

Indoor Drones

for society, but who exactly?

Olivier van Duuren
Final Bachelor project

Healthcare?



Requirements

Specsheet

Autonomous flights

Fly safely

Transport objects

Communicate with people

Social engagement

Autonomous

It flies safely

Can transport weights of
500gram max.

Sound output

Emotion output

Speech recognition

Face recognition

Emotion recognition

Still needed to:

- fly approximately silent
- offer the care people need

Health patient 1

disabled but self-reliant

Requirements

Specsheet

Autonomous flights

Fly safely

Autonomous

It flies safely

Avoid obstacles frequently

Transport objects

Can transport weights of
500gram max.

Communicate with people

Sound output

Emotion output

Social engagement

Speech recognition

Face recognition

Emotion recognition

Provide vision to device

Can provide vision

Still needed to:

- get objects wherever located
- fly approximately silent
- be low priced

Health patient 2

disabled and not self-reliant

Requirements

Specsheet

Autonomous flights

Fly safely

Autonomous

It flies safely

Avoid obstacles frequently

Transport objects

Can transport weights of
500gram max.

Communicate with people

Sound output

Emotion output

Social engagement

Speech recognition

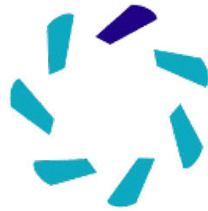
Face recognition

Emotion recognition

Still needed to:

- offer the care people need
- fly approximately silent
- be low priced
- Grab objects on the ground

Logistics?



máxima
medisch centrum

Requirements

Specsheet

Autonomous flights

Fly safely among a lot of people

Autonomous

It flies safely

Avoid obstacles frequently

Transport samples to lab

Can transport weights of
500gram max.

Transport with track and trace

Carry along sensors

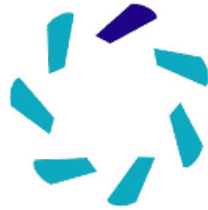
Listen for execution of tasks

Speech recognition

Still needed to:

- fly approximately silent
- save time
- communicate with doors and elevators

Patient guiding?



máxima
medisch centrum

Requirements

Autonomous flights
Fly safely

Communicate with people

Comfort people

Specsheet

Autonomous
It flies safely

Avoid obstacles frequently

Sound output
Emotion output

Speech recognition
Face recognition

Still needed to:

- fly approximately silent
- fly for more than an hour at least
- guarantee 100% accuracy

Fire safety?

Requirements

Specsheet

Autonomous flights

Fly safely

Autonomous

It flies safely

Avoid obstacles frequently

Detect heat violation

Carry along sensors

Provide vision for brigade

Can provide vision

Communicate with people

Sound output

Emotion output

Still needed to:

- navigate inhabitants outwards
- fly in smoke zone
- fly in dark zone
- communicate with doors
- shut down power supplies
- be high temperature resistant
- detect people

Agriculture?

Agriculture

inspecting harvest in greenhouses

Requirements

Specsheet

Autonomous flights

Fly safely

Autonomous

It flies safely

Avoid obstacles frequently

Communicate vision to other
people or systems

Can provide vision

High quality vision

Can transport weights of
500gram max.

Still needed to:

- fly stable

Education?



CENTRE OF | L E R E N
EXPERTISE | M E T I C T

Requirements

Autonomous flights

Fly safely

Transport objects

Communicate with people

Specsheet

Autonomous

It flies safely

Avoid obstacles frequently

Can transport weights of
500gram max.

Sound output

Emotion output

Still needed to:

- fly approximately silent
- communicate with products
- offer easy coding (e.g. Scratch)

What do you think?

This booklet is established and based upon the interviews I had with many people. I want to thank everyone who participated in/and supported this research. Without their effort I did not get to these insights about indoor drone technology. This is a first step to the future.