

# Optimizing the use of training devices in MPL

Training and learning for the next generation

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**MPS**

Smarter simulators

# Agenda

Introduction of speaker and MPS

From Past to Present

Future Needs

Regulatory Activity

Conclusion



# Introduction





# Who am I?

Royal Netherlands Air Force  
Officer and Pilot Training (F-16)

Transavia Airlines (KLM Group)  
Commercial Pilot  
Instructor/Examiner  
Head of Training and other Mngmt functions

Boeing  
Test Pilot/Instructor/Examiner  
Chief Technical Pilot 737  
Chief Pilot Regulatory Affairs & Strategy  
Qualified in 737, 777 and 787  
13.000 flight hours

MPS CEO

Chair of international RMTs

Vice Chair of RAeS FCTC





# Who is MPS?

## Leading Supplier of

- Affordable
- High Quality
- Innovative

## Fixed Base Simulators used for:

- MPL
- (APS) MCC
- Type Rating
- Operational Training



# From Past to Present



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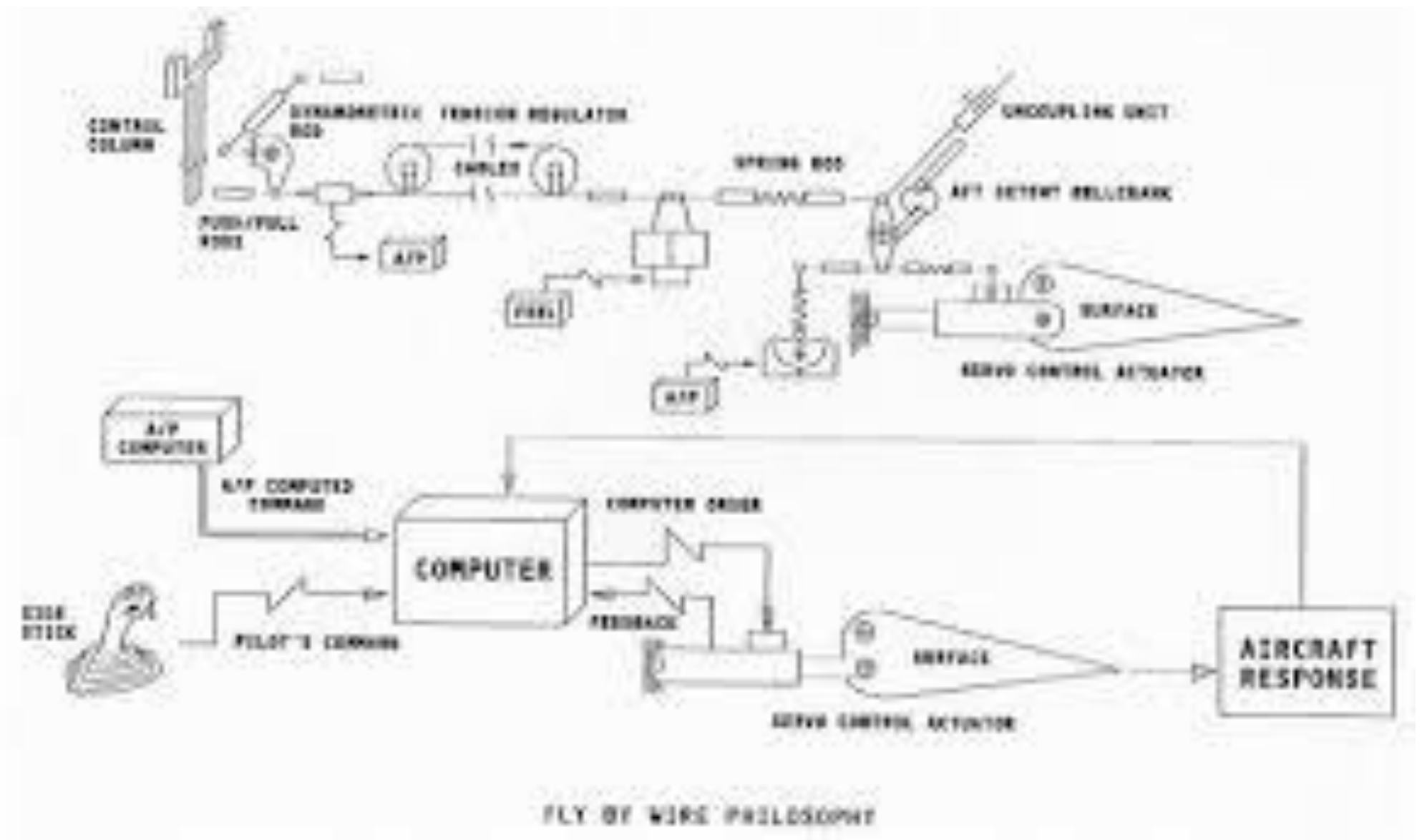
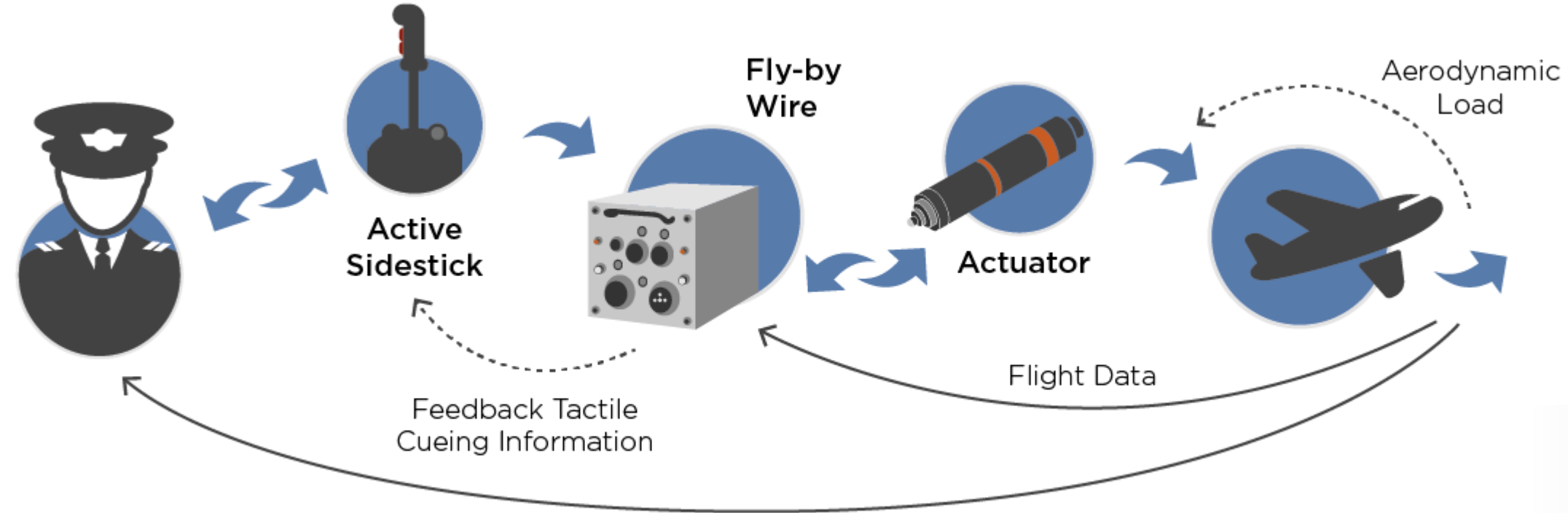
# From here



Download from  
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# To here



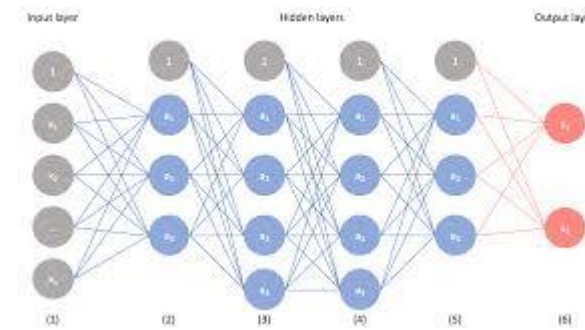
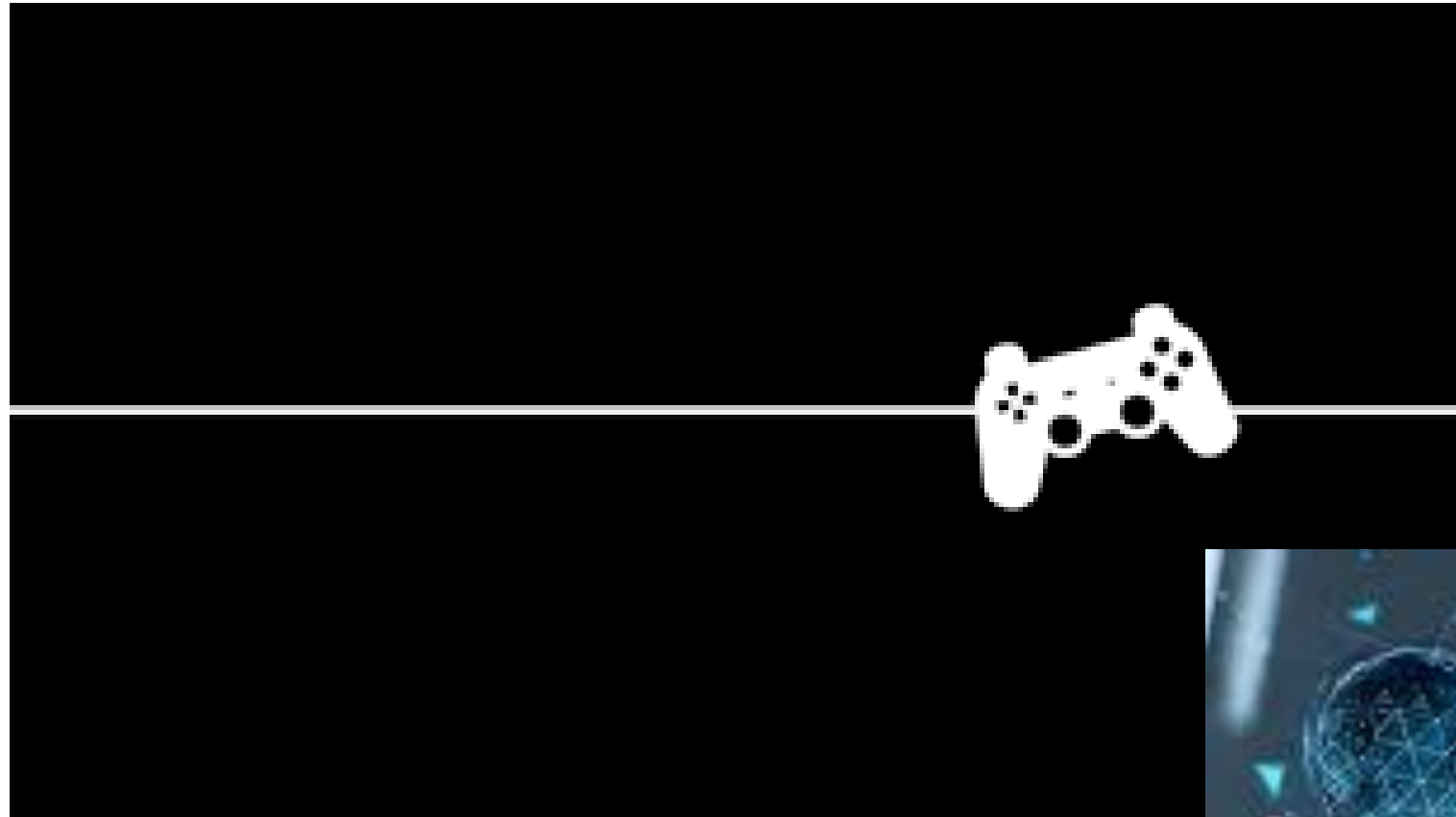


# To here





# But what's next?





# Future Needs



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# 1: Training needs to become learning

- Training as currently done does not align with learning that is expected by current and future generations
- Not only will curricula need change, but a swath of tools that interact and gather data will be needed to support the learning
- Learning needs to support Competency Achievement as identified in MPL, EBT and ICAO Competency Based Training and Assessment Task Force (CBTATF)



## 2: Technology needs to support learning

- Task-to-Tool analysis will lead to part- and whole task training and learning, requiring different Targeted Fidelity levels
- Performance Based Regulations will need to support use of (and credit for) learning technology from other fields
- Use of any device (if proven) should be credited towards the end goal of a qualified pilot
- An integrated approach to training needs connectivity and seamless device changes

# 3: Research needed for efficacy and development

- With the increase in technology, flight simulation is moving from FFS to other devices
- Training will be performed mobile and off-site, not centralized. Integration and effectiveness needs study and support from the learning community
- Artificial Intelligence will play a major part in future aviation training, therefore
  - ❖ Data capture must be integrated
  - ❖ Data analysis must be performed



## 4: Training and technology need to work hand in hand

- Cross-Field technology with possible aviation benefits needs to be assessed
- Both in the learning and technology fields, we need to look beyond what is currently done in aviation only
- Invention of new tools does not necessarily lead to training use directly. Evaluation of cost effectiveness, efficacy etc. needs to be done

We cannot afford to create a \$5.000 solution for a \$5 problem

## 5: Training cost and time need to be reduced

- Current footprints need to be analyzed for cost effectiveness.
- Individual Based Learning should consider an approach of data-driven, personalized training to ensure appropriate learning is accomplished and Competencies are gained
- Time away from home and a base is more expensive, therefore web-based, mobile and local training needs to be allowed
- A Blended Learning Environment will be needed



# However.....

**As easy as this sounds, incorporation of new devices will lead to regulatory uneasiness**

Therefore, a combined effort between End-Users, TDMs, Regulators, Professional Learning Organizations and all other stakeholders is needed

**We are all responsible for the incorporation and acceptance of this new paradigm**

# Regulatory Activity

- EASA RMT.0599 and RMT.0186 (Training Task Force) are re-evaluating the opportunities provided in ICAO Doc 9625. This "simulator DNA" will identify the possibility for use of the specific device
- Rather than a straight copy of the matrices in 9625, an added process (Comprehensive Analysis for Aviation Blended Learning Environment, CAPABLE) allows for integration of Sub-Tasks and use of devices not currently used or accepted
- This process identifies need for motion, sound, visual etc. from a training perspective



# Regulatory Activity (continued)

- The Task-to-Tool analysis will lead to further opportunities in MPL by using other technologies than FFS, reducing cost and increasing effectiveness of training
- A combination of new and existing devices will reduce FFS dependency and improve the end result. Deeper integration of devices earlier in training will lead to higher Competency achievement
- These same devices can be used during the entire career of a pilot through the same CAPABLE process, therefore reducing the cost of training and further encouraging the organizations to invest in new technology

# Conclusion

- With the increase in airplane technology, simulation, training and regulations have not kept up. New tools are needed and will be introduced. These are (and will be) further removed from the original
- Airplane improvements and Competency Based Training have moved simulation from a task-oriented tool to a Competency-based learning tool. This increases the need for AI data capture
- Modern day learning and next generation learners require more than we are currently providing. Research is needed and we need to look beyond what always has been done

**Doing the same thing and expecting a different result is the definition of insanity**



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**THANK YOU**

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