PacketLocker

a Multi-Objective Approach for Avoiding Repeat Delivery Attempts

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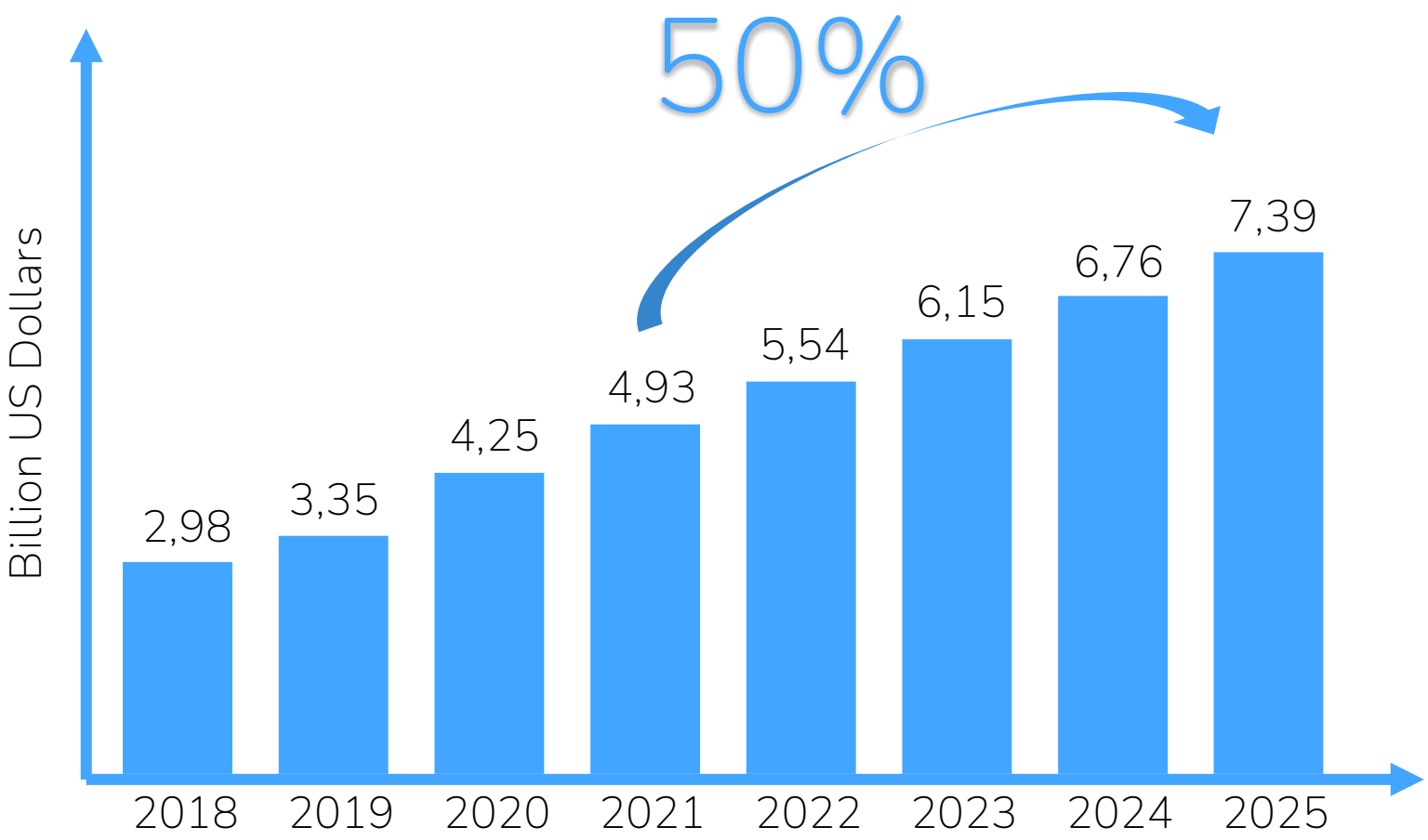
by **Team 1** - April 2022

SUSTAINABLE SUPPLY CHAIN DEEPHACK

Retail of e-comerce sales Worldwide (2018-2025)



Luís, A. F. S., Martins, G. M. C., Caldeira, J. M. L. P., & Soares, V. N. G. J. (2022). Smart Lockers: Approaches, Challenges and Opportunities. In International Journal of Engineering and Advanced Technology (Vol. 11, Issue 3, pp. 141–149). Blue Eyes Intelligence Engineering and Sciences Engineering and Sciences Publication - BEIESP

Supply Chain Problems

Around 8% of domestic first-time deliveries fail, costing retailers an average of $17.20 per order.

Last-mile Delivery is Expensive

Sources estimate 40% of global delivery costs is in "last-mile" logistics[1]

High Transport Emissions

Road freight accounts for around 60% of the total emissions of logistics activities[2]

Unhappy Consumers

Customers are desire precise parcel arrival times, or even worse, not being able to receive the package

[1] PubMed PMC8435763; [2] European Environment Agency

YOU PAY A LOT FOR LAST MILE SHIPPING.

OUR PLATFORM OPTIMIZES IT, PROVIDING SMARTER PARCEL LOCKERS TO INDEPENDENT LOGISTICS COMPANIES

Scalable

Cellular & cloud-based:
ready for fast, scaled deployment.

Easy to use

Intuitive user experience
without expensive equipment.

Complete

Measuring, routing, customer
contact and smart-locker
availability, all included.

PacketLocker Solution

We provide a seamless smart locker delivery option to logistics companies of all sizes.

- Select-a-size, secure parcel containers
- Automated Software
  - Low cost computer vision verifies parcel dimensions
  - Mapping algorithm finds closest, most carbon-neutral locker location
- Locker delivery option to logistics companies of all sizes

How It Works

Luxonis camera measures parcel

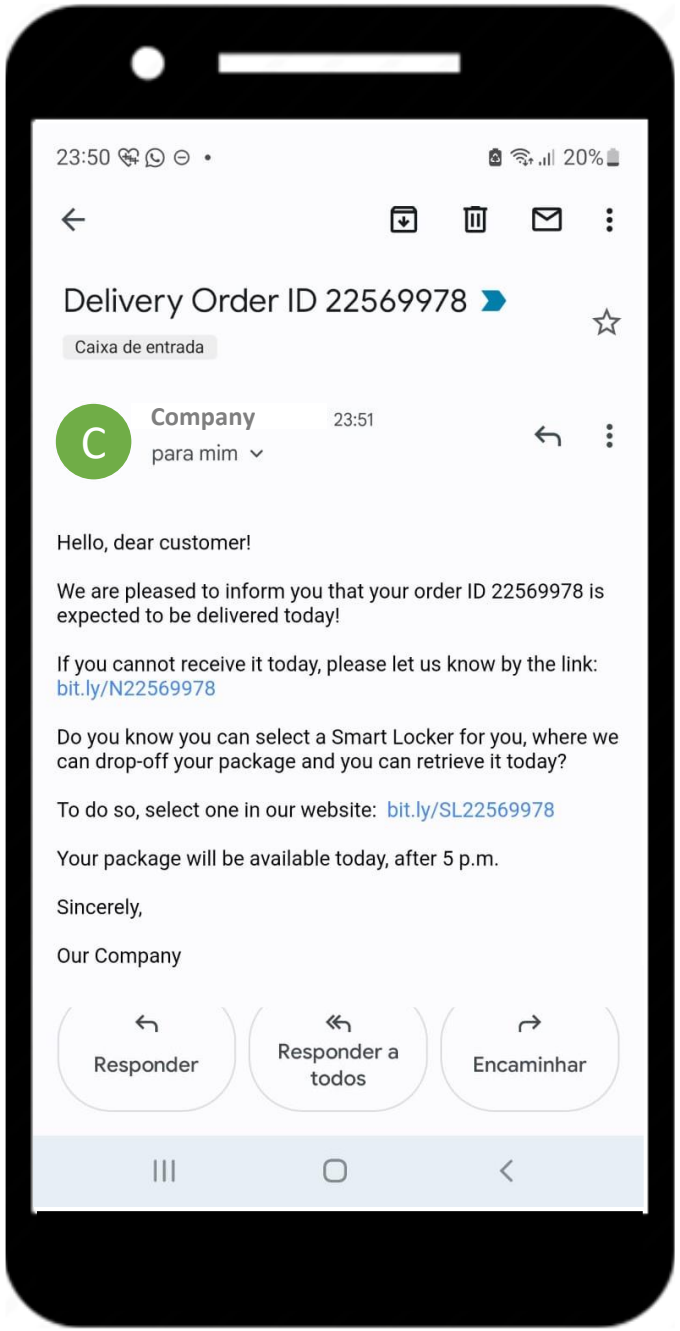
Check customer availability while en route

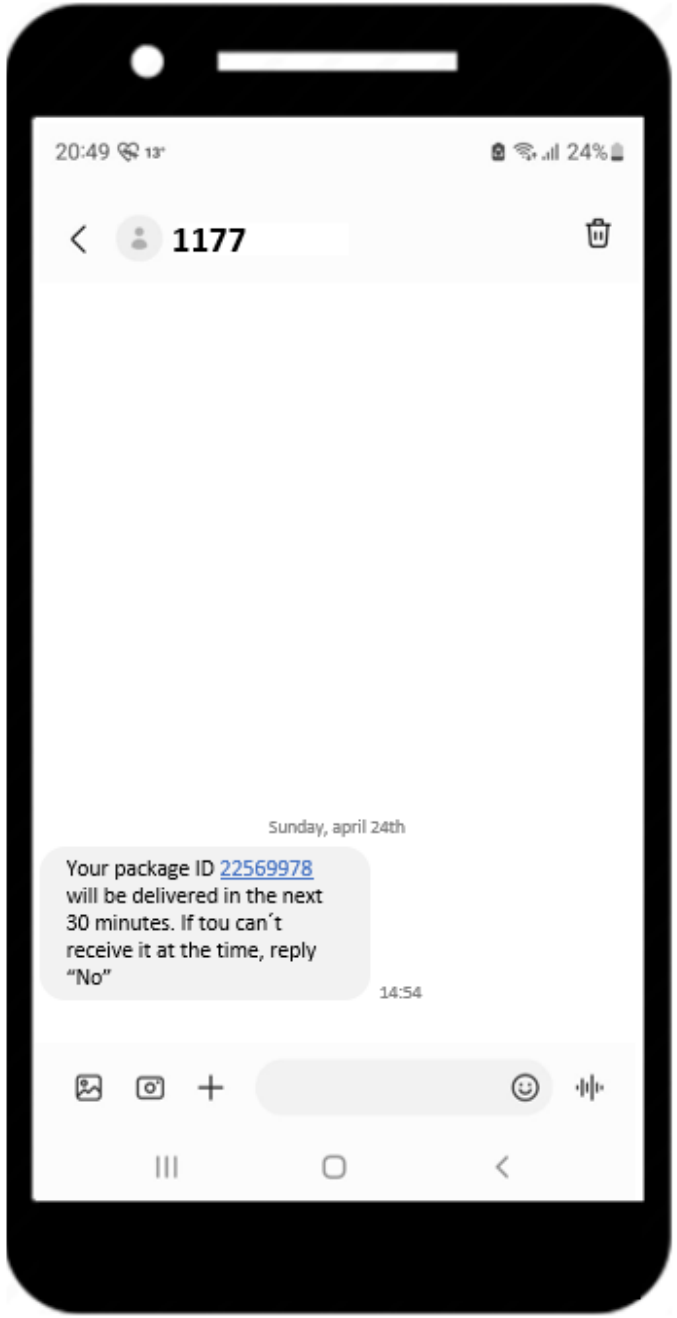
Using SMS or calls, customer denies delivery

Truck doesn't go to destination

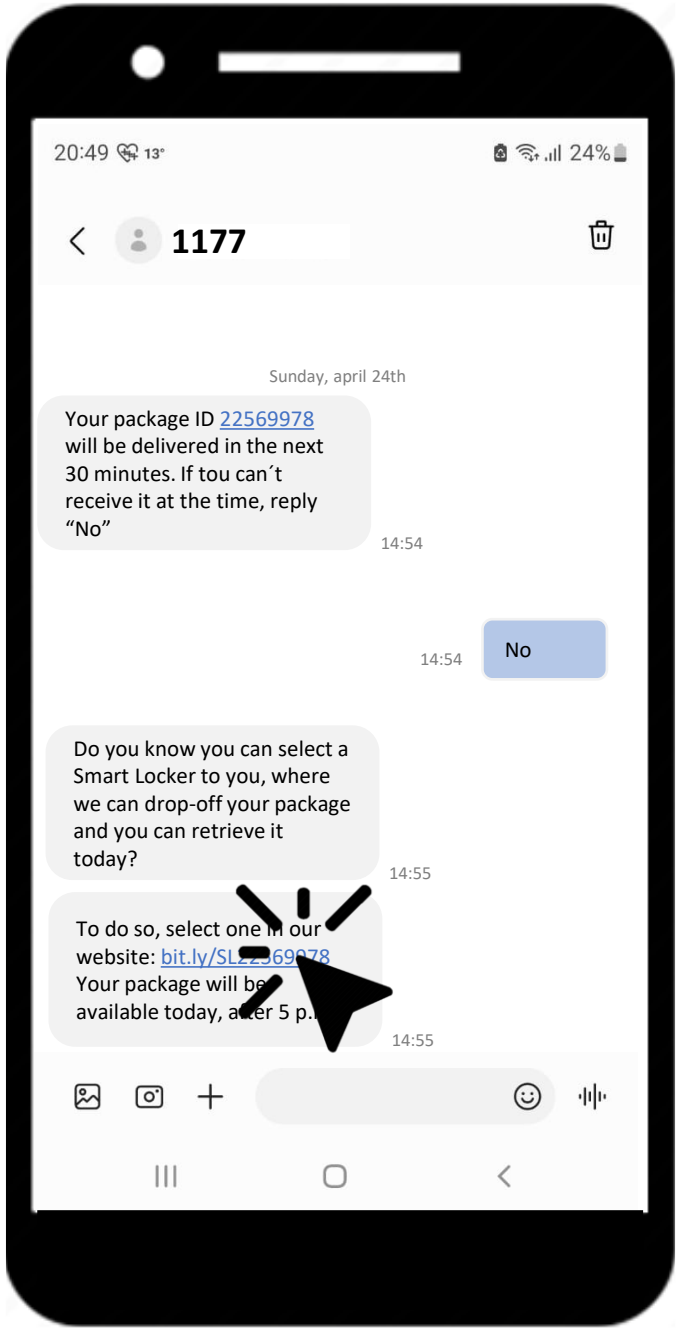
Customer select pickup location easily

Parcel retrieved in a smart-locker


23:50 20%
Delivery Order ID 22569978
Caixa de entrada
Company 23:51
para mim
Hello, dear customer!
We are pleased to inform you that your order ID 22569978 is expected to be delivered today!
If you cannot receive it today, please let us know by the link: bit.ly/N22569978
Do you know you can select a Smart Locker for you, where we can drop-off your package and you can retrieve it today?
To do so, select one in our website: bit.ly/SL22569978
Your package will be available today, after 5 p.m.
Sincerely,
Our Company
Responder
Responder a todos
Encaminhar


20:49 24%
1177
Sunday, april 24th
Your package ID 22569978 will be delivered in the next 30 minutes. If tou can´t receive it at the time, reply "No"
14:54


Incoming Call
1177


20:49 13°
24%
1177
Sunday, april 24th
Your package ID 22569978 will be delivered in the next 30 minutes. If tou can´t receive it at the time, reply “No”
14:54
14:54
No
Do you know you can select a Smart Locker to you, where we can drop-off your package and you can retrieve it today?
14:55
To do so, select one in our website: bit.ly/SL22569978 Your package will be available today, after 5 p.
14:55

bit.ly/SL22569978

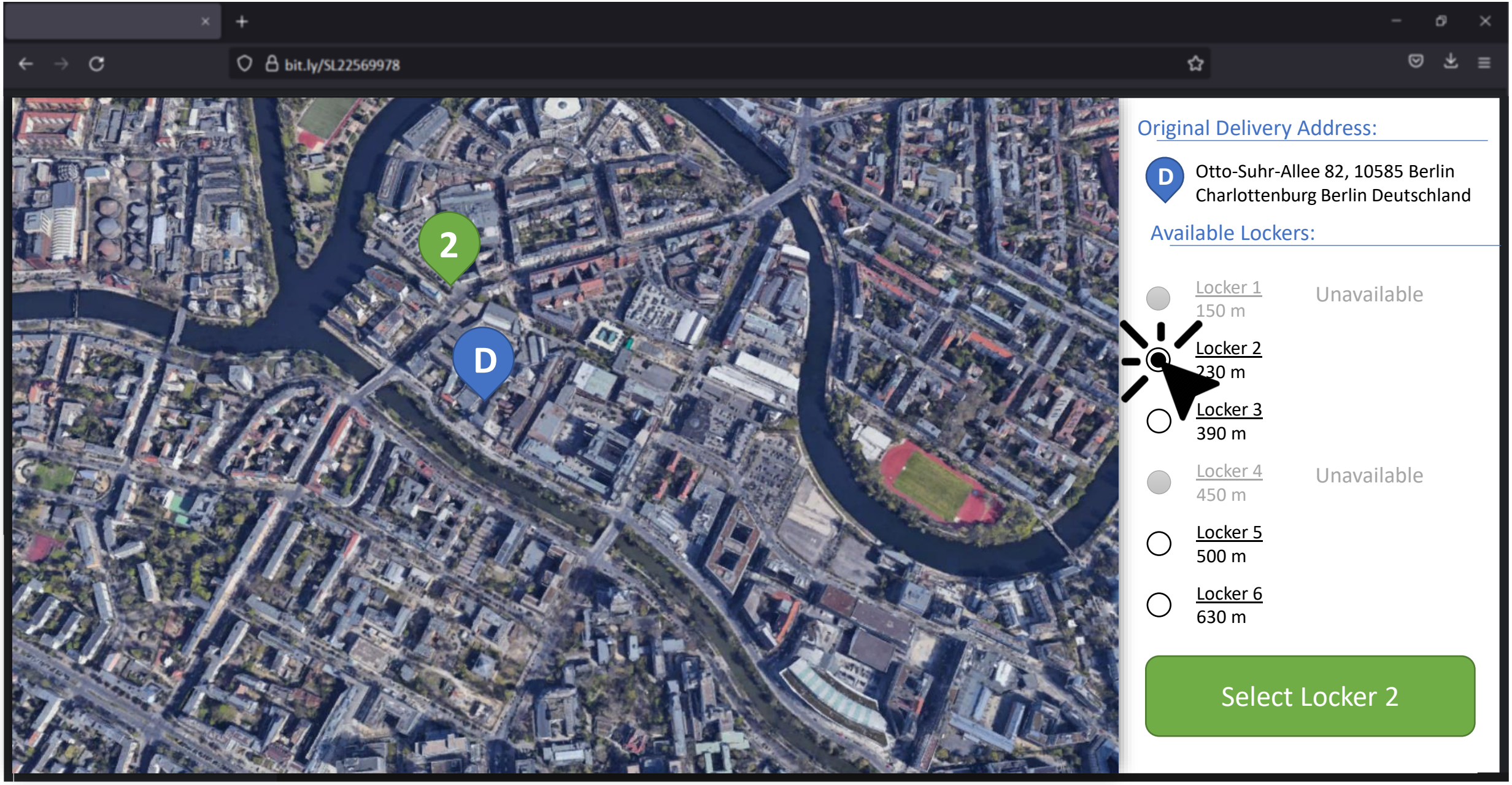
Original Delivery Address:

D Otto-Suhr-Allee 82, 10585 Berlin
Charlottenburg Berlin Deutschland

Available Lockers:

○	Locker 1 150 m	Unavailable
○	Locker 2 230 m	
○	Locker 3 390 m	
○	Locker 4 450 m	Unavailable
○	Locker 5 500 m	
○	Locker 6 630 m	

Select


bit.ly/SL22569978
2
D
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Unavailable
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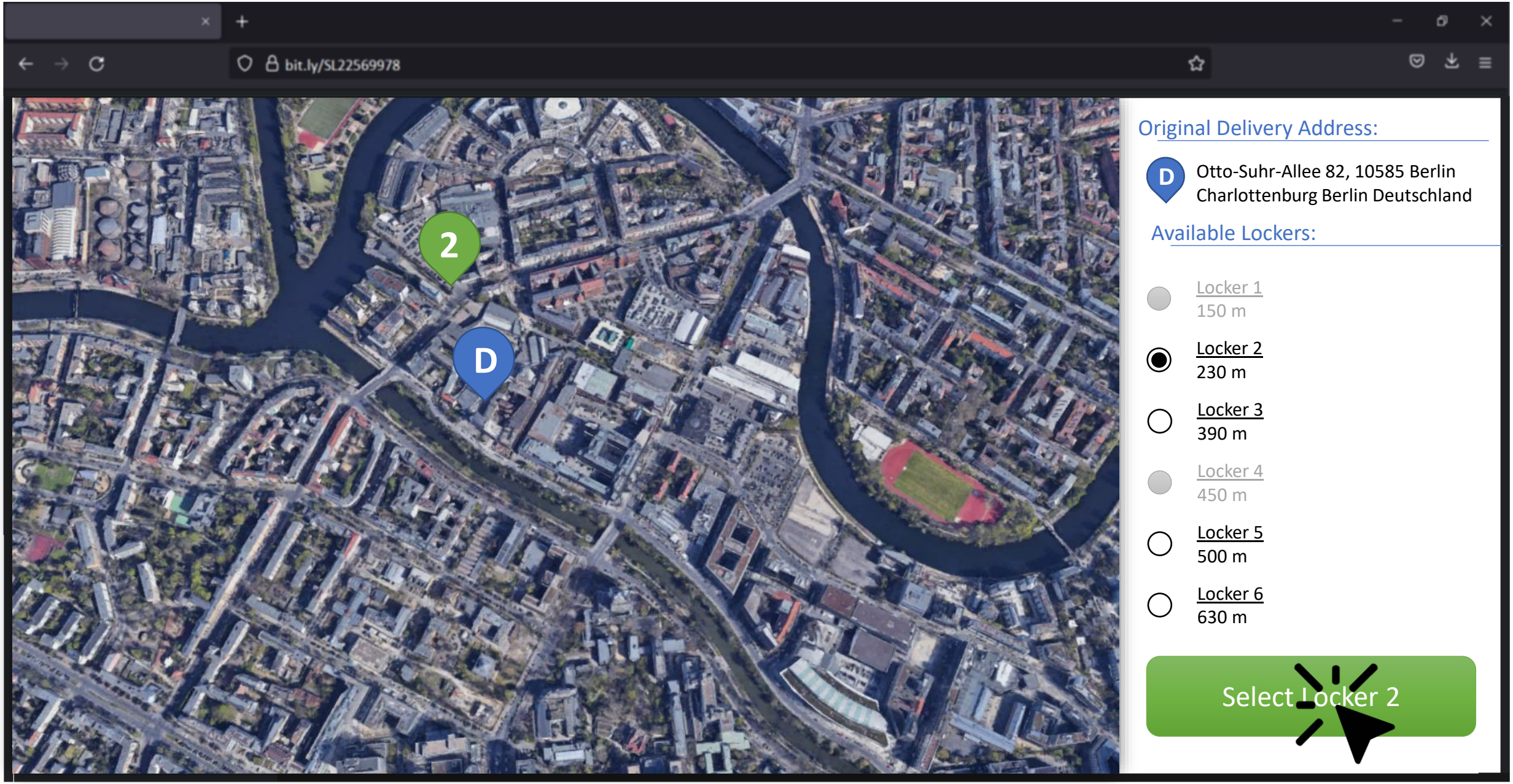
230 m
Locker 3
390 m
Locker 4
450 m
Unavailable
Locker 5
500 m
Locker 6
630 m
Select Locker 2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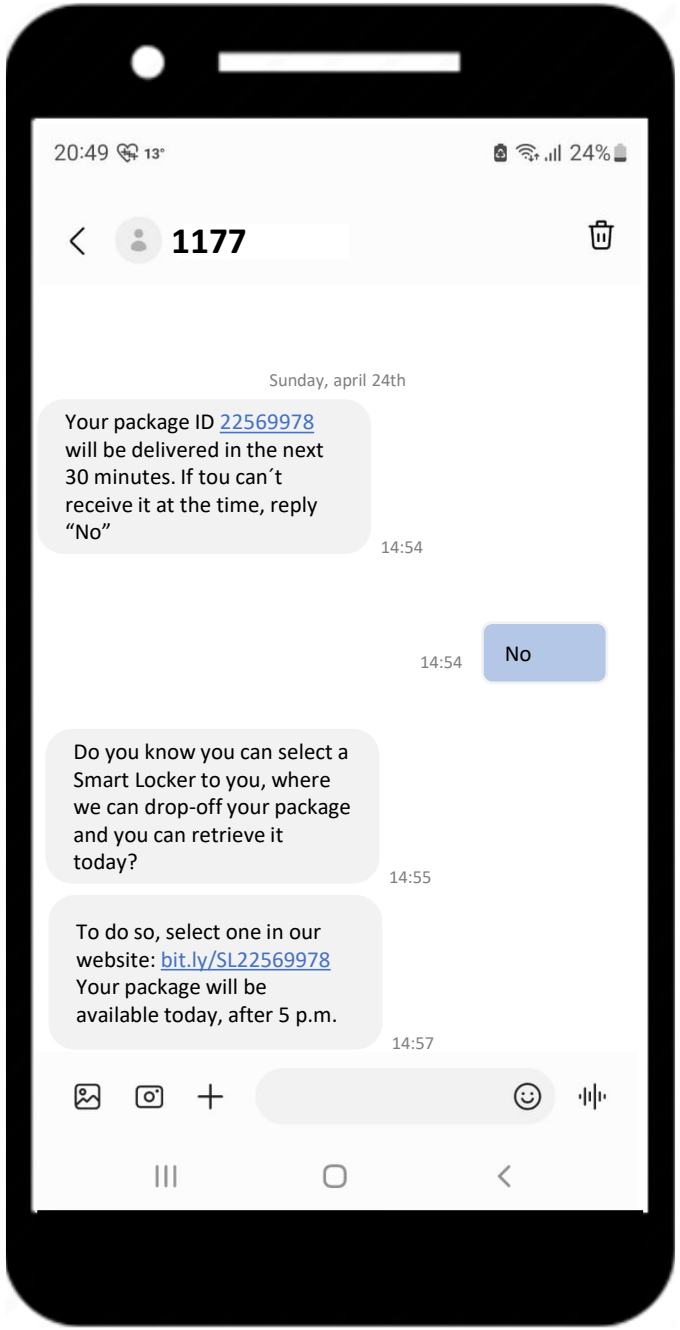
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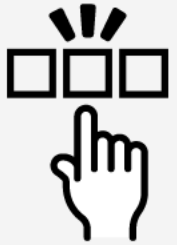
14:57

Business Model

Small cost for each delivery

Lockers are supported by partners



Add choices

Customers can decide how and where to receive deliveries

Safe

The lockers will be in big stores and are opened by a code received by SMS

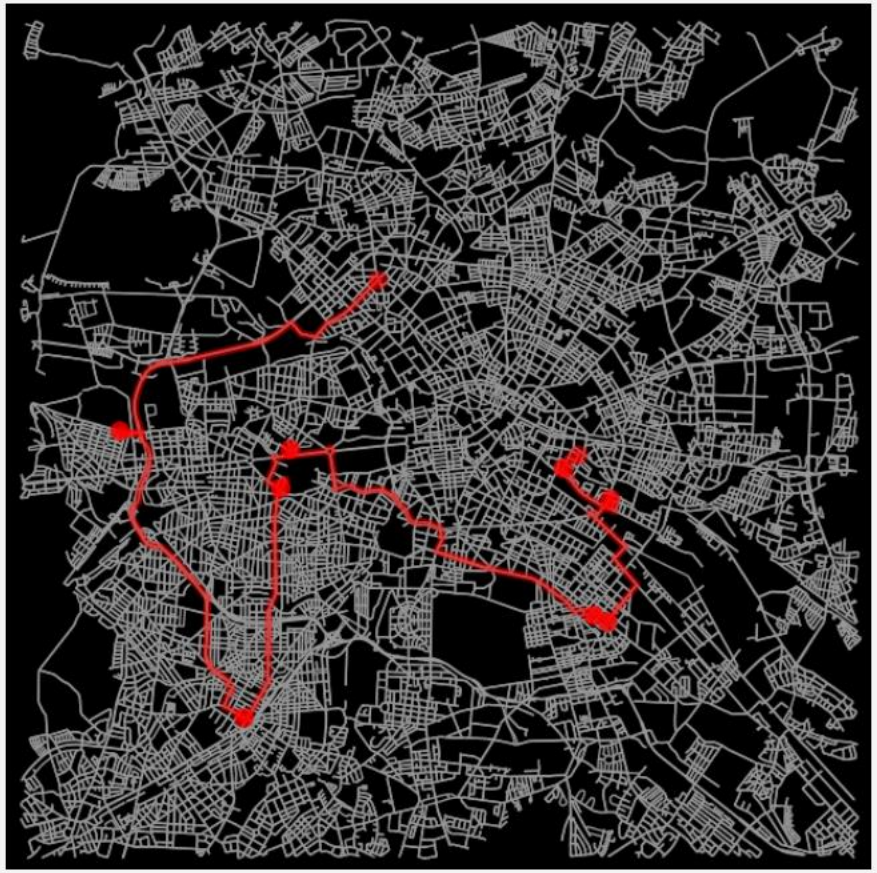
INNOVATION:

Our platform is what your customers want when they can't receive their package at their address. Convenient, responsible, and flexible.

Keep your logistics the same. Get an alternative, cheaper option your customer chooses.

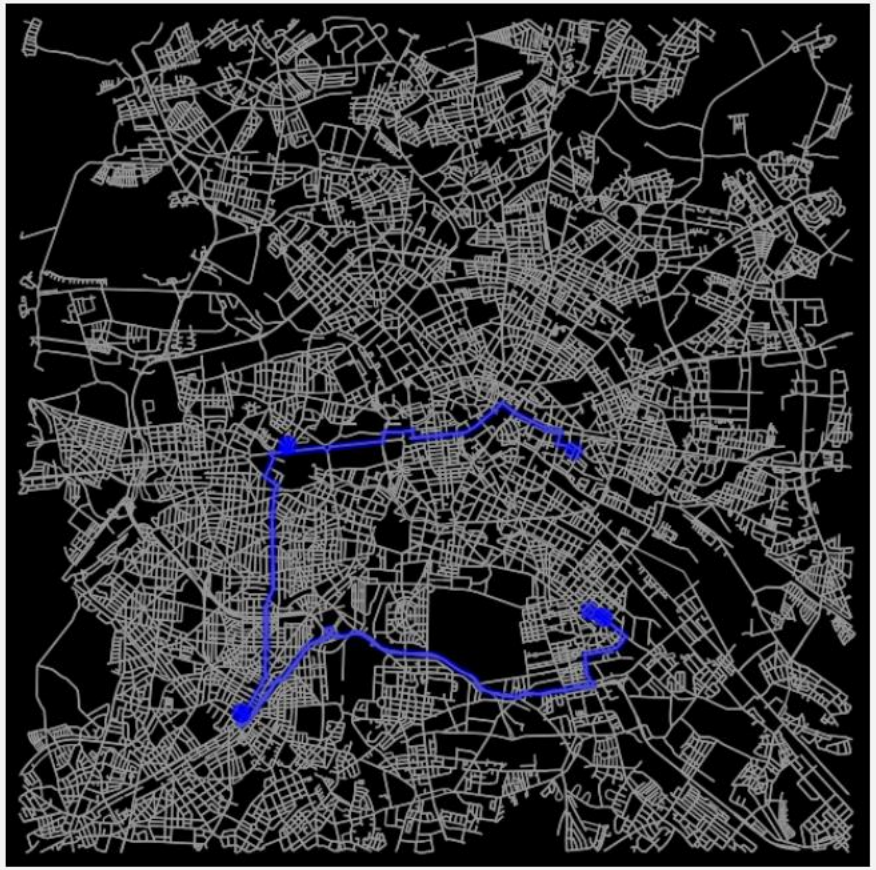
First attempt

Delivery route



Berlin

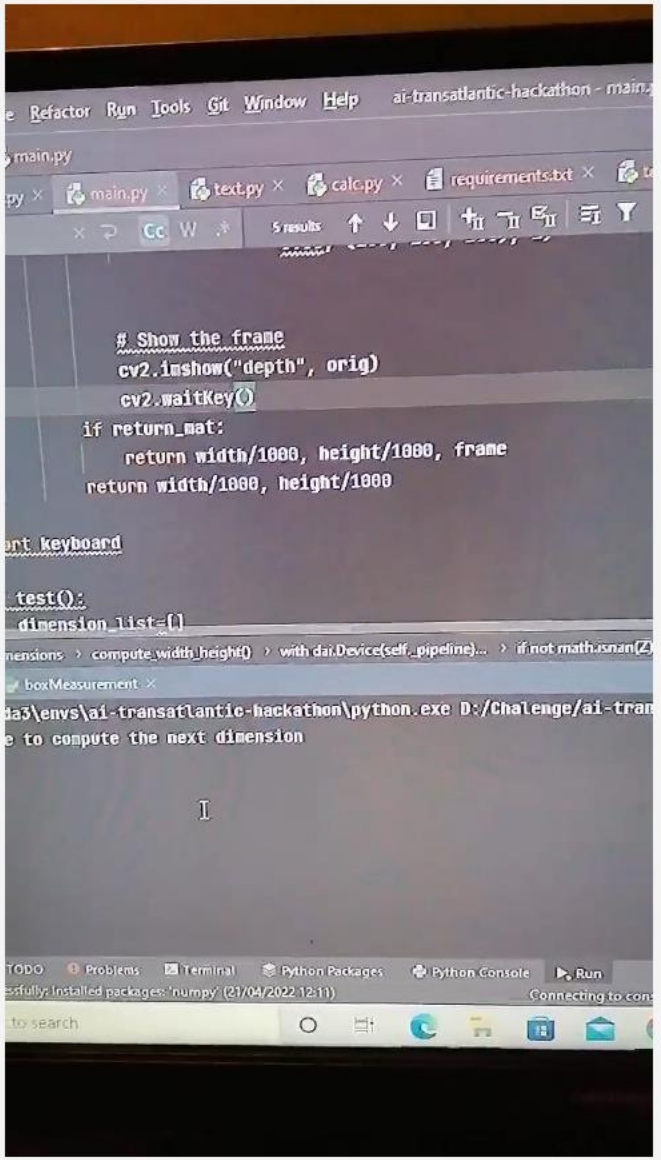
Lockers route



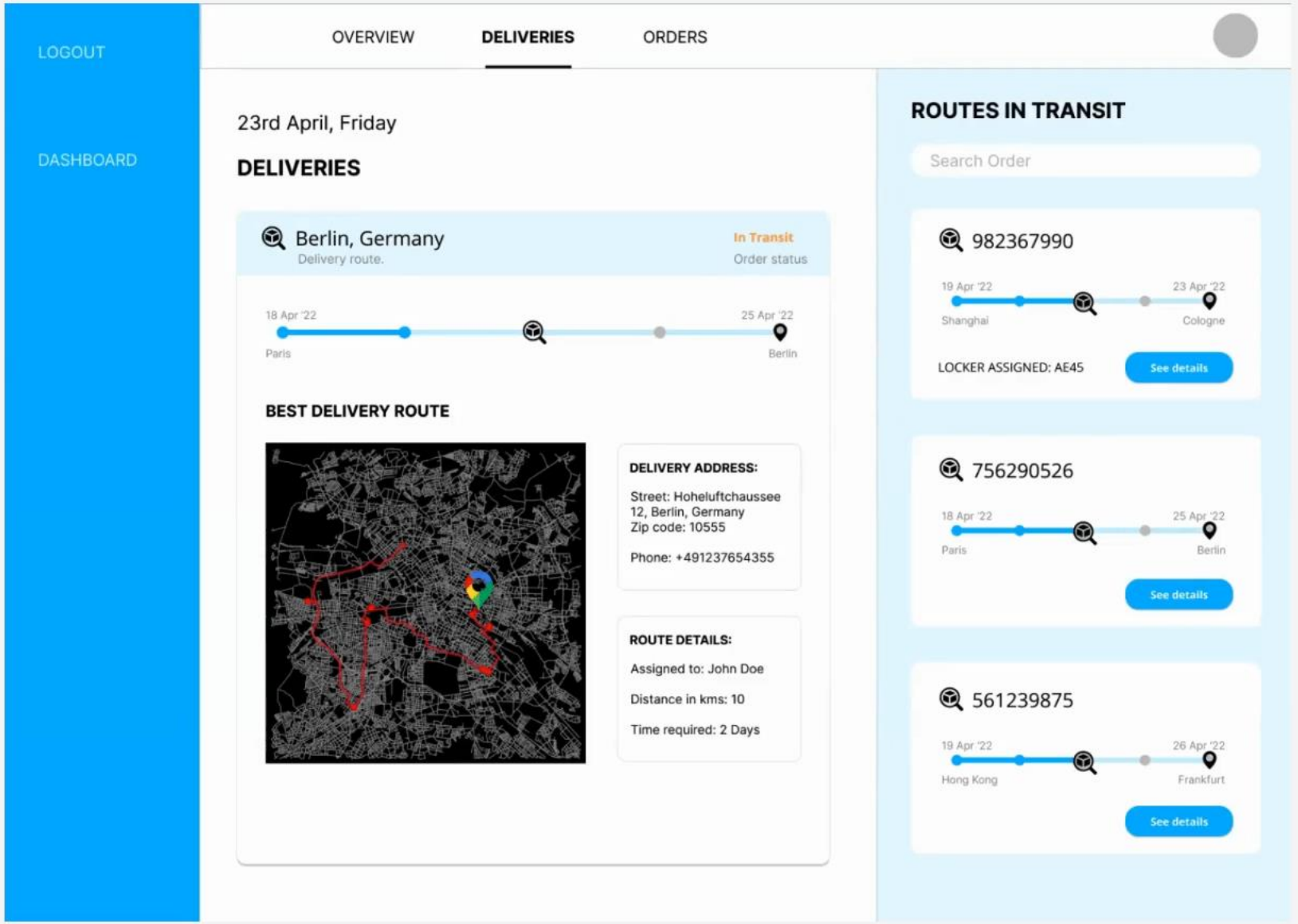
Berlin

Box measurement DEMO:

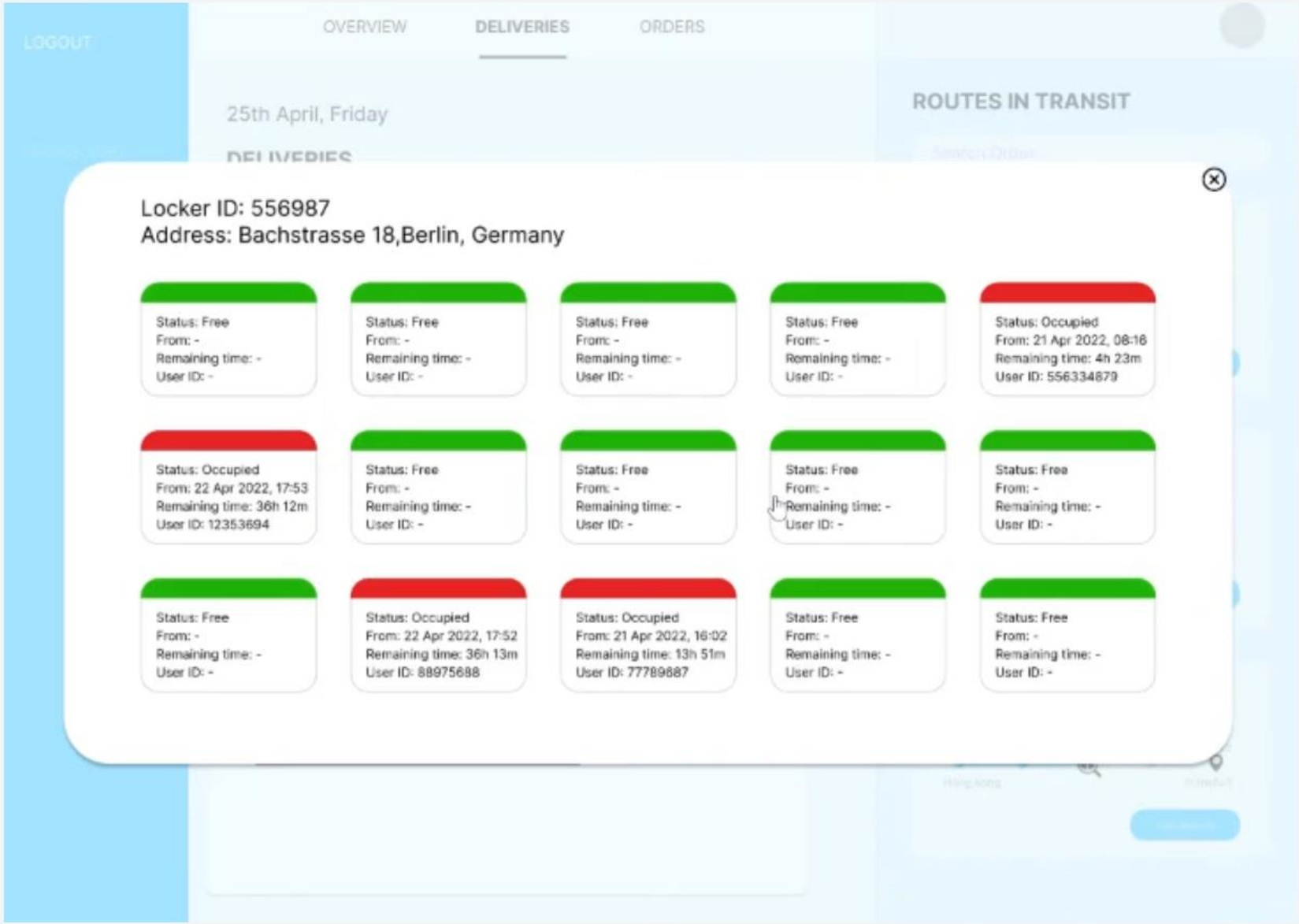
Luxonis OAK-D Lite Camera



Dashboard: Overview



Dashboard: Userflow



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Software Engineer
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