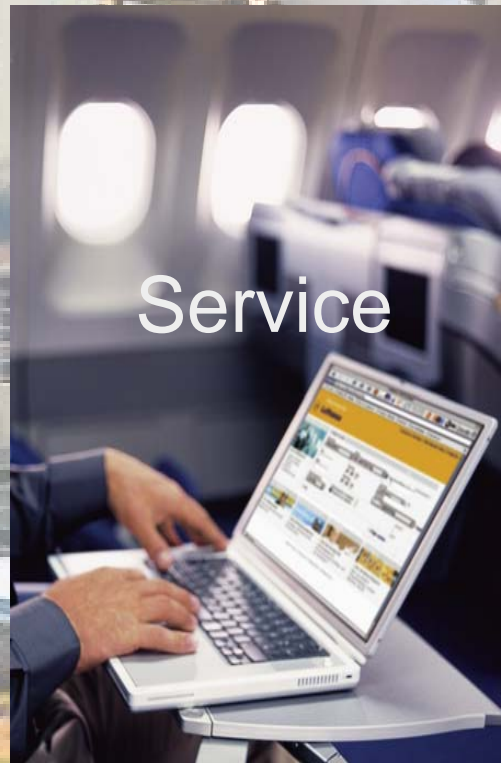


AI = Airbus: *def. for*  
- Best in customisation  
- High efficiency  
- High flexibility

# Airbus Cabin Principles



Comfort



Service



Efficiency



# Cabin Comfort Experience

- Individual cabins
- Perception of space and design
- Enjoyment of passenger well-being
  - Cabin acoustic, illumination, ambience, social areas...
  - Relaxation with optimised seating and sleeping comfort
- Crew comfort





# Cabin Service

## Aeromedicine Services

- ▶ Onboard medical corner
- ▶ Provision for telemedicine application

## Maintenance Services

- ▶ Ready to match customer operation model
- ▶ Enhanced aircraft health monitoring
- ▶ Aircraft commonality

## Communication Services

- ▶ Passenger information
- ▶ Email, Internet, Intranet
- ▶ Crew Communication Management
- ▶ Air - Ground - Communication

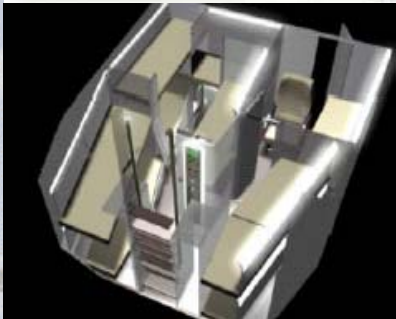
## Entertainment Services

- ▶ AVOD
- ▶ Gaming
- ▶ Live TV
- ▶ Reliability

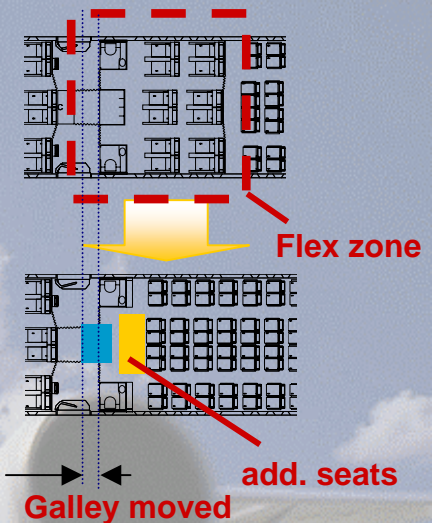




# Cabin Efficiency

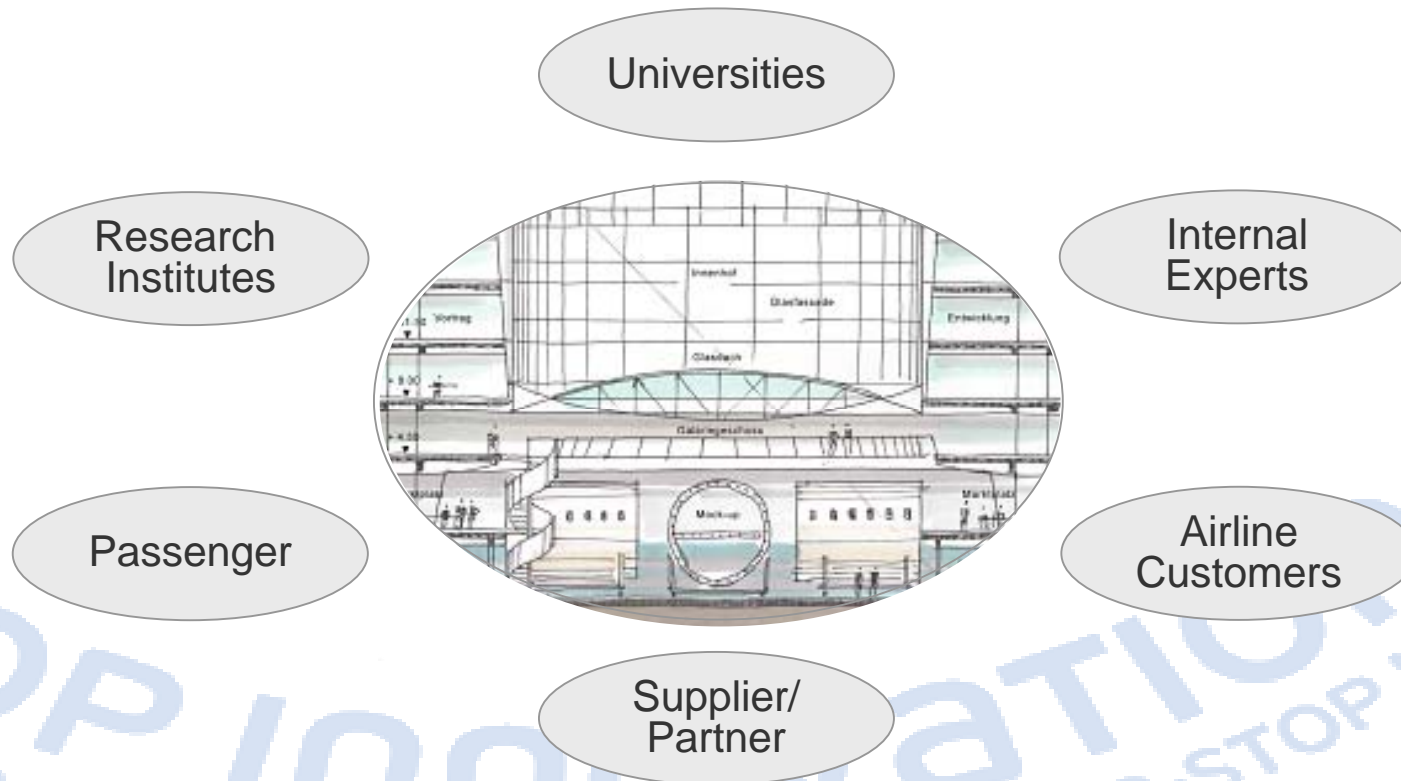


- Efficient crew working environment
- Optimised operational flexibility
- Easy reconfiguration
- Maximized revenue space  
(Internal Stretch, Flex Zones)
- Improved cabin operations  
(TAT, Maintenance)
- Well proven aircraft family concept



# Cabin Innovation Center (CIC)

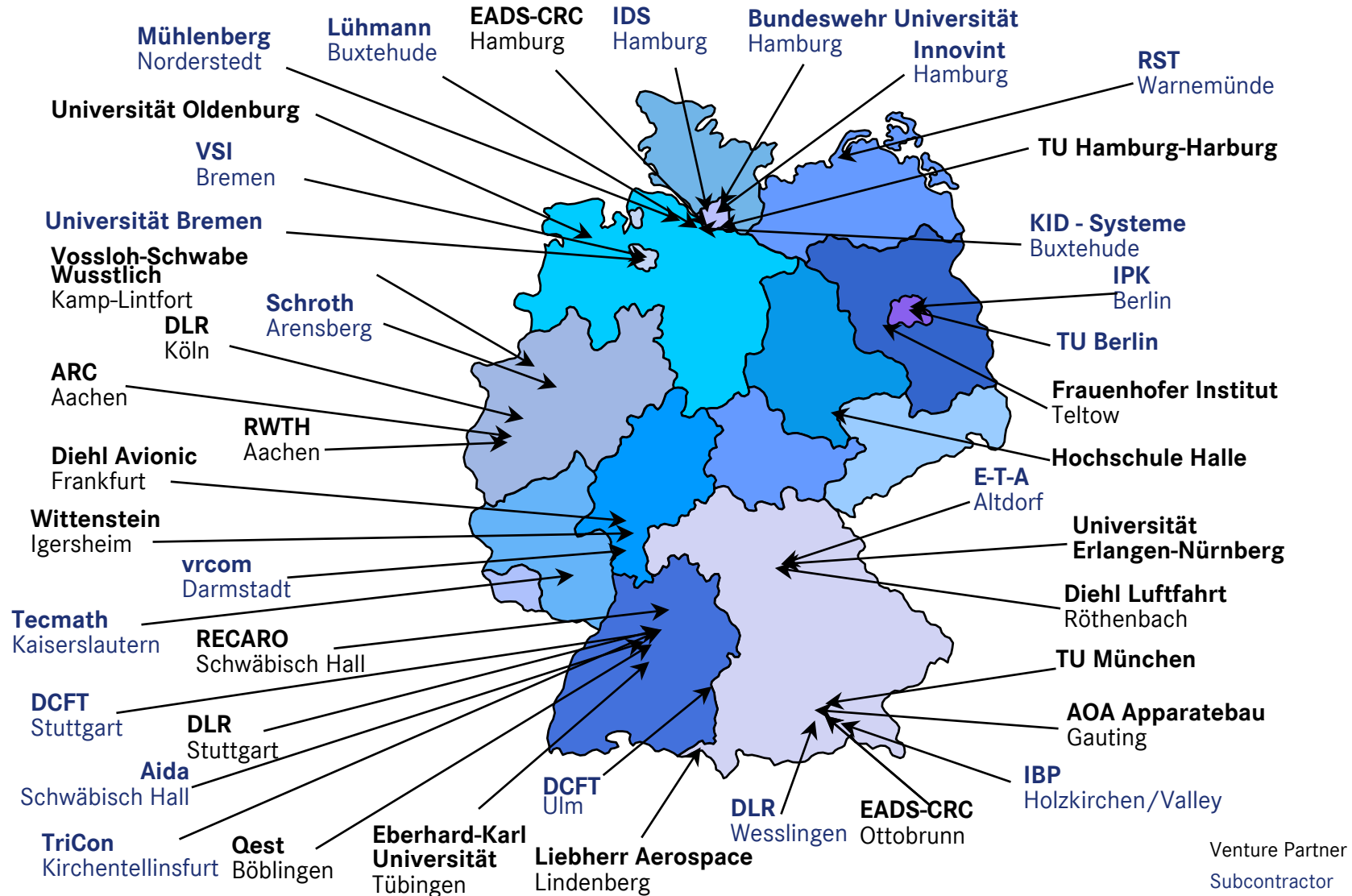
Most attractive marketplace for Airlines to do ,one stop shopping'  
...from virtual reality... ...to latest supplier innovation...



A unique Market Place is the origin for Cabin Innovation.



# KATO Project – Partners & Subcontractors



Venture Partner  
Subcontractor

# Airbus' call: Join the CabiNet!

Support the Cabin & Cargo Technology Network clusters:

- ▶ Cabin Architecture & Design
- ▶ Supply, Safety & Cargo Systems
- ▶ Cabin Electronics & Communication
- ▶ Cabin Materials, Manufacturing & Assembling
- ▶ Others:
  - Cabin Electrical Power Management, Cabin&Cargo Maintenance & Health Management, Maturity & Testing, Security

CabiNet

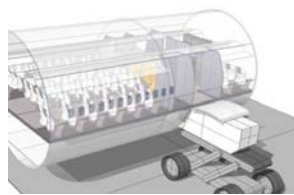
CabiNet as “Think Tank” to ...

- ... scout emerging technologies
- ... discover & develop new radical concepts

Cluster Workshops for ...

- ... Innovation presentation & selection

# Technology Cluster Cabin & Cargo



**Cabin  
Architecture  
& Design**

**Cabin  
Supply,  
Safety &  
Cargo  
Systems**

**Cabin  
Electronics &  
Communication**

**Cabin  
Materials,  
Manufacturing  
& Assembling**

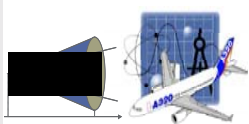
**Others:  
Cabin Power,  
Maintenance &  
Health Management,  
Maturity & Testing,  
Tools**

**Validate**

**Develop**

**Understand**

**Discover**



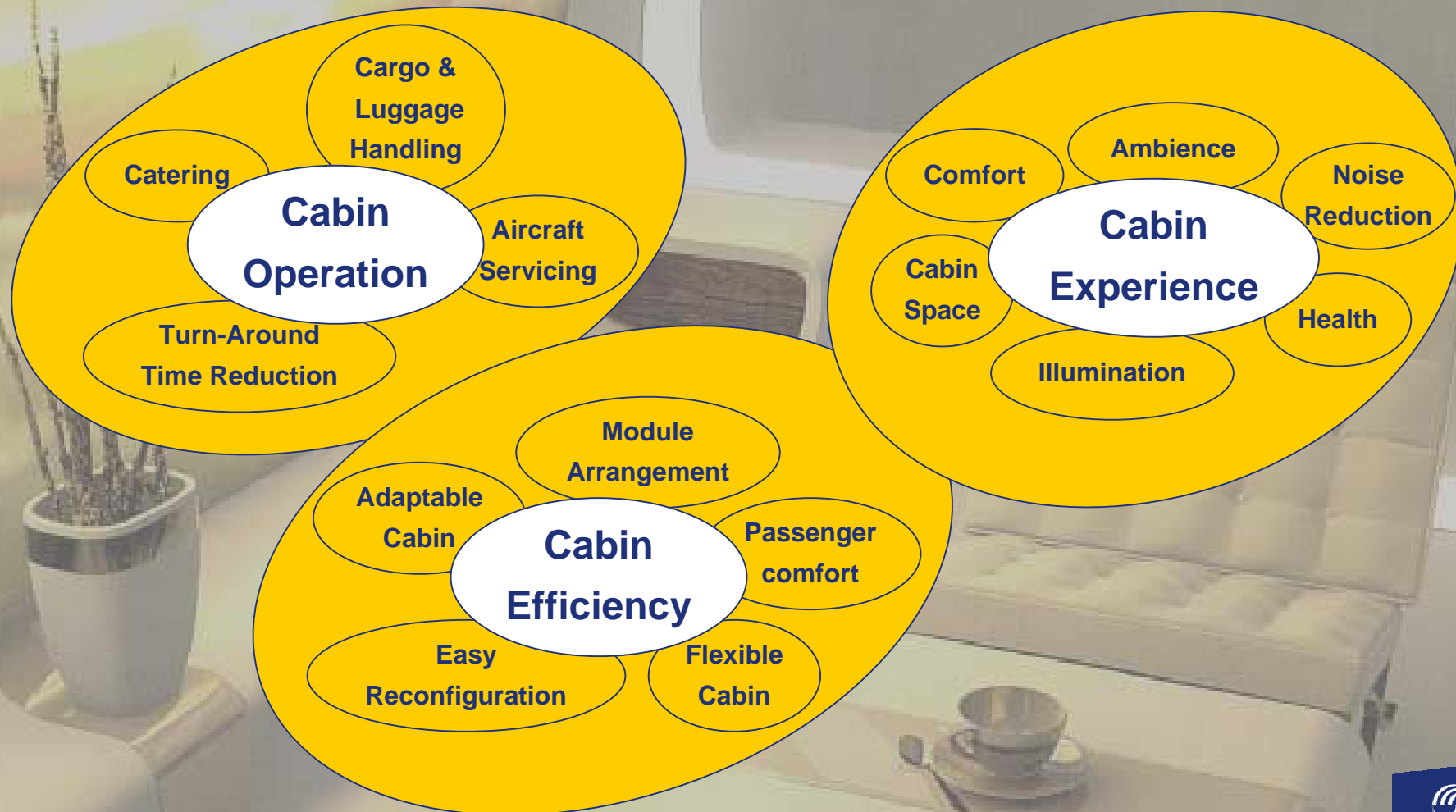
**Technology Scouting & Basic Research**



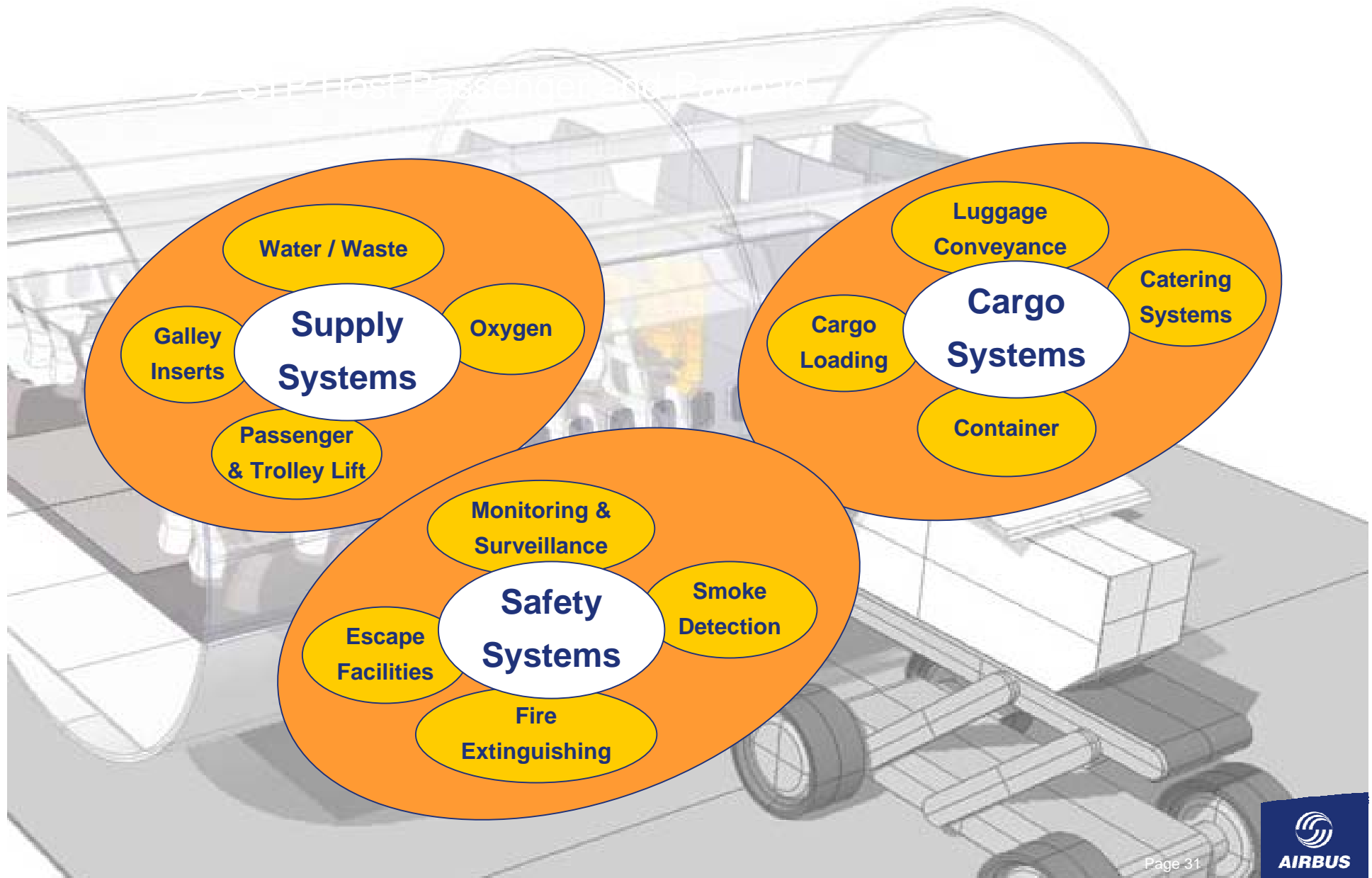
# Technology Cluster Cabin & Cargo

## Cabin Architecture & Design

→ STP Host Passenger and Payload



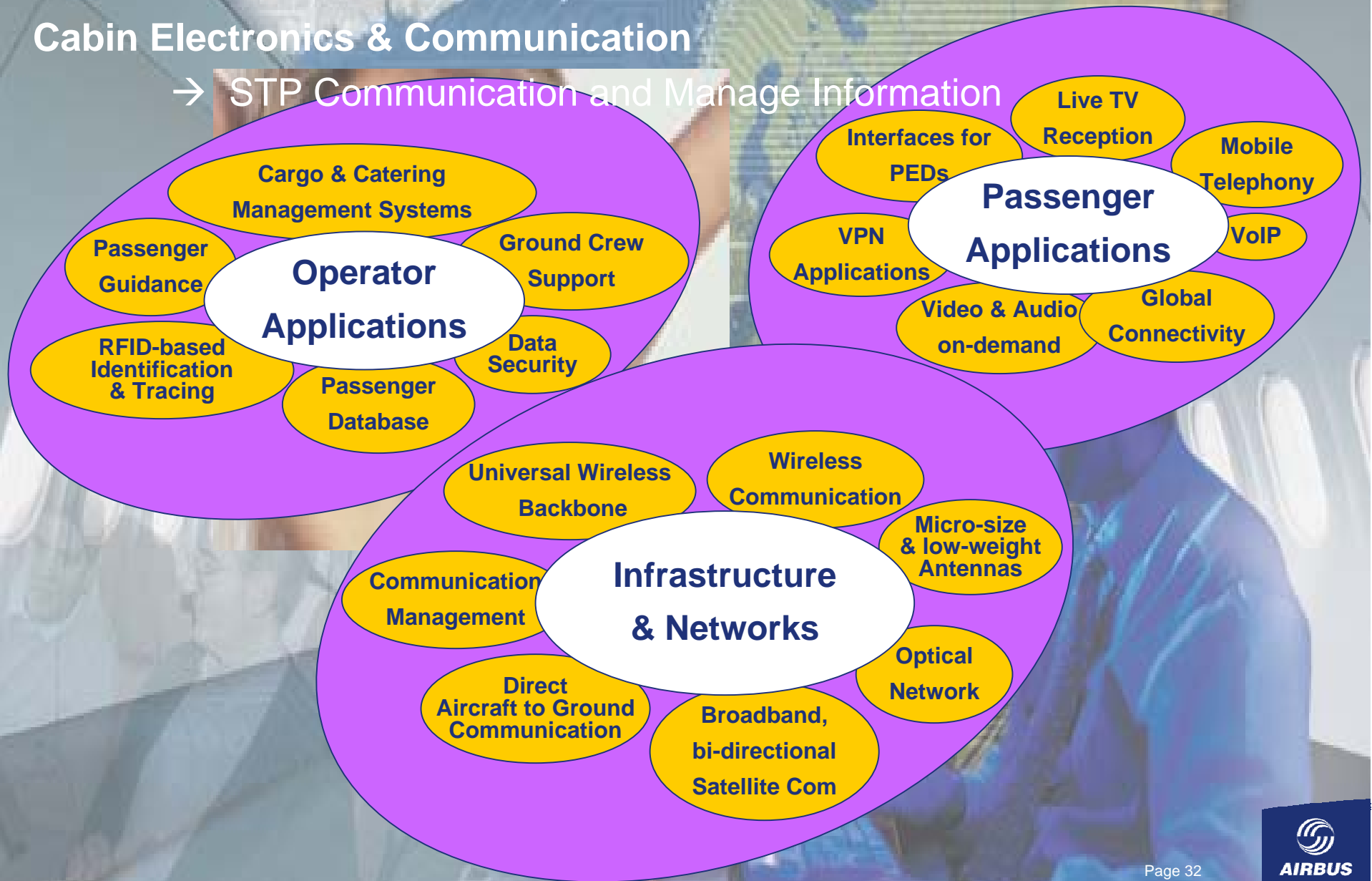
# Technology Cluster Cabin & Cargo



# Technology Cluster Cabin & Cargo

## Cabin Electronics & Communication

→ STP Communication and Manage Information

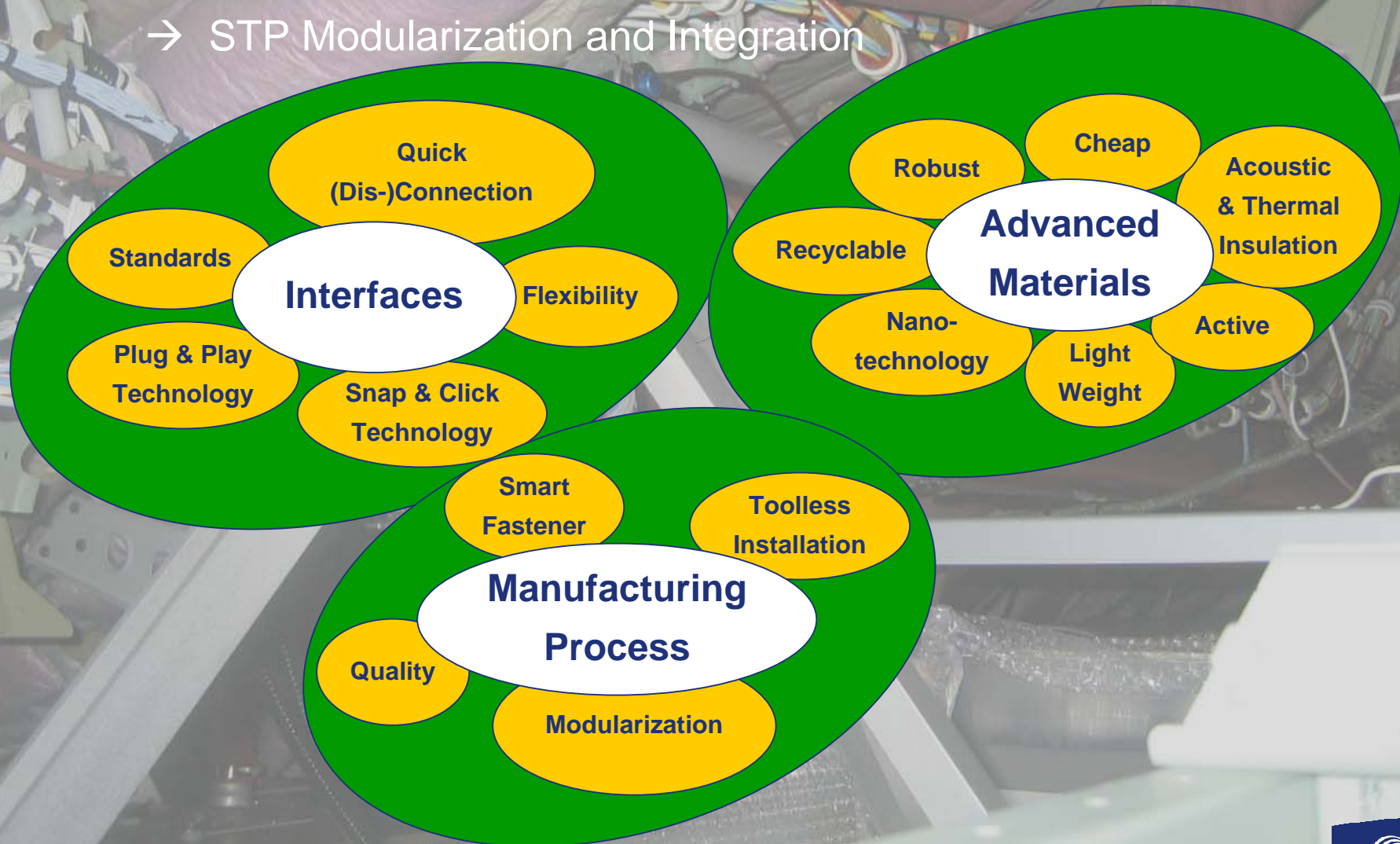




# Technology Cluster Cabin & Cargo

Cabin Materials, Manufacturing & Assembling

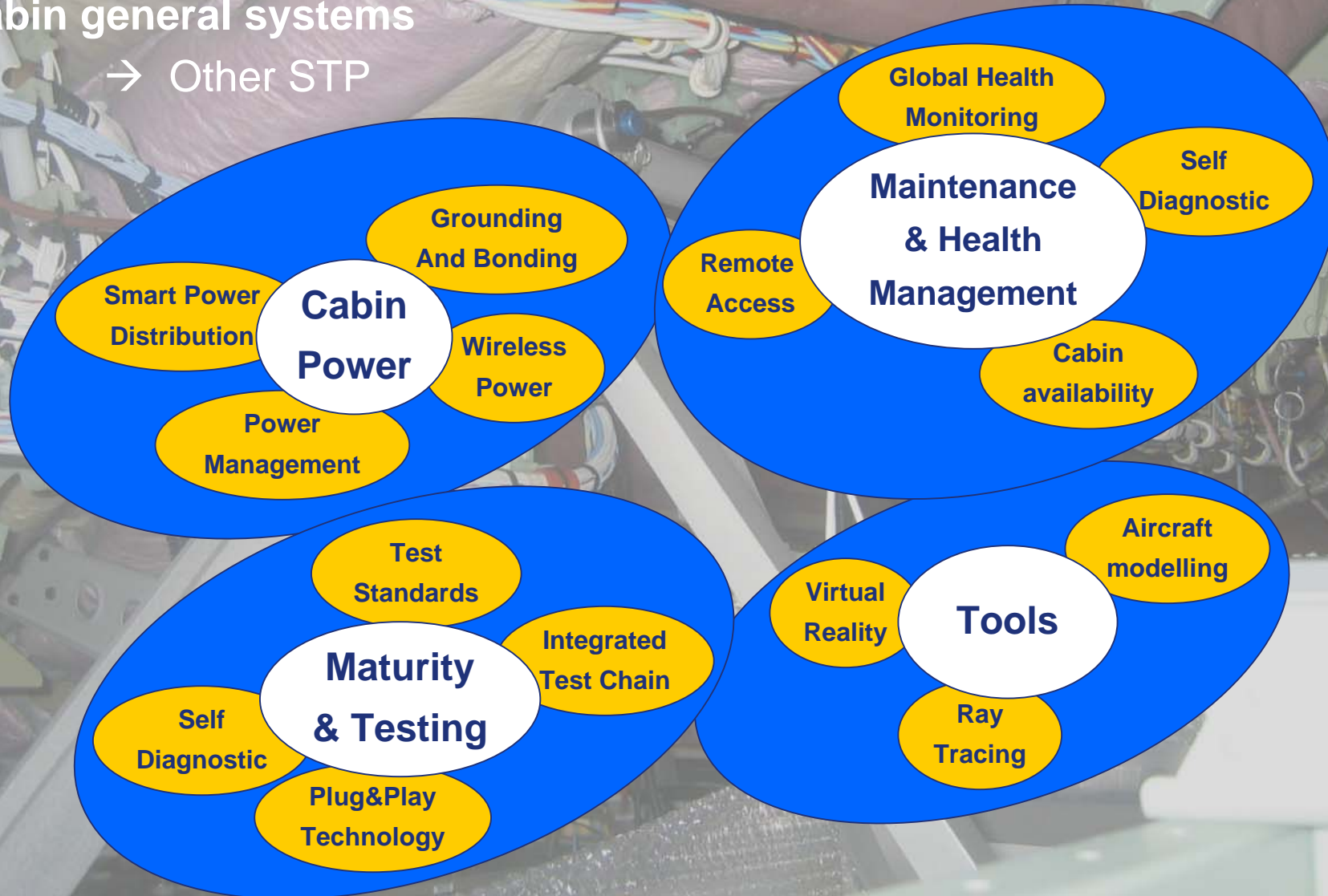
→ STP Modularization and Integration



# Technology Cluster Cabin & Cargo

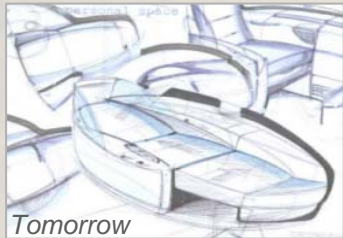
Cabin general systems

→ Other STP



# Conclusion

... AIRBUS - NON-STOP INNOVATION ...



Tomorrow

Creating comfort, service and efficiency for future Airbus cabins by applying the Airbus Innovation Circle to sustain leadership in cabin innovation.



Yesterday

Creating luxury products for high comfort demands in a high yield and low competitive environment





# Contact

For any questions please contact the Cabin Innovation Centre office:

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WITH BAE SYSTEMS**