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Drones in healthcare

Successful uses and
unresolved issues

Why drones?

- Unmanned → reduce transportation costs
- Eco-friendly
- A new, flexible logistics layer
- A direct line from A to B



**Drones already help resolve
logistics challenges in healthcare**

zipline



10,670

Lifesaving Deliveries by Drone



Matternet





Swiss drones grounded after crash near playing children



HealthDrone



Innovation Fund Denmark



Falck



SDU 

holo



OUH
Odense
Universitetshospital

Aim

Break the main barriers to using drones in healthcare

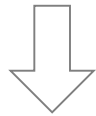
- Technical → Develop fail-safe technology and UTM system for safe integration in airspace
- Societal → Obtain flight permissions from the Danish CAA and focus on dissemination to the public
- Commercial → Identify innovation and business opportunities and pave the way for the integration of drones in the Danish health sector

Challenges in the Danish health sector

- The number of patients increases (especially 80+)
- Small hospitals are closed
- The number of medical clinics decreases / lack of doctors (“udkants-Danmark”)

More transportation + longer transportation time

of samples, medicine, medical equipment and specialized staff...



... the use of **drones will help solve these increasing logistic challenges**

Avoid/reduce number of patients going and being admitted to the hospital

Enable faster and targeted medical treatment + decentral actions etc.

When ready to implement, drones will improve logistics in the health sector and thereby enable faster and better treatment of patients



Value creation

- Organizational
- Patient-wise
- Economic
- Societal

Delivery of diagnostic patient samples from hospital clinic to laboratory

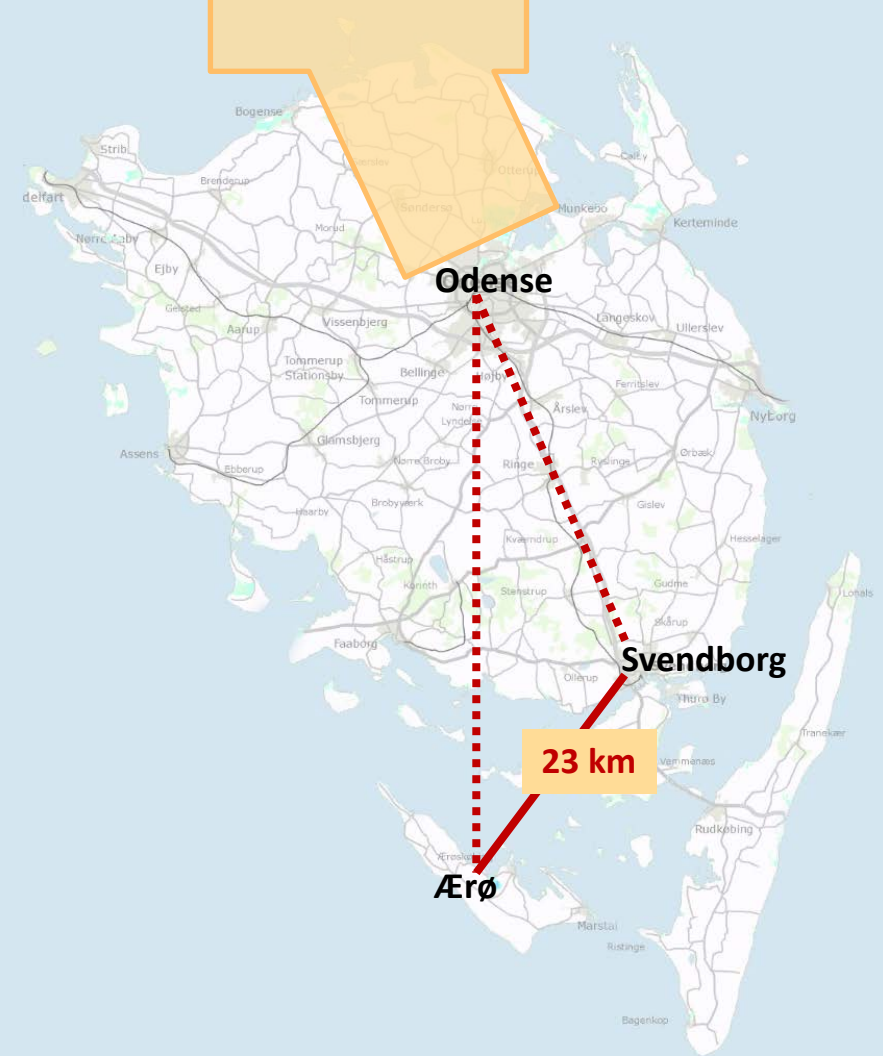
TRL 4 → 7

SRL 3 → 6



Thrombus
Meningitis
Sepsis
Influenza
Noro virus
MRSA

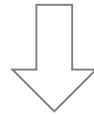
...



HCA Airport now

Ærø early 2020

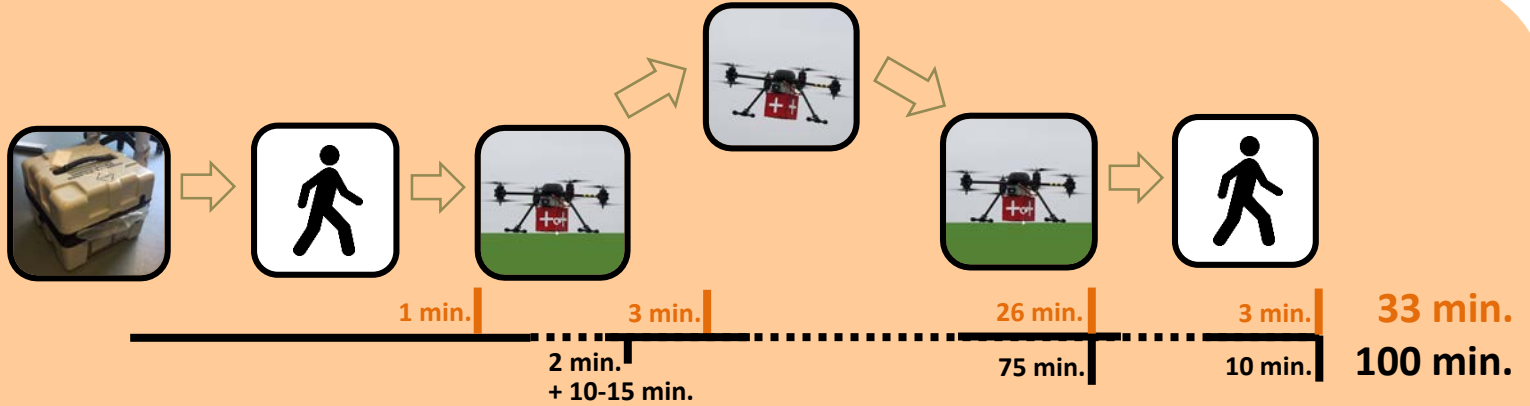
Then Ærø → Svendborg



Corridors to enable test flights → NOTAM

Ærø → Svendborg

Drone
(conservative)



Ferry
(best case)



***A range of microbiological sample analyses
can soon be made in less than 2 hours
instead of 1-3 days...***

***This will enable the result to be part of the
initial clinical evaluation of the patient (e.g.
selection of appropriate antibiotic treatment)***



*Flemming Rosenvinge
Chief physician
KMA OUH Odense*

***If we should better the
situation for the patient, it
should not matter where you
go to [the hospital]***



*Mette Worsøe
Head of M-FAM
OUH Svendborg*

***To an island community like
ours, drones would be fantastic***

Independence [is the keyword]



*Fredy Zurfluh
Charge nurse
OUH ÆRØ*





HOME

CAUTION
No Entry
Authorized Personnel Only



VTOL

Parameters

Range

Payload

Speed

Uptime

Dimensions

SAFETY

Are all or only some samples acute?



How much faster is the drone?

Is uptime an issue?

Who operates it?

Where will it take-off and land?

What value will it create + to whom?

???



Will drones supplement or replace existing transportation?

What about the quality of the samples?

