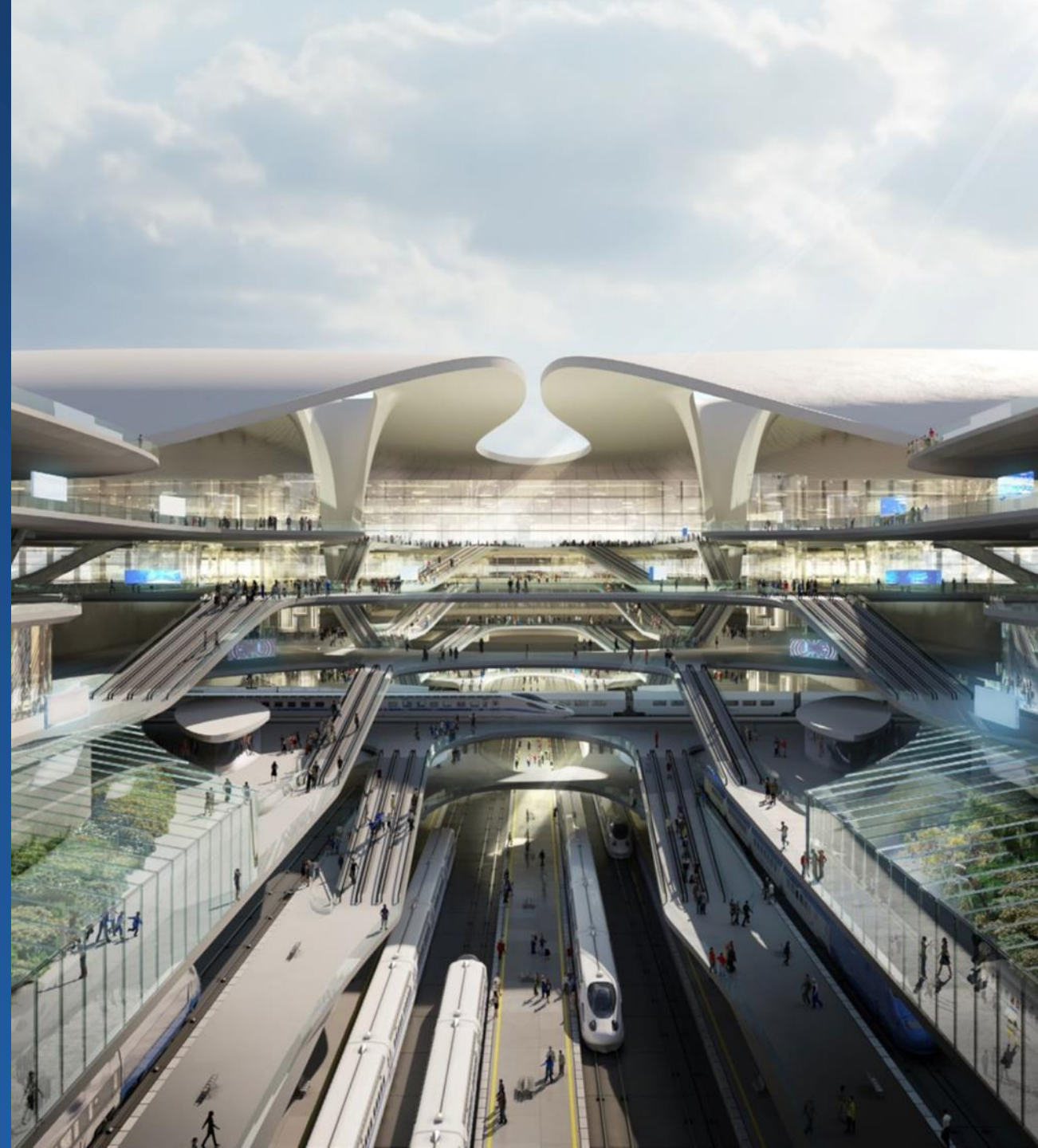


# Solidarity Transport Hub Poland

PRIME, 19<sup>th</sup> November 2020

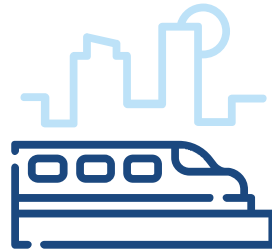


# STH 4 PILLARS – connectivity, infrastructure, real estate and modernization program



## Transportation hub AIRPORT COMPONENT

Main hub airport for CEE and main transfer railway station for Poland



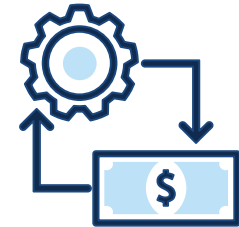
## New Rail System RAIL COMPONENT

New organization of traffic, new railway connections (incl. high speed rail), new trains



## Aerotropolis REAL ESTATE COMPONENT

Unprecedented conditions for residential, business and leisure infrastructure surrounding the airport



## Flywheel STRATEGY AND DEVELOPEMENT COMPONENT

A stimulus for economic growth, sustainable development and innovation, including cooperation with universities



## STH Poland as a stimulus for economic growth and sustainable development

- 1 STH: an intermodal transport hub**  
Full integration of the future Solidarity Airport with transport infrastructure (HS railways, incl. regional, highways network)

---

- 2 Rail connectivity**  
Improved railway connections between Polish cities and towns

---

- 3 Reduced transport exclusion**  
Sparsely populated and peripheral areas provided with transport accessibility

---

- 4 Development of sustainable transportation and uniform development of the country**  
Restoring socio-economic functions outside large cities

---

- 5 Part of European TEN-T policy**  
STH Poland fits into the Trans-European Transport Network policy strategic goals

## Linked with European TEN-T strategy

STH is a strategic project  
not only for Poland, but  
for the whole EU



TEN-T<sup>1</sup> strategy main  
goals



STH fit into  
TEN-T strategy

- To ensure territorial cohesion of the EU and to improve the free movement of people and goods

- Serves as a hub for 180m CEE citizens

- To ensure the integration of different modes of transport

- Links together road network, railways network and network of air routes

- To remove missing links and bottlenecks in transport

- Better rail connections between Poland's cities and towns



## KEY ASSUMPTIONS

- › Hub airport for CEE region  
World-class hub airport, with ambitious goals across all dimensions
- › Easy access to passengers  
Located in the center of Poland\* with quick access to sizeable number of passengers
- › Full intermodal integration  
Integrating airport with transport infrastructure and innovative airport city

\* Attractive location of the airport not only locally but also globally

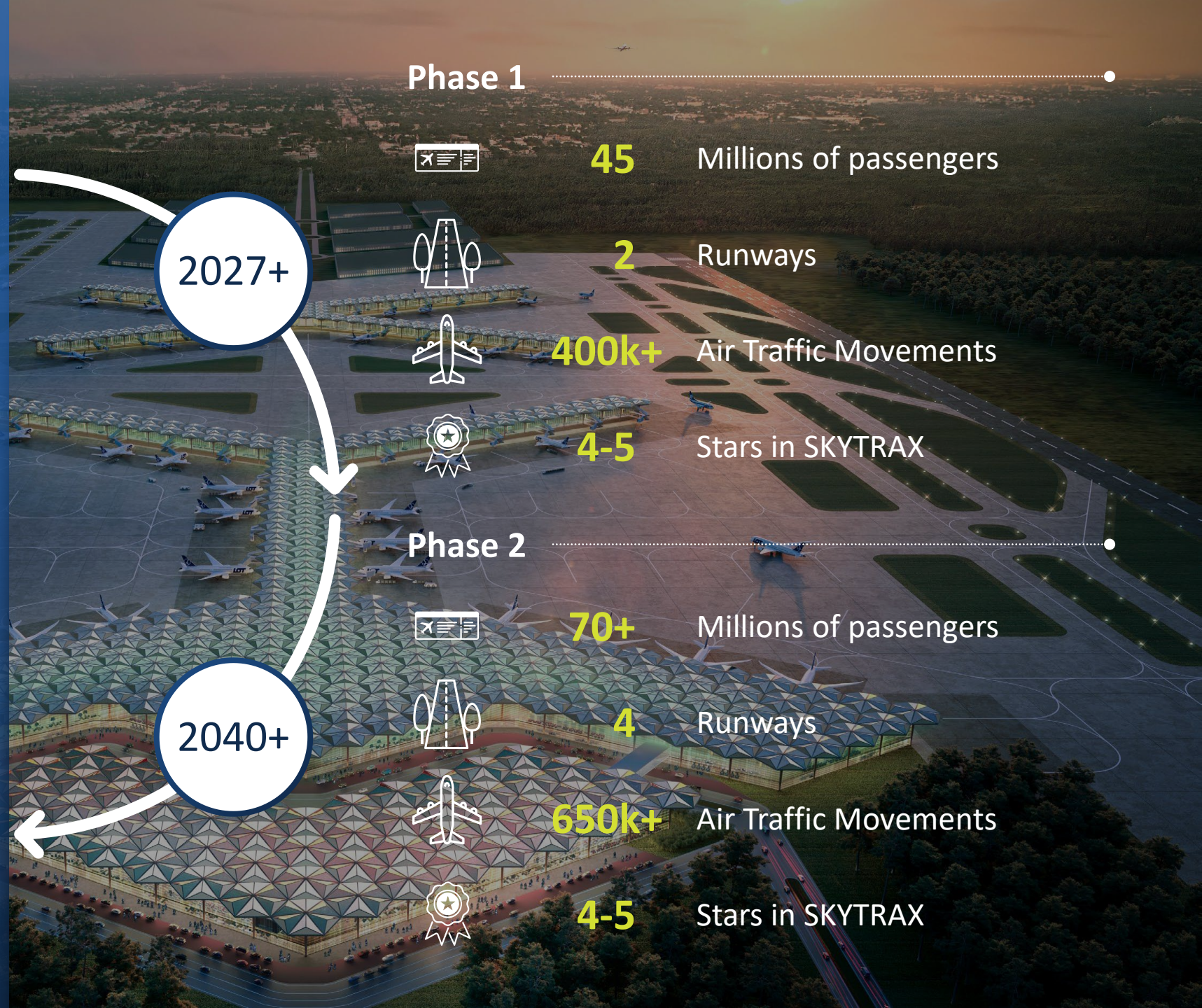




# AIRPORT COMPONENT

## Hub airport for CEE region

World-class hub airport, with ambitious goals across all dimensions



2027+

### Phase 1



45

Millions of passengers



2

Runways



400k+

Air Traffic Movements



4-5

Stars in SKYTRAX

2040+

### Phase 2



70+

Millions of passengers



4

Runways



650k+

Air Traffic Movements



4-5

Stars in SKYTRAX

Note: All volumes per year



CENTRALNY PORT KOMUNIKACYJNY  
—  
SOLIDARITY TRANSPORT HUB  
POLAND

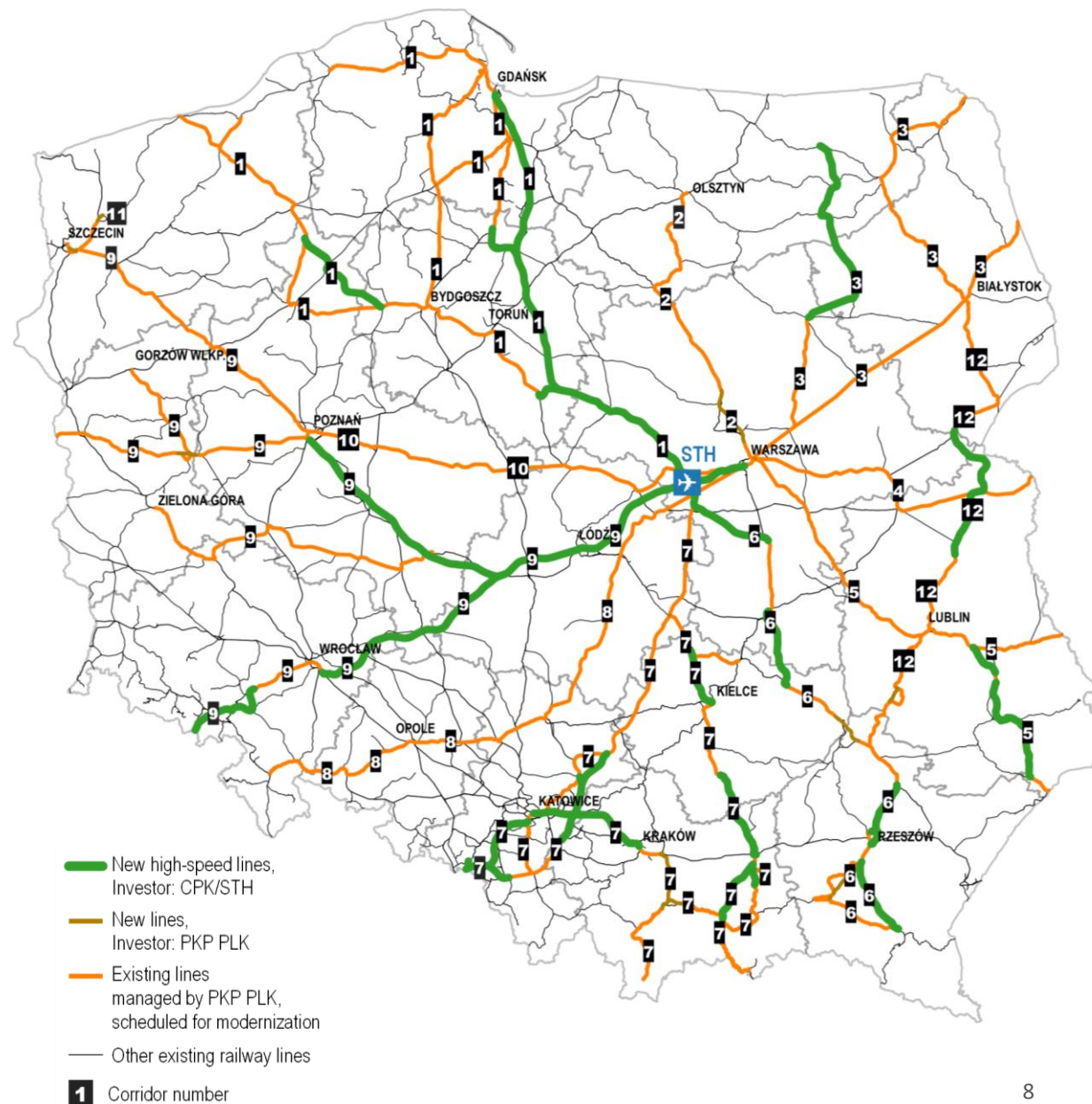
# STH RAIL COMPONENT





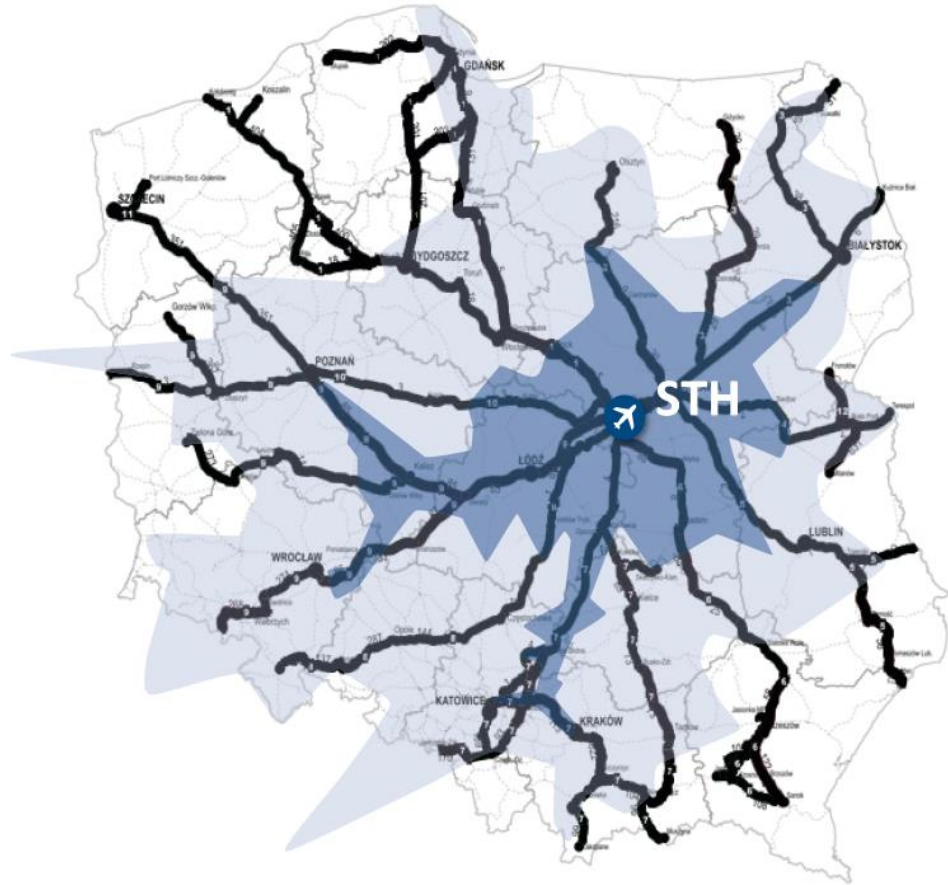
## RAIL COMPONENT

- › **1 789** kilometers of new (high-speed) railways (2020-2034)
  - › Design speed  $\leq 350$  km/h
  - › Operating speed 160-250 km/h
  - › 25kV AC or 3kV DC electrification
  - › Passenger stations in 25-100 km range
  - › Possible freight traffic and regional traffic on selected sections
- › Railway system will be based on a plan of a **spider web**, with **10 major corridors** radiating from STH
- › The system is currently in its planning stage, including preparatory study and analytical works conducted internally by the STH Company. Construction of the first sections is scheduled to commence in 2023.





## Railway Program Assumptions



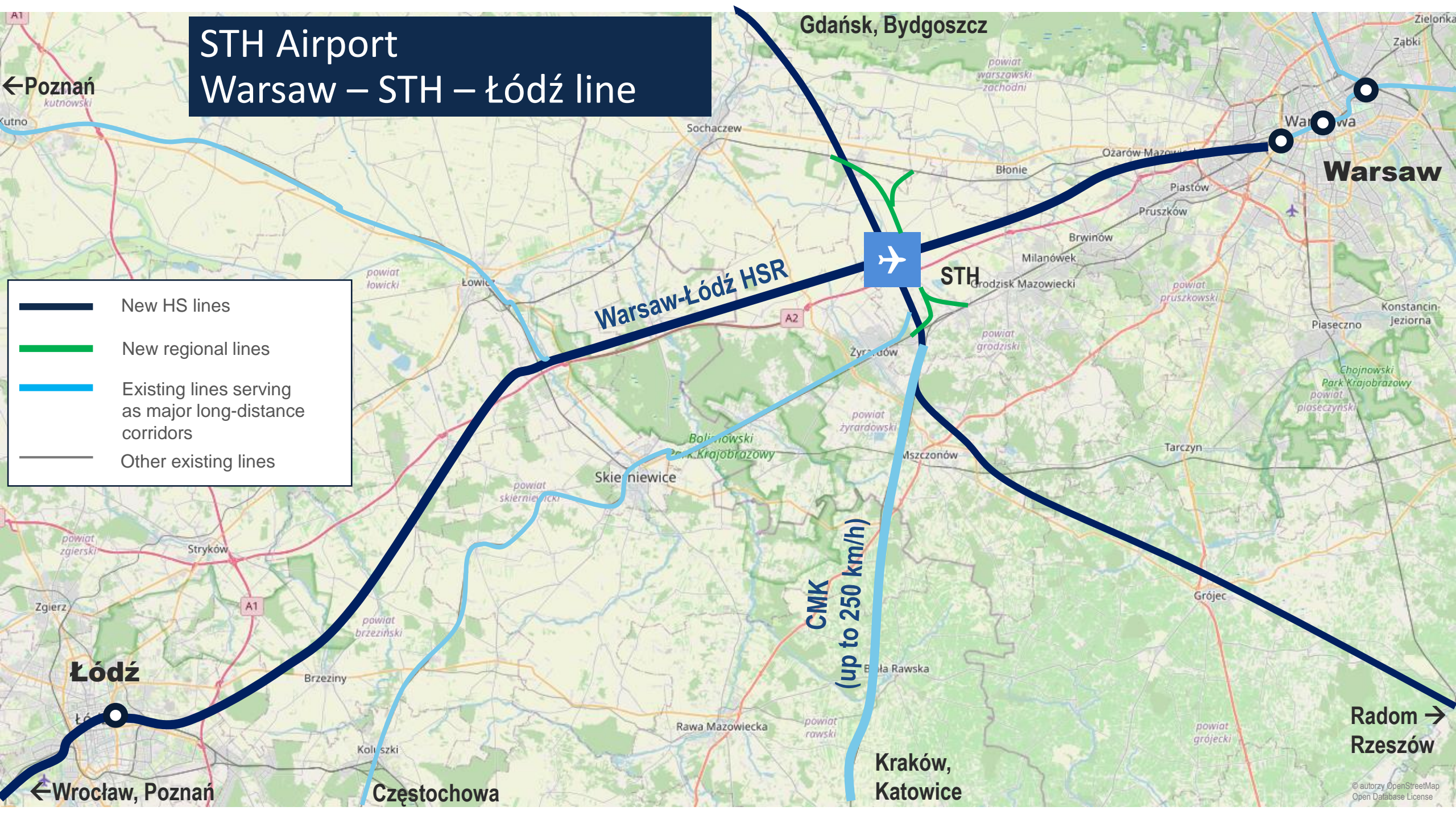
Connection time  
no longer than 1.5 hours



Connection time  
no longer than 3 hours

- › Every major city in Poland will be directly connected to STH, with target travel time **under 2.5 hours**
- › STH will serve as one of the **major hubs** of the long-distance train network
- › The new system will also improve links to the **remote regions of Poland**, currently isolated and relying primarily on road transport
- › The STH system will be linked with neighboring countries, providing connections to largest economic centres in the CEE including **Vienna, Prague, Bratislava and Budapest**
- › We assume that the new railway system will be served by a **diverse array of train categories** serving various needs and demand categories, including fast InterCity connections, as well as InterRegio and RegioExpress trains.



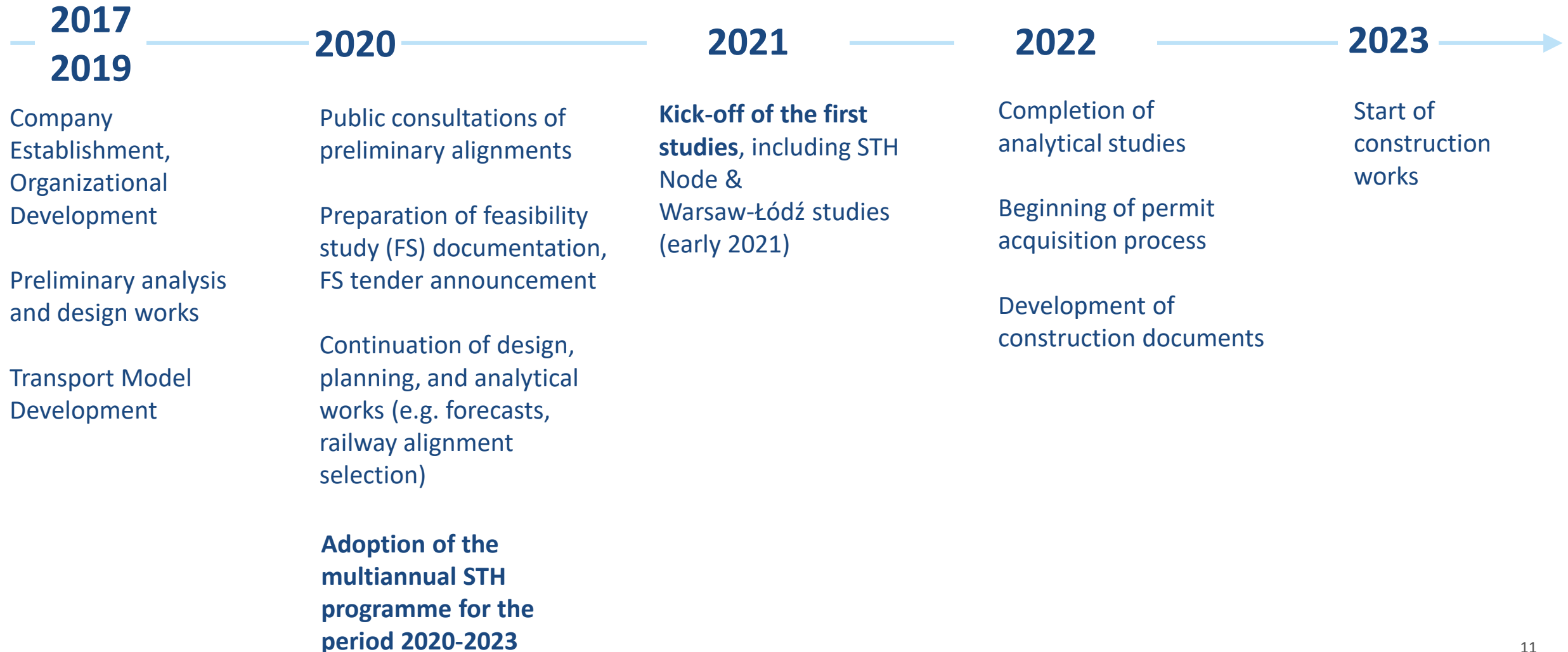
# STH Airport Warsaw – STH – Łódź line



-  New HS lines
-  New regional lines
-  Existing lines serving as major long-distance corridors
-  Other existing lines



## STH Rail Team: Major activities & milestones



---

## New cross border lines:

1. Praha – Wrocław corridor
2. Katowice – Ostrava corridor (Connecting Europe Facility)

**1** Creation of a **new fast connection between Wrocław to Praha and Katowice to Ostrava** - to merge Polish and Czech high-speed network, resulting in high speed railway connections in corridor Warszawa – Praha via Wrocław and Hradec Kralove

**2** **Better connecting important regional cities:**

- Wałbrzych, Wrocław with Praha
- Kraków, Katowice (Silesia region) with Ostrava, Brno

**3** Building **new cross-border connection for passenger and freight trains**

**4** Offer new possibilities of organising crossborder regional trains transport, **increasing turistic attractiveness of region**



# STH TRANSPORT MODEL

PKP Polskie Linie Kolejowe S.A. *developed* → Solidarity Transport Hub Transport Model

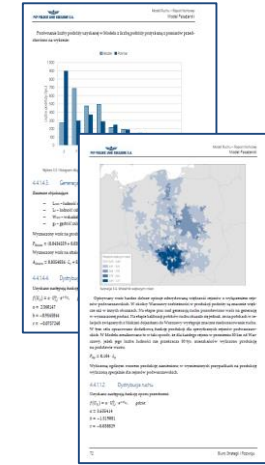
## Key information

- 1 Base year 2015 and 2017
- 2 Forecast: 2019; 2040 (2 scenarios)
  - 2040 V0 - non-investment scenario (without STH airport and rail component)
  - 2040 V1 – investment scenario with airport and rail component;
  - other horizons in preparation (2025/2050)
- 3 Documented and verified
- 4 Open architecture of model  
(editable procedures on all steps of calculations)

## Passenger Model

- 1 Multimodal
- 2 4-step model
- 3 Annual Average Daily Traffic

## Documentation & Verification



„The model uses the data in maximum extent. The approach of the modelling team is very scientific with good use of data and good access to gathered data. The model already forms a very good tool for strategic planning and for the modelling of the impact of the changes of the infrastructure including the lockouts of the sections.”

„In JASPERS' view the model is generally well documented, of good quality and of appropriate scope and level of detail (...) and has immediate applicability for appraisal of typical rail investment detail (...) and has immediate applicability for appraisal of typical rail investment measures (...) The team in itself is a valuable asset which would be the obvious starting base for further maintenance, operations and development of the model”.

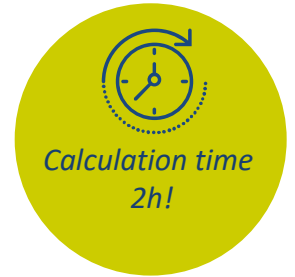
Jaspers  
Luxembourg, 19<sup>th</sup> April 2018 SQIAS-JASPERS2018-47/UAA/ALP/rap

**JASPERS Action Completion Note**  
(Short Version)

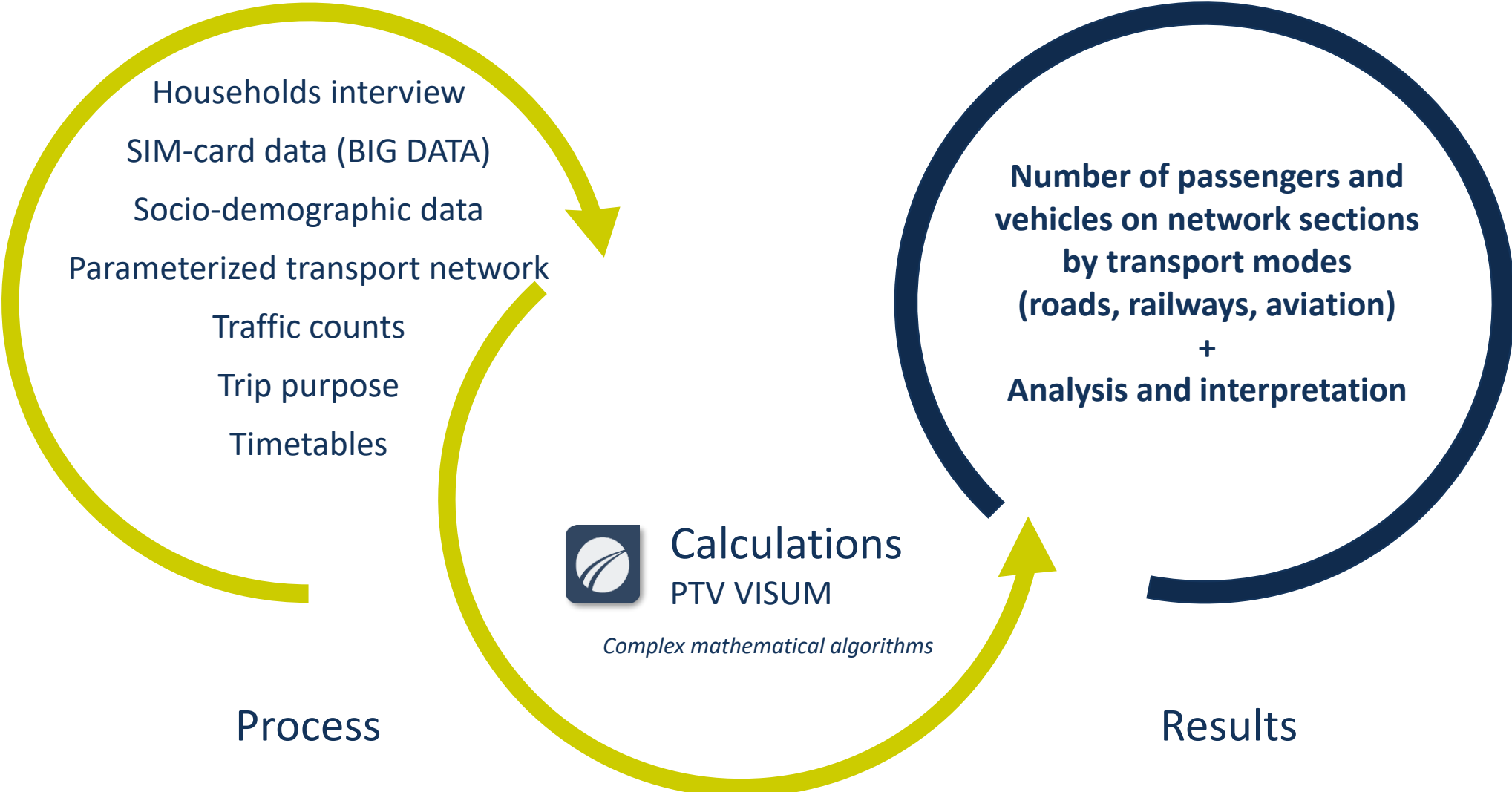
JASPERS assistance is provided in good faith and with reasonable care and due diligence (Jaspers) to assist, drawing on the experience and business practices of its partners, the European Commission and the European Investment Bank. The beneficiary accepts and agrees that any course of action will be decided upon solely by the beneficiary based upon their own evaluation of the outcome of the advice, and that JASPERS or its partners are not responsible and will bear no liability for any such decisions of the beneficiary.

Course	Project
Project / JASPERS Action	Implementation of a tool allowing rail traffic forecasting (Transport Model)
Type of Action	Technical / Strategic Support
Responsible JASPERS Action	n/a
Beneficiary	PKP Polskie Linie Kolejowe S.A.
Operational Programme	OP Infrastructure and Environment 2014-2020
Priority Axis	Rev. V Development of Railway Transport in Poland
JASPERS Action No.	2017 173 PL RRM RAL
Date of submission to EC	n/a
Grant Funding requested	n/a
Completion Note prepared	March 2018

Signature & date: *Alan Lynch* 19.4.2018  
Head of Division: Alan Lynch Task Manager: Paul Riley



# Transport Model – operational scheme





## MODEL SCOPE

The model covers the area of

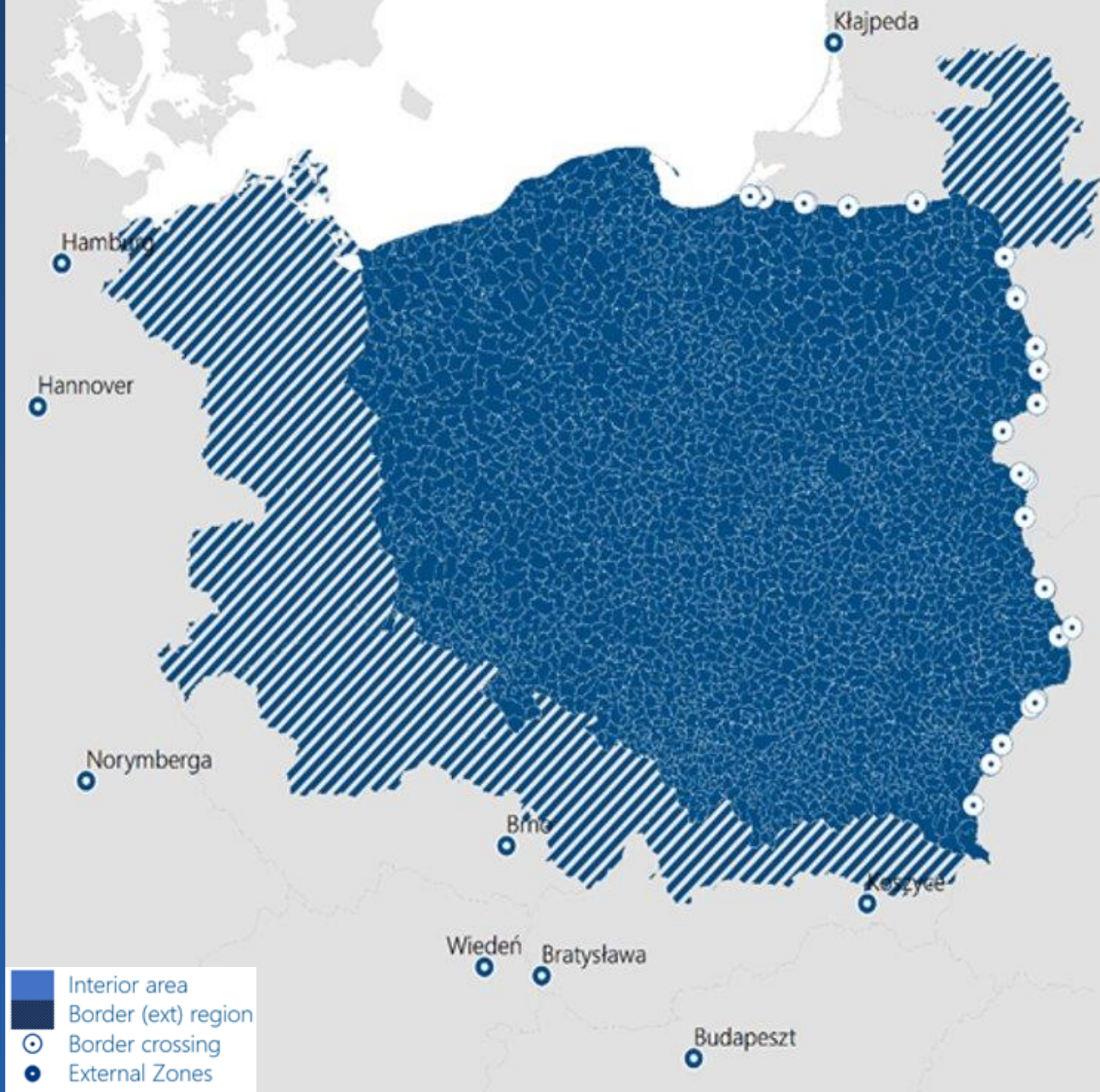
Internal:

- › Area of the whole country - municipalities-level (gminy) LAU 2
- › Large cities divided into smaller zones
- › Airports

External:

- › Ring 1 - regions close to the surrounding in the Schengen Area countries
- › Ring 1 - border crossing areas, in the No-Schengen Area countries
- › Ring 2 - regions of distant surroundings in the Schengen Area countries

In total, the STH Multimodal Transport Model contains about 2,800 zones.





## New railway system means new trains

Various categories of trains are expected to run in the STH rail network, corresponding to the differentiated nature of the demand for rail travel. Approx. 130 new trains

### InterCity

- Maximum speed = 250 km/h
- Low number of stops
- Serving major cities and agglomerations

### InterRegio

- Maximum speed = 250 km/h
- Higher number of stops
- Serving also district towns

### RegioExpress

- Maximum speed = 160 km/h
- Serving cities and larger towns within the voivodeship

### Freight transport

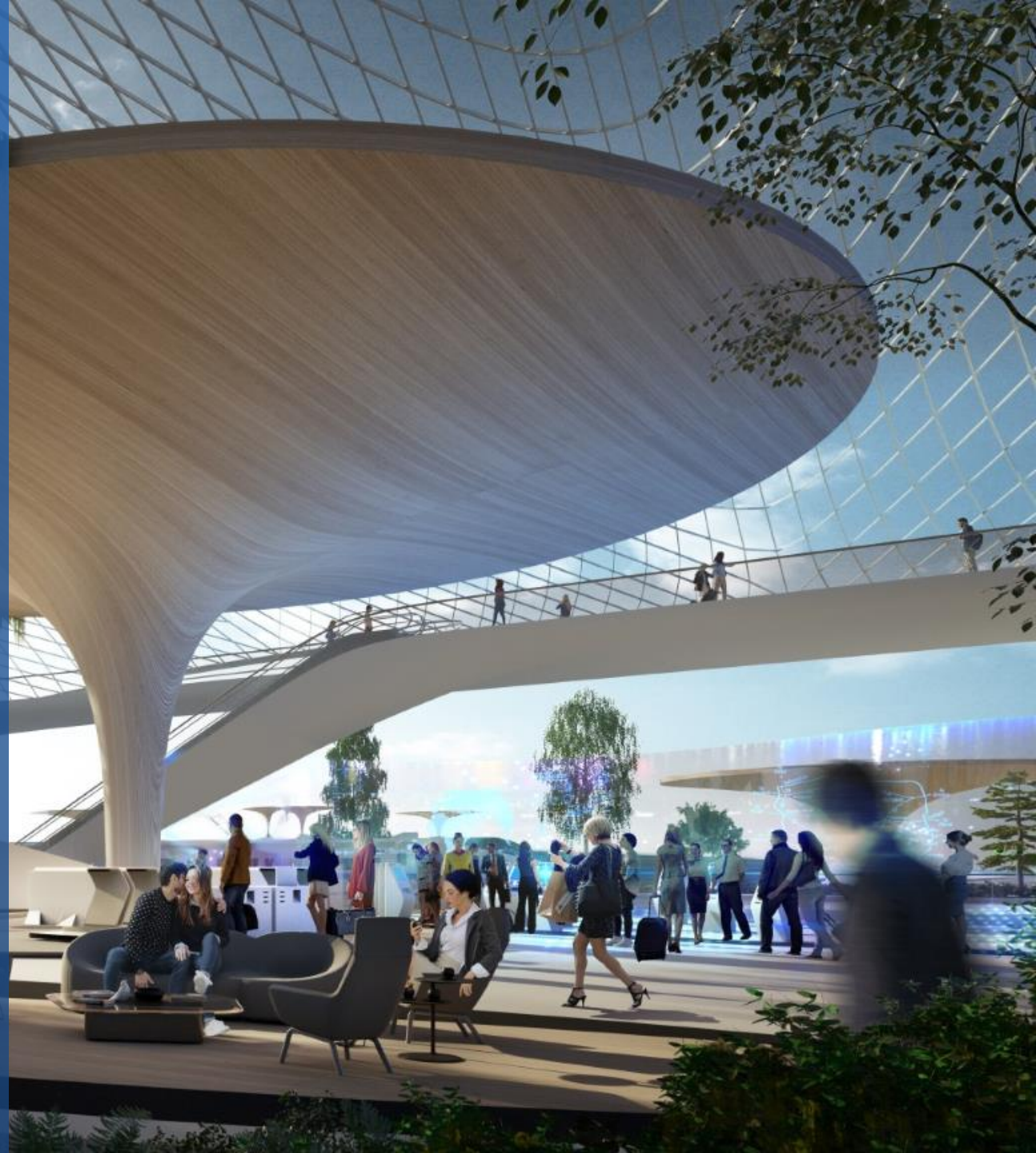
- Possibilities and conditions of rail freight transport depend on the results of the analysis





CENTRALNY PORT KOMUNIKACYJNY  
—  
SOLIDARITY TRANSPORT HUB  
POLAND

# FLYWHEEL COMPONENT





## STH as a flywheel for the post-COVID economy



- › **Preparations for STH are underway** despite the COVID-19 pandemic. When the current restrictions are over, countries that are consistently investing in key sectors of the economy, such as transport and logistics, will return to growth.
- › STH is a **long-term investment** with a potential to stimulate the economy.
- › Major airport and rail investments **provide thousands of jobs** during construction (estimates based on similar projects: 20-30 thousand new jobs during construction) and the total of 290,000 jobs is expected to be created.
- › Large public investments and infrastructure development are a **proven way out of a crisis** (e.g. F. D. Roosevelt's New Deal after the Great Depression). STH will help **kickstart the economy** in an era of global slowdown.
- › By eliminating the missing links and bottlenecks, and introducing full integration with the main transfer railway station for Poland, STH will help Poland achieve the right **balance between air, rail, and road travel** – the right **balance from the perspective of the traveler and environmental protection**.

## Green growth as a key goal

- › It is one of our main goals to plan the hub in accordance with the **best practices in sustainable transport**.
- › STH is a **greenfield project**, which provides an opportunity to plan the area surrounding STH according to the **newest standards of sustainable city planning and development**.
- › **Smart Airports Horizon** – European consortium with the participation of STH has received EUR 12 million in funding for environmentally-friendly and sustainable solutions for **Smart Airport** design.
- › Focus on **electromobility** – in order to reduce greenhouse gas emissions generated by the aviation industry, we will use tools for planning **green infrastructure and the application of electromobility** during the design of the Solidarity hub.
- › With the use of modern technologies, we will **reduce the carbon footprint** to the minimum.







CENTRALNY PORT KOMUNIKACYJNY

—  
SOLIDARITY TRANSPORT HUB  
POLAND

Thank you!