Smart Cities, Stockholm

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Drive Care

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Need

Stockholm Digital Care - Challenge

Digital solutions for reducing environmental impact of home care for elderly

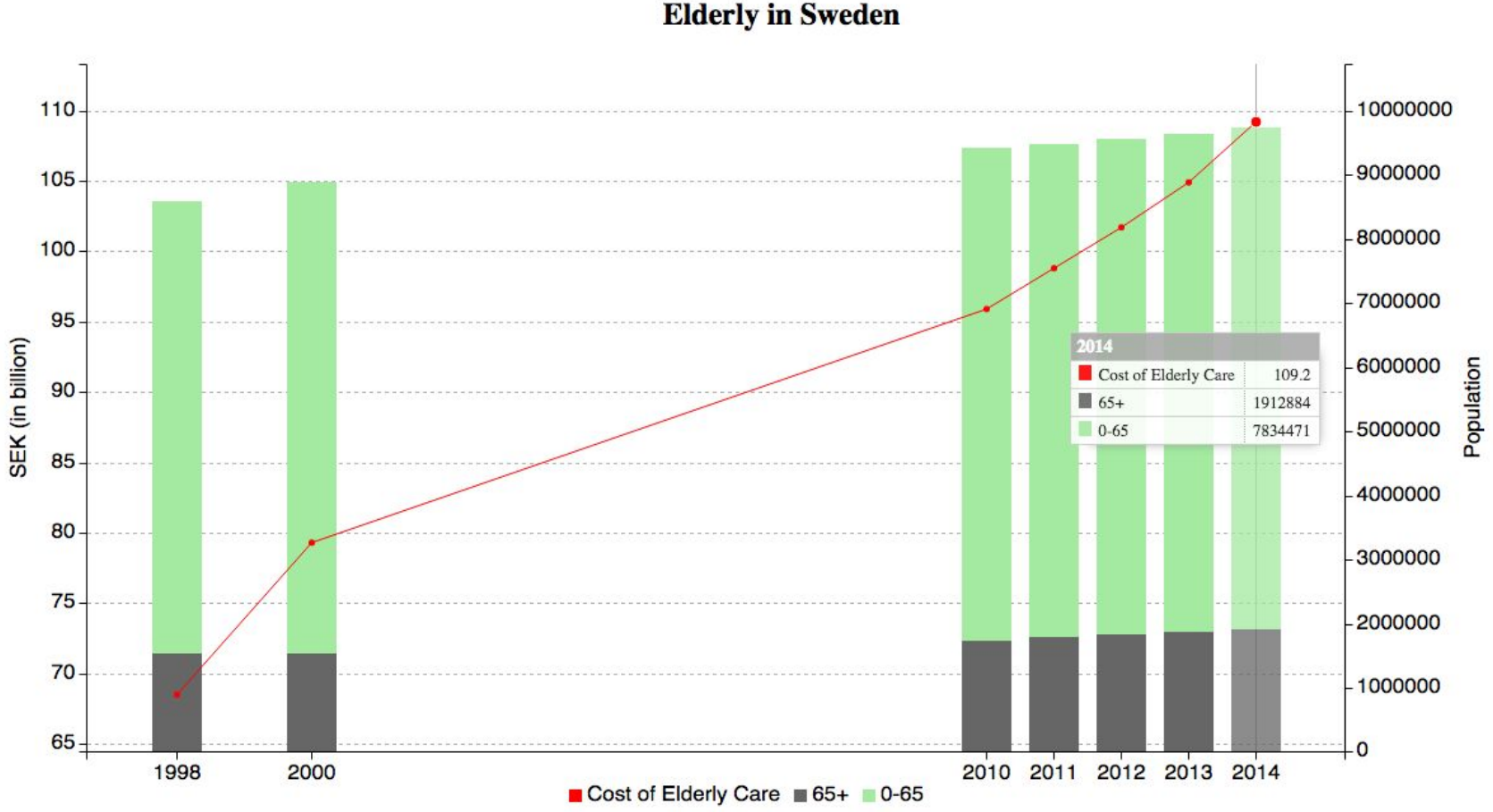
Elderly in Sweden receive home care visits everyday. The caretakers travel by car, but short-distance drives are the most polluting ones (<5km consumption 35% higher) Source: Naturskyddsföreningen Stockholms län.

How can we reduce the mileage on the car fleets without affecting the quality of care for the elderly?

Link to problem statement : *http://smartcities.greenhackathon.com/challenge-stockholm-digital-care/*

Drive Care

Making efficient transportation in elderly care



Source: [Statistics Sweden]

18000

elderly given **daily assistance** in **Stockholm county**

40% elderly living **alone** in Sweden

6 services per day per caregiver (avg.)

5 km average ride (higher consumption with cold engine)

75000 km

driven daily - 44590 liters of fuel

Support and assistance
– an overview

Home care services *
People who wish and are able to live at home can be granted home care services – this might for example range light jobs around the home a few hours a month to extensive care several times a day.

For more information, see page 10.

Personal security alarm *
With a personal security alarm you can quickly get in touch with the City of Stockholm's response service and get assistance.

For more information, see page 12.

Companionship *
Companionship exist for people who due to a disability need assistance to be able to participate in social and cultural activities.

For more information, see page 13.

Day activities *
Possibility to participate in arranged activities together with others.

For more information, see page 15.

Meeting points
Various activities are arranged for the elderly around the city. Welcome!

For more information, see page 16.

Assistive devices
For more information, see page 28.

Mobility service
For more information, see page 31.

Other services that it might be good to know about:

Types of residence
If you are 65 or over, several kinds of residence are available. An assistance decision is required for some of them.

Senior housing | Sheltered housing | Assisted living * | Nursing homes *

For more information, see page 17.

Short-term care *
Short-term care means that you stay in a nursing home for a short time.

For more information, see page 23.

Support for relatives
If you are supporting a close relative many different kinds of support are available – both practical support and someone to talk to and exchange experience with.

For more information, see page 24.

The care diary
Compiled information about the care you have been granted.

For more information, see page 27.

National mobility service *
For more information, see page 31.

Janitor service
For more information, see page 30.

* = An assistance decision is required

- **Home care services**
- Janitor Service
- National mobility service
- Personal Security alarm
- Mobility service

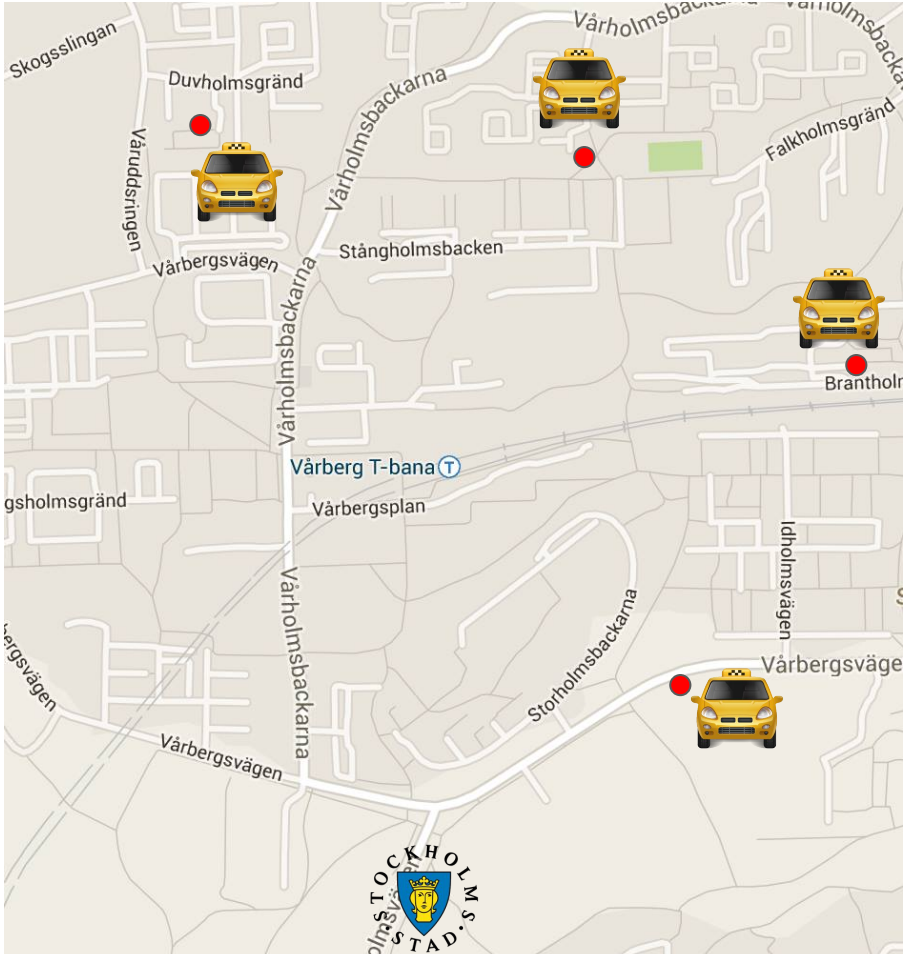
Approach

No need for a car for each journey...

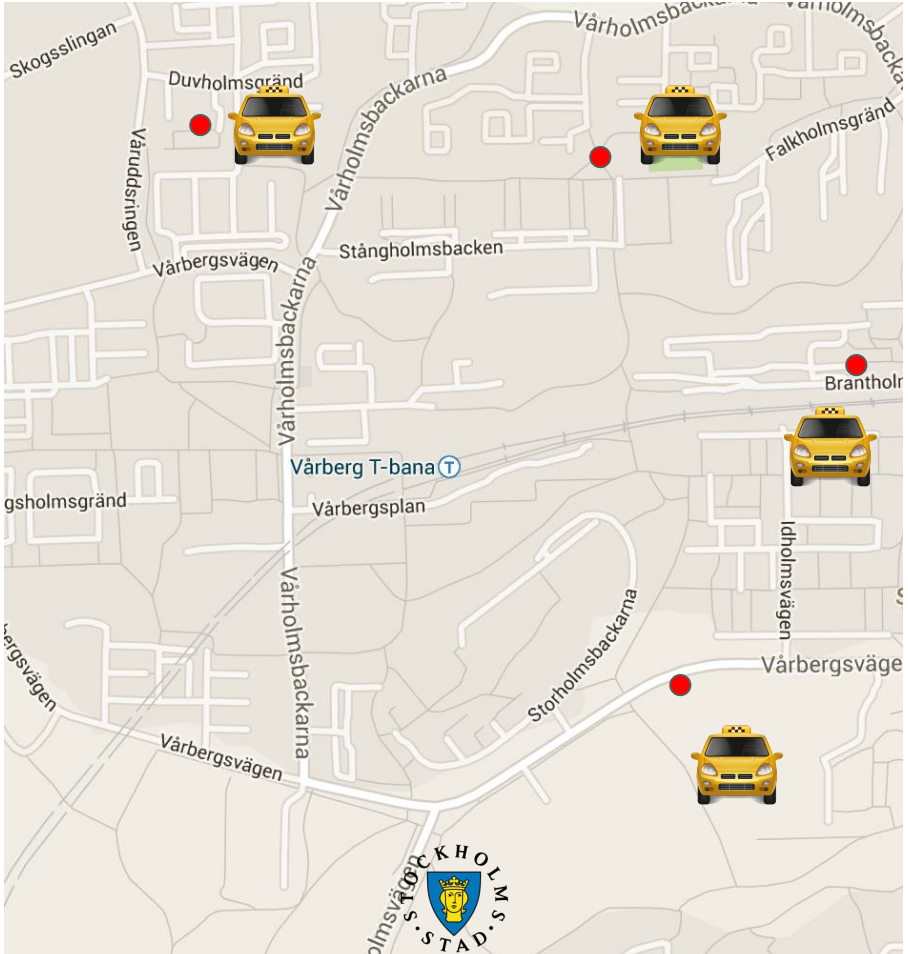
- Professional driver rides caregivers to destination
- Picks them and takes them to next dest.

- Caretakers share rides
- Route optimization algorithm decides best routes (shortest), preserving quality indicators (service start/end time) according to schedule
  (Capacitated-VRP w. Time Windows)
- No parking fees, no time lost looking for a slot...

NOW



OUR SERVICE



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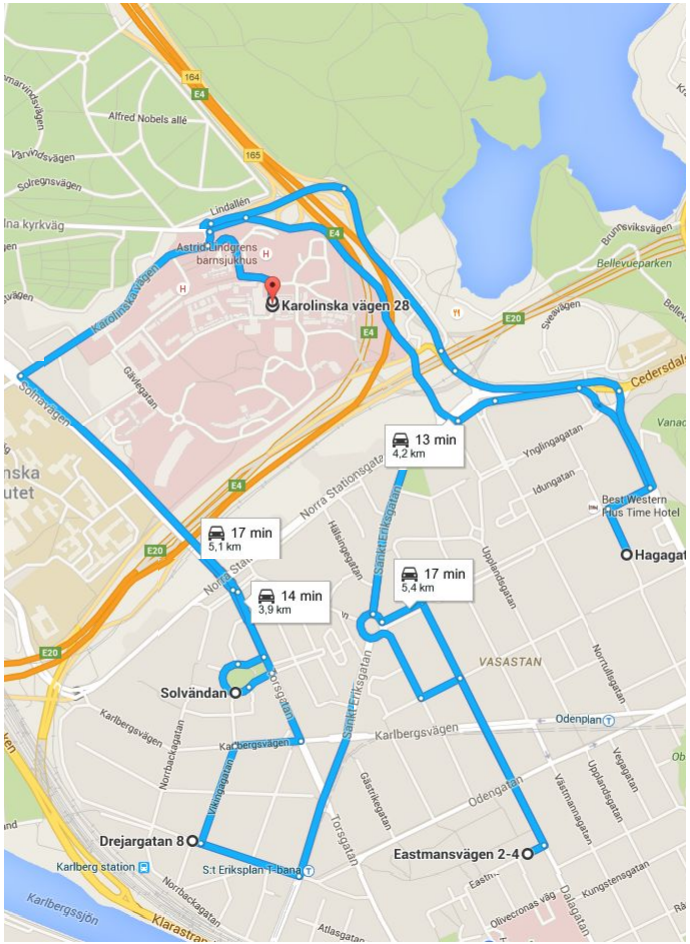
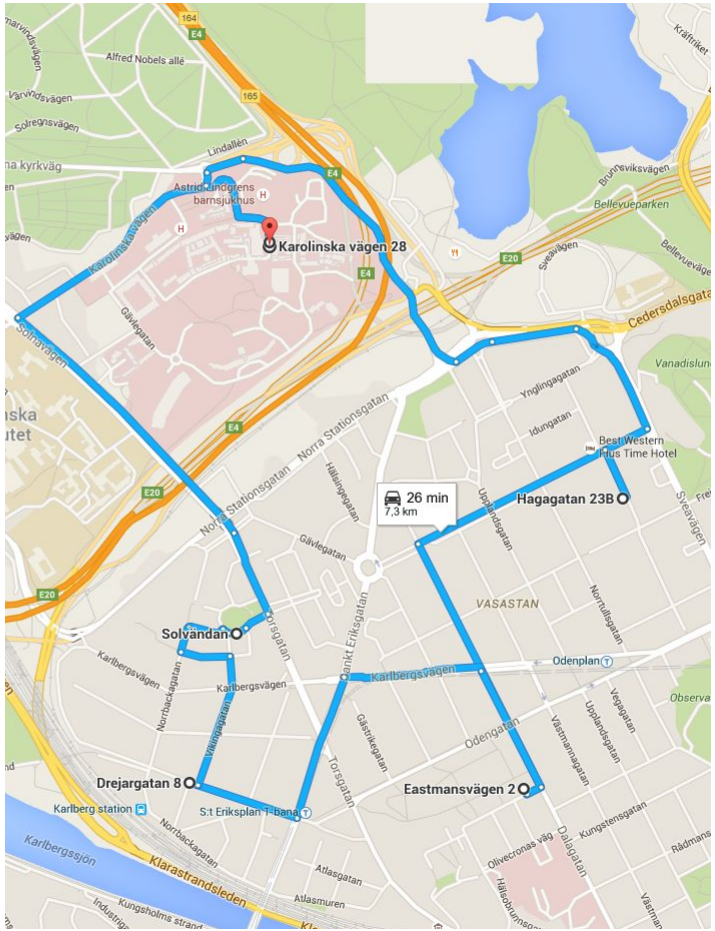


2.1+
2.7+
1.9+
2.6=
9.3 km

OUR SERVICE



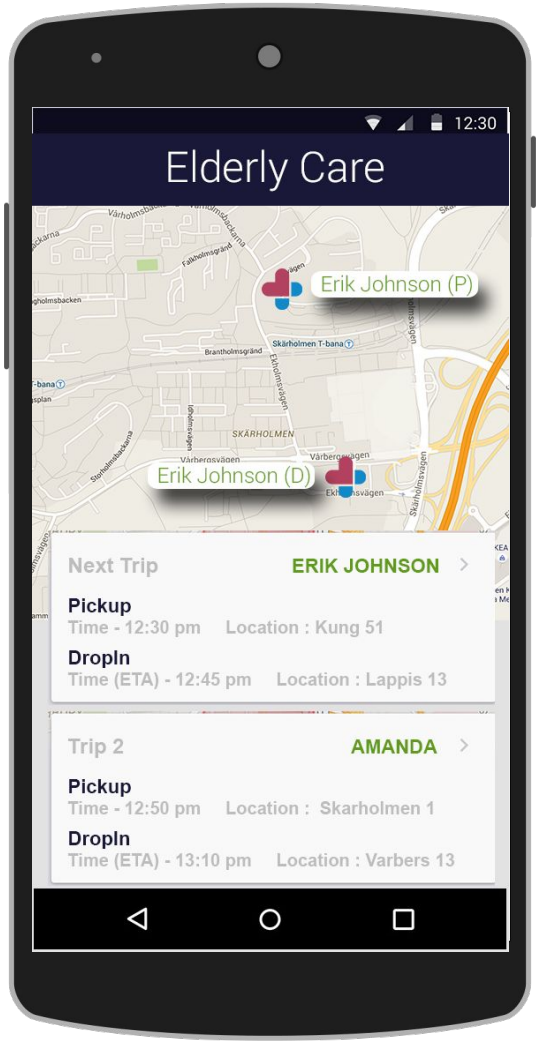
7.3 km

Platform for route opt.

- Client provides the cars and drivers
- Buys access to platform and integration with scheduling software
- Mobile apps for drivers and caregivers

Transport service

- Client buys transportation service
- Car fleet and drivers provided by us
- Allows sharing rides bw. multiple clients in same area

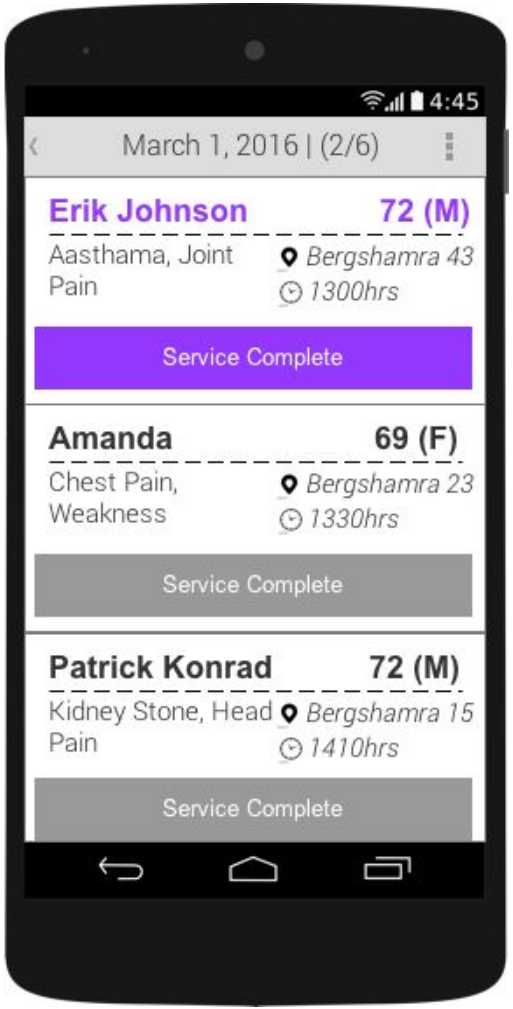


Driver Interface

- Pickup and Drop In Location.
- Schedule for the different caretakers.

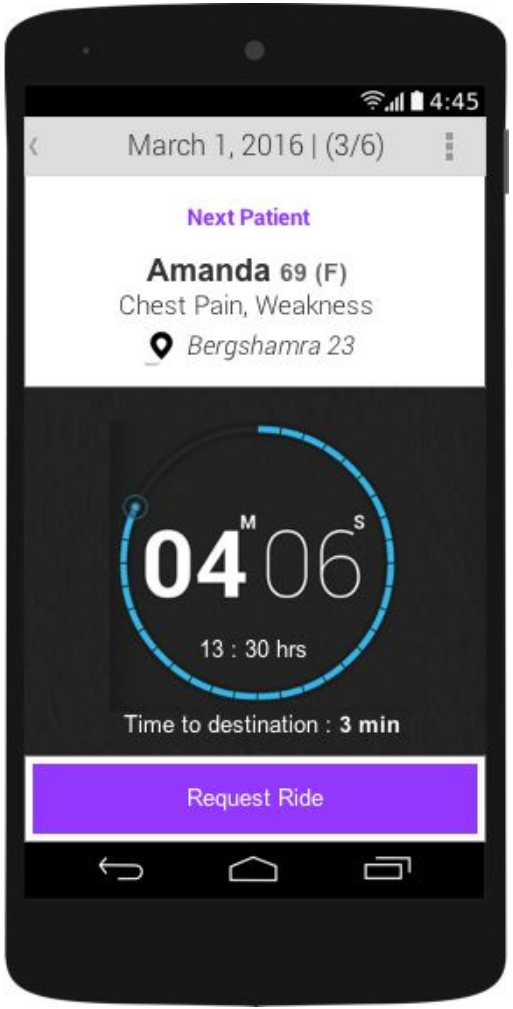
Caretaker Interface

- Schedule for the day.
- Key aspects of next patient illnesses and needs.
- Age and Gender of the patient.



Caretaker Interface

- Next patient details.
- Timer for the next patient.
- Request the ride for pickup.



Benefits

expected 1/3 driven distance reduction

35% lower consumption per km

up to 55%

total fuel consumption reduction

Less cost
Less pollution

Same quality of service

with transportation service option, client forgets about maintenance, drivers, fuel.... everything integrated under same fee

Competition

Transport service

- **Public transport**
- **Taxi / Uber**
- **Car2go / DriveNow**
- **…**

Not exclusive use

Route optimization plat.

- Routific/route4me
- RouteXL/descartes
- OptimoRoute
- …

No focus on ride sharing

2:30 PM
Line
Lyft
Plus
736 Divisadero St
1 PERSON
Request Line
2:30 PM
Matching
Cancel
$5.00 1 PERSON
736 Divisadero
850 Bryant St
2 min estimated time to match
2:30 PM
3 MIN AWAY
60% LESS $5.00
736 Divisadero
850 Bryant St
Courtney
Olivia
You

uberPOOL

Thank You

Brainstorming

Ideas:

- Sensors : Mapping parameters with the city transport system
- **Elderly Care : Optimizing driving routes**
- Elderly Care : Platform to share home cooked food with elderly

Smart Cities Green Hackathon
GREEN HACK ATHON
STOCKHOLM DIGITAL CARE
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Smart Cities Green Hackathon 2016 - Presentations

Next Steps

- Finance
- Design Customisation
- Technology Adaptation