



HARDT

**Hyperloop for Ecommerce -**  
**The futureproof solution for sustainable and on-demand e-commerce**  
**delivery between cities**



In 2050...

...we will travel Europe as if it is  
one sustainable metropolis...

and

...Europe is a single market  
connected within several hours...

Welcome to the world of Hyperloop



# Hyperloop is happening now

## Continents & NGO's



World Economic Forum marked **hyperloop as tech of the future**

## Europe is leading



EU included **hyperloop** in its **Smart Mobility Strategy** and **invested €15 million in Hardt Hyperloop**, Europe's leading hyperloop company



**\$1.2 Trillion** infrastructure Bill includes and enables **hyperloop** investments

## Countries & Cities

Wales **stopped any new road** buildings  
Highway expansions disputed everywhere

France, Germany & Spain want to **ban short flights**

Texas, Pennsylvania, Alberta & Saudi Arabia have hyperloop in **city planning**

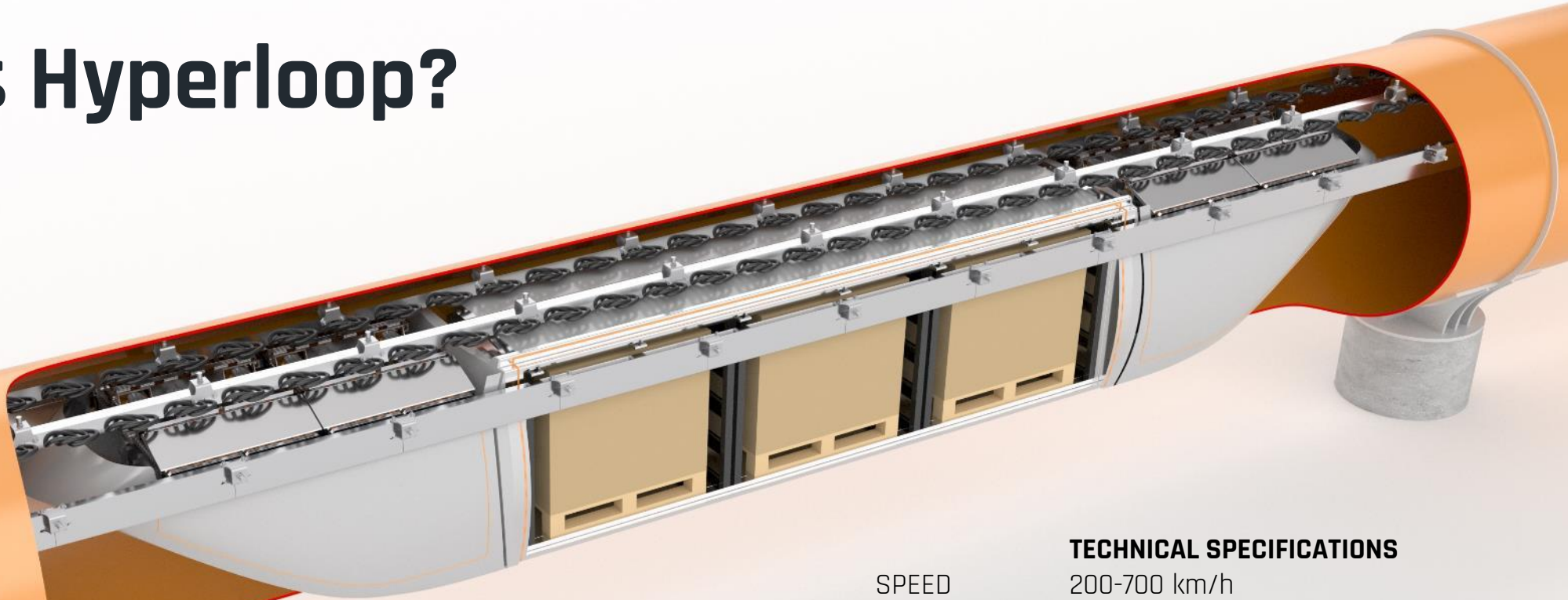
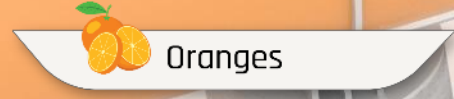
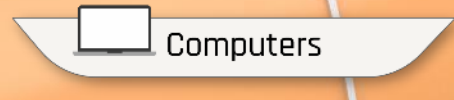
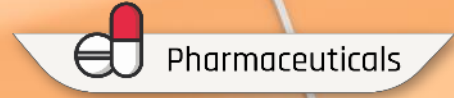
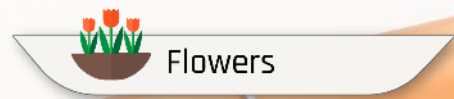
## Companies & Universities

✓ **13** hyperloop test centers

✓ **43** hyperloop studies published

✓ **71** Universities & R&D institutes

# What is Hyperloop?



## TECHNICAL SPECIFICATIONS

SPEED	200-700 km/h
ACCELERATION	0.1 G
FREQUENCY	Every second on core line
CAPACITY	5 Europallets / 250 parcels 18.000 Europallets per hour <i>(equivalent of 500+ trucks each way)</i>

Transport in a low-pressure pipe system

Magnetically levitating and propelled

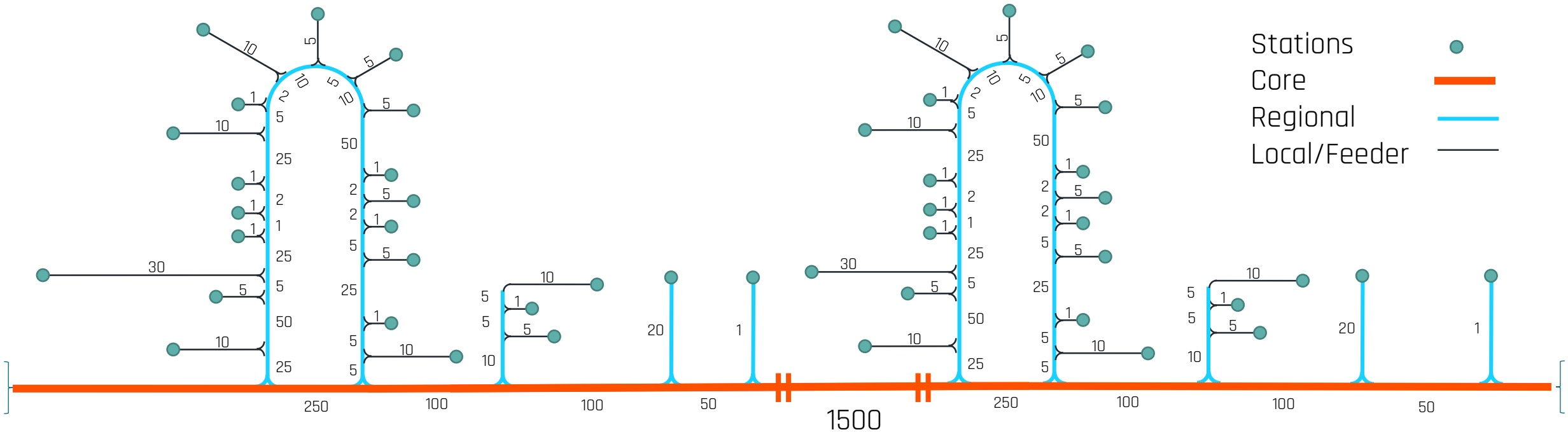
Infrastructure can carry both passengers and cargo

# The Hyperloop network

## 'The Highway Principle'

Hyperloop ensures a continuous flow

hover here to click on play

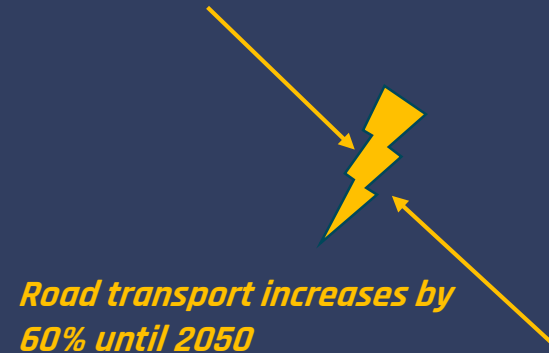




# THE ECOMMERCE LOGISTICS CONUNDRUM

## Challenge #1: increasing customer demands

- On-demand / same day delivery
- Growing parcel volumes



## Challenge #2: better use of limited space

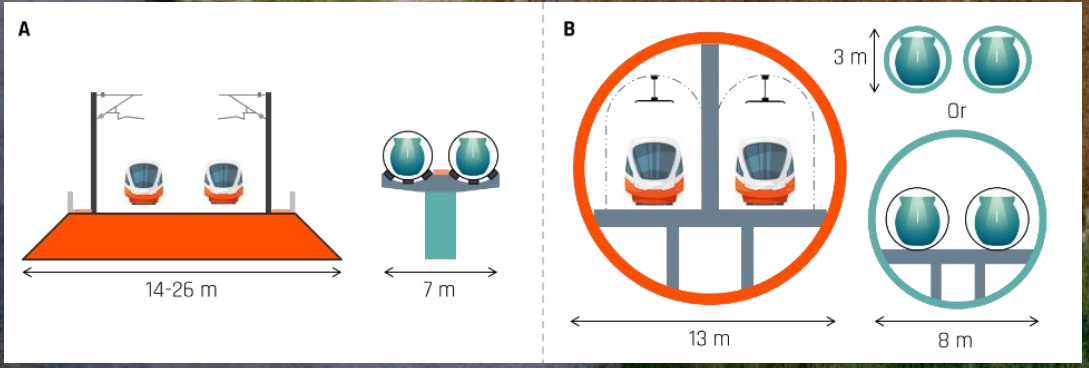
- Lack of space in urban areas
- Emphasis on improving living environment

## Challenge #3: decarbonization of transport

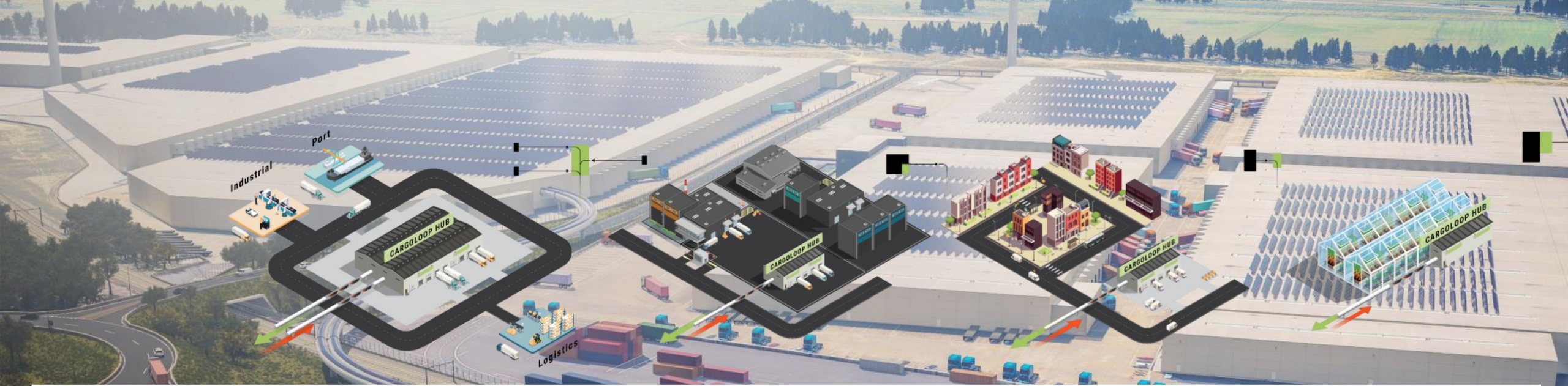
- GHG emissions must drop 60% below 1990 levels
- Long haul hardest to decarbonize











	Regional Hub	Local Hub	Urban Hub	Direct Connection
Catchment area	oooo	o	oo	o
Footprint	ooo	oo	oo	o
Throughput	oooo	oo	o	oo
Traffic around hub	ooo	o	oo	o

oooo = large/high;  
o = small/low

# Cargo Hyperloop hubs

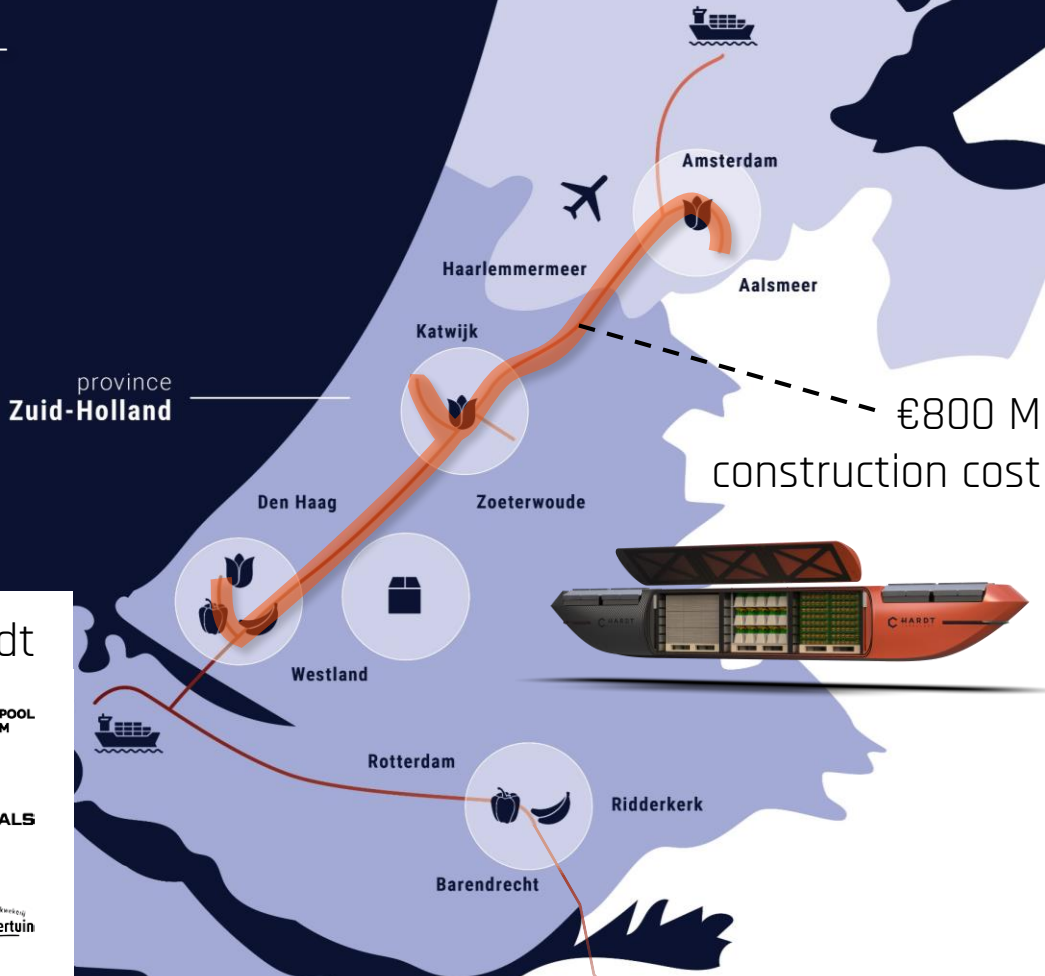


# Cargo Hyperloop Holland: a hyperloop along the busiest freight corridor in the Netherlands

▶▶ Costs to build the corridor: 1.5 bn Euro (5-14 mio Euro per km) – economically viable. First section operational before 2030

🕒 Improves logistics efficiency and access to market

+ 1.3-1.9 bn Euro of added value  
 Reduction of 2,500 trucks per day on A4 highway  
 Reduces CO2 by 1 mio tonnes in 2050  
 Creates 18,000 jobs



Over 30 key stakeholders co-develop this route together with Hardt




# Hyperconnected Europe - get on board!



## Hyperconnected Europe

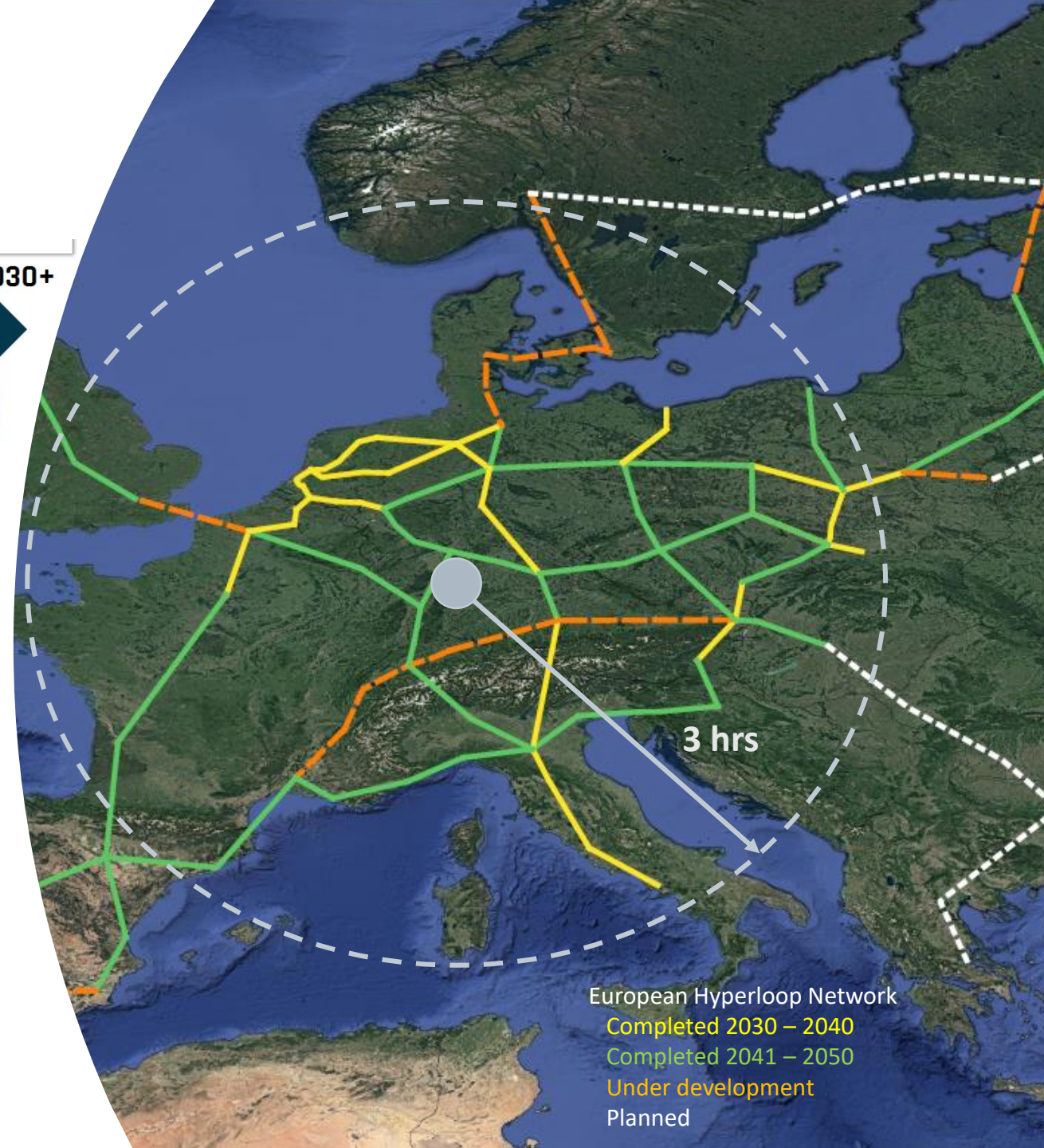
The world's smartest, greenest and best-connected city cluster - powered by hyperloop

What can hyperloop mean for your city?

**Project will kick off in November**

Find more:

<https://hardt.global/>



European Hyperloop Network  
Completed 2030 - 2040  
Completed 2041 - 2050  
Under development  
Planned