



XL Cargo
Drones
Innovation Center



Challenges in air transport (and opportunities)

Dr. Hans Heerkens

Formerly: University of Twente, Netherlands

Platform Unmanned Cargo Aircraft

Preliminary remarks

- I think that air travel will resume its pre-Corona growth pace (3-5%) although the missed growth will not be made up
- So I will not talk about the consequences of the pandemic
- This is not to imply that there will not be another pandemic (perhaps a much more severe one) but I have nothing to say about that

Air transport is becoming mature

- Safe
- Reliable
- Omnipresent
- Mature alternative for transport
- Diversification/specialization
- Until 2019: superior growth
- But: only 5% of the world's population has travelled by air



But:

- Combination of basic and luxury good:
 - Vulnerable to economic woes
 - High elasticity
 - Dependent on large volumes
 - Low profit margins when providing a blanket service
 - Dependent on affluent markets
 - Compare to other forms of public transport

What does the customer want?

- Minimal travelling times
 - Fast
 - Direct
 - Frequently
- Maximum comfort
- Minimum hassle (travelling is a necessary evil)

Air travel is like any other form of transport

- Distance is the separator
 - Is it? The A320neo
 - What is the optimal distance for air transport?
 - Short distances: high productivity
 - Distance and borders
 - Urban Air Mobility; Joe Sixpack and aviation
- Specialization
 - Long distances: more infrastructure needed

The future

- Decoupling of (short- and long distance) routes
- Co-operation between LCCs and legacy airlines
- Needed: adaptation of airports (i.e. baggage handling, system of cost allocation)

Look at

- The mechanics of innovation in general
- Characteristics of (public and private) transport

