HOW COULD WE TURN EACH FLIGHT INTO A TRAINING OPPORTUNITY?
_levels of safety required → meet growth demand?

- Maintain sustainable quantity & quality of pilots?

- Technology + data + experience → maximize efficiency?

NO... BUT THERE IS A SOLUTION!
WHAT DO EXPERTS SAY ABOUT DEBRIEFING?

Debriefing quality 33%

- Scenario implementation 22%
- Problems realism 2%
- Scenario quality 31%
- Simulator mechanical conditions 4%
- Briefing quality 8%

Source: Swiss HF Guide out of a NASA/AMES study

TRAINING EFFICIENCY - FLIGHT SIMULATOR
Risk of Tail Strike during Takeoff

Takeoff

12:50:45 00:00:01

Comment by FDM: Tail Cir 1.8 ft at 10.9°, max rate 3.7°/sec.
“We do not learn from experience only. We learn from reflecting on experience...”

self-reflection leads to 20% improvement of training performances
3-4 simulator sessions (12-20 hours) a year

- predefined program (reducing the startle effect)
- not all flight encountered situations are addressed
- expensive (instructor needed/ unproductive day/ travel...)

⇒ Offer a relative LOW training potential improvement at HIGH COST/BENEFIT
70 (LH) to 850 (SH) flights/year in real life, offering numerous & various situations...

ACTUAL ISSUES/DIFFICULTIES
- global understanding in a dynamic environment
- debriefings based on pilot memory

ACTUAL POTENTIAL
- HIGHEST potential for training
- HIGHEST potential for safety improvement

at LOW COST/BENEFIT with the right TOOL...
EACH FLIGHT OFFERS A TRAINING OPPORTUNITY
HOW COULD WE TURN EACH FLIGHT INTO A TRAINING OPPORTUNITY?

FLIGHT DEBRIEF - LINE TRAINING
REAL VIDEO ANIMATION

EVENT NOT FLAGGED BY Flight Data Monitoring

COST RELATED AS COOLING IS REQUIRED OR DELAYED FLIGHT
1. **Confidential access** to own flight data only, each pilot being his own gatekeeper

Animation respecting the anonymity of the involved pilot

2. Flight debriefings based on global/holistic **factual** evidences

→ lower risk of developing **individual techniques**
→ **EBT** brought to individual level
3. **Better global understanding** of occurrences and root causes → eliminate self-doubt → build self-confidence

4. Easier **knowledge transfer** and **sharing of experience** between crew members

5. Database of animation with “State of the Art” of difficult Approach

**THE BENEFITS**

FOR PILOTS / CHIEF PILOTS / FLIGHT INSTRUCTION
1. **Understanding support** for dynamic/difficult situations as the crew is still together

2. **An analysis tool:**
   - For trainees
   - A solid foundation for a Crew Centered Debriefing
   - For novice pilots
   - Help them to understand own performance using the tools (tablets) that the young generation already use everyday!
1. Simple occurrence not flagged as FDM events ignored by the safety system today, can be shown to FDM → animation used as a collaborative tool for flight safety!

JUST CULTURE SUPPORT

REPORTING ENVIRONMENT

‘human-in-the-system’ safety protection

To create an atmosphere of trust in which people are encouraged, even rewarded, for providing essential safety-related information
NEW BENEFITS:

2. FDM can provide Big Data statistics for own evaluation vs fleet performance!

3. Trend monitoring of situations before a serious event occurs
“It has revolutionized the company culture regarding the debriefings and the use of flight data. It has freed pilots’ speech!”

Hideo Morioka, Senior Director Safety promotion and Flight Data Analysis
RESILIENCE = CONFIDENCE \times \text{COMPETENCE}
“There are no shortcuts to experience. There is no shortcut to safety. The standards are the standards because they are necessary. Throughout the entire 114-year history of powered flight, one thing has been true. The most important safety device in any airliner is a well-trained, experienced pilot.”

- Captain Sully Sullenberger