

# *Danish Aviation Education System*

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# Hi...this is me



- Current position: Airline Operations Manager, Danish Air Transport (DAT)
- Have worked at 6 airlines within: flying, strategy, business intelligence, a/c acquisition & sales, ACMI & charter negotiations, business support, economics etc...
- BSc. Aeronautical Science (Embry–Riddle, USA), MSc. International Economics (Aalborg University, Denmark) & PhD in future airline business models (Copenhagen Business School, Denmark)
- 8 years teaching BSc. & Master students
- Previous First Officer at Continental Express
- Current FAA Flight instructor (SEP & MEP)

# Let's *hygge*

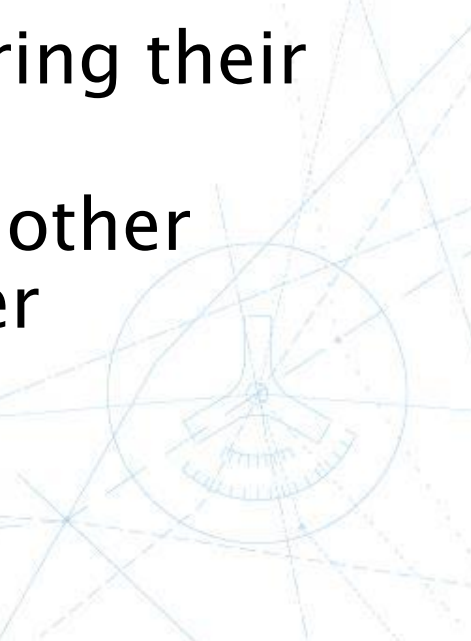
- What is Denmark?
  - Just slightly smaller than Estonia
  - 5,7 million inhabitants
  - 13 airlines (including 1 new seaplane operator)
  - 9 main airports with commercial operations
  - ~17 million departing passengers annually
    - 2 million domestic
  - Copenhagen Airport major airport
  - MRO facilities exist but not at a large scale (Boeing opened a facility at CPH in 2015)

# Danish education system

- What is Danish education like?
  - Mandatory schooling from 6 years of age to 9<sup>th</sup> grade
  - After 9<sup>th</sup> grade can opt to go to a technical college (89) or gymnasium (140)
  - After one of these can opt to go to a university college (9), university (8), artistic education, police/military education
  - Education is generally free-of-charge for EU citizens and Danish citizens are generally paid a stipend for the majority of degrees

# Danish aviation education system



- State education is only offered to engineering students – no job guarantee
  - ATC applicants are trained by the provider, Naviair – job most likely
  - Pilots are trained at own expense at private schools – no job guarantee
  - Most students can get a stipend during their education to offset costs
  - Often not possible to combine with other studies (e.g management) at another institution
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# Pilot education (civilian)



- Both integrated and modular education available
- No state-funded education available
- No education integrated with other education or institutions (e.g. management)
- All flight schools are privately owned and operated
- 5 schools located at 4 airports
  - 5 schools offer fixed-wing
  - 2 offer rotary
- Costs approximately 110.000 Euros and takes between 2–5 years
  - An integrated education allows access to state-offered stipend (taxable 800 Euros/month)

# Pilot education (military)

- 5 year education (officer + basic flying + specific flight training)
- 12 year bond upon completing training
- Transition to civilian flying requires a supplemental education (15.000 Euros)
- Fighter jet fleet refresh with 27 F35 (starting 2021)



# ATC education

- 3 year education
  - Cohorts only begin when need is assessed
- Participants from Norway and Sweden in training
- Progression:
  - 15 weeks basic course (in Sweden)
  - 7 months classroom and sim training (in Sweden)
  - 46 weeks practical training in CPH and sim
  - 19 weeks sim training
  - 6–8 months practical education in CPH
- Education is free
  - Basic course is stipend–approved
  - Remainder of course paid 2.500 Euros/month
- Military ATC education is identical



# ATC education cohorts

- 2008: 18
- 2009: 24
- 2010: 16
- 2011: 6
- 2012: 0
- 2013: 0
- 2014: 6
- 2015: 0
- 2016: 4
- Approximately 350 ATC controllers in DK
- Average salary approximately 100.000 Euros/annually

# Aviation mechanic

- Mechanic: 5 years
- Electronics: 6,5 years
- Mixture of classroom theory and practical experience
- Education is through a technical college (only 1 offers courses past the basic level)
- Students required to find their own apprenticeship
- Paid education ~1.300 Euro per month
- 12 applicants have entered into an apprenticeship this spring
- Military training is also an option

# Aviation mechanic education

## Flyteknik: 5 år (trin 1)



## Flyelektronik: 6 år 6 mdr.



● Grundforløb   ● Skole   ● Praktik

Grundforløb: Foundation courses

Skole: Classroom

Praktik: Apprenticeship

# Industry challenges in Denmark

- Efficient use of airport and airspace infrastructure a priority – retention of experienced personnel a factor
- Competition for experienced pilots is a constant factor
- Concern for the upcoming mechanic shortage is expressed only by a few in the industry – military has been vocal
- Interest in a career in the industry has been on a downward trend

# Big brother's watching

- Current Danish government has published a national aviation strategy in July 2017
- Highlights focus areas that the government will address in relation to aviation, e.g. infrastructure investment, airport fees, etc.
- Report highlights that the Danish Transport, Construction and Housing Authority will monitor the current increase in pilot candidates to ensure that it is not reaction to the market situation but rather a permanent, structural improvement
- Suggested that mechanic education should be reevaluated and updated structurally to ensure a better inflow of applicants (e.g. via a better educational path)

# THANK YOU

