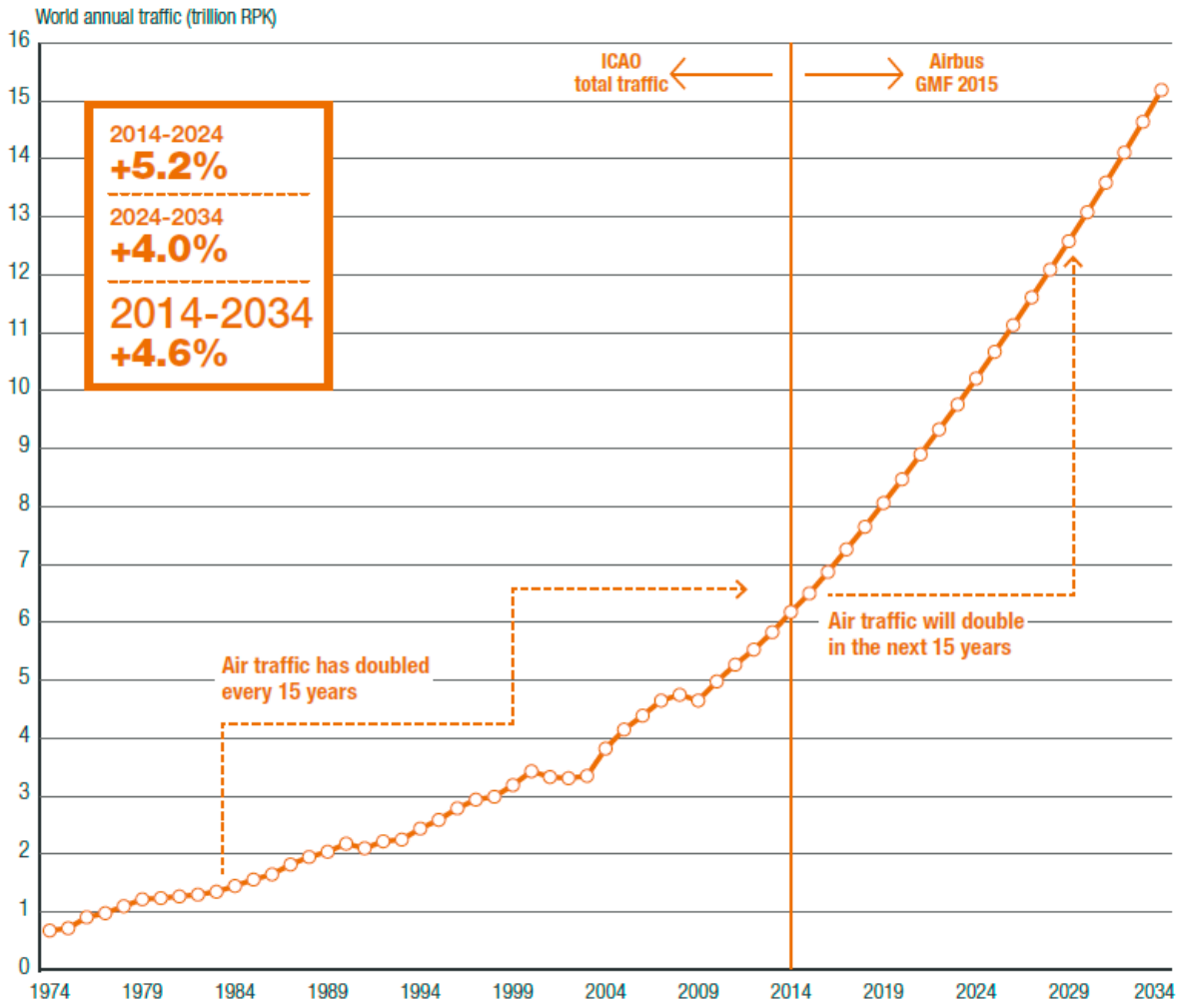
Training Needs for Operations

Session 6

Global context

World annual traffic will X4

in the next 30 years?



Source Airbus

Requirements on

Infrastructures

Systems

Staff

will increase accordingly

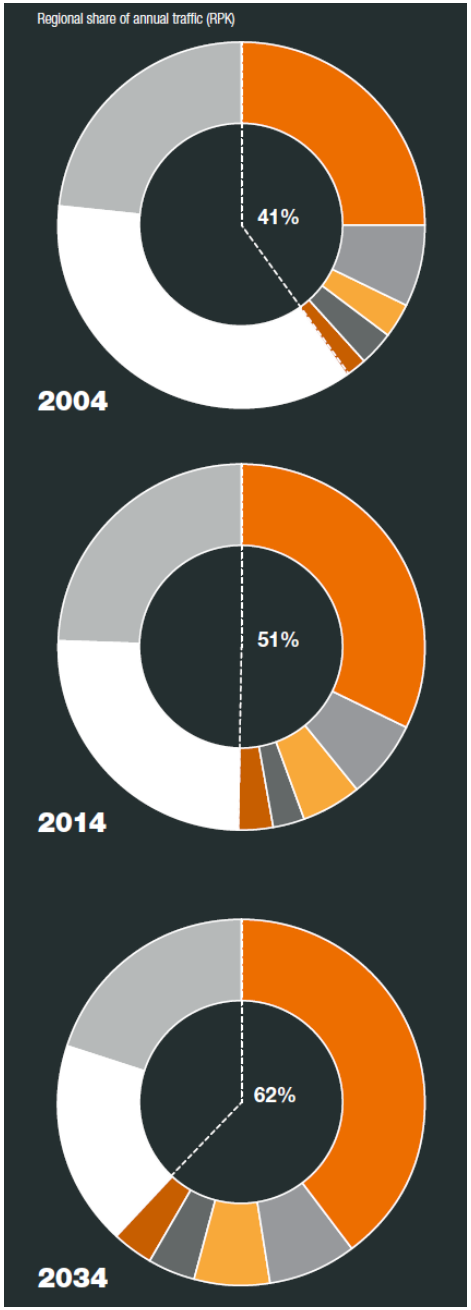
Safety, but not only

Security

Efficiency

Environment

Global context



EVOLVING STRUCTURE OF THE AIR TRANSPORT MARKET

Sources: Sabre GDD, Airbus

What will be the market pattern in 2050?

Cultural mind-set, individual abilities?

Public

Passengers

Operators

Mixed traffic?

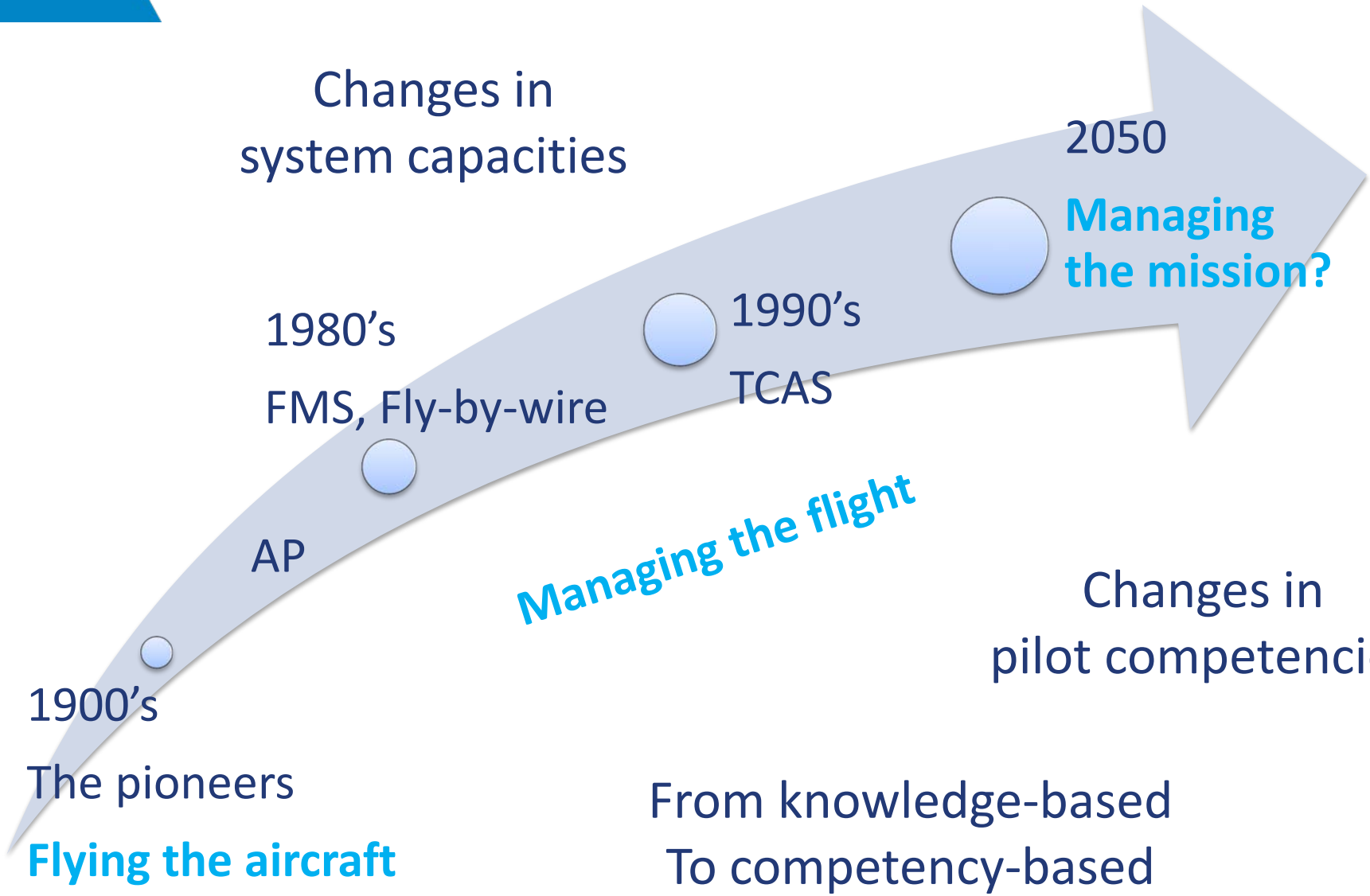
RPAS

Which consequences in training?

Pedagogical schemes

Training tools

What is piloting?



Future challenges for pilot training

Accurate definition of operator tasks required first

SPO, Ground Control staff…?

ATPL practical training is already 2/3 on ground

Loss of basic piloting competencies?

How fast will be the transition?

Using and/or understanding the system

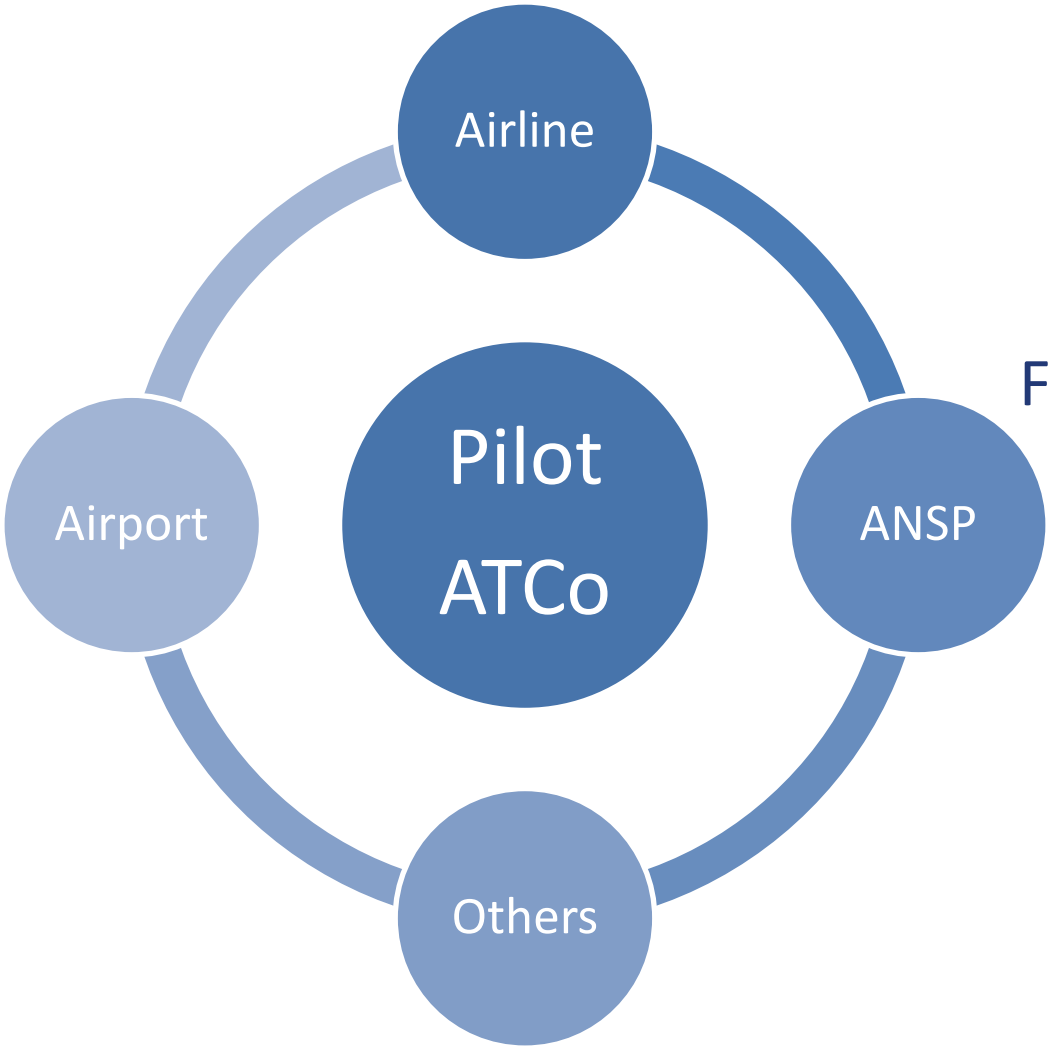
Efficiency vs Safety?

Continuously maintaining operator capacities

Not an issue wrt normal conditions

Upset recovery for complex and unusual conditions?

A broader perspective



Deep trends for systems

Increasing connectivity

Further integration

Higher complexity

Full automation in Air Transport

On board and on ground

Flying and managing the mission

How to cope with complexity which goes beyond human understanding?

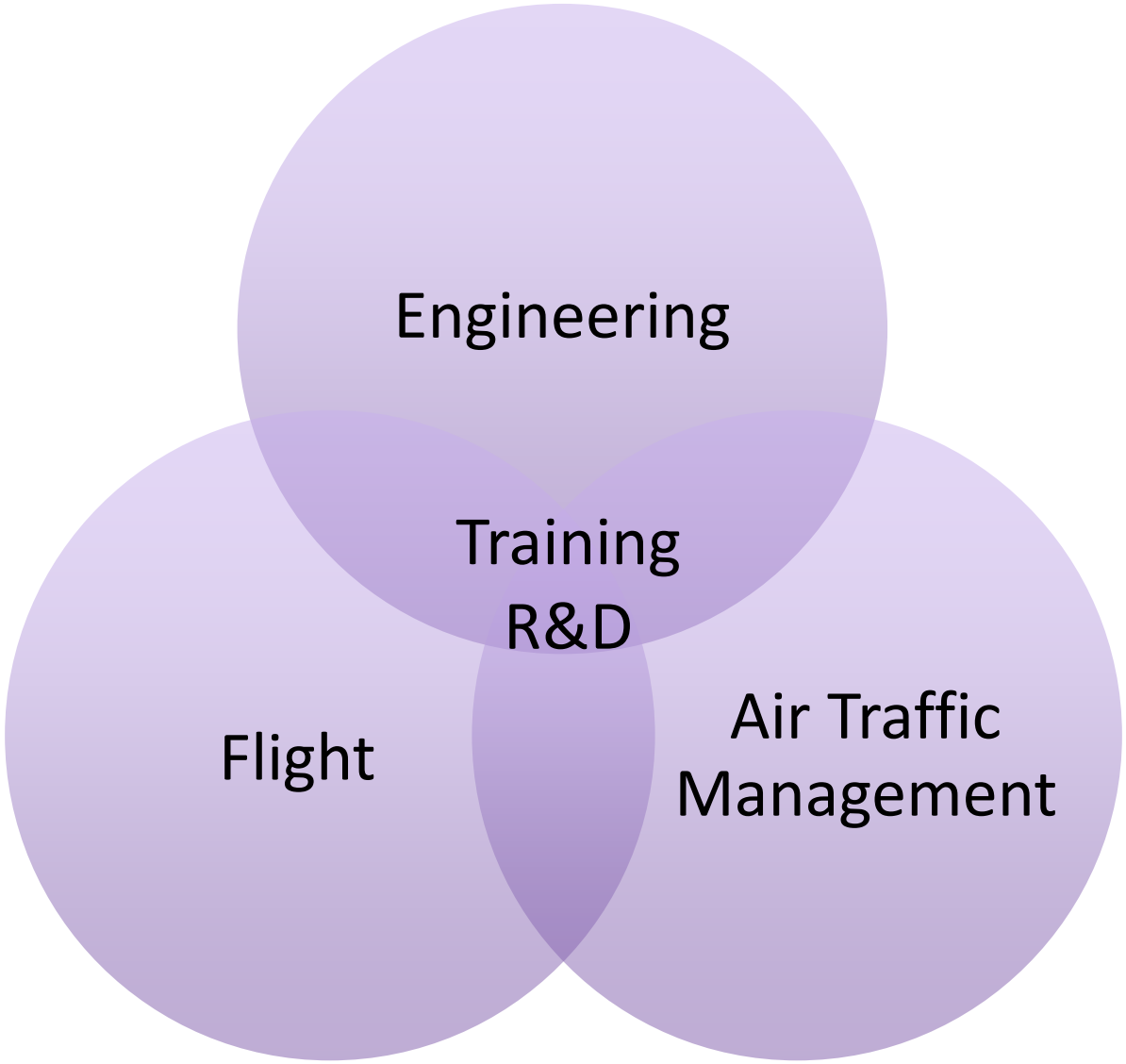
ENAC experience

At the crossroads

Systems will be
Designed by engineers
Operated with hybrid skills

Synergies in R&D
Automation

Training shall be
Multidisciplinary
Cross-training
Non technical also
Outside the box



The way ahead

Medium term

Continuously assessing required competencies

Further bridge theory and practice

Enhance training for unusual conditions

Develop cross-culture and mutual understanding

Long term

Look at a consistent global target

Build up a robust transition path

Design the jobs in details

Thank You

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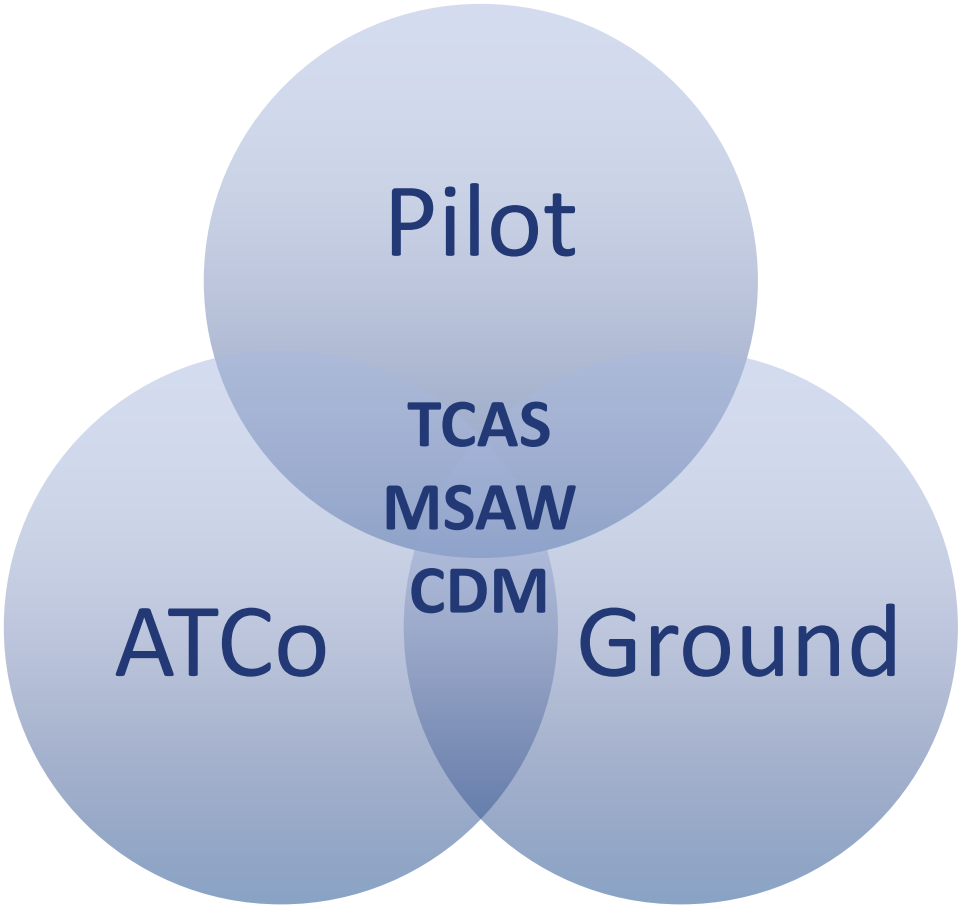
Fading borders

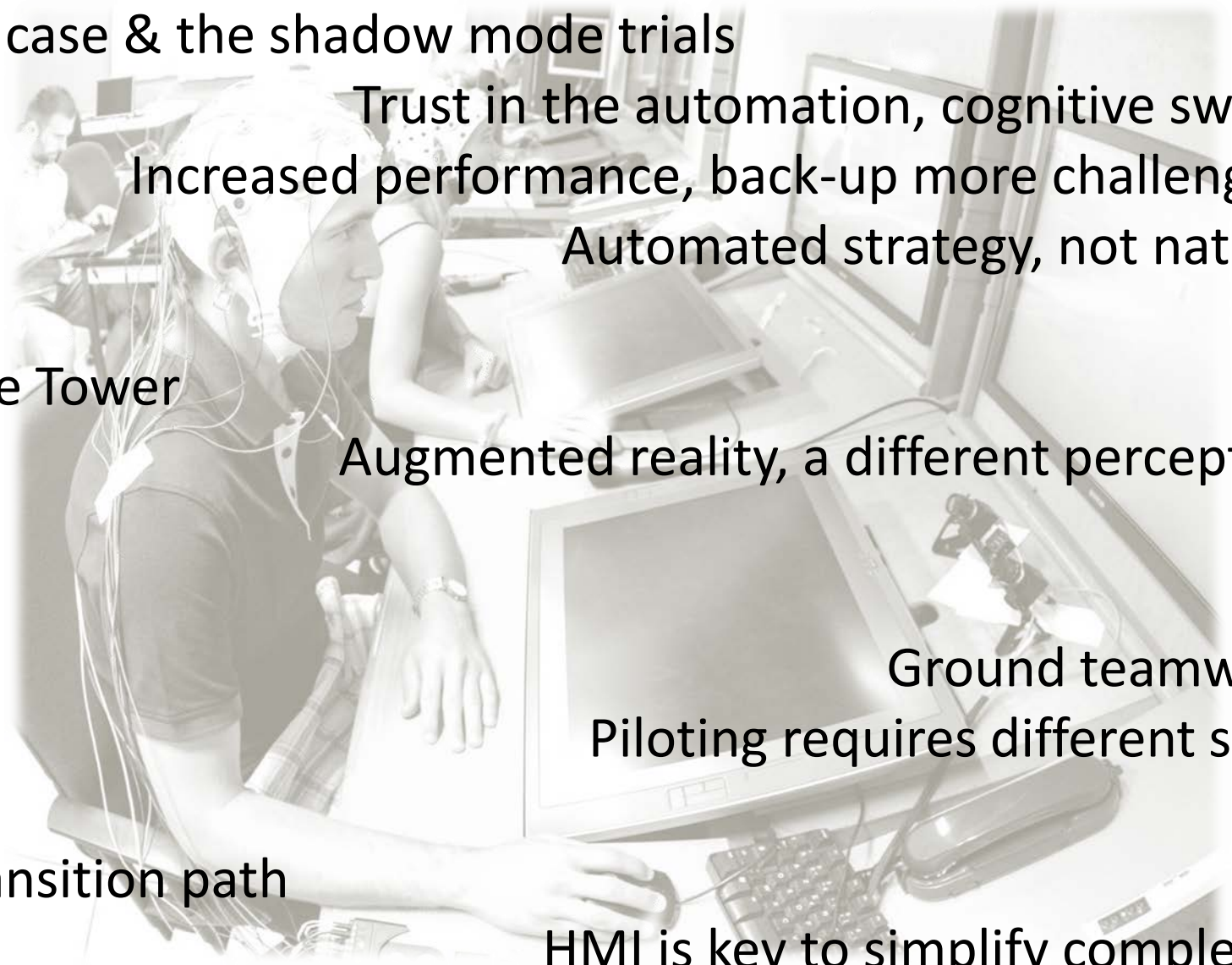


2050: the merger?

Ground Control Centre

A new paradigm in
Organisation
Positions
Competencies

Synergies in R&D



ERATO case & the shadow mode trials

Trust in the automation, cognitive switch

Increased performance, back-up more challenging

Automated strategy, not natural

Remote Tower

Augmented reality, a different perception

RPAS

Ground teamwork

Piloting requires different skills

The transition path

HMI is key to simplify complexity

SVS, interconnecting Pilots and ATCos

Highly realistic environment

Shared Situation Awareness

Unusual Conditions