



SCHWEIZERISCHE VEREINIGUNG FÜR FLUGWISSENSCHAFTEN
ASSOCIATION SUISSE DES SCIENCES AERONAUTIQUES
SWISS ASSOCIATION OF AERONAUTICAL SCIENCES



Intelligent and Autonomous Technologies in Aeronautics - Software Engineering and Unmanned Aerial Systems

ICAS Workshop 2017
Shinji SUZUKI, PC Chair,
the University of Tokyo

Computer Intelligent Activities Become a Reality

- Computer Power could and can improve the Productivity and performance in Aircraft Development and increase the Safety and Maintainability in Aircraft Operation in the past and in the future.
- However, Computer Power required and requires the Change of Human Beings' role.

From Computers to Programmers

- At NASA Langley in the Apollo Age, many women were working as commuters.
- The introduction of IBM Computer was big threats for them.
- They studied very hard compute programming.
- They could find a new job as programmers



From Drawers to CAD operators

- At Toyota in 1970~80, a lot of drawers changed their job to CAD operators.



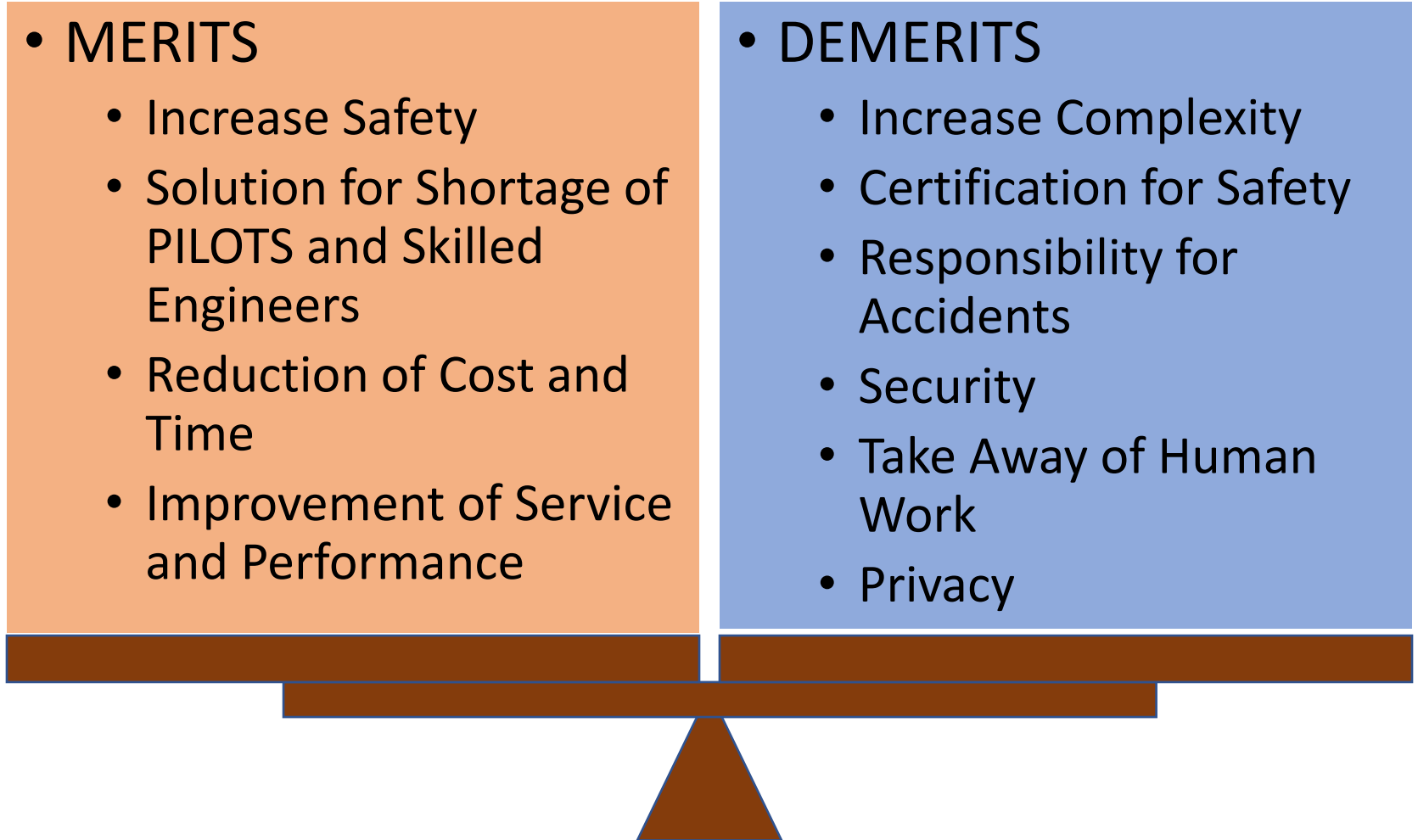
Intelligent and Autonomous Technologies

• MERITS

- Increase Safety
- Solution for Shortage of PILOTS and Skilled Engineers
- Reduction of Cost and Time
- Improvement of Service and Performance

• DEMERITS

- Increase Complexity
- Certification for Safety
- Responsibility for Accidents
- Security
- Take Away of Human Work
- Privacy

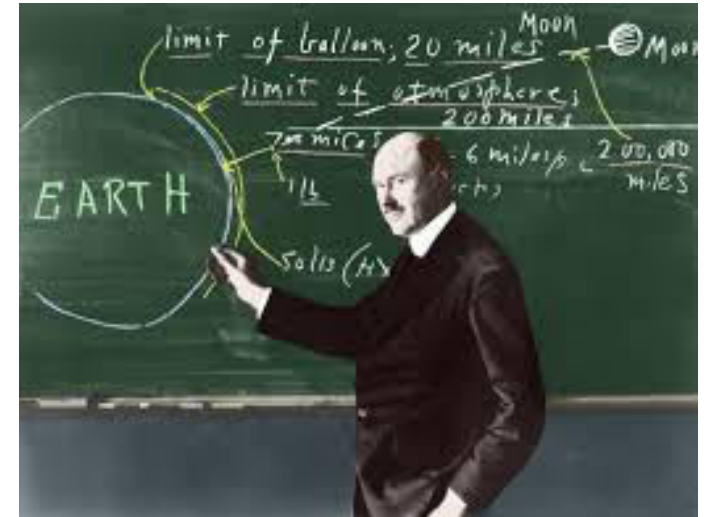


Small UAS (drone) creates New Business and Industry, but causes New Threats for Society

- New Rule, Guideline and Regulation must be designed.
 - Safety
 - Economy
 - Convenience
- International Collaboration
- Knowledges and Experiences in Aeronautical Sciences



- It is difficult to say what is impossible, for the dream of yesterday is the hope of today and the reality of tomorrow.
- Robert H. Goddard
- US physicist & pioneer rocket engineer (1882 - 1945)





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