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**NGAP Conference Montreal 27/28 NOV 2017**

# Industry without an Education Concept

**Capt. Tilmann Gabriel MBA FRAeS**

**Assistant Professor and Director MSc Aviation Management Programmes**



**Executive Chairman/President  
International Pilot Training Association**



**Welcome  
Generation Alpha**

**Our Future  
Aviators?**

**No thank you!**

**Too Boring**

**My Life is full of  
Opportunities**



**KHAN**  
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**Our mission is to provide a free, world-class education for anyone, anywhere.**

**Learning Today: Interactive – Gamified –  
Intrinsically Motivated**



**Making learning fun.**

It's hard to stay motivated when learning online, so we made Duolingo so fun that people would prefer picking up new skills over playing a game.

# ICAO Annex 1

As long as air travel cannot do without pilots and other air and ground personnel, their **competence, skills and training** will remain the essential guarantee for efficient and safe operations.

# ICAO Annex 1

Annex 1 and ICAO training manuals describe the skills necessary to build proficiency at various jobs, thereby contributing to occupational competency.

...to ensure that international licensing standards are kept in line with current practices and probable future developments. ... To accomplish this task, Annex I is regularly amended to reflect the rapidly changing environment.

# PANS Training Doc 9868

- Knowledge, Skills and Attitude
- The revised PANS Training will teach towards Core competencies, measured by observable behaviours
- All trainers, teachers, educators have to be qualified
- What started with MPL, then EBT, now becomes ICAO annex 1 script for all ICAO directed licenses.
- ATC Controller, Engineers, Dispatcher, and Pilots, from PPL onwards

# CORE COMPETENCIES (1)

Application of procedures  
and compliance with  
regulations

Communication

Leadership and Teamwork

Aeroplane Flight Path  
Management, automation

Problem Solving and  
Decision Making

Situation awareness and  
management of information

Workload Management

Aeroplane Flight Path  
Management, manual  
control

# CORE COMPETENCIES (2)



Application of Knowledge



?Self-Management and  
Continuous Improvement?



## CORE COMPETENCIES (3)

### Self-Management and Continuous Improvement

*Demonstrate  
personal attributes  
that improve  
performance and  
maintain an active  
involvement  
in self- learning and  
self-development*

- Engages in continuous learning and development
- Remains up-to-date with key developments of the pilot function and license requirements
- Recognizes the need to develop own pilot career through personal development, cultural awareness and industry knowledge
- Seeks support and coaching for developments in the pilot career/role
- Supports effective safety management systems

# **A 5-10 Trillion \$ Industry without guilds, universities, education concepts**

- Annex 1 Licenses independent from University or apprenticeship concepts**
- Pilots, Engineers, ATC Controller, Dispatcher have a license based OCCUPATION, not a PROFESSION**
- Profession brings Professionalism and Belonging**
  - Doctors**
  - Architects**
  - Lawyers**
  - Farmers**
  - Carpenters**
  - Electricians**

## **Annex 1 Professions as a University Education (BSc)**

- No Involvement of Regulatory Bodies for Tests & Checks**
- University Quality & Standards**
- A degreed Profession**
- A Professional Competence**
- A Code of Conduct, with Pride, Honours and Attitudes**
- A Profession which is supportable by states, education budgets, banks, parents, scholarships**
- A secured profession which opens further opportunities, growth, variety for an interesting professional life**

## Summary

- Alarming Shortfall of Pilots, Engineers, Managers
- Future Generations learn gamificated
- Change ICAO Annex 1 to education and learning, for a professional attitude and a global workplace
- Continuous Learning must be fun and intrinsically motivated
- **Aviation/ICAO must develop an Education Concept (Apprenticeship – University)**

## MSc Air Transport Management

### Core Modules include:

- Airline Operations
- Air Transport Economics
- Airline Business

## MSc Aircraft Maintenance Management

### Core Modules include:

- Airline Maintenance
- Airline Operational  
Regulatory Compliance
- Airworthiness

## MSc Air Safety Management

### Core Modules include:

- Crisis Management
- Active Safety Management
- Safety Risk Management

## NEW (2017): MSc Airport Management

## Electives:

- Airline Ops Regulatory Comp.
- Airworthiness
- Airline Maintenance
- Airline Operations
- Airline Marketing
- Human Resource Management
- Air Transport Economics
- Financial Accounting
- Crisis Management
- Airline Fleet Planning
- Airline Business
- Human Factors
- Safety Mngmt - Tools and Methods
- Active Safety Management
- Psychology in Aviation Management
- Airport Operations
- Developing a Business Plan
- Air Accident Investigation
- Leadership in Organisations
- Airline Revenue Mngmt and Finance
- Safety Risk Management
- Sustainable Aviation
- Aviation Law
- Airline Training Management

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- Dubai
- Frankfurt
- Next Nanjing and New Delhi

450 Students (87 Nationalities)  
from global  
aviation industry,  
over 1500 Alumni



# IPTA – Not a Cloud

- Actively pursuing changes in pilot training and regulations
- ❖ Create Industry Momentum and Disruptive Innovation
- ❖ Non-partisan Forum for all pilot training interest groups
- ❖ Ensure Sustainable Supply of Pilots globally
- ❖ Continuous Improvement of training practices for further reduction of civil aircraft accident rate
- ❖ Close Collaboration with ATPG
- ❖ Industry Experts work in 5 active Workstreams



**International Pilot Training Association**

**Working together for improved safety, quality and efficiency  
for global commercial aviation training and recruitment**



## Workstreams & Chairs

- **Helicopter Training (Gordon Woolley)**
- **Licensing & Regulation (Ray Elgy)**
- **Outreach & Recruitment (ICAO NGAP Task) (Capt Sanjay Sapra)**
- **Training Devices (Itash Samani)**
- **Training Providers (Peter Barrett)**
- **Human Performance (TORs under Review), includes Pilot Monitoring and Mentorship**

Working together for improved safety, quality and efficiency  
in global commercial aviation through training and recruitment



City, University of London  
Northampton Square  
London  
EC1V 0HB  
United Kingdom

T: +44 (0)20 7040 8678  
E: [Tilmann.Gabriel@city.ac.uk](mailto:Tilmann.Gabriel@city.ac.uk)  
[www.city.ac.uk](http://www.city.ac.uk)

# Thank You

