Aircraft Mechanics
The challenges for Operators, MROs and Training centres

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Aircraft Mechanics
The challenges for Operators, MROs and Training centres

1. Scope / Context

2. The Mechanics Resource Plan Challenge

3. The Mechanics Career Path

4. The Teaching techniques

5. Conclusions
1. Scope / Context

- Growing Fleet worldwide
- New Aircraft Generation
- Safe and Reliable Maintenance Operation (Line/Hangar/Workshop)
- New technologies adaptation to new teaching techniques
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2. The Mechanics Resource Plan Challenge

- More than 500,000 new mechanics required in the next 20 years
  >200,000 in Asia Pacific

- Attrition to be compensated: know-how / experience transfer to be managed

- New generation expectations

- New Aircraft, Hangar, Inspection/tests, GSE… technology

- Training + Experience = investment

- Resource retention to be secured

- Compliance to regulations to be ensured
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3. The Mechanics Career Path – A long career to be managed

- Aircraft Mechanic:
  - Potential Long Career
  - Different options from initial training
  - Possible different career paths

Basic /Vocational training - School

Part 145 experience

Licensed Mechanic Support Staff (e.g. AML)

Part 145 experience

Type Training – “School”

Part 145 experience

Certifying Staff (e.g. LAE)

Part 145 experience

Part 145 experience

End of Career or Other Career Path

(*) B1 or B2 depending on school and national regulations
3. The Mechanics Career Path – *The different actors*

- **Basic / Vocational training - School**
  - Part 145 experience
  
  - Licensed Mechanic Support Staff (e.g. AML)
  
  - Part 145 experience

- **Type Training – “School”**
  - Part 145 experience
  
  - Certifying Staff (e.g. LAE)
  
  - Part 145 experience

- **Initial Basic / Vocation Training** ➔ **National Education System**
  - Potential P145, OEMs, other providers support
    - Training Material
    - Regulation Standards (e.g. EASA part 66)
    - Practical on aircraft
    - Aircraft Components

- **Initial Type Training**
  - OEM (e.g. Airbus)
  
  - Part 145 or other Part 147 organizations according to NAA

- **Recurrent Training**
  - Part 145 organization with potential P147 support

(*) B1 or B2 depending on school and national regulations

End of Career or Other Career Path
3. The Mechanics Career Path – To become an attractive one

- **Potential significant investment**
  - For families (school)
  - For Part 145 organizations (career)

- **Need to secure resources in a demanding and competitive environment**
  - Scholarship & Commitment contracts
  - Career Path management

- **Mechanics Development Path must be attractive**
  - School – valuable studies & qualification level
  - Affordable studies
  - Employment opportunities
  - Career path possibilities

- **School “good” reputation**

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**Basic/Vocational training - School**

- **Part 145 experience**
  - 2 to 5 years (*)

- **Licensed Mechanic Support Staff (e.g. AML)**

- **Part 145 experience**
  - >1 year

- **Type Training – “School”**

- **Part 145 experience**
  - #1 year

- **Certifying Staff (e.g. LAE)**

- **Part 145 experience**

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(*) B1 or B2 depending on school and national regulations

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**End of Career or Other Career Path**
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4. The Teaching techniques

- Teaching Techniques adapted to
  - Knowledge, Skill, Attitude objectives
  - Regulatory requirements
  - Student expectations
  - Available technologies
  - Available means

- Maintenance Training Simulators
  - Courseware, Virtual Cockpit, Virtual Aircraft, Technical documentation
  - Learning by doing = optimized knowledge retention in safe environment
  - Practice on device

- Practical on aircraft or components

- Blended learning
  - Mix of different teaching techniques
  - Optimised knowhow retention
4. The Teaching techniques

- Other Teaching Techniques have been introduced
  - E.g. e-Learning, more suitable for recurrent training
  - Competence Based Training

- New emerging technologies
  - Augmented Reality
  - Virtual Reality...
  - Maturity to be confirmed
  - Integration into Maintenance Training on an appropriate basis

Best teaching technique to reach teaching objectives

- Teaching Techniques to be compliant with regulatory requirements
- Regulations to evolve to remain adapted to new technologies
- Instructor ability to switch to new teaching techniques
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5. Conclusions

- Fast Growing Environment
- Mechanics Shortage Risk to be managed
- Mechanics Studies to become more attractive
- Mechanics & instructors career path to be managed
- Resource retention
- Training costs to be managed to bring expected value
- Appropriate Maintenance Training Solutions
- Regulations to comply with and to evolve
- Instructors to adapt
- Airbus present Worldwide
  - Type Training – Training by Airbus solutions
  - Basic Training – Support to National Education Systems / Schools
  - Resource retention solutions

Thank you!