Future Challenge in Professional Aviation Life and how to cope with it

Hans Mayer

EAMTC-President

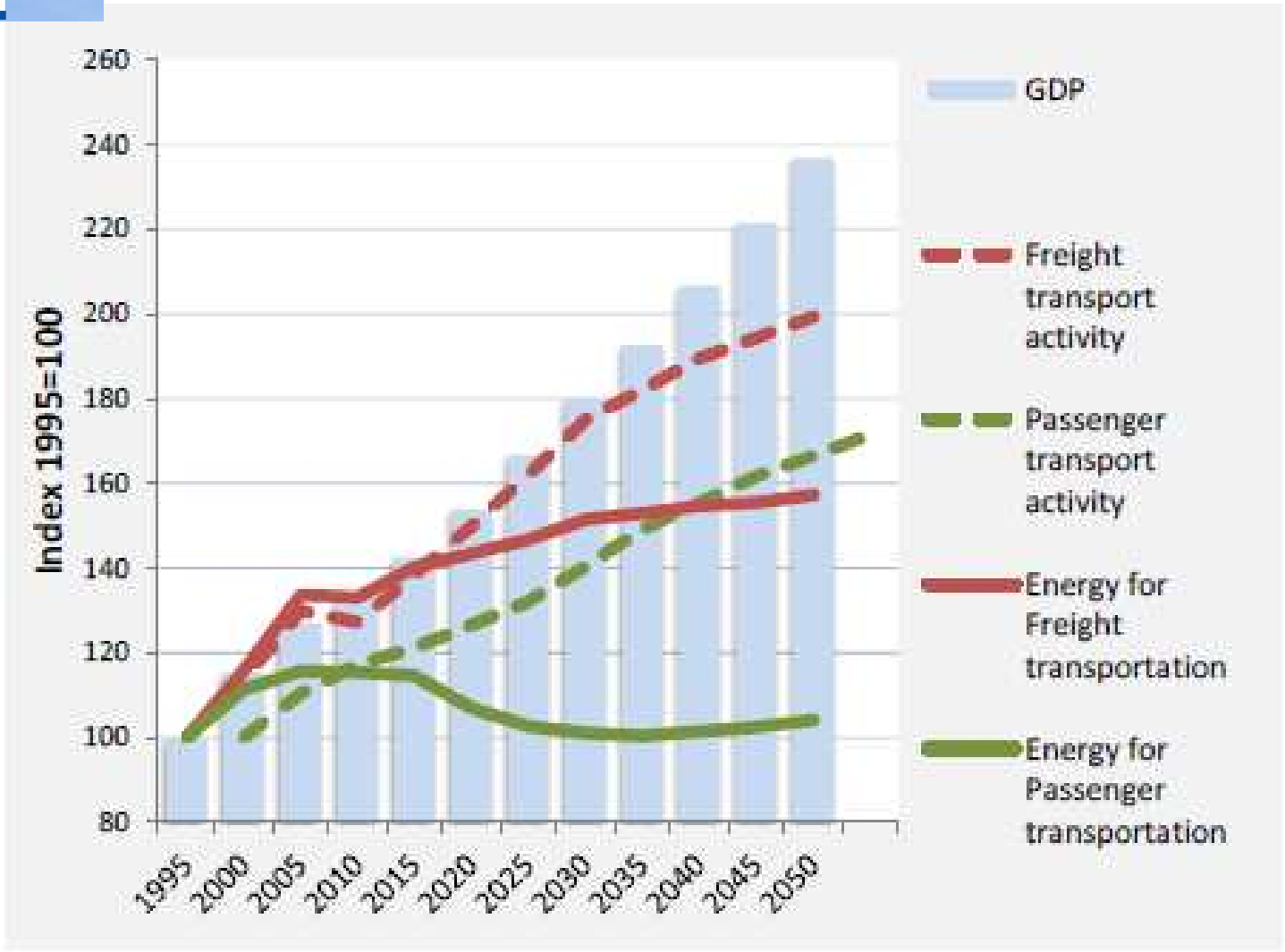
Statement

“We are living in an epochal transfer phase today.

Like the renaissance replaced the medieval times the digital revolution will change our todays society”

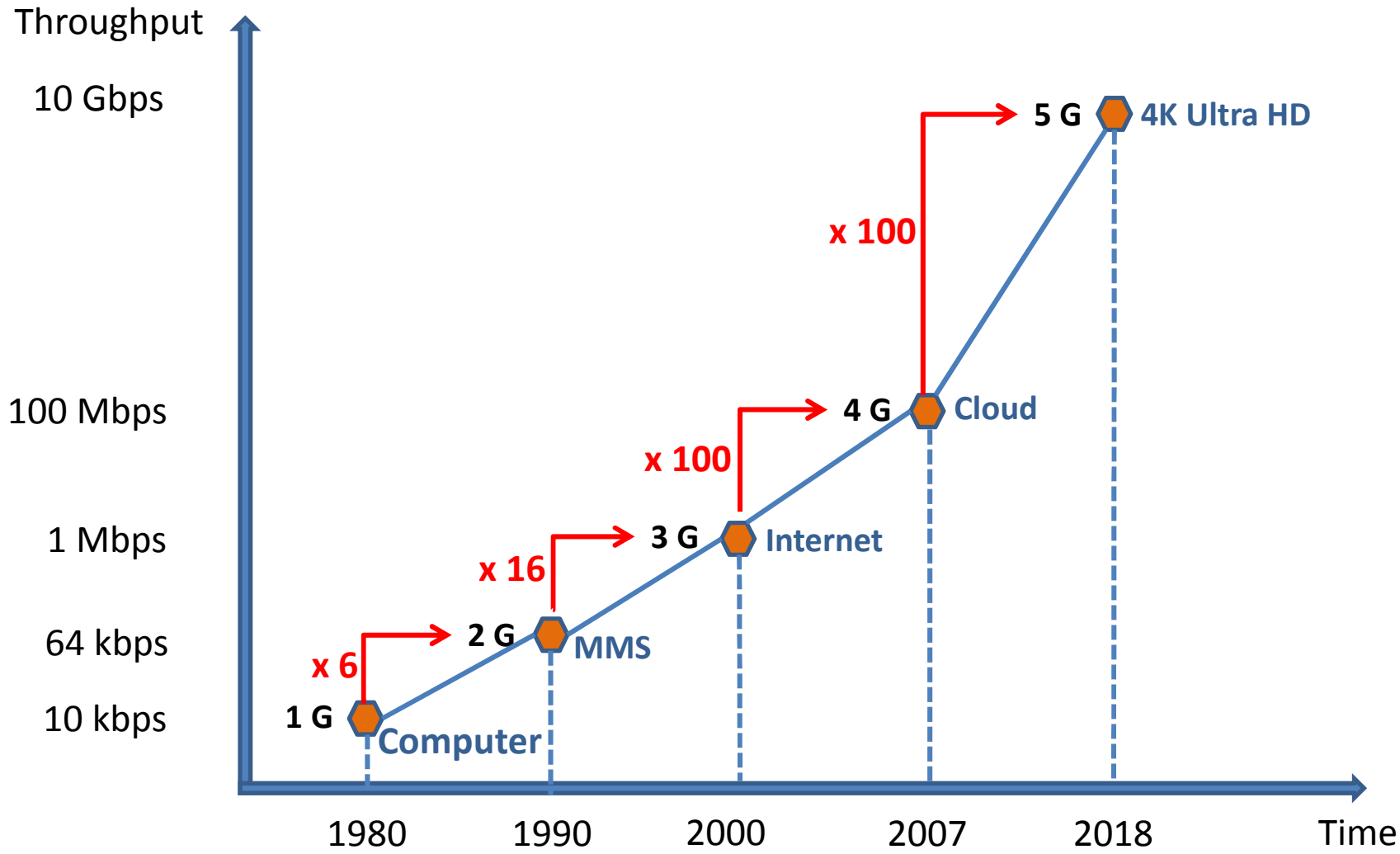
Ranga Yogeshwar

TRENDS IN TRANSPORT ACTIVITY AND ENERGY CONSUMPTION



EU ENERGY, TRANSPORT AND GHG EMISSIONS - TRENDS TO 2050

The digitalisation of aviation



bps:
bits (bytes)per Second ;
data transfer rate

SESAR (*Single European Sky ATM Research*)

… we still need the worker in aviation maintenance

… but more and more advanced capabilities are required in addition

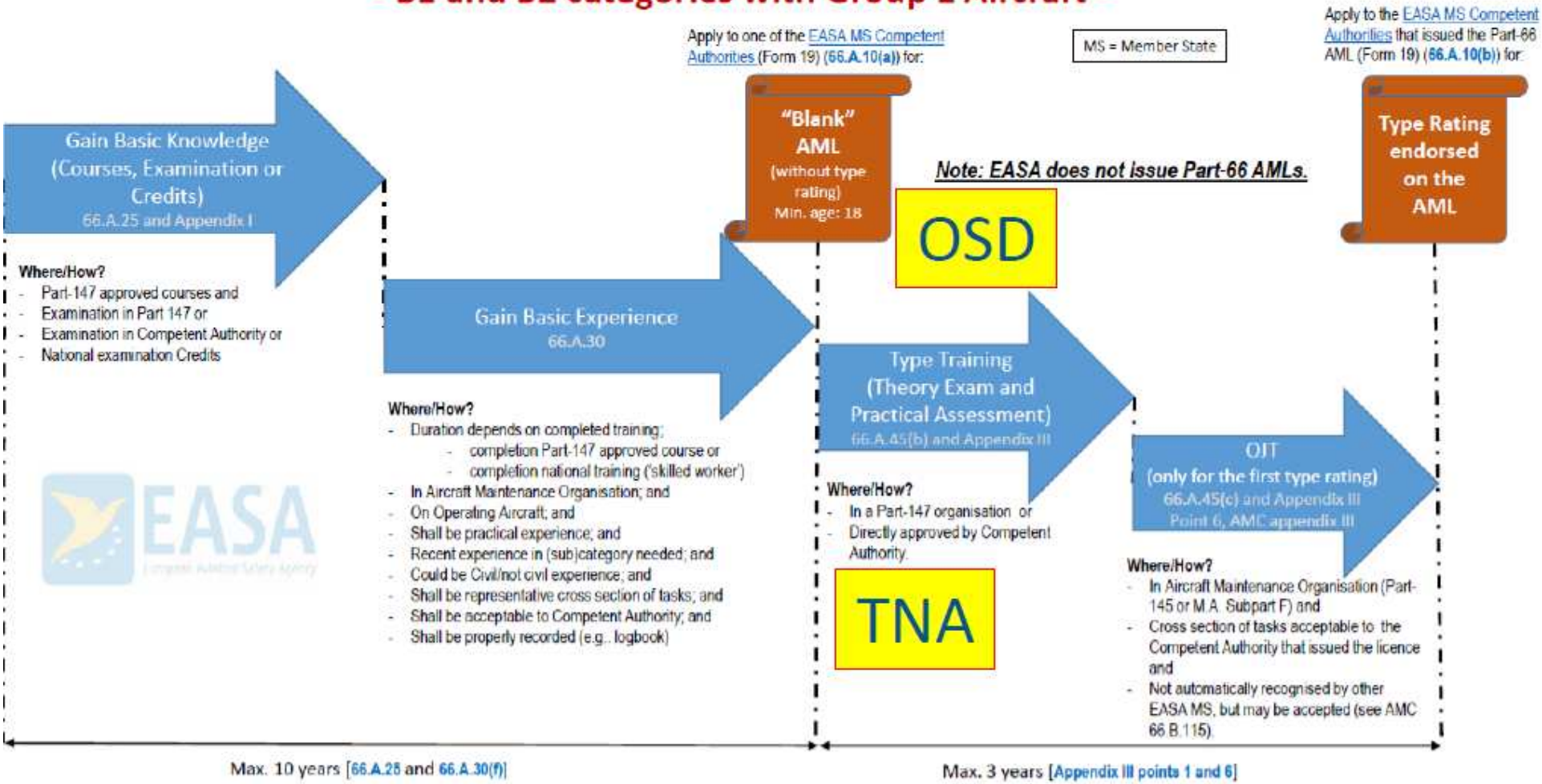
Successfully qualified and ready to perform to the highest standard

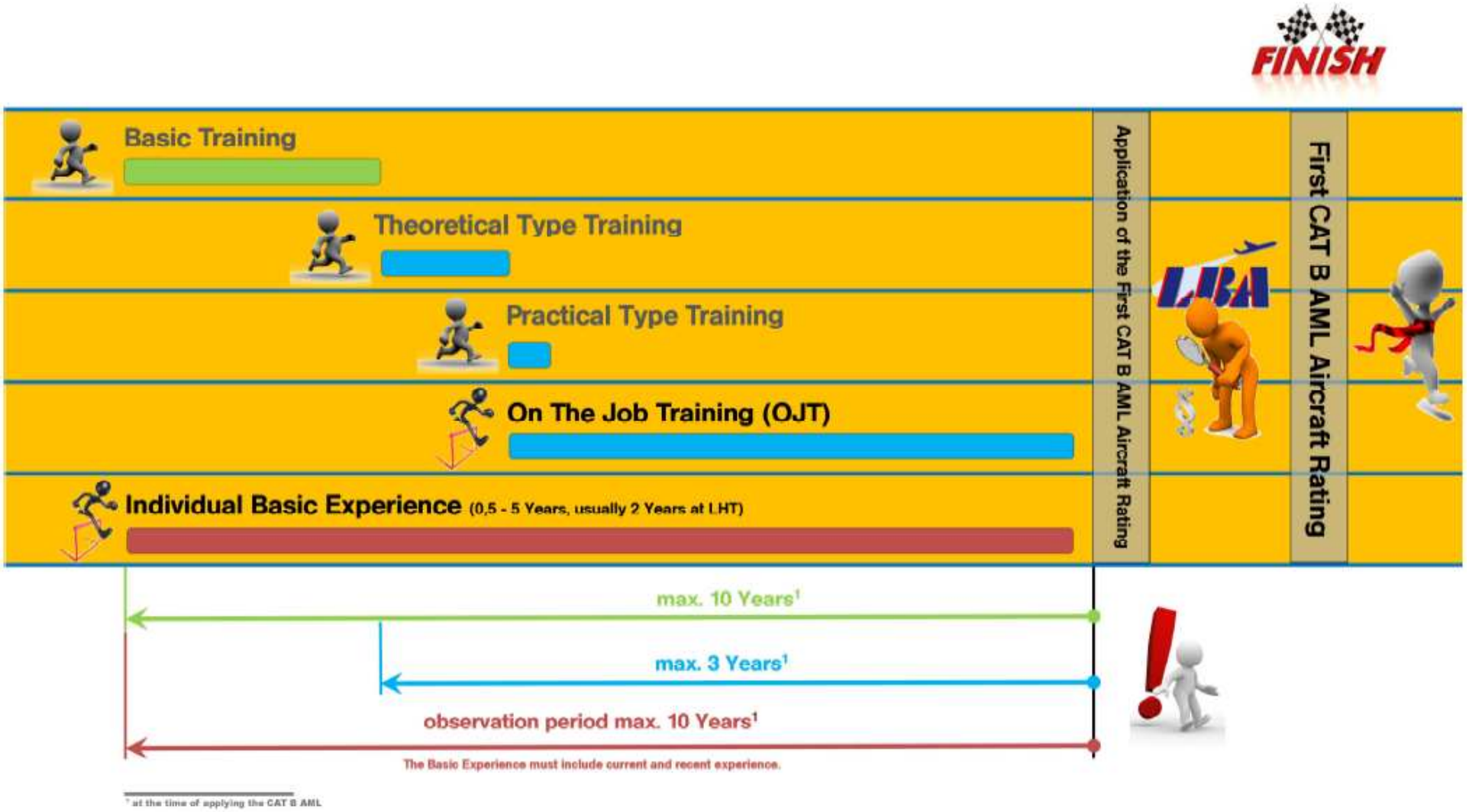
How to gain a Part 66 license

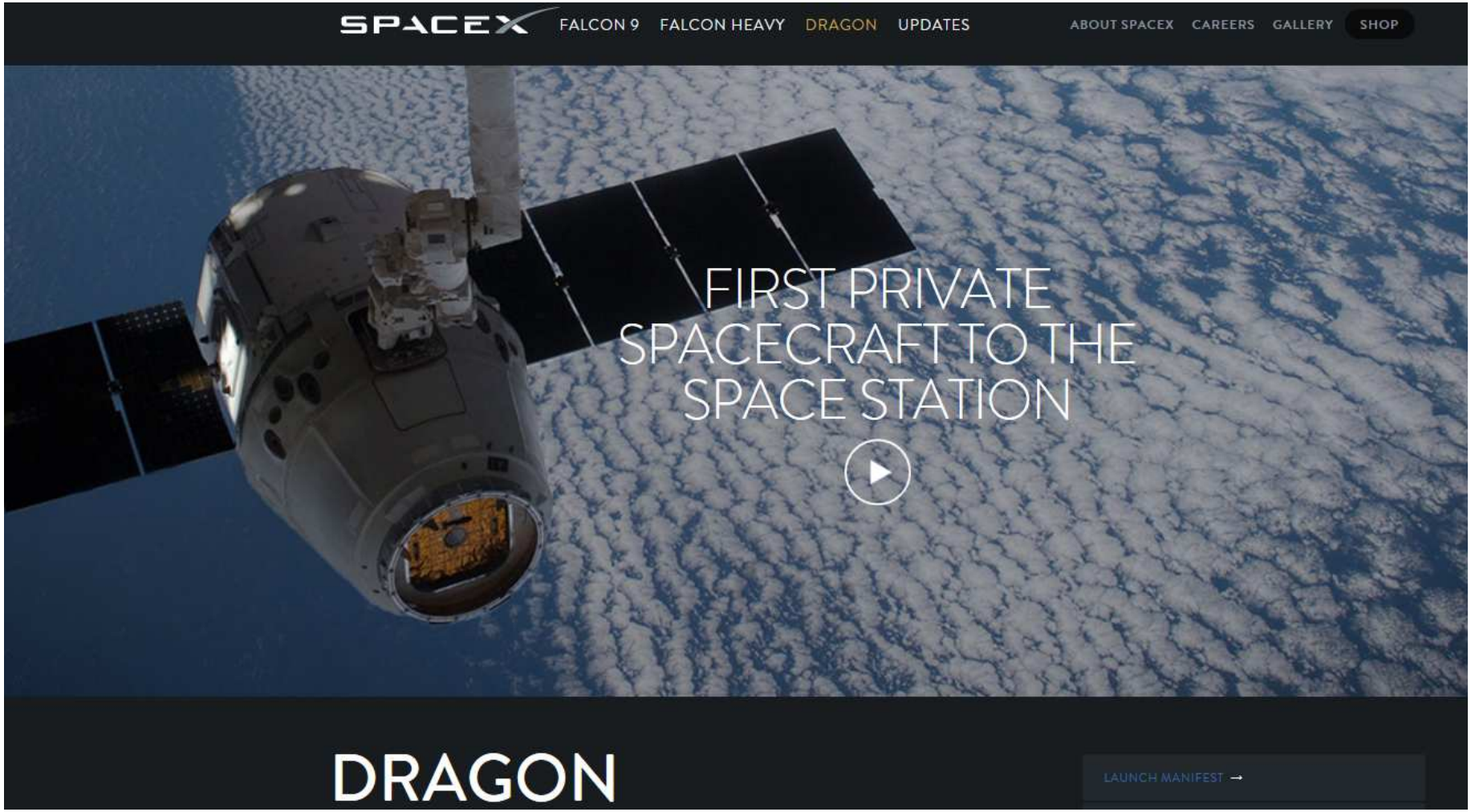
FOR INFORMATION ONLY

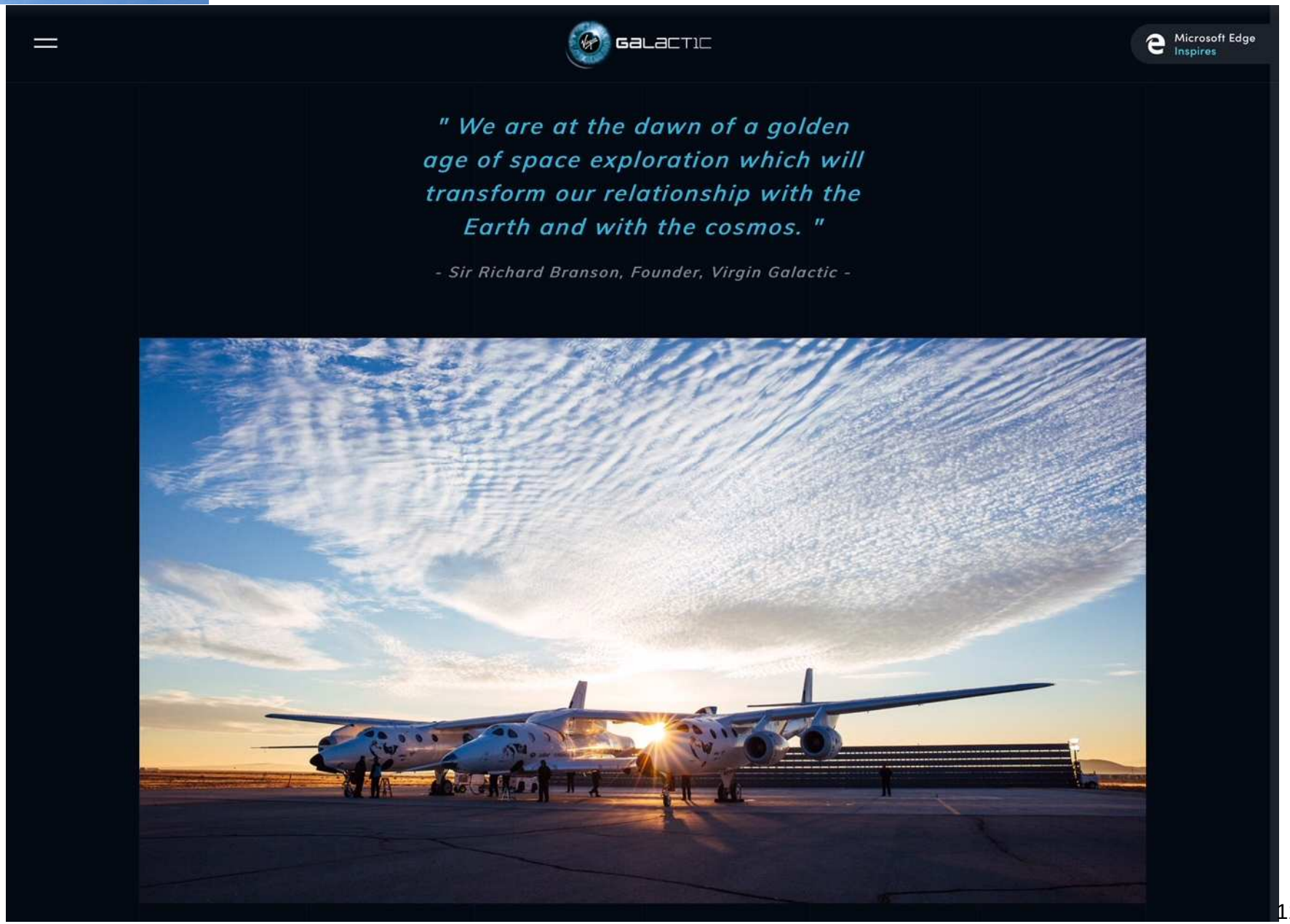
Version 1 (24-06-2016)

Scheme 1: Part-66 Aircraft Maintenance Licence (AML)
- B1 and B2 categories with Group 1 Aircraft -

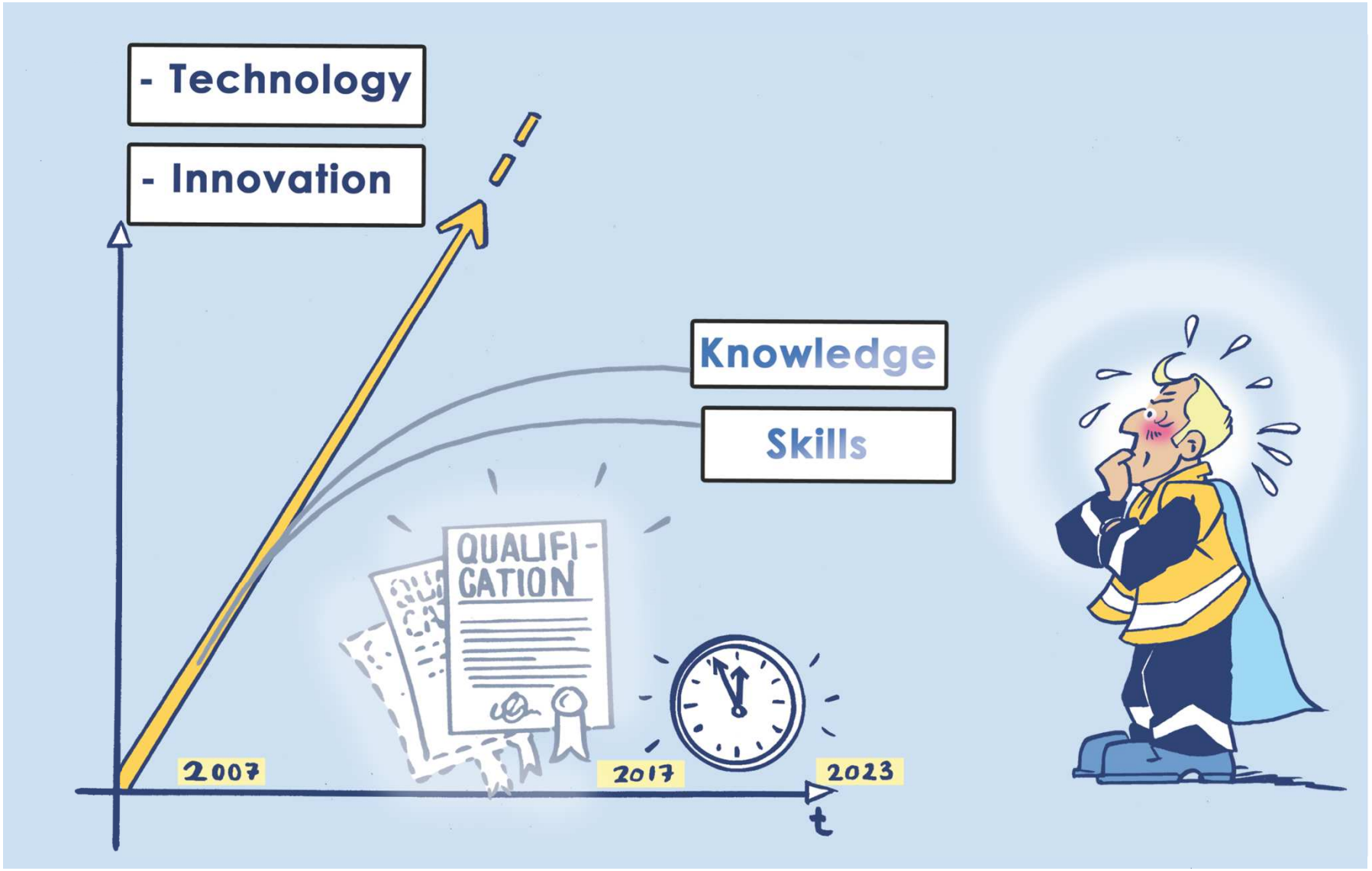



FINISH
Basic Training
Theoretical Type Training
Practical Type Training
On The Job Training (OJT)
Individual Basic Experience (0,5 - 5 Years, usually 2 Years at LHT)
Application of the First CAT B AML Aircraft Rating
First CAT B AML Aircraft Rating
LIBA
max. 10 Years[1]
max. 3 Years[1]
observation period max. 10 Years[1]
The Basic Experience must include current and recent experience.
[1] at the time of applying the CAT B AML


SPACEX
FALCON 9
FALCON HEAVY
DRAGON
UPDATES
ABOUT SPACEX
CAREERS
GALLERY
SHOP
FIRST PRIVATE SPACECRAFT TO THE SPACE STATION
DRAGON
LAUNCH MANIFEST →


GALACTIC
Microsoft Edge
Inspires
" We are at the dawn of a golden age of space exploration which will transform our relationship with the Earth and with the cosmos. "
- Sir Richard Branson, Founder, Virgin Galactic -

So when time goes by…



– Innovations increasingly change Technology!

Changes of the Aviation Industry

Technological Advances Changing the Landscape

1. The Internet of Things
   - This technology allows electronic devices to communicate with one another, e.g. aircraft systems scan themselves, identifying components in need of replacement or repair
2. Prescriptive Maintenance Looms
   - Is an analytical method that not only determines all possible avenues, but also chooses the best course of action based on the desired outcome
3. Drones
   - May be used for analysis, e.g. during last year's Farnborough Airshow, Airbus demonstrated the use of its inspection drones on the A330

By Michael Berecz- Vice President, Global OEMs, Kapco Global | April 3, 2017

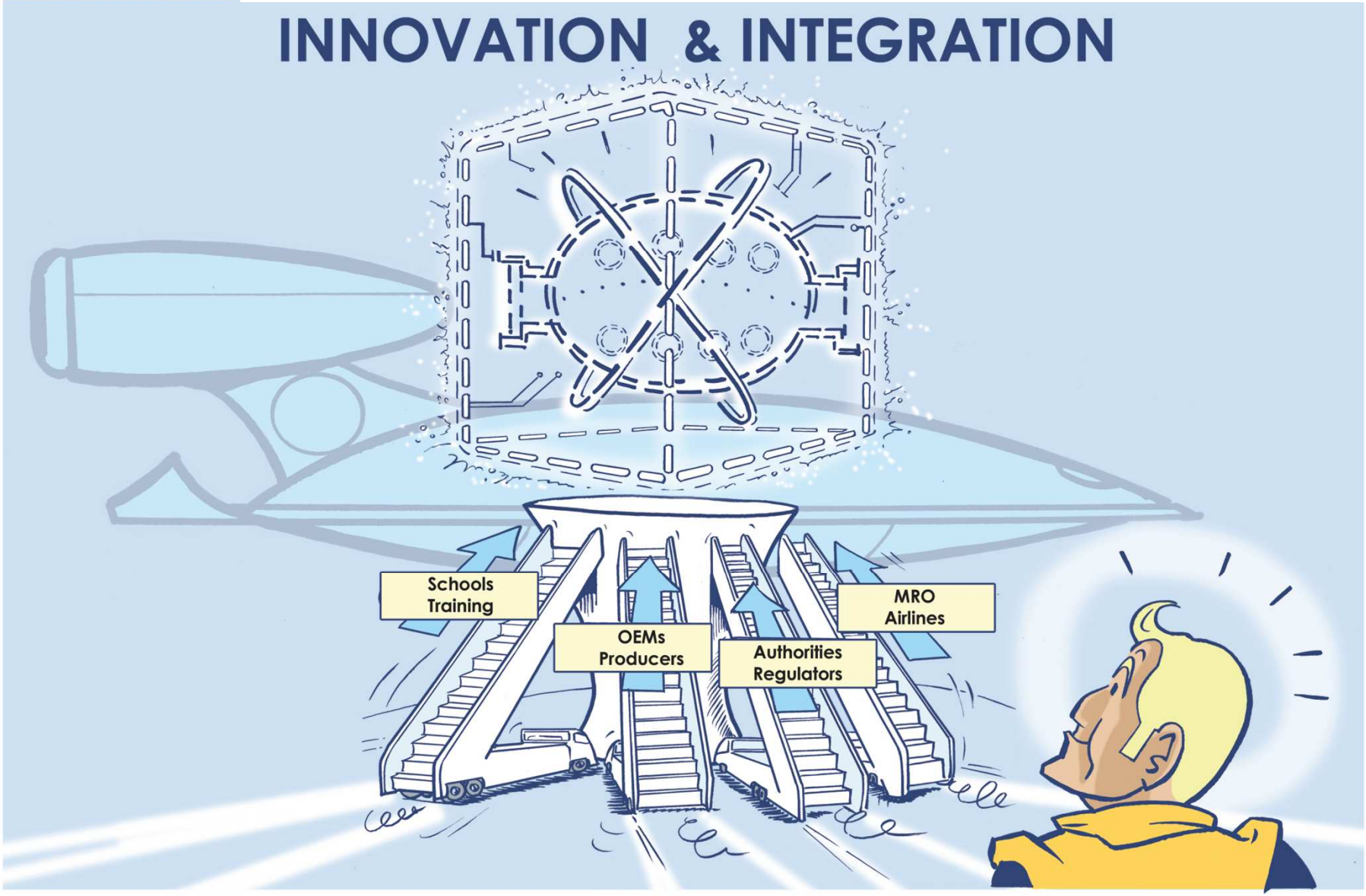
Changes of the Aviation Industry

Technological Advances Changing the Landscape

4. Augmented Reality
   - Is the use of technology to superimpose virtual elements in the real world e.g. for training or maintenance
5. 3D Printing
   - Is making its way into the large-scale manufacturing process
6. E-Commerce
   - E-Commerce is not a new technology ; however, it brings improvements to the supply chain
7. Lean Principles
   - Have played a huge role in revolutionizing the efficiency of all areas of the aviation industry

By Michael Berecz- Vice President, Global OEMs, Kapco Global | April 3, 2017

The expert counts on the support of the stakeholders…



… to support him in keeping up the needed competence level

Challenges and Chances

… for the Schools and Trainings of Aircraft Mechanics

- Changing instructional learning, increasing self-organized learning with up to date learning material and technology
- Avoiding directly Information – enforcing self regulated information-acquiring and –transforming
- Enhancing problem-solving learning including practicing and reflecting on team communications skills
- Changing further trainings from push to pull
- …

Challenges and Chances

… for the OEMs and Producers

- Launching products successfully with high acceptance of the customer
- Reducing phase in costs with an integrated product and training delivery process
- Assuring continuous thriving handling of competent users with always up to date product information
- Utilizing didactical competence of training networks to build and keep up knowledge and skills
- …

Challenges and Chances

… for MROs and Airlines

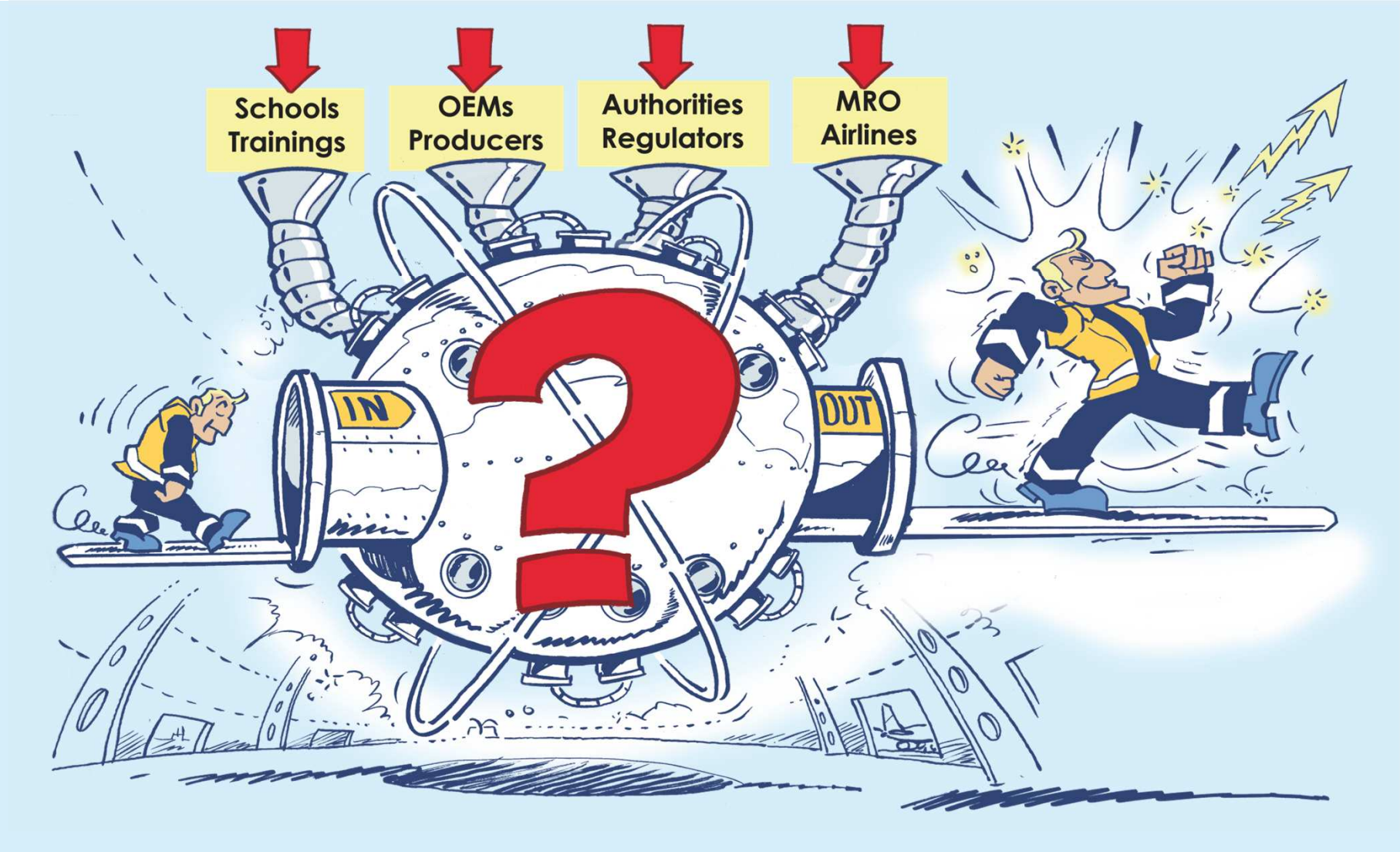
- Fostering a learning organization
- Providing learning environment close to work space
- Making needed information easy available
- Ensuring continuous competency of their technical and certifying staff
- …

Challenges and Chances

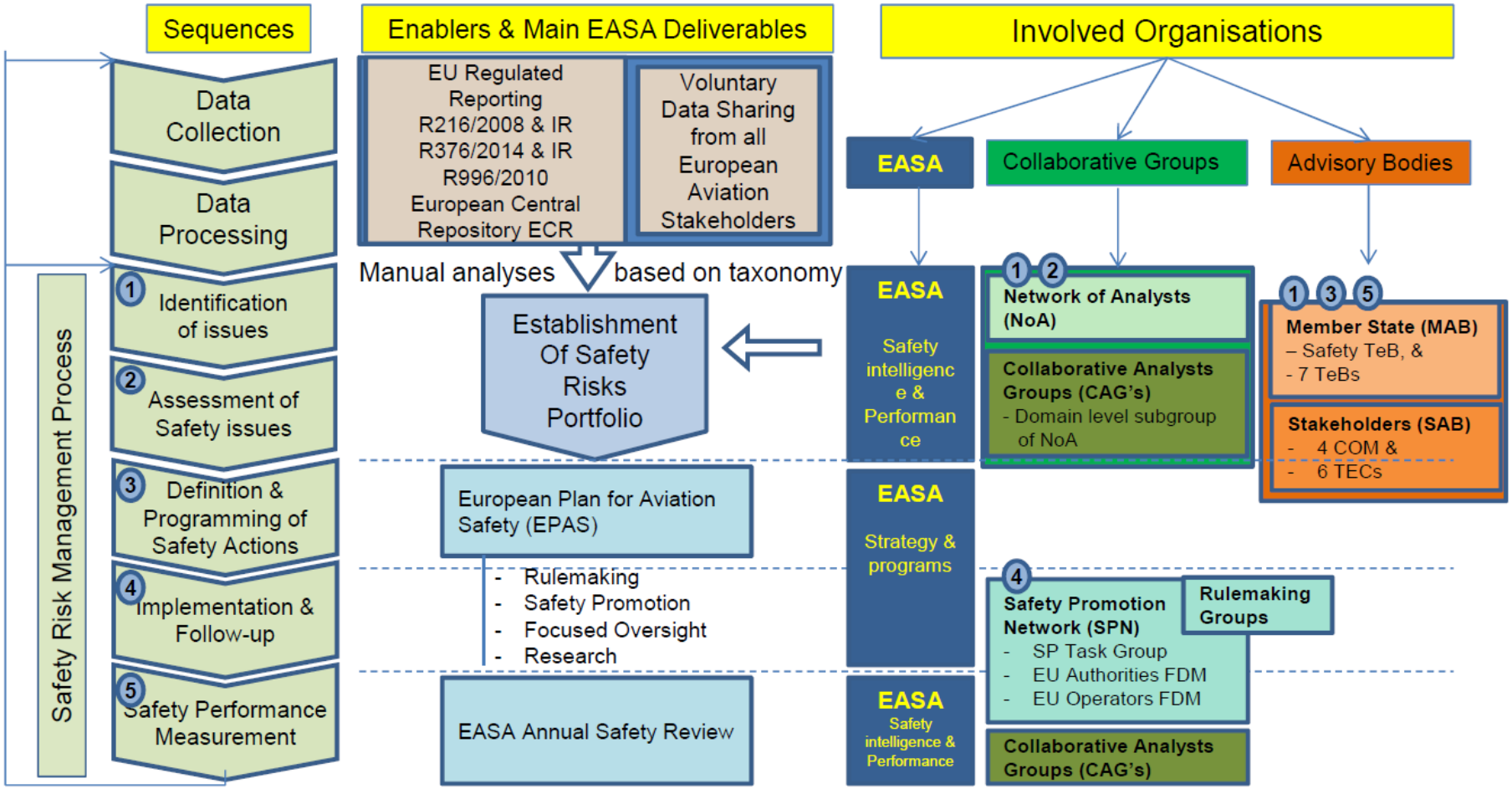
… for Authorities and Regulators

- Assuring standards applicable within the EASA community to enhance the usage of new training methods and technology
- Supporting the efforts for in-time delivery of new technology – knowledge – skills to the certifying staff / engineers in the frontline
- Focusing on methods to improve and assure competency
- Keeping the rules and regulations aligned with the technological innovations and development
- …

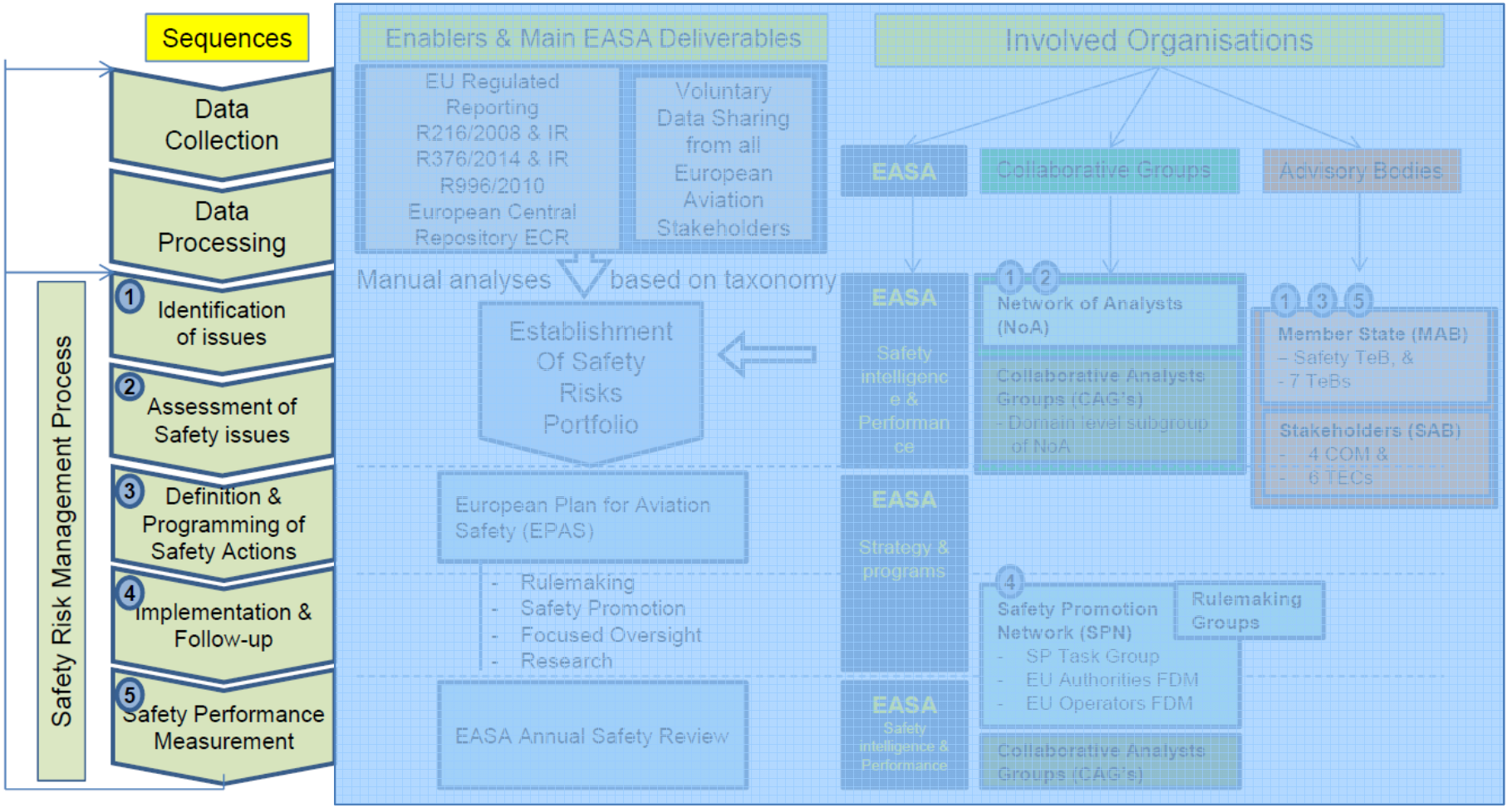
How to create a successful support?



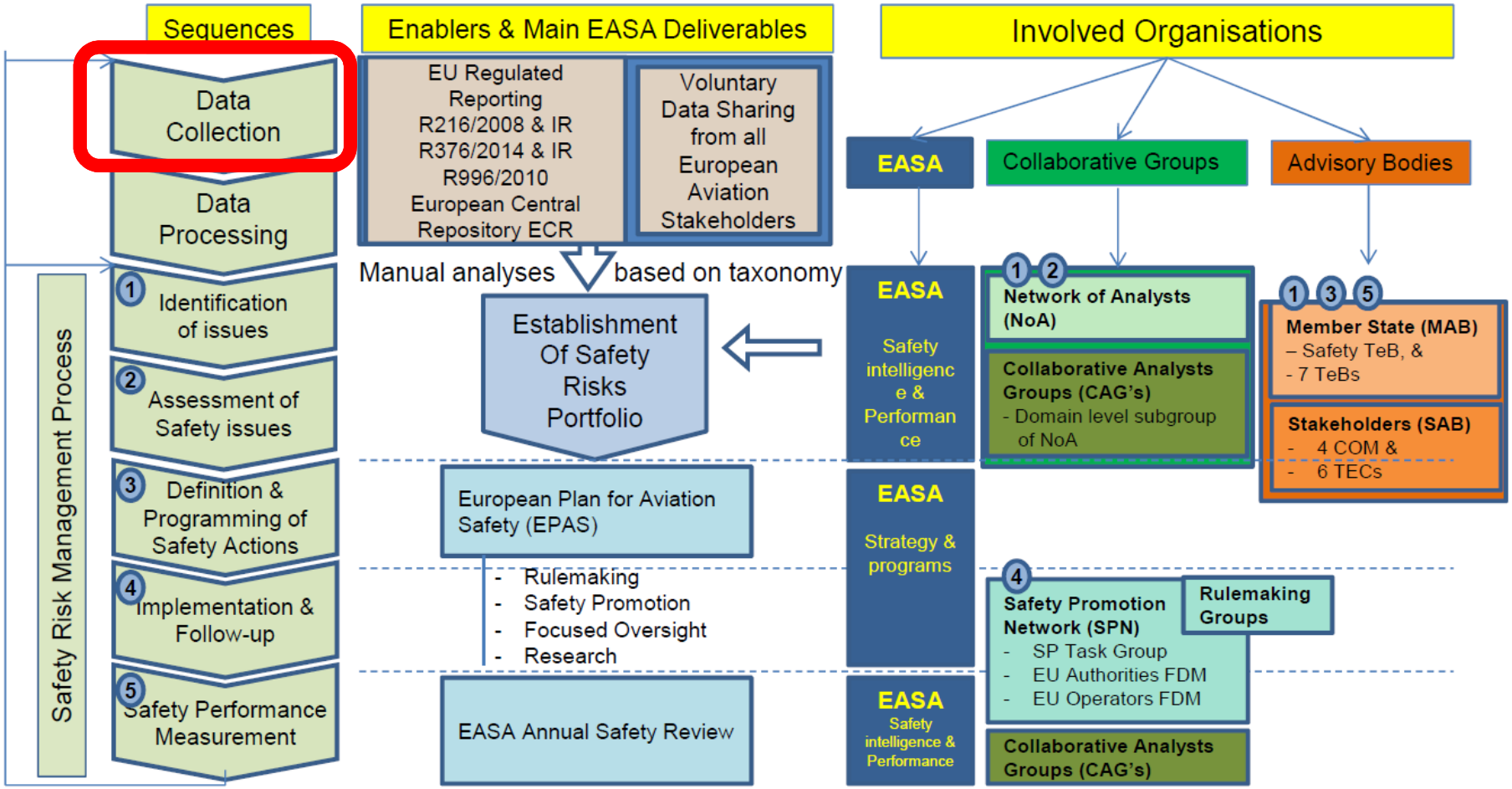
EASA Safety Management Process



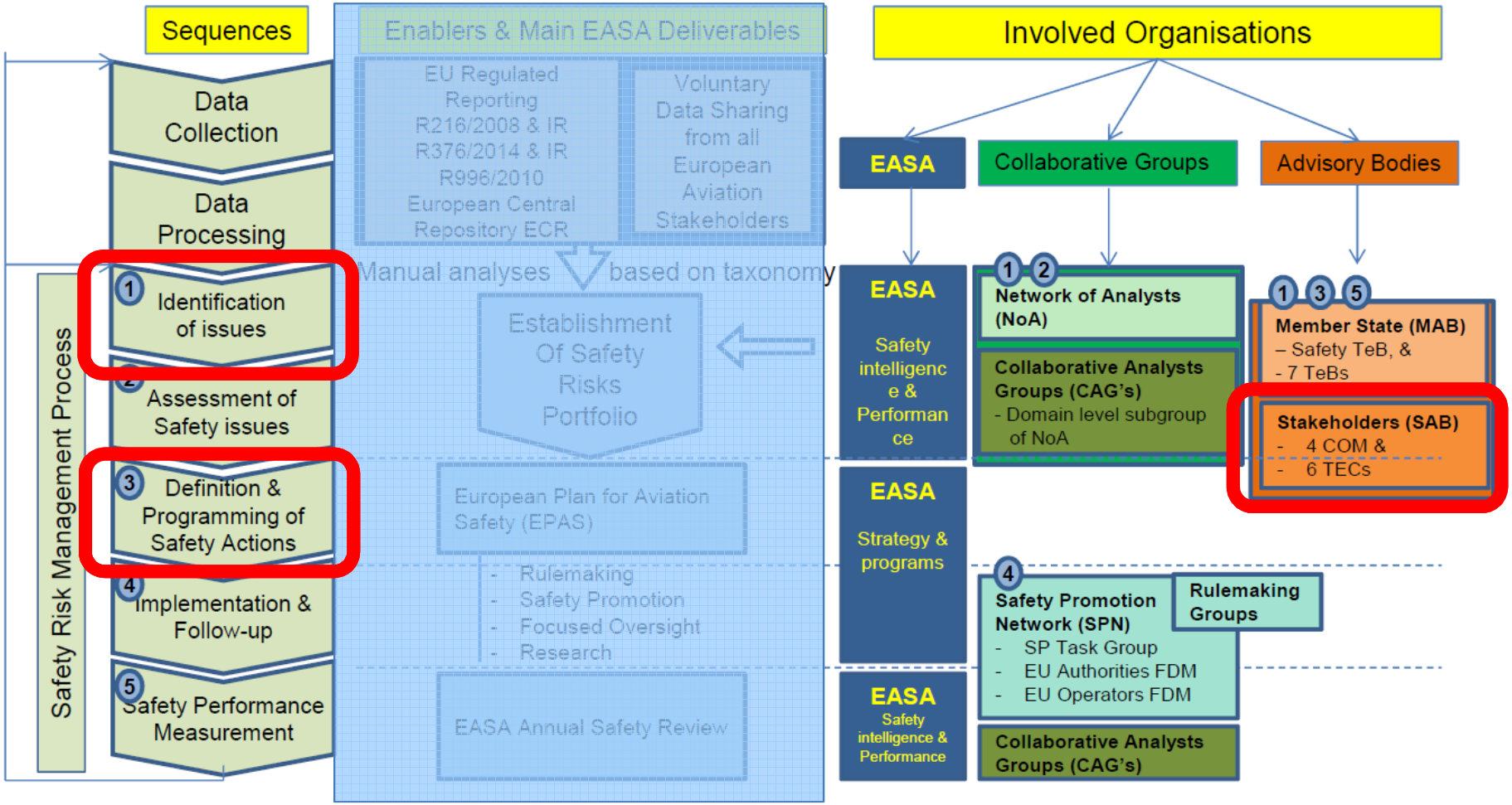
EASA Safety Management Process



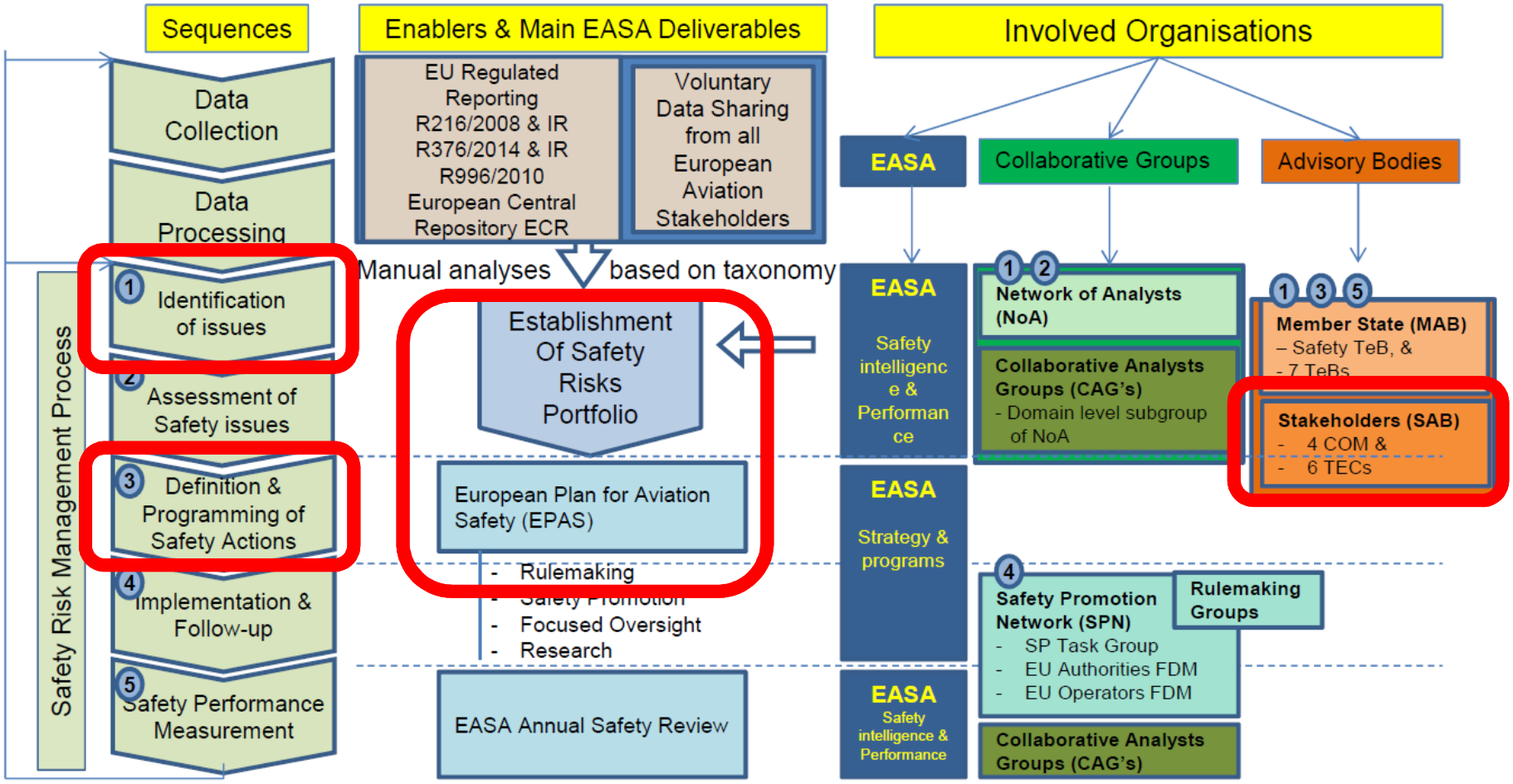
EASA Safety Management Process



EASA Safety Management Process



EASA Safety Management Process



EASA Rulemaking Process

- The **European Aviation Safety Plan (EPAS)** is the key, strategic document that identifies the actions to be carried out at European Level to continually improve the safety and efficiency of the European Aviation system.
- EASA is committed to improving the **decision making process** by ensuring that all **available data is used** to select the most effective actions according to safety, environmental, social and economic criteria.
- Currently, …. the decisions are based on qualitative assessment supported, when available by safety data …
- There are obvious valid reasons for this situation: considering resources constraints, the **depth of the analysis to justify of a decision has to be proportionate to the scale of the issues and the impacts**.
- Despite this, **EASA is committed to collecting more data to provide the evidence to support the decision making process**.

EASA Rulemaking Process

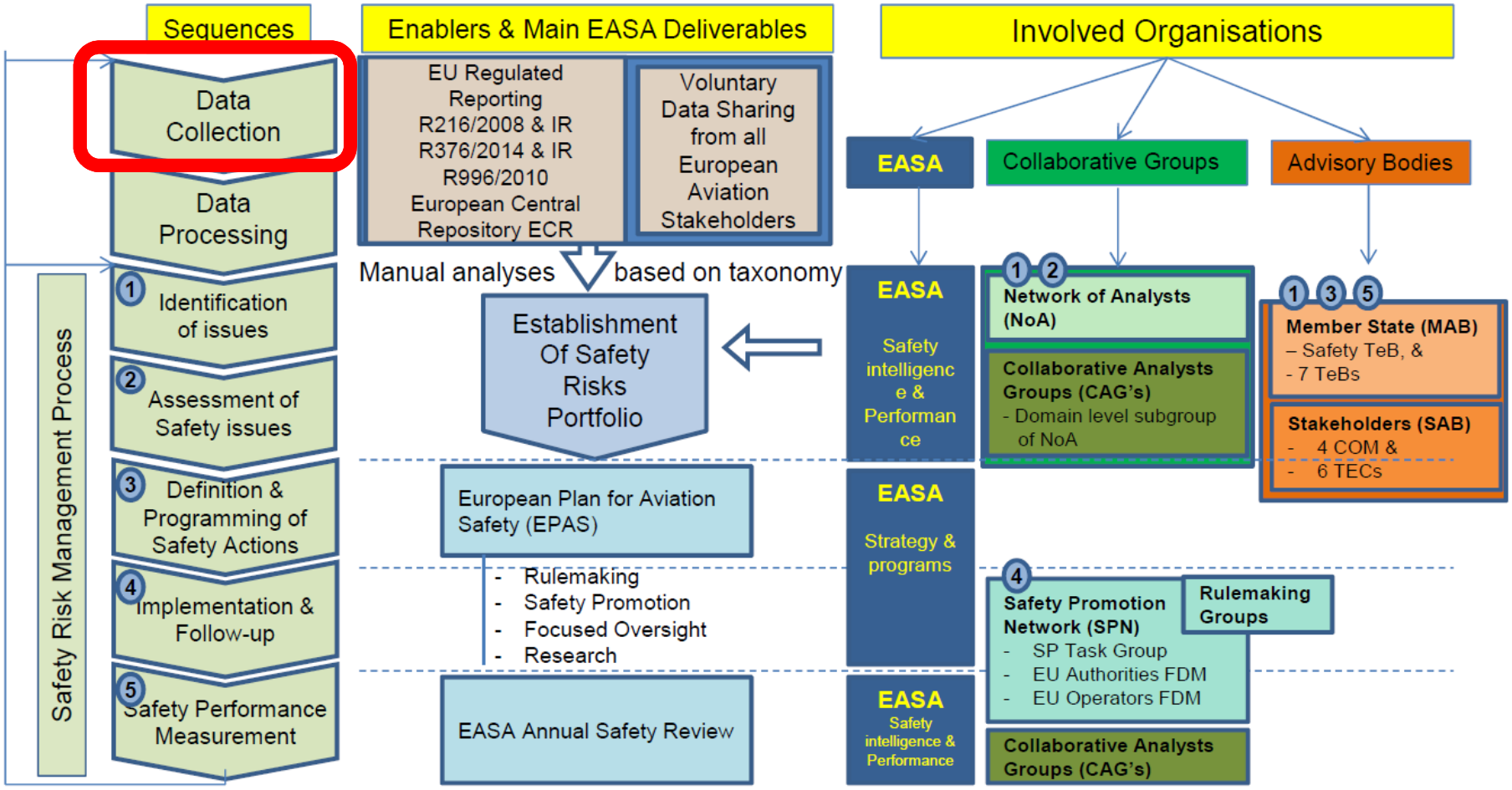
The **3 key-issue categories** addressed in the EPAS are:

1. Systemic Issues:
   - Problems affect aviation as a whole
2. Operational Issues:
   - Closely related to events reported during operations
   - Brought to light through **data analysis**
   - Key Risk Areas:

     Accident outcomes that the EPAS seeks to stop from happening.
   - Safety Issues:

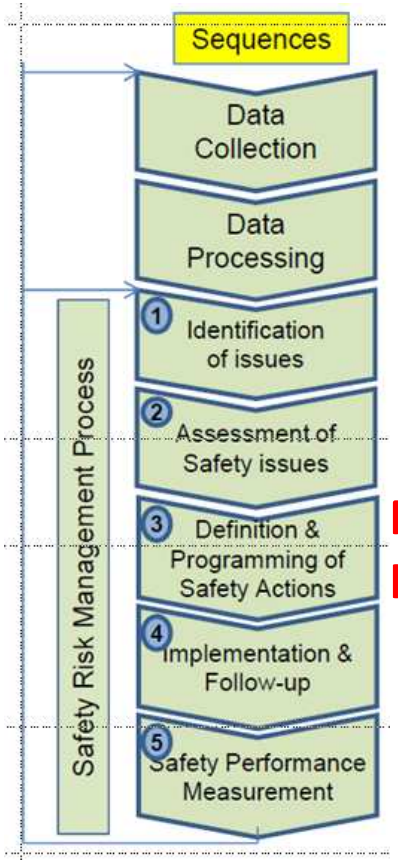
     Causal and **contributory factors** leading to the key risk areas
3. Emerging Issues:
   - **Suspected problems that are to be expected or anticipated in the future**

EASA Safety Management Process



Please keep in mind

NO DATA INPUT

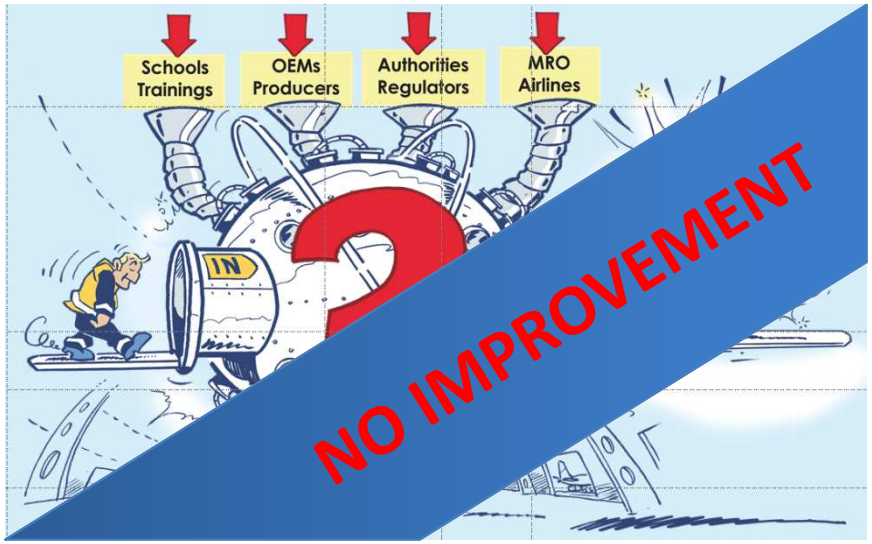


NO ITEM

European Plan for Aviation Safety (EPAS)

NO Rulemaking

NO OUTPUT



European Aviation Maintenance Training Committee

Working together in the maintenance training world

Background

1980s – difficulty of accepting a/c maintenance training across borders highlighted

- Different licensing systems
- JAA and on to EASA

2007 - established as a Foundation under Dutch Law

Members


AIRFRANCE
AIRBUS
AIRBUS DEFENCE & SPACE
ATR TRAINING CENTRE
AIRBUS HELICOPTERS
aviotrace SWISS
air astana
AERO
AeroTrain
AMIKON AVIATION TRAINING
ASTech
BOMBARDIER the evolution of mobility
AgustaWestland A Finmeccanica Company
AEROCAMPUS AQUITAINE
apave Aeroservices
cargolux
CAE
ACK Australian College of Kuwait
Austrian
Aviation Competence Centre
DASSAULT FALCON
MINT Software Systems
BOMBARDIER AIRCRAFT TRAINING
resource group
DELTA
DHL
EMBRAER
CATHAY PACIFIC
TAMPERE COLLEGE
IBERIA
KLM engineering & maintenance
CATTS
CSA CZECH AIRLINES
Virgin atlantic
FINNAIR FLIGHT ACADEMY
infoWERK
ETIHAD AIRWAYS
LINK & LEARN
TURKISH AIRLINES
FLTECHNICS TRAINING
HAECO
SAVO VOCATIONAL COLLEGE
ICARE
Training center "Aviator"
AeCAT
IAAG
Rolls-Royce
QATAR AIRWAYS
KUWAIT AIRWAYS
Thomas Cook Airlines
sabena technics training
SAS
SAS Technical Training
SAFRAN Snecma
Together ahead. RUAG
Luxair
Lufthansa Technik More mobility for the world
INSTITUTE of TECHNOLOGY CARLOW
Lufthansa Technical Training
SWISS
MEA
superjet INTERNATIONAL
Operantis AUTREMENT INNOVANT
OLYMPIC
SR Technics TRAINING SERVICES
PEGASUS AIRLINES
NLR
IAT
PILATUS
SOFIA FLIGHT TRAINING
Swiss AviationTraining
ROGALAND FYLKESKOMMUNE
Shannon Aerospace
GMF AeroAsia GARUDA INDONESIA GROUP
TUI Thomson Airways
TEC

Who we are

A pan-”EASA world” industry Foundation

- dedicated to maintenance training
- registered in the Netherlands

Main objective:

- Improve safety through training
- To represent the training industry with EASA

A culturally diverse organisation

- Members share mutual goals

Mission Statement

EAMTC is

- International, independent, self-sustaining
- Committed to promoting safety through training and best practice
- Representing its members towards EASA,ICAO and other industry bodies
- Offering solutions to industry issues and sharing them between members and regulatory bodies via Guidelines and Recommendations

Mission Statement

EAMTC is

- Supporting the applicable legislative and regulatory process through participation in their working groups
- Monitoring legislative and industry changes and trends to keep the members up to date
- Providing a networking environment for its members and authorities to share experiences and interact with other training professionals
- Providing a platform for members to promote their trainings and industry events

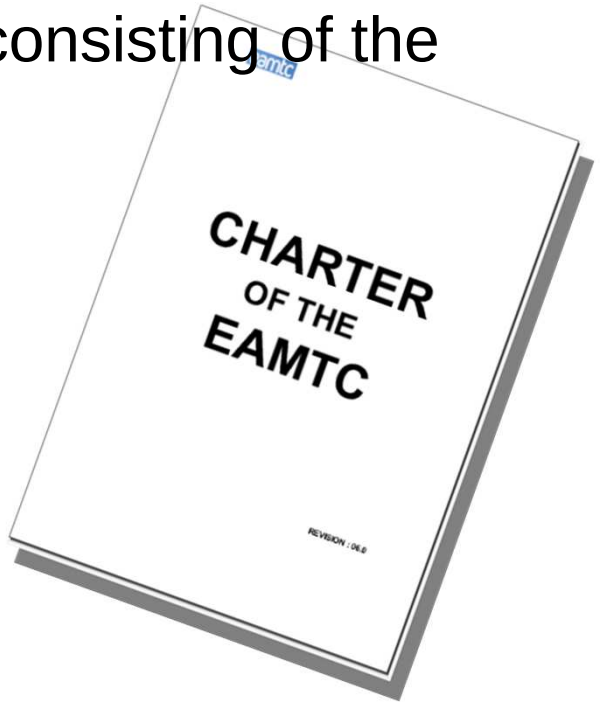
How we work

General Assembly

- Decision making meeting (2 x p.a.) of members

Supervisory Board

- Representing the General Assembly consisting of the four stakeholder groups
  - Basic Training
  - Type Training
  - OEM and OAM
  - Airlines and MRO



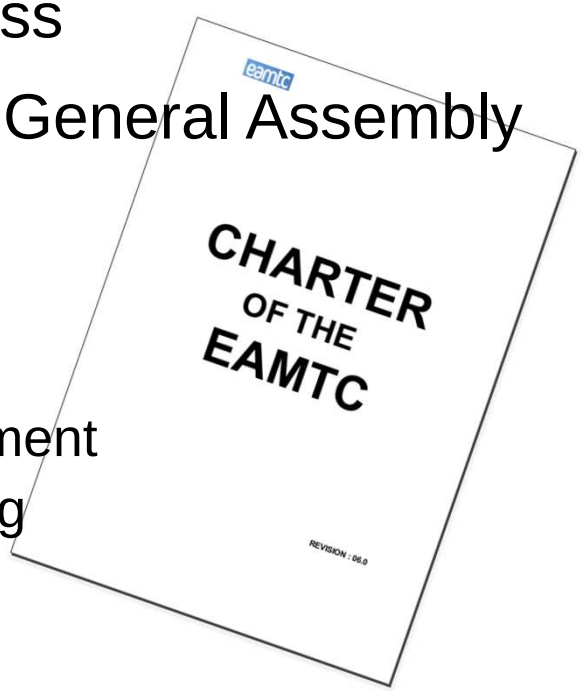
How we work

Executive Committee

- Central body to run day-to-day business
- Subject to direction and control of the General Assembly

Issues of concern to Members

- Working Groups
  - General Assembly formulates the assignment
  - Report at each General Assembly meeting



Working Groups

APPENDIX II to AMC to PART-66:

Basic Training

- The WG will review and make recommendations for the Basic Training areas of Part 66 and Part 147.

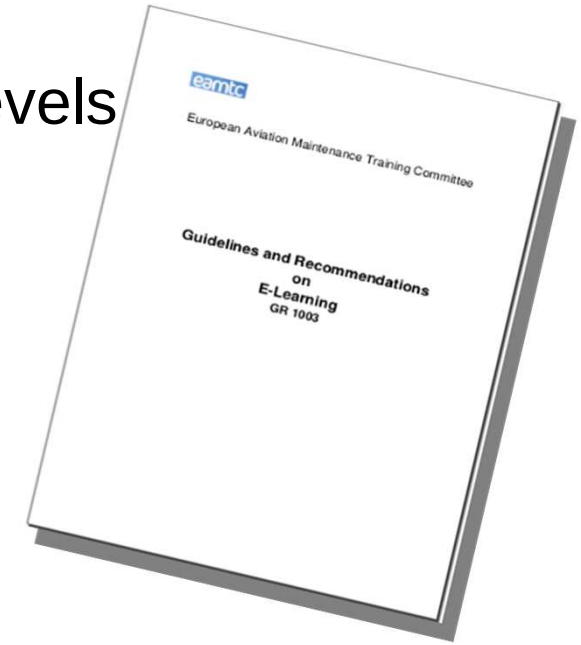
Review of Part 147

- The WG will examine all aspects of Part 147, including its AMC and GM and make recommendations for improvements.

Outcome

Guidelines and Recommendations

- GR 1001 Assessments
- GR 1002 Training Needs Analysis
- GR 1003 E-Learning
- GR 1004 Synthetic Training Device Levels
- GR 1005 Practical Maintenance Training Devices
- GR 1006 Attitude and Behaviour



Regulatory links

EASA Stakeholder Advisory Board (SAB)

- Engineering and Maintenance (EM.TEC)
- Design and Manufacturing (DM.TEC)

EASA HF.CAG

ICAO

- CBTA Working Group for PANS Training

Motto

Coming together is a beginning

keeping together is progress

working together is success

Henry Ford

Working together to win the future