



# On the history of the relationship between universities & aviation

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# The early days



Anthony Fokker

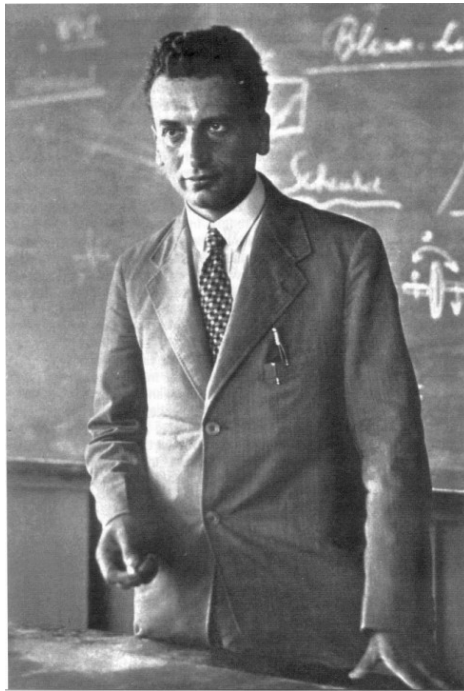


Fokker DR I

# The birth of sailplanes



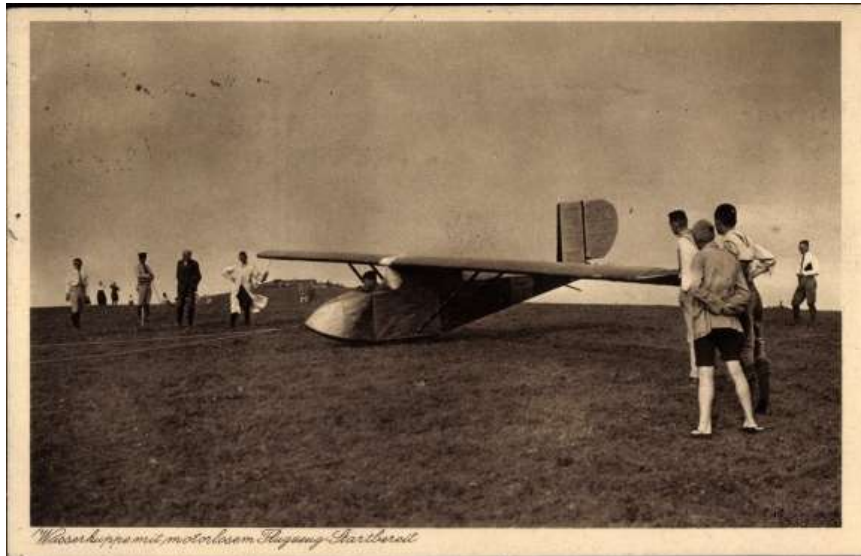
# The academic flying clubs (Akaflieg)



Prof. Theodore von Kármán



# Sailplane development



# Akaflieg's today





# academic startup's now



Volocopter



Lilium VTOL jet

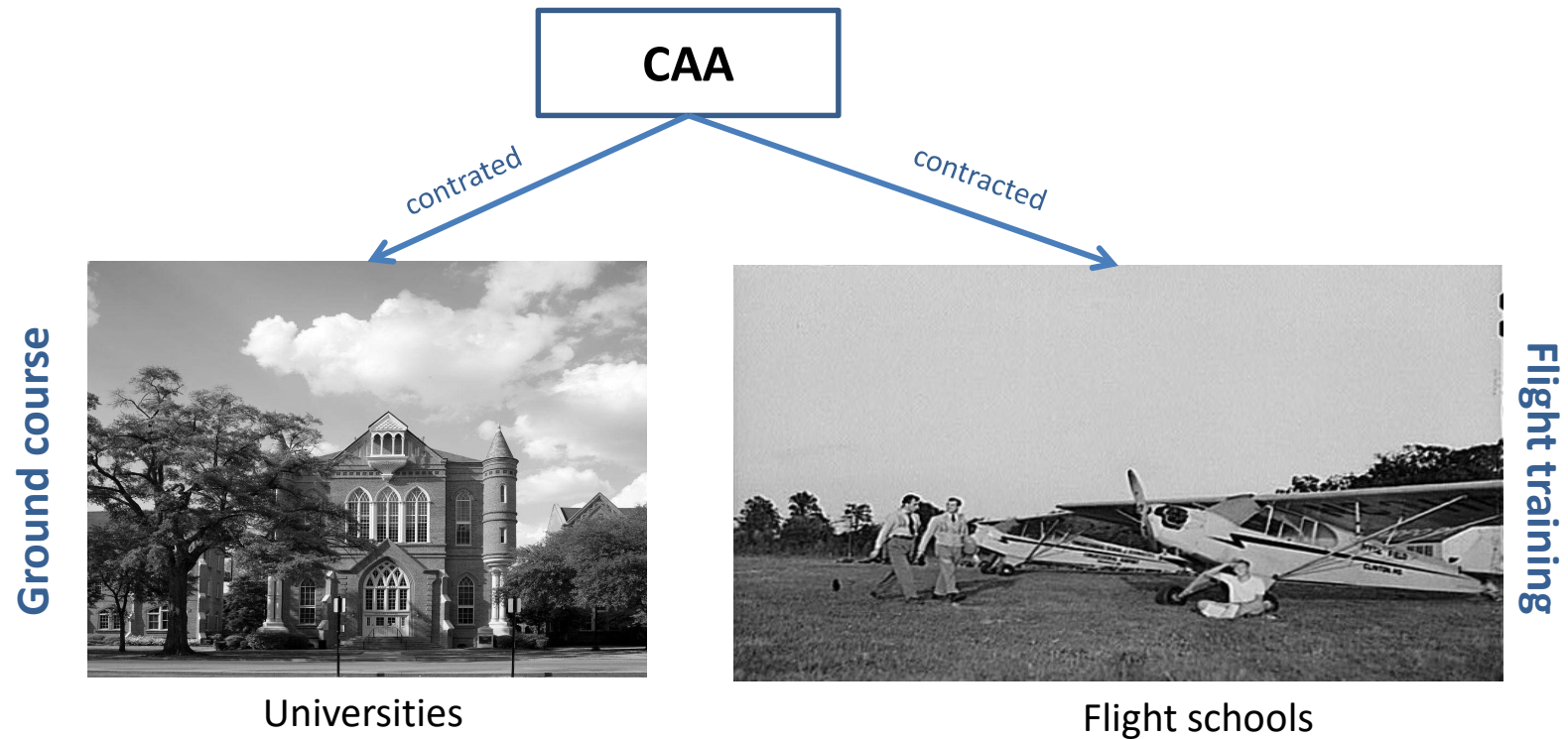
## 2nd case



# The rise of civil aviation in the US



# Civilian Pilot Training Program (CPTP)



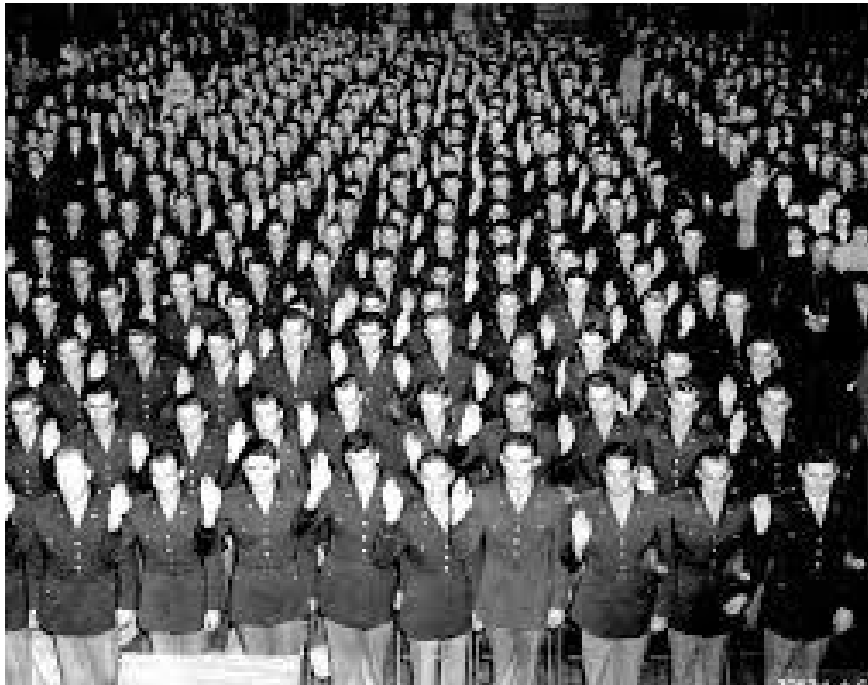
# Achievements of the CPTP (1939-1941)



- starting from 13 universities  
# raised to 1.132 universities  
participating
- 9.000 pilots trained
- comprehensive learning materials  
for flight-students
- research on instruction methods
- „teaching the teacher“ materials  
and facilities (schools)

# Pearl Harbor 1941: CPTP->WTS

**WTS = War Training Service**



## **WTS training objectives:**

- flight instruction in the shortest possible time
- reduce ground school to minimum
- focus on stick & rudder skills

# 1945: ICAO

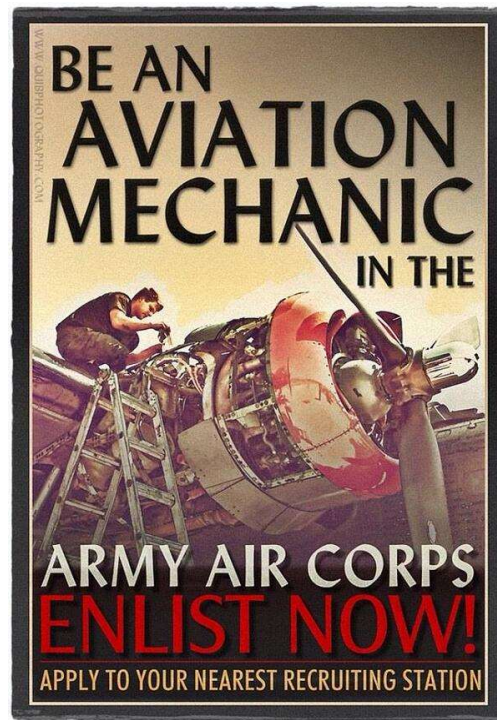
## Annex 1 – Personnel Licensing



ICAO

- **PPL**
- **CPL**
- **ATPL**

..also flight mechanics & ATC stayed outside universities





# 3rd case



# Difference between Mass & Weight

<b>Mass (inertia)</b>	<b>[kg]</b>
<b>Weight (force)</b>	<b>[N]</b>

$$\vec{F} = M \cdot \vec{a}$$