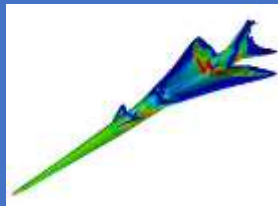# Intelligent and Autonomous Technologies in Aeronautics - Software Engineering and Unmanned Aerial Systems

ICAS Workshop 2017

Shinji SUZUKI, PC Chair,

the University of Tokyo

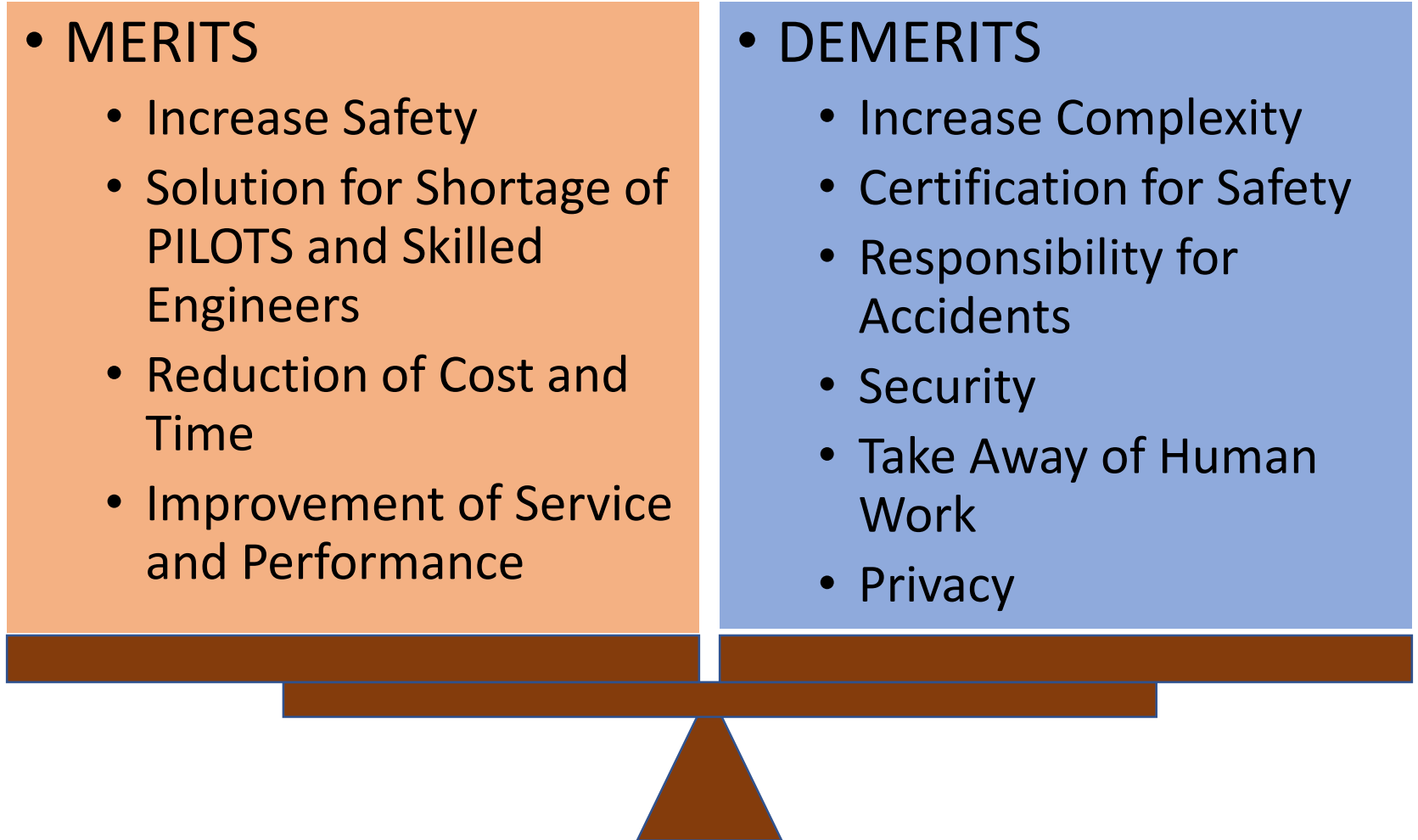# Computer Intelligent Activities Become a Reality

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

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09:00 – 09:50	**Software Engineering in Aeronautics**
	Dr. Paul Nielsen, CEO of SEI (Software Engineering Institute), Carnegie Mellon University, USA
09:50 – 10:10	Coffee Break
10:10 – 10:40	**What ANA expects for the Progress on Intelligent Data Analysis for Aircraft Maintenance**
	Mr. Toshihiko Noguchi, All Nippon Airways, Vice President, Engineering & Maintenance Center, Tokyo, Japan
10:40 – 11:10	**Digital Flight Engineer: Autonomy for Pilot Assistance**
	Dr. Jae-Woo Choi, Aurora Flight Sciences, Lucerne, Switzerland
11:10 – 11:40	**H2020 VISION : EU-Japan collaborative research on intelligent flight control systems**
	Dr. Yoko Watanabe, ONERA, France
11:40 – 12:10	**Can AI pass CPL(H) Skill Test**
	Mr. Luuk van Dijk, Founder and CEO, Daedalean AG, Zurich, Switzerland

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14:00 – 14:30	**From Industrial Big Data to Artificial Intelligence at Airbus** Mr. Ronny Fehling, head of data-driven technologies, AirBus, Germany
14:30 – 15:00	**On the Horizon for the Global Drone Ecosystem – from concept to practicality** Mr. Sebastian Babiarz, Head of Strategic Business Development, CTO Office, Airmap, USA
15:00 – 15:30	**Collision Avoidance for Remotely Piloted Systems** Mr. Johan Pellebergs, SAAB
15:30 – 16:00	**Integrating Drones into Civil Air Traffic – Challenges and Concepts** Dr. Peter Lenhart, Head of Human Factors Engineering, Center of Aviation, zhaw, Switzerland
16:00 – 16:20	Coffee Break
16:20 – 16:50	**Meteodrones – Moving Towards an Operational Drone Network for Weather Measurements** Dr. Martin Fengler, CEO Meteomatics, Switzerland
16:50 – 17:20	**Aerial Object Tracking from an Airborne Platform** Dr. Daniel Ambuehl, RUAG Aviation, Switzerland
17.20 – 18:00	Discussion, Moderator: Dr. Gunnar Holmberg, SAAB, Sweden

08:40 – 09:20	**High Fidelity Small UAS Collision Damage Modeling Strategies and Frangibility Studies**
	Dr. Javid Bayandor, Associate Professor, Virginia Tech, College of Engineering, USA
09:20 – 09:50	**FAA UAS Regulation**
	Mr. Ian ROSS, FAA, USA
09:50 – 10:10	Coffee Break
10:10 – 10:40	**The Development of the Future European Rules on Unmanned Aircraft –a Risk Based and Proportional Approach**
	Mr. Antonio Marchetto, RPAS Technologies Expert EASA, Germany
10.40 – 11.10	**Remotely Piloted Aircraft System (RPAS) Regulations in Australia**
	Dr. Cees Bil, Associate Professor, RMIT University, Melbourne, Australia
11:10 – 11:40	**SORA – Risk Assessment for Unmanned Airborne Mobility**
	Mr. Markus Farner, manager innovation and advanced technology, Swiss Federal Office for Civil Aviation, Switzerland
11:40 – 12:20	**Discussion,** Moderator: Dr. Cees Bil, RMIT, Australia

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