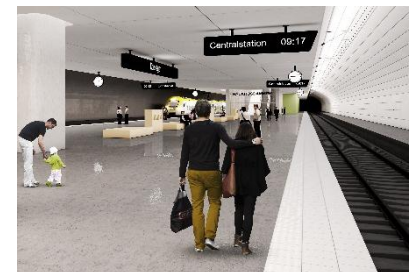
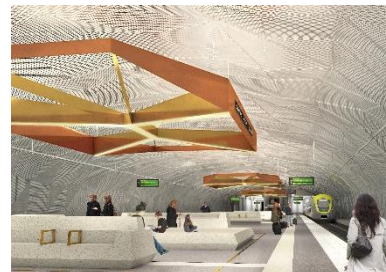


The West Link



TRAFIKVERKET
SWEDISH TRANSPORT ADMINISTRATION

**Information meeting
Procurements 2015**



Erik Lööv

Project Manager

Agenda

| | |
|--|------------------|
| Introduction | Erik Lööv |
| Olskroken Contract | Jenny Karlsson |
| Centralen Contract | Mikael Larsson |
| Construction challenges | Leif Jendeby |
| Short break | |
| The ECI contracts and the procurement process | Lillian Brunbäck |
| Time for questions | |
| Conclusion | Erik Lööv |



Co-financed by the European Union
Trans-European Transport Network (TEN-T)

The West Swedish Agreement



Co-financed by the European Union
Trans-European Transport Network (TEN-T)

The West Link

WHAT?

- An 8 km double-track railway, incorporating a 6 km long tunnel under the center of Gothenburg.
- Three new stations in the city: at Gothenburg Central Station, Haga and Korsvägen.

WHY?

- The link will increase train service capacity with direct routes.
- Essential for the development of train services in Western Sweden

ESTIMATED CONSTRUCTION/TRAFFIC START

- 2018/2026

COST

- 20 billion SEK (price index 2009)



Co-financed by the European Union

Trans-European Transport Network (TEN-T)

Why the West Link?

Makes travel easier, and contributes to an attractive, growing and sustainable Western Sweden.

- Allows commuter train lines through the city and enables traveling in the region without transfers.
- Expands railway traffic thanks to new tracks for commuter and regional trains through Gothenburg.
- Contributes to urban development in the city of Gothenburg and regional development in Western Sweden.
- Relieves the local public transport with more central nodes.
- Frees up capacity on existing tracks – provides increased capacity for freight and long-distance trains.
- Contributes to development of train services in Western Sweden



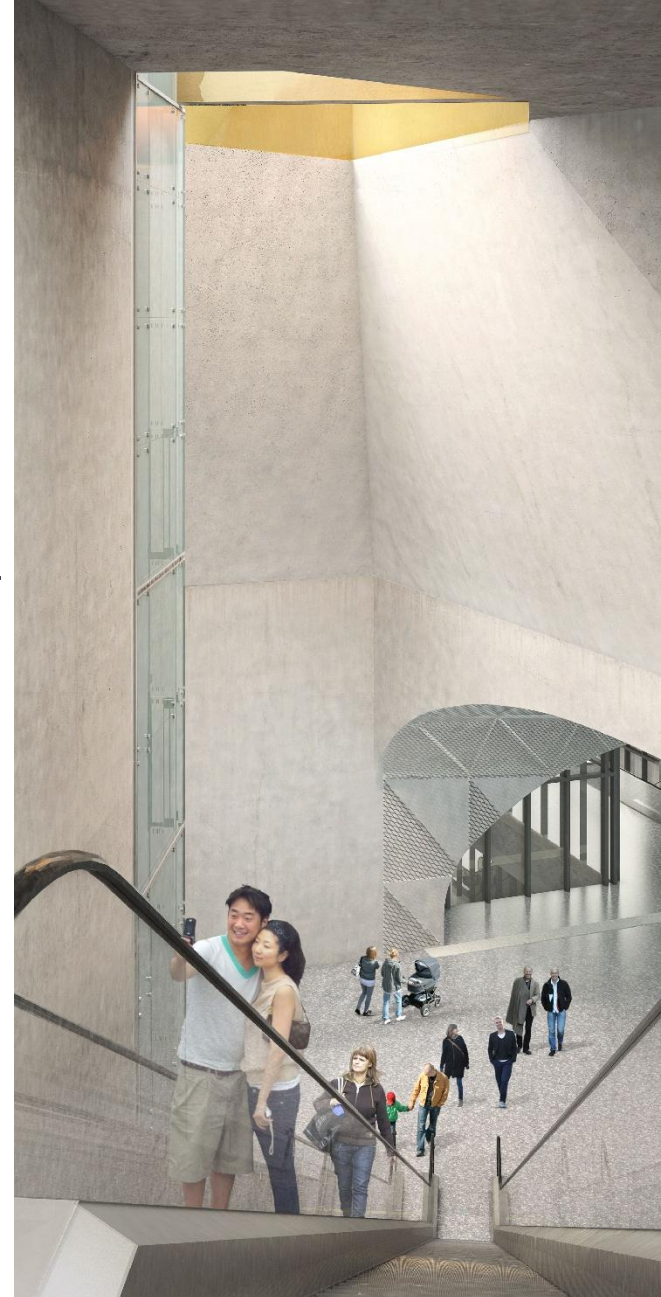
Co-financed by the European Union

Trans-European Transport Network (TEN-T)

3 years

and 1 million hours

- Planning and design started in 2011.
- Permissibility granted by the Government, June 2014
- Environmental Impact Assessment approved by the County Administrative Board, November 2014.
- Railway Plan exhibited for review (10/12-30/1)
- Detailed development plan for railway tunnel exhibited for review (10/12-27/1)



Co-financed by the European Union

Trans-European Transport Network (TEN-T)



TRAFIKVERKET
SWEDISH TRANSPORT ADMINISTRATION

Three new stations

Year 2020

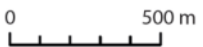
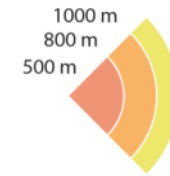
- About 100 000 residents
- About 130 000 businesses

Centralen

Haga

Korsvägen

Distance to the stations



Co-financed by the European Union
Trans-European Transport Network (TEN-T)

20

billion (SEK)



Contracts

- Olskroken
- Centralen
- Kvarnberget
- Haga
- Korsvägen
- BEST



Co-financed by the European Union
Trans-European Transport Network (TEN-T)



TRAFIKVERKET
SWEDISH TRANSPORT ADMINISTRATION

Olskroken

- Olskroken is a central node in the railway system in Gothenburg and western Sweden.
- Five tracks meet here, most of them on the same level. The traffic consists of both passenger and freight trains.
- This makes this point one of Sweden's most intensive railway traffic hubs.
- Olskroken Project connects to the new tracks included in The West Link Project.



Olskroken Project

WHAT?

- Converting Olskroken railway junction into a grade separate junction.
- The project is included in the national plan for the Swedish Transport System 2014-2025

WHY?

- Olskroken is the most strained node in the railway system.
- For increased capacity, accessibility and dependability of the rail system in Western Sweden.

ESTIMATED CONSTRUCTION/TRAFFIC START

- 2018/2023

COST

- Approximately 2,5 billion SEK (price index 2013)



Jenny Karlsson

Project Manager

Contract Olskroken



A conversion in Olskroken, which will result in the railway tracks crossing over one another at different levels, is necessary and will increase: capacity, accessibility and reliability for all train traffic to and from the connecting tracks.

Contract Olskroken

Olskroken today



Contract Olskroken

Olskroken today



Contract Olskroken

Olskroken tomorrow



Contract Olskroken



The contract covers ground, bridge and railway systems (BEST)

Contract Olskroken

Bridges

- Rail bridges
- Road bridges
- Pedestrian bridges



Contract Olskroken

Railway systems (BEST)

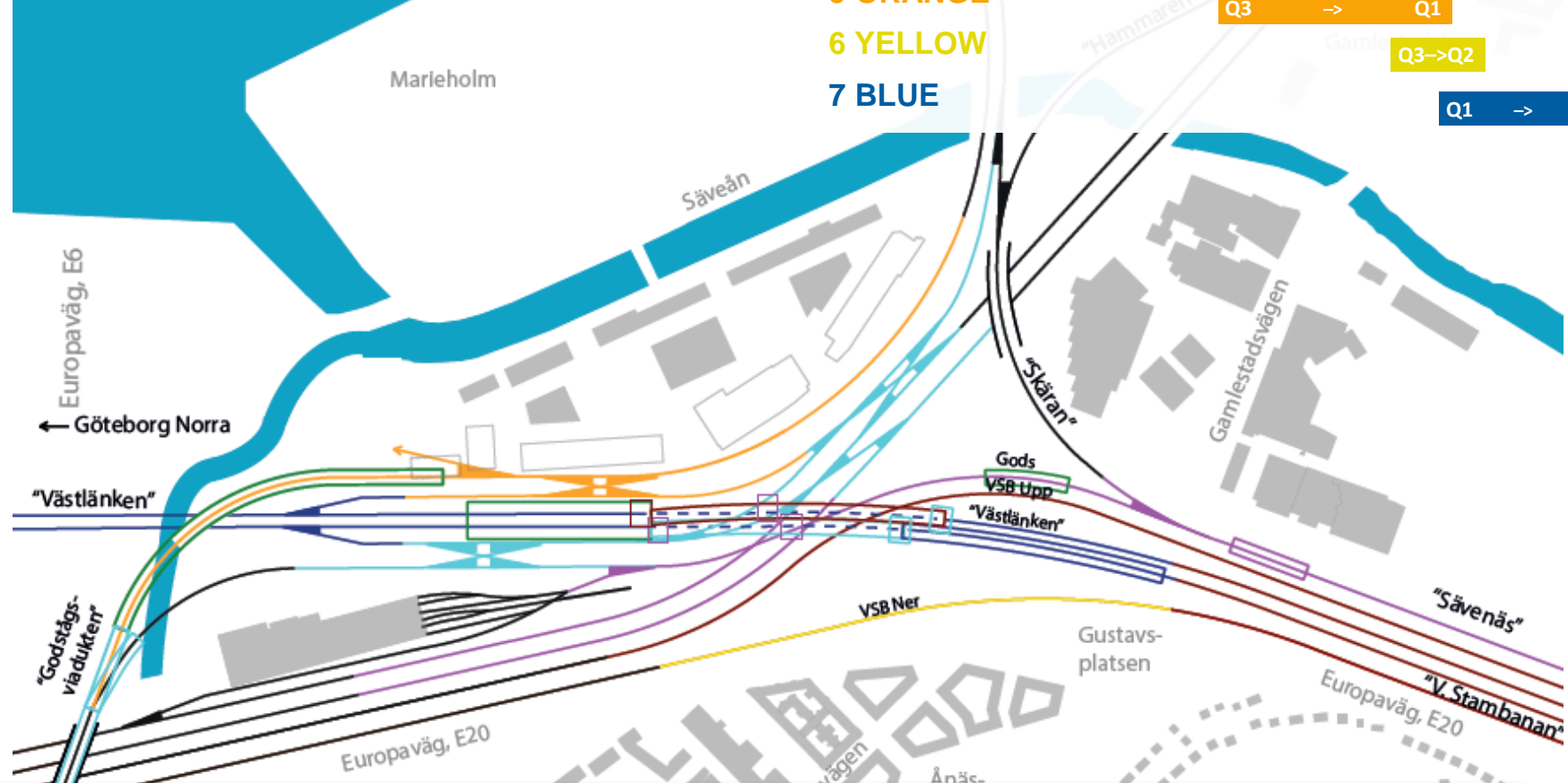
- Rail
- Electric
- Signal
- Telecommunication



Contract Olskroken

Construction phases

| | år | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|--------------|----|---|---------|---------|---------|---------|---------|---------|
| 1 GREEN | | | Q1 → Q2 | | | | | |
| 2 PNK | | | | Q3 → Q3 | | | | |
| 3 LIGHT BLUE | | | | Q1 → Q4 | | | | |
| 4 BROWN | | | | | | Q3 → Q3 | | |
| 5 ORANGE | | | | | Q3 → Q1 | | | |
| 6 YELLOW | | | | | | | Q3 → Q2 | |
| 7 BLUE | | | | | | | | Q1 → Q4 |

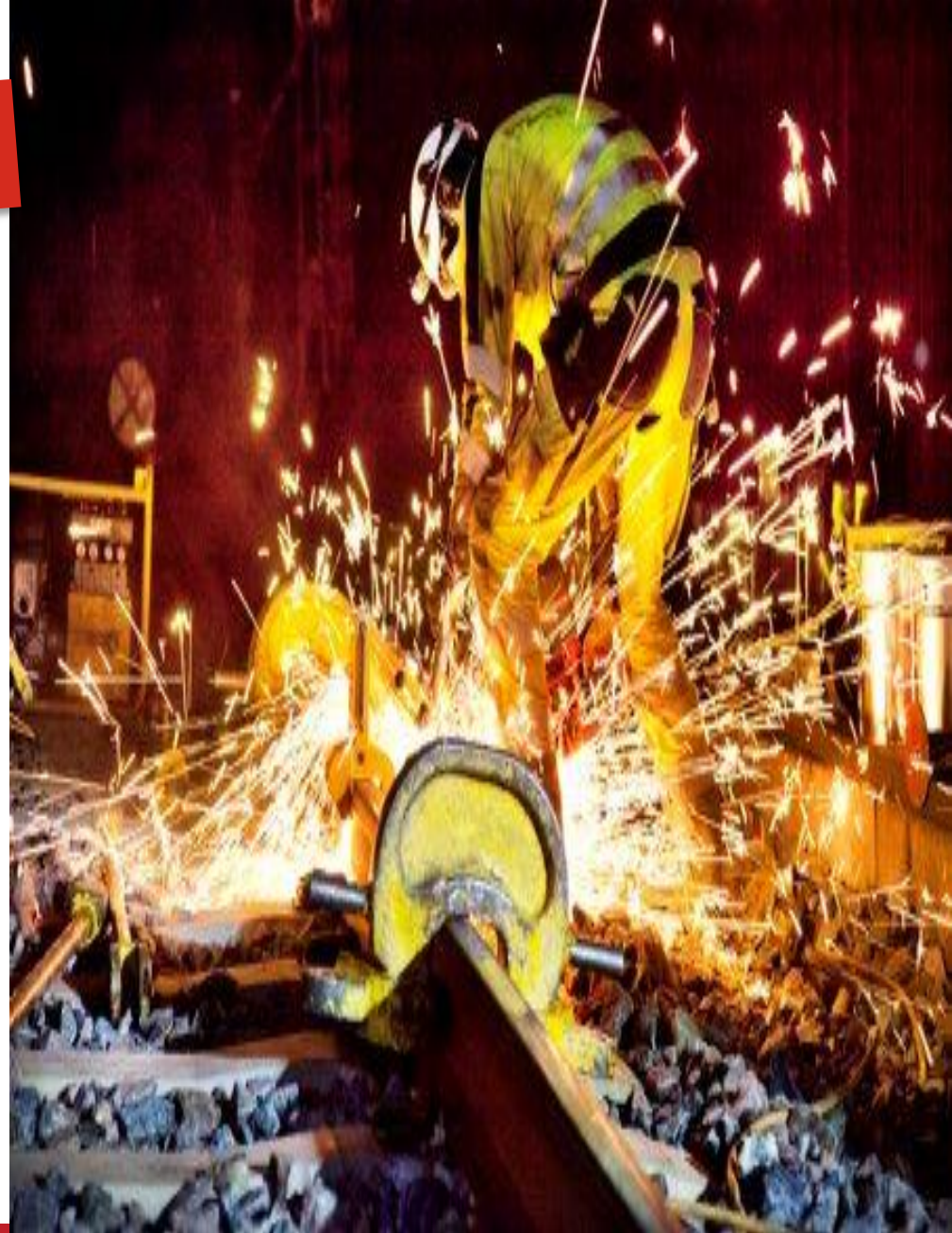


• 7 different stages of construction (utbyggnadsetapper) from 2018-2023/24

Contract Olskroken

Work environment

- Highly prioritized
- High traffic area



Contract Olskroken

Environment

- Gullbergsån,
connected to Natura2000 (Säveån)



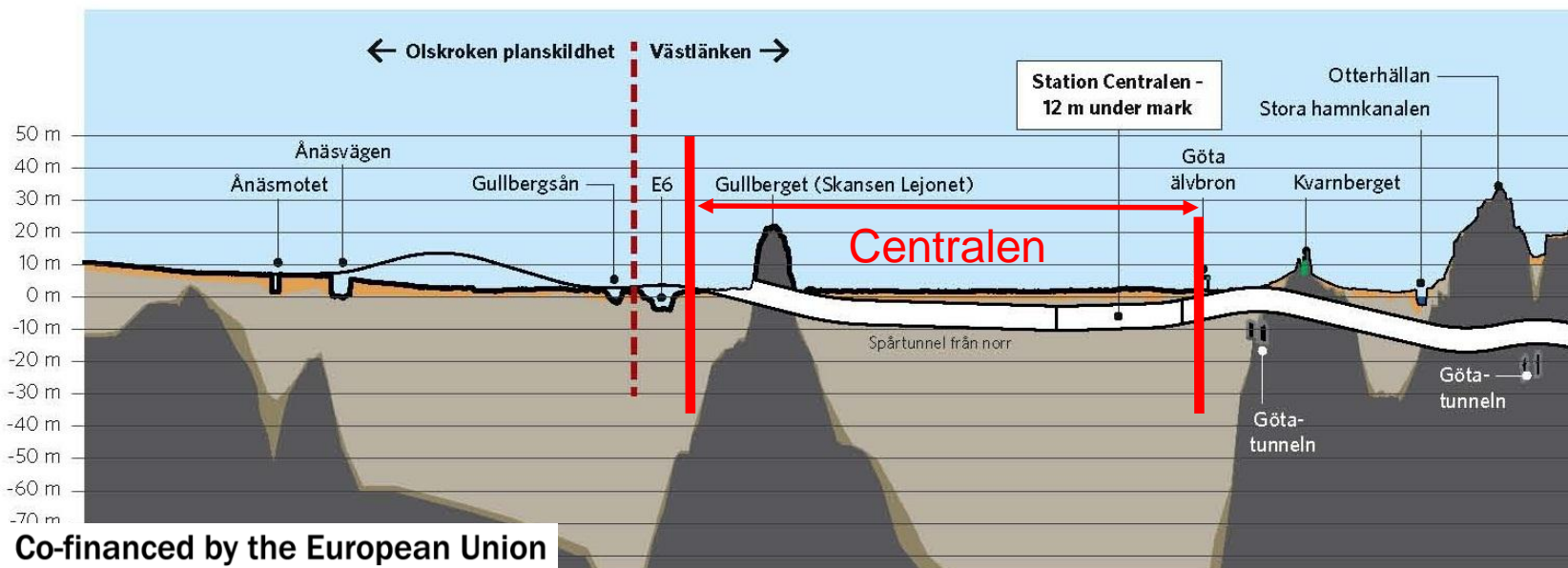
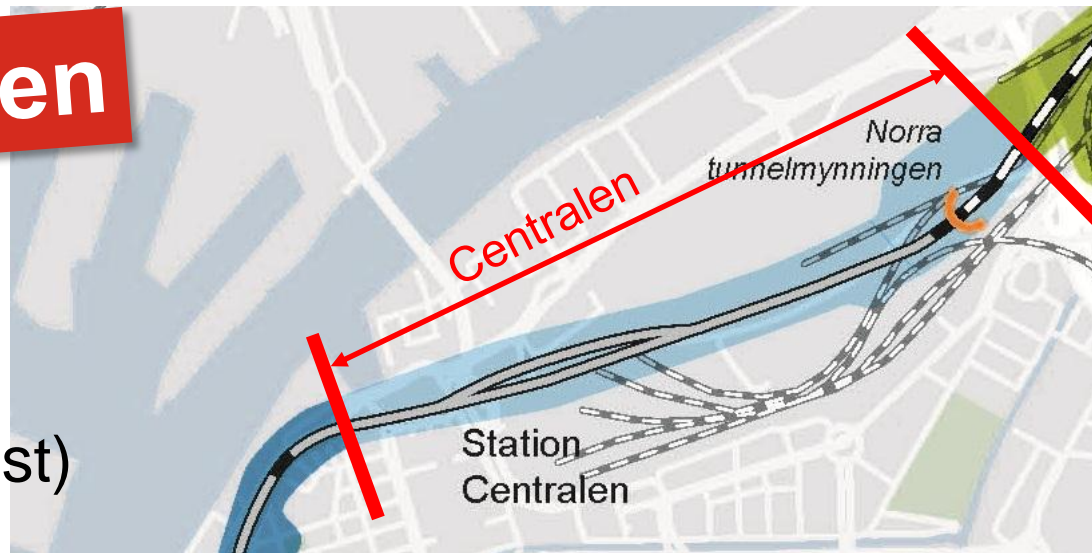
Mikael Larsson

Project Manager

Contract Centralen

1 800 meter

- E6 (East)
- Östra Hamngatan (West)



Co-financed by the European Union

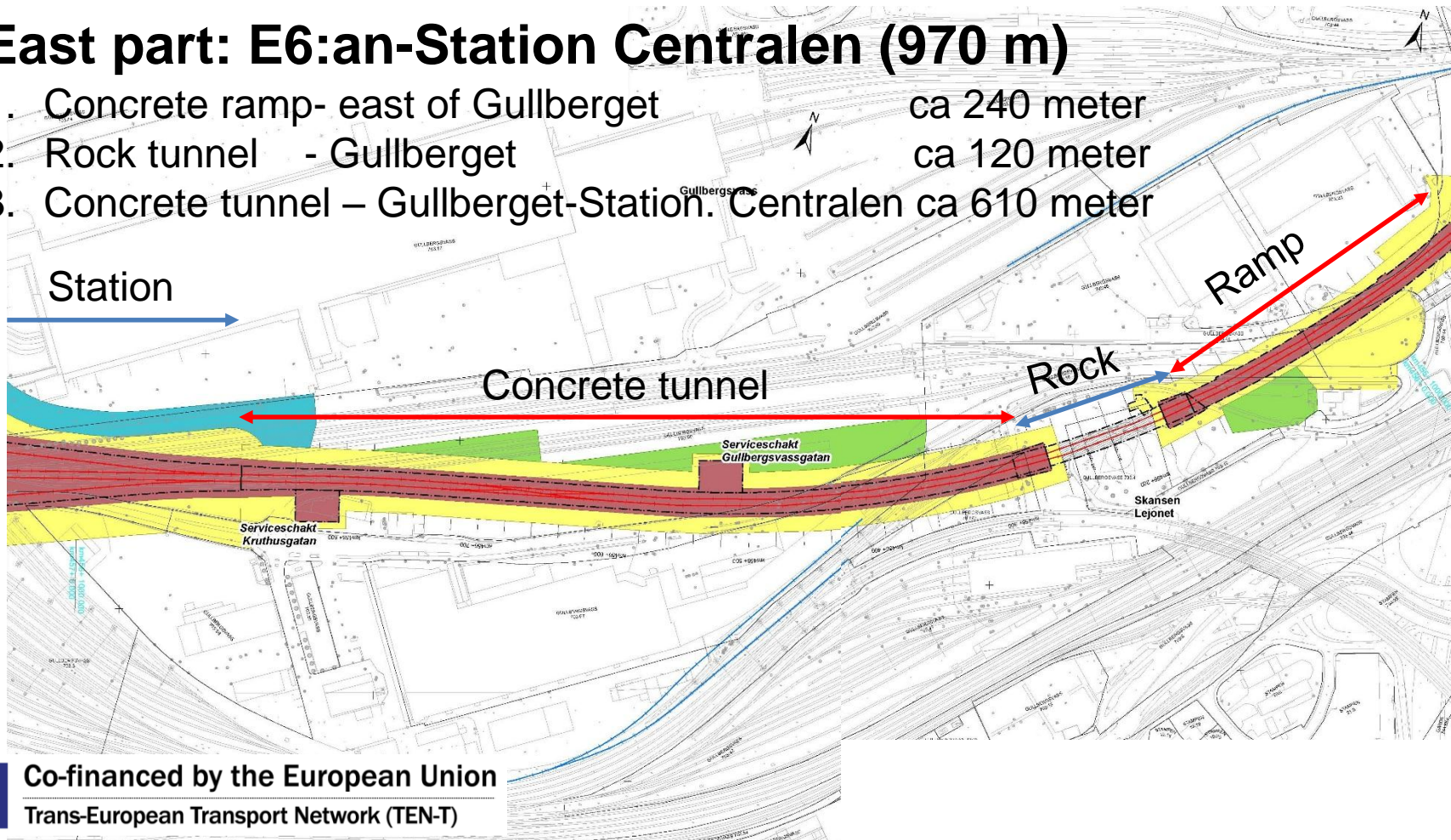
Trans-European Transport Network (TEN-T)

borg. Avståndet till markytan varierar utmed sträckan.

Contract Centralen

East part: E6:an-Station Centralen (970 m)

1. Concrete ramp- east of Gullberget ca 240 meter
2. Rock tunnel - Gullberget ca 120 meter
3. Concrete tunnel – Gullberget-Station. Centralen ca 610 meter



Co-financed by the European Union
Trans-European Transport Network (TEN-T)

Contract Centralen

Ramp

- Length 240 meter
- Width 15 meter



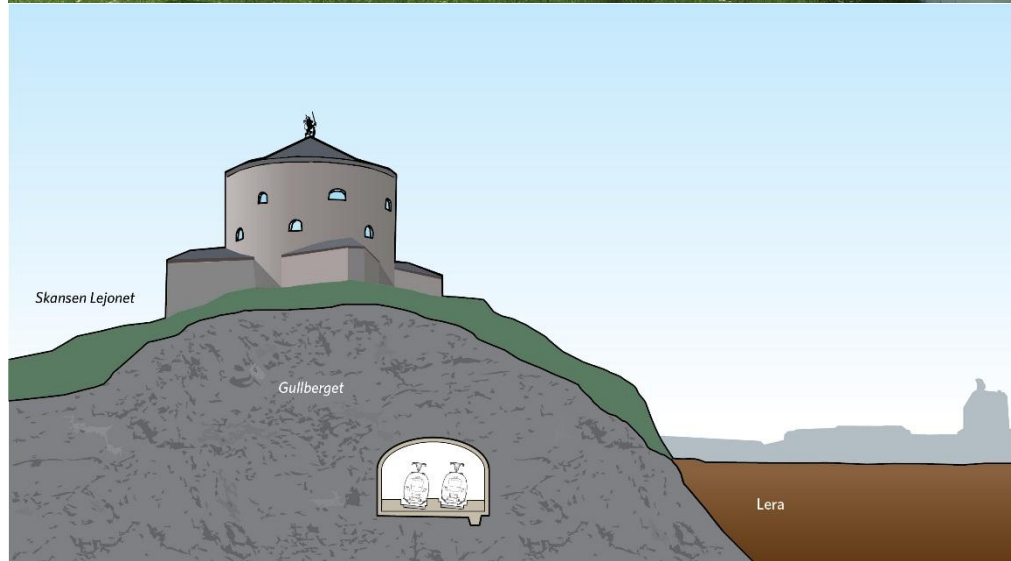
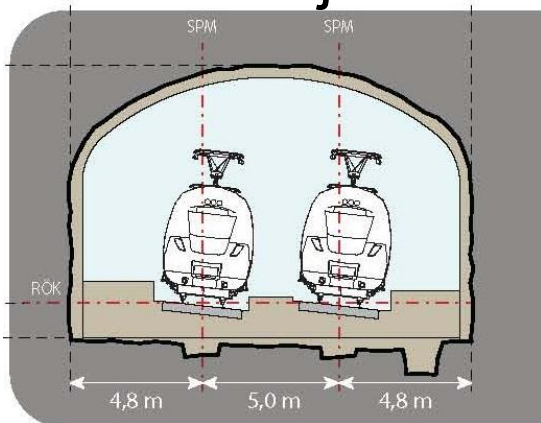
Co-financed by the European Union
Trans-European Transport Network (TEN-T)

Contract Centralen

Rock tunnel

- Length 120 meter
- Width 15 meter

Careful blast under
"Skansen Lejonet"

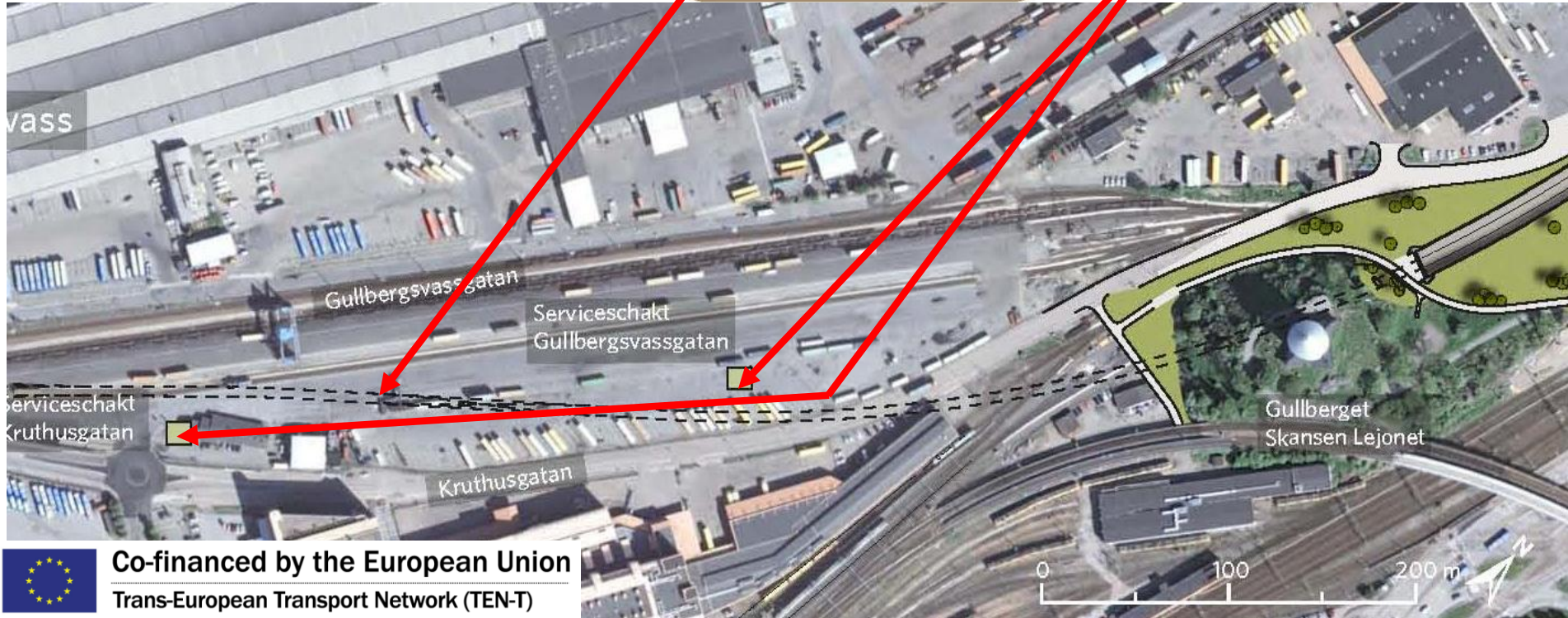
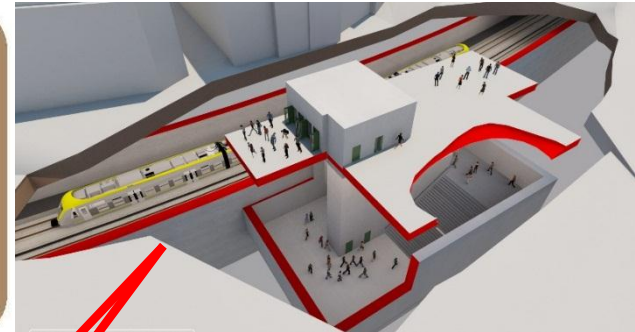
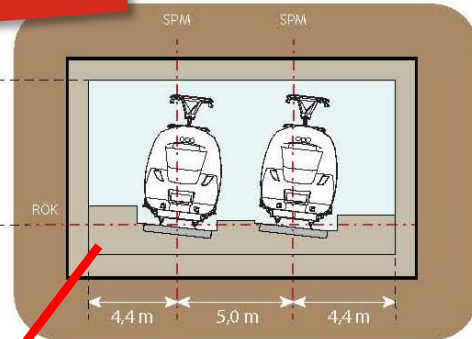


Co-financed by the European Union
Trans-European Transport Network (TEN-T)

Contract Centralen

Concrete tunnel
with two service entrances

- Length 610 meter
- Width 15 meter

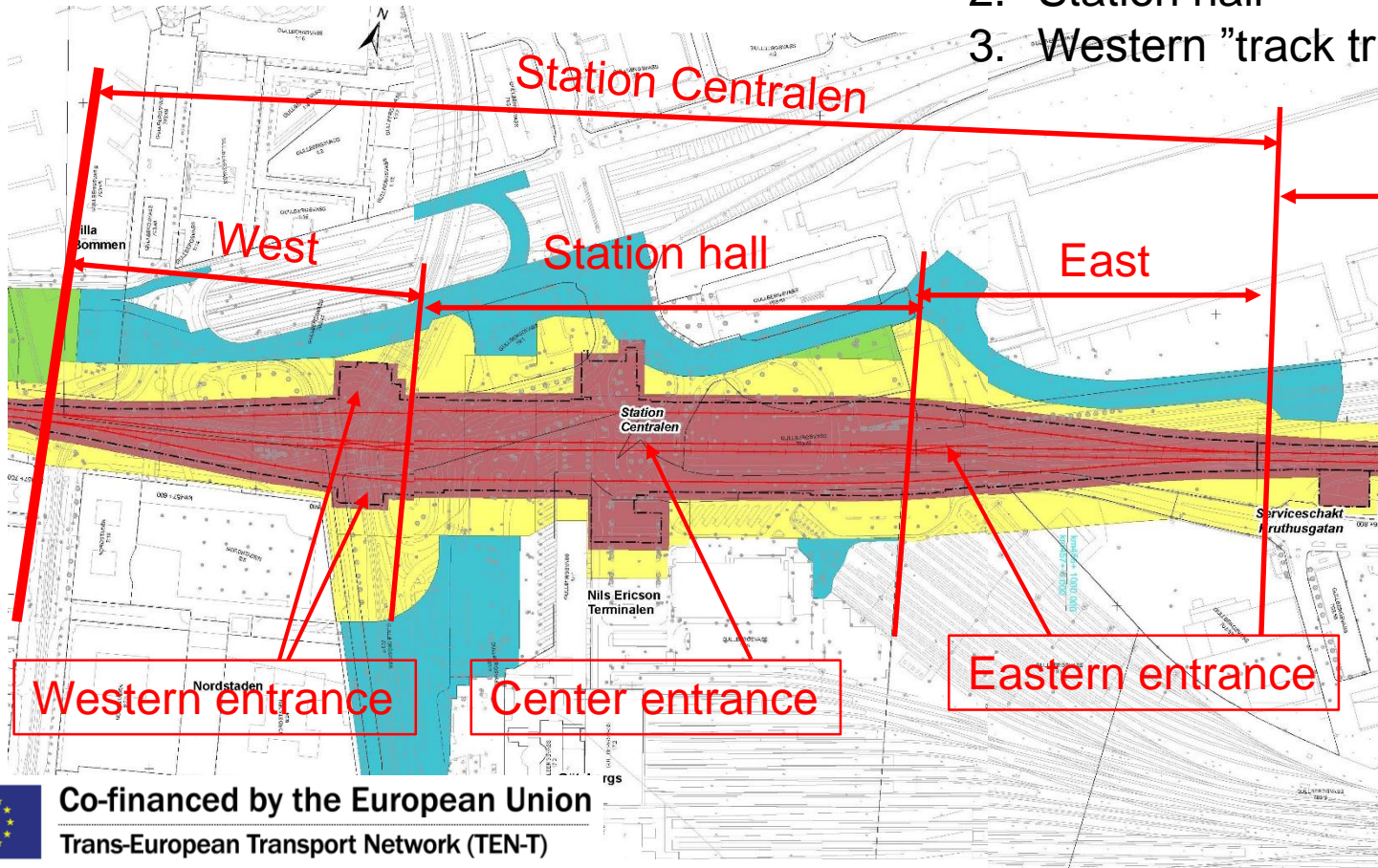


 Co-financed by the European Union
Trans-European Transport Network (TEN-T)

Contract Centralen

Station Centralen 830m

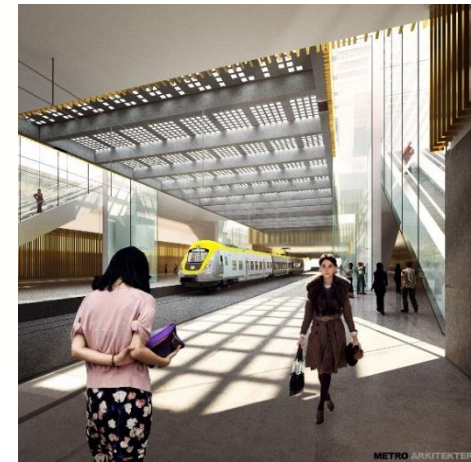
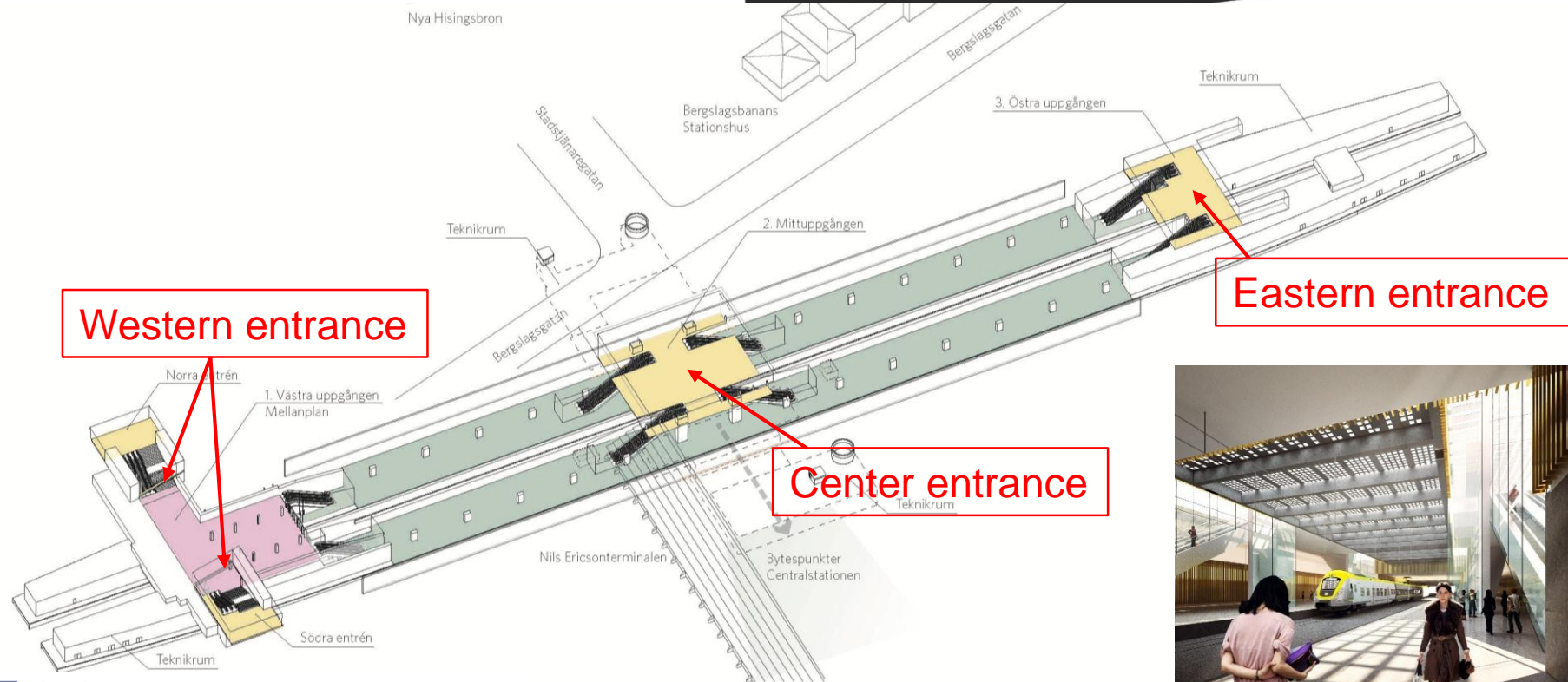
1. Eastern "track trumpet" 290 m
2. Station hall 250 m
3. Western "track trumpet" 290 m



Co-financed by the European Union
Trans-European Transport Network (TEN-T)

Contract Centralen

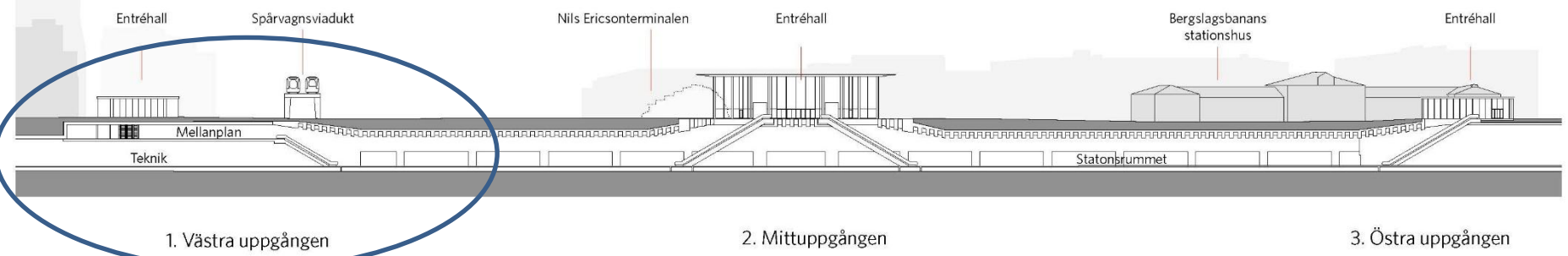
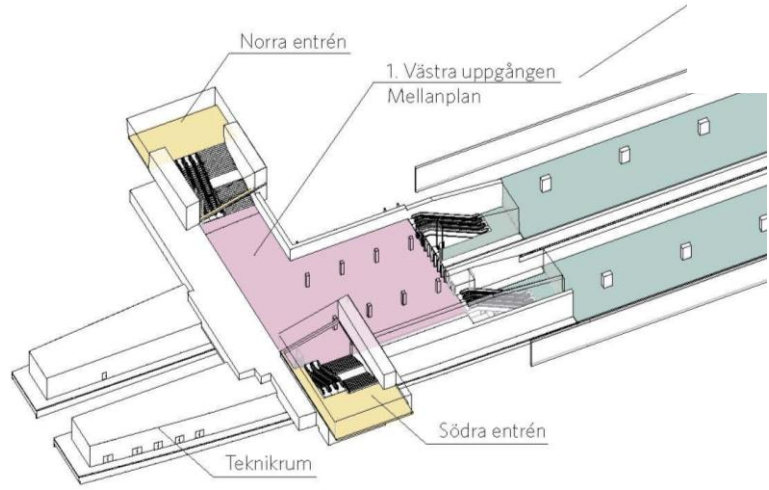
Station design



Co-financed by the European Union
Trans-European Transport Network (TEN-T)

Contract Centralen

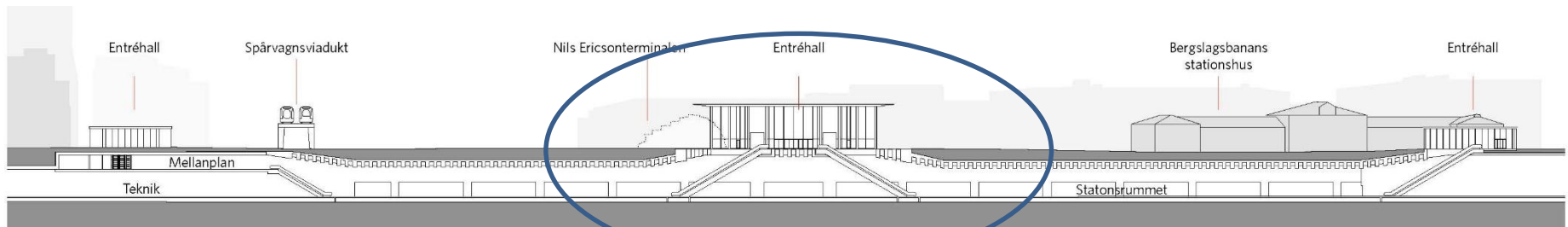
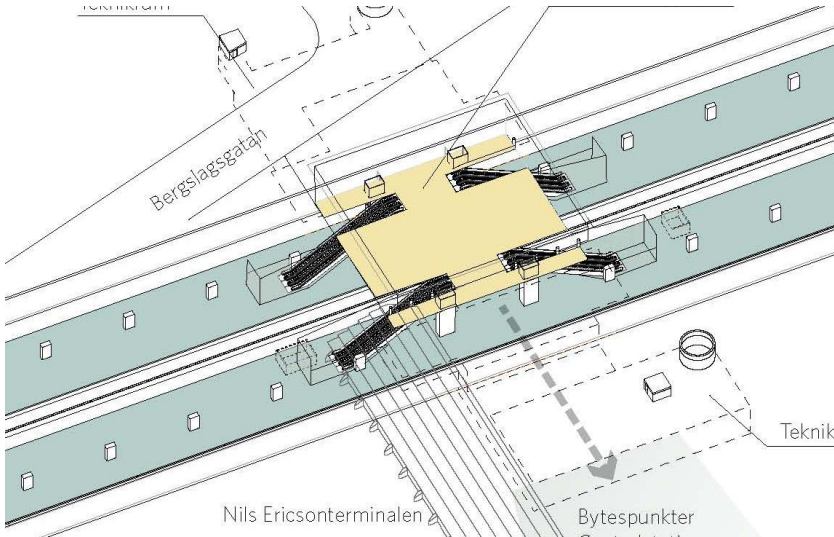
Western entrance



Co-financed by the European Union
Trans-European Transport Network (TEN-T)

Contract Centralen

Center entrance



2. Mittuppgången

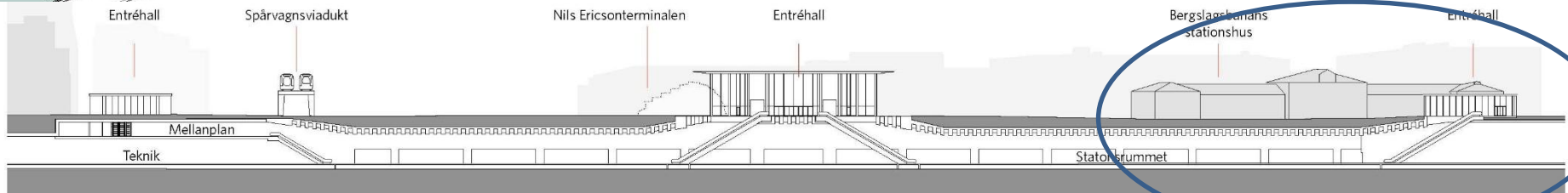
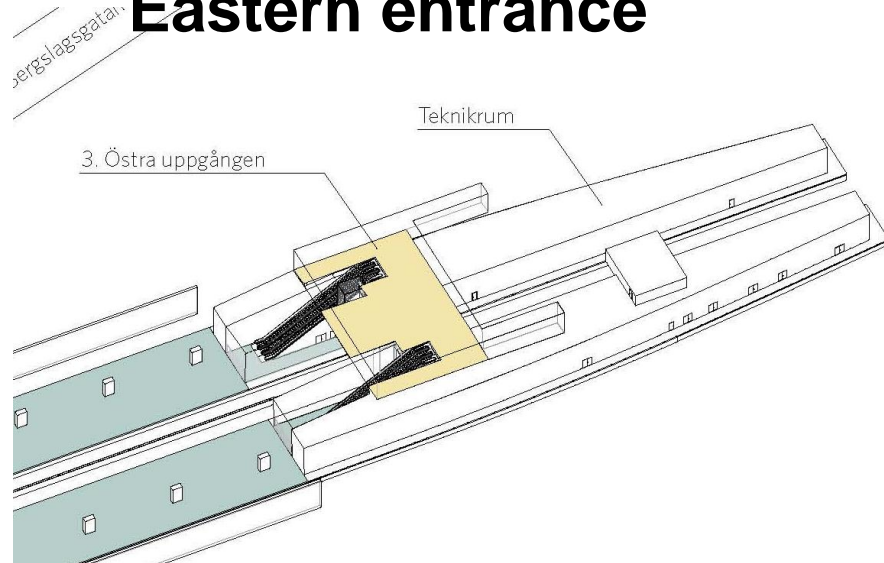
3. Östra uppgången



Co-financed by the European Union
Trans-European Transport Network (TEN-T)

Contract Centralen

Eastern entrance



1. Västra uppgången

2. Mittuppgången

3. Östra uppgången



Co-financed by the European Union
Trans-European Transport Network (TEN-T)

Contract Centralen

Area today

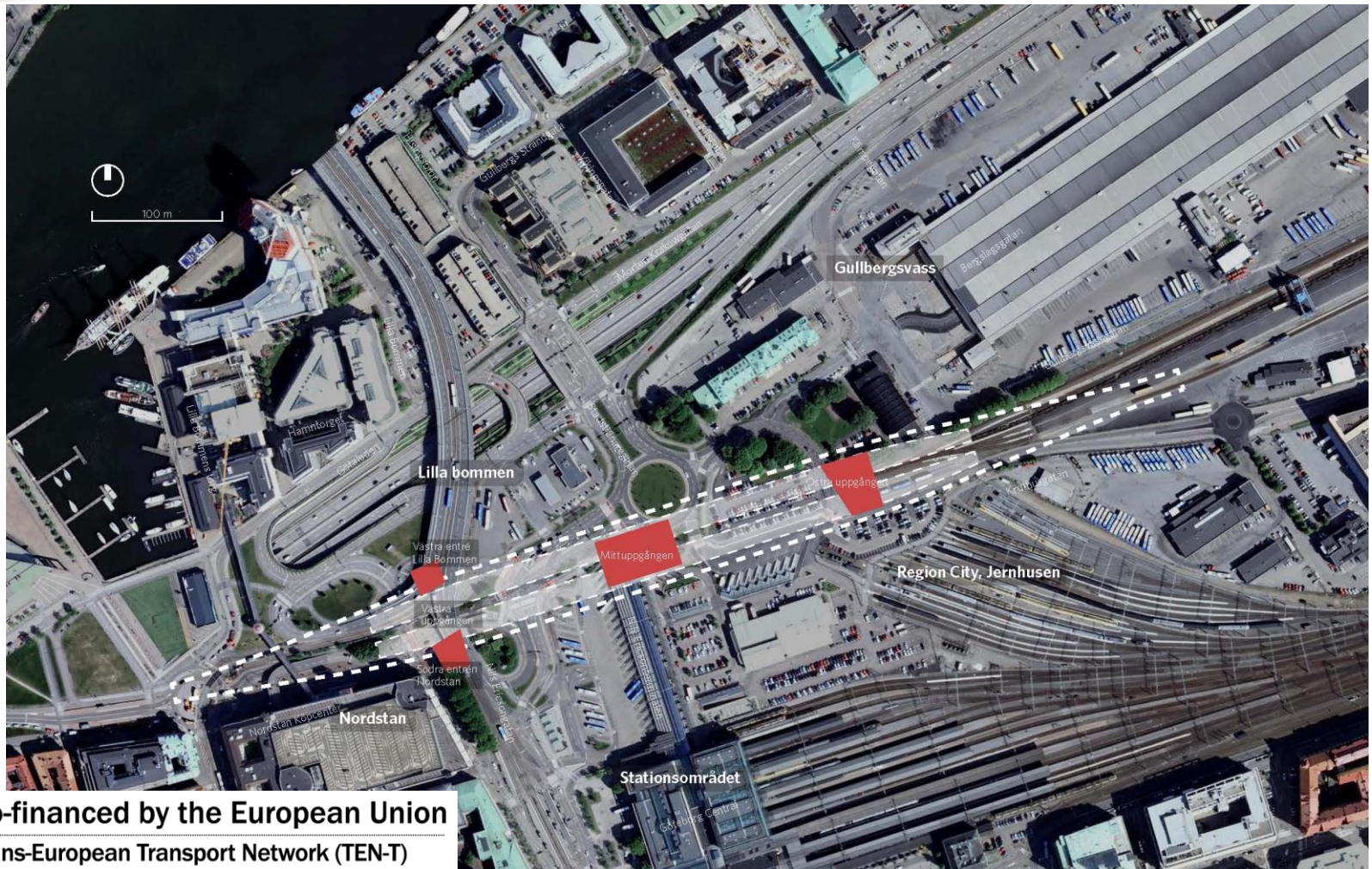
- Traffic to the station
- Public transport



Co-financed by the European Union
Trans-European Transport Network (TEN-T)

Contract Centralen

Area during construction



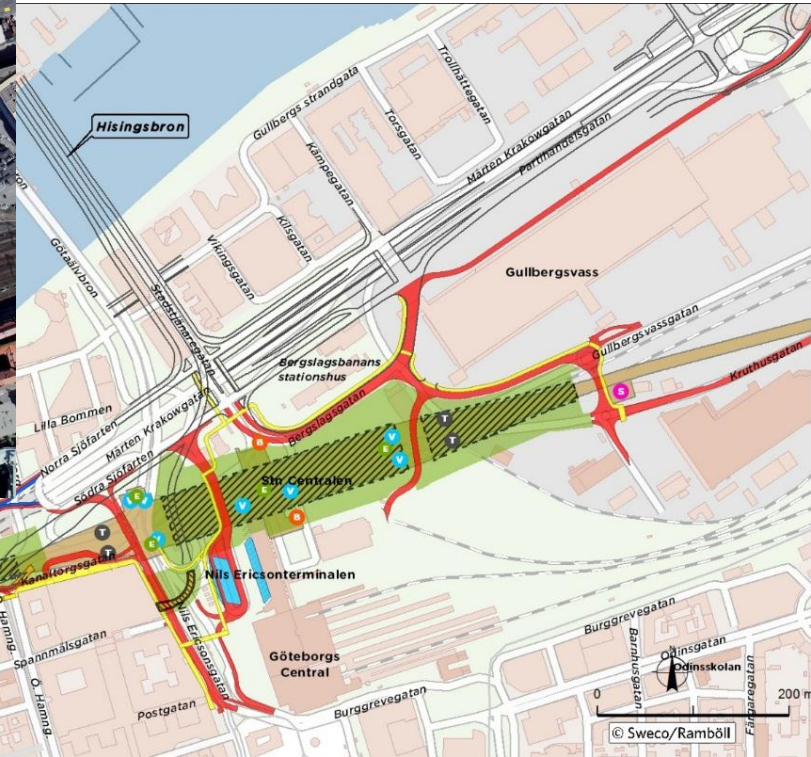
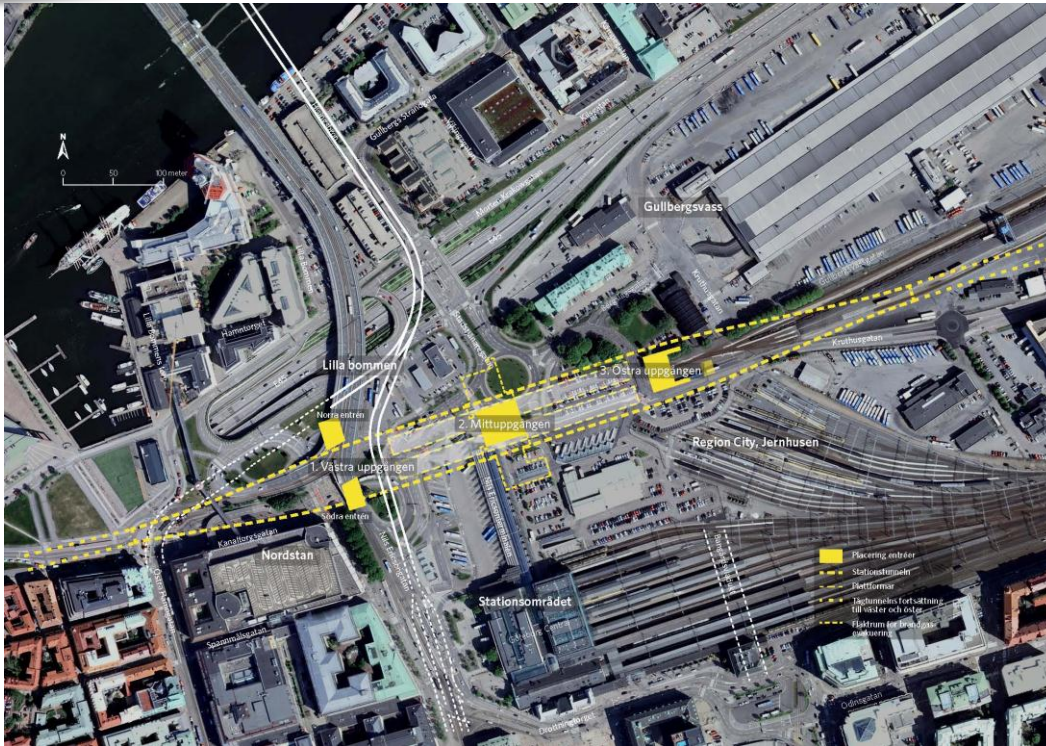
Co-financed by the European Union
Trans-European Transport Network (TEN-T)

Contract Centralen

Area during construction

Crowded and narrow area

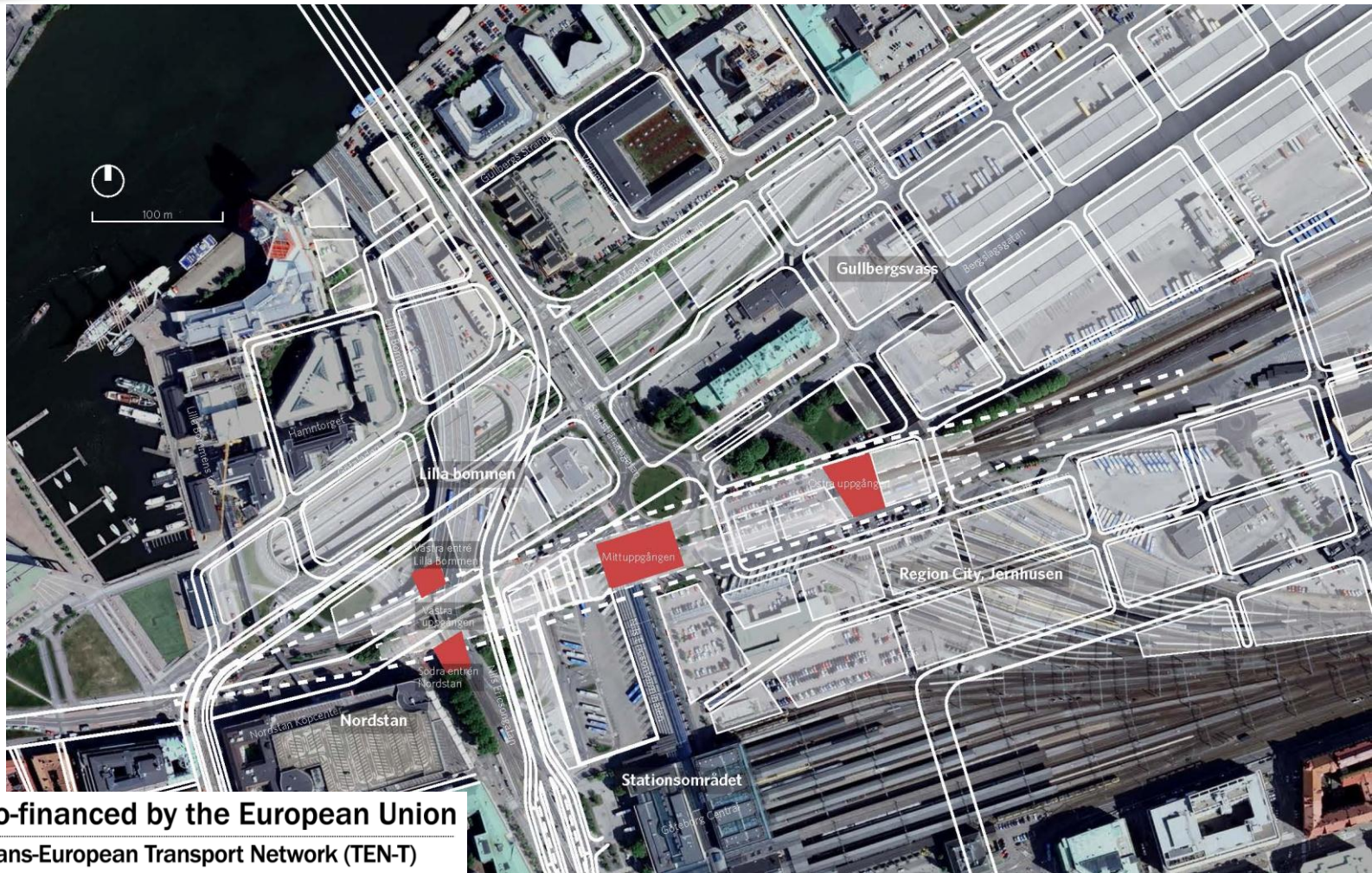
- Traffic
- Public



Co-financed by the European Union
Trans-European Transport Network (TEN-T)

Contract Centralen

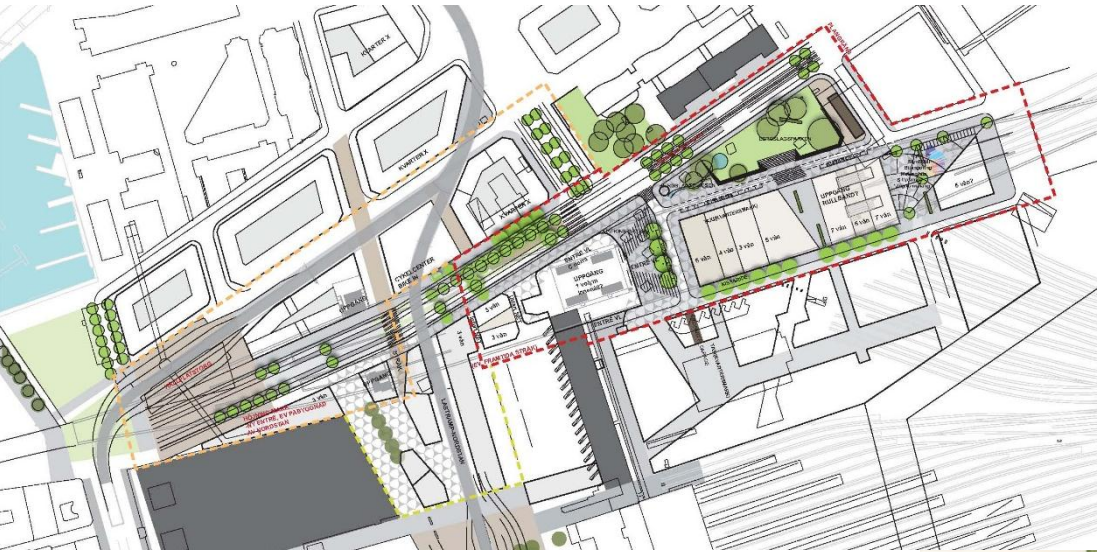
Area tomorrow



Co-financed by the European Union
Trans-European Transport Network (TEN-T)

Contract Centralen

Location in the (new) city.




Co-financed by the European Union
Trans-European Transport Network (TEN-T)



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Contract Centralen



 Co-financed by the European Union
Trans-European Transport Network (TEN-T)

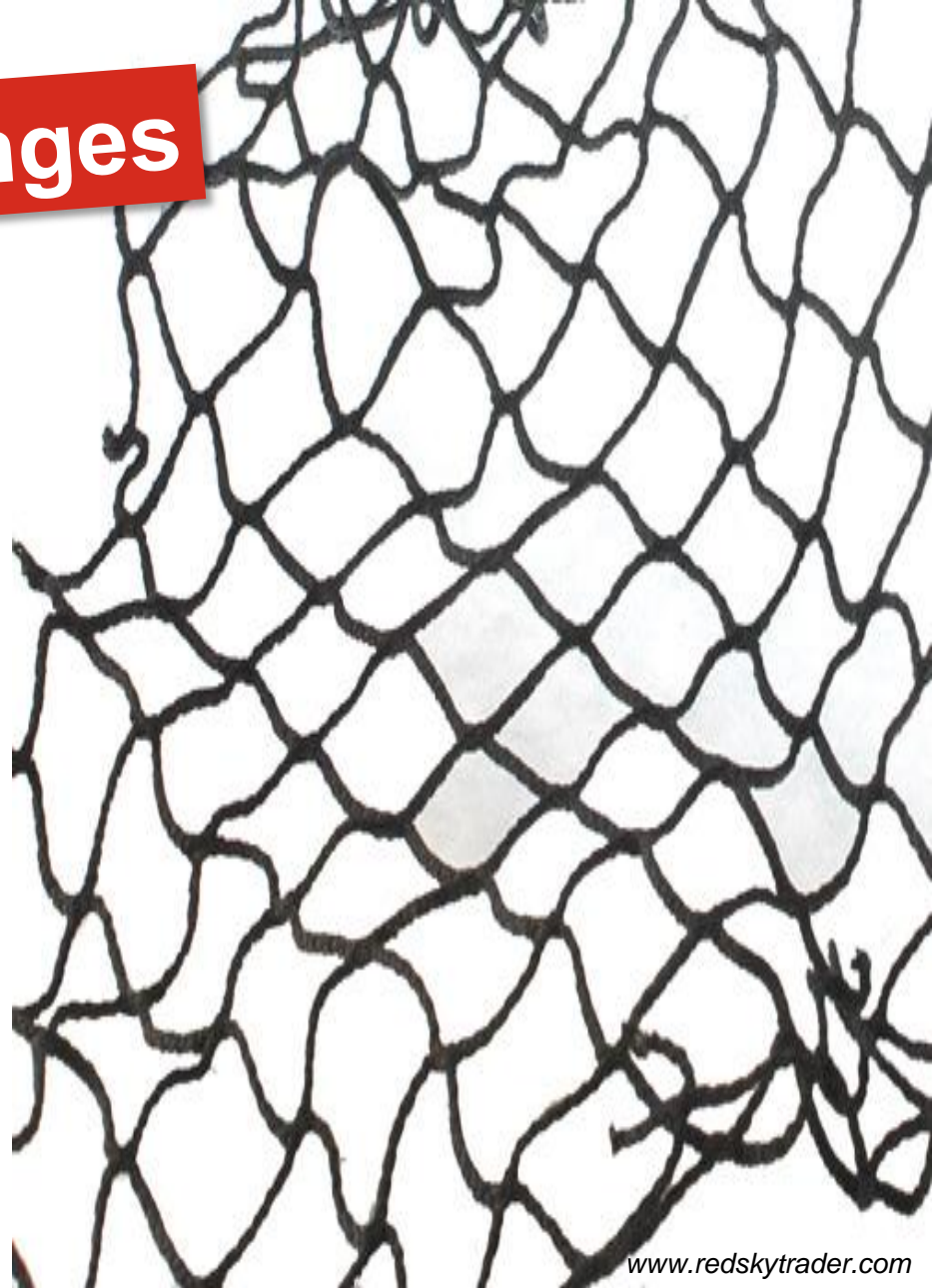
Leif Jendeby

Technical Manager Civil works

Construction challenges

Contract Olskroken

Olskroken is just about building 10 km of railway track, and 15 bridges within a fishing net of existing tracks!



www.redskytrader.com

Construction challenges

Contract Olskroken

Subsoil conditions

- Soft clay
- Great clay depth
- Undrained shear strength = $15 + .5 z$
- Normally consolidated



Construction challenges

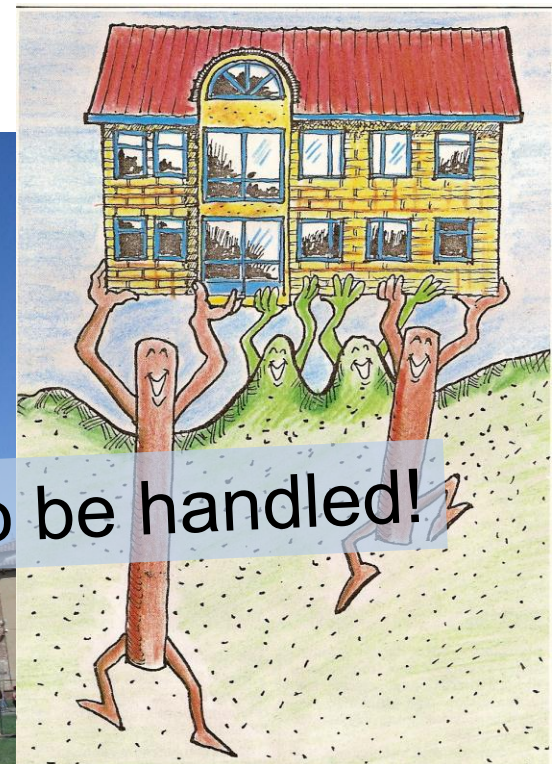
Contract Olskroken

Bridges will be founded on piles, and sometimes friction piles in soft clay..



..which means that settlements have to be handled!

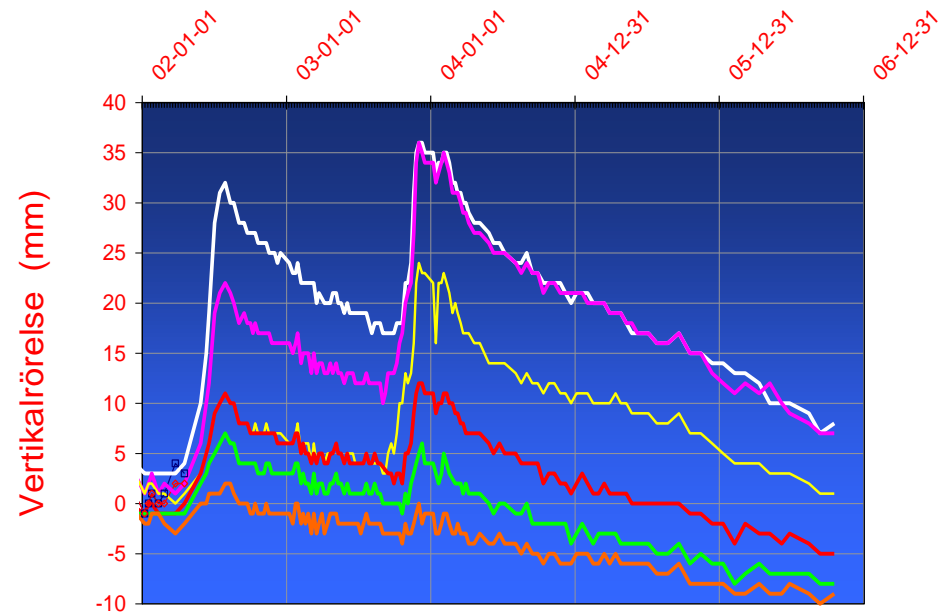
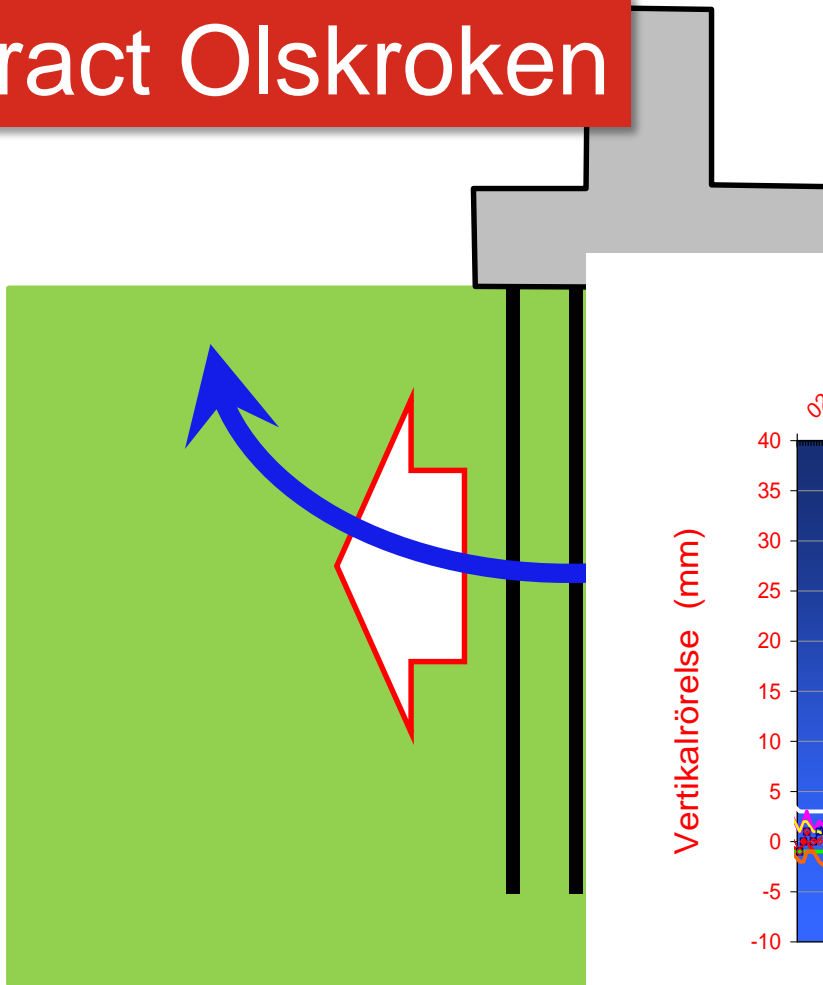
www.bumfuzzle.com



Construction challenges

Contract Olskroken

Deformations due to pile installation



Construction challenges

Contract Centralen

”burying a huge pipe in
Gothenburg mud!”



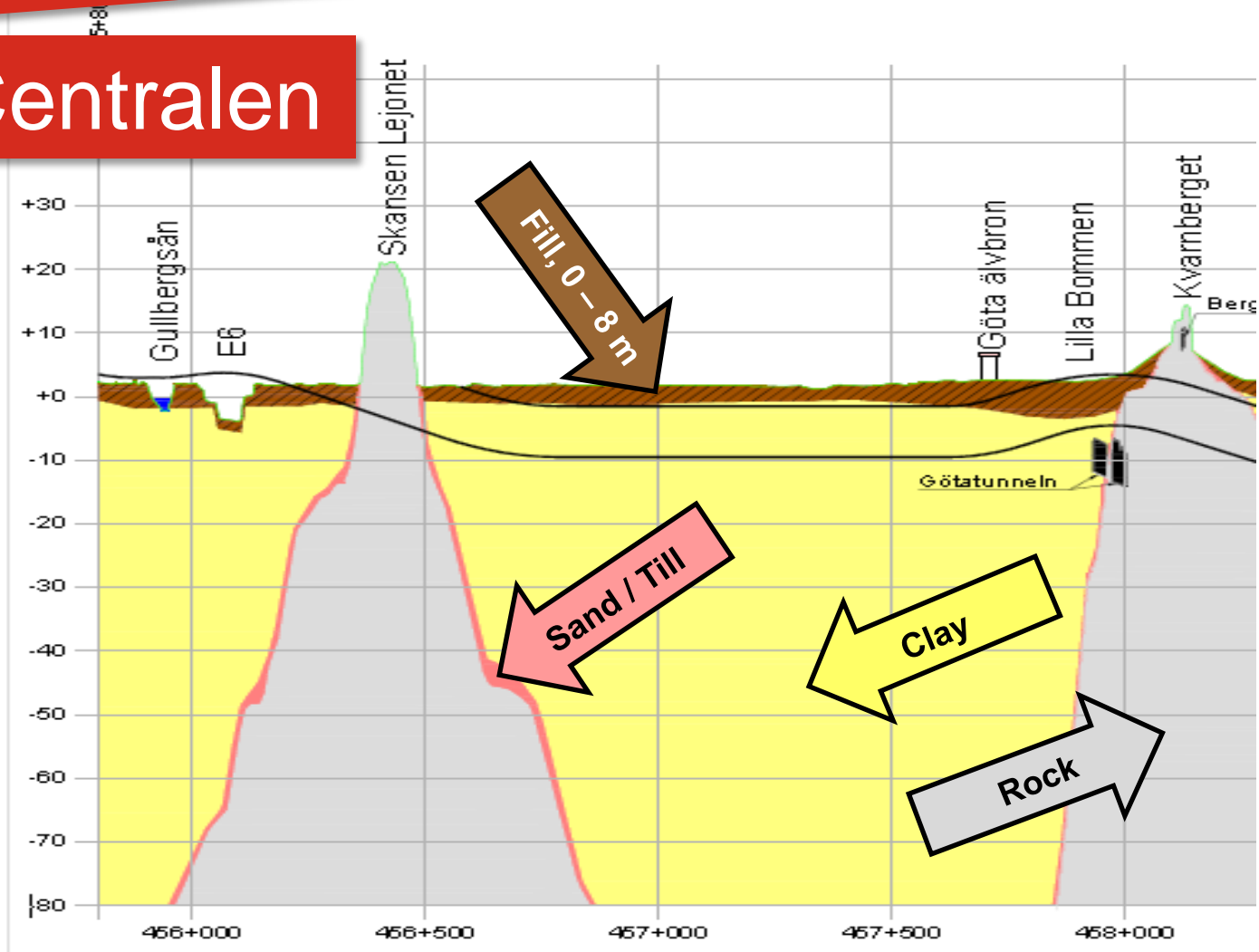
www.thetimes-tribune.com

Construction challenges

Contract Centralen

Subsoil conditions

- Very hard,
- or very soft!



Cut-and-cover will be used?

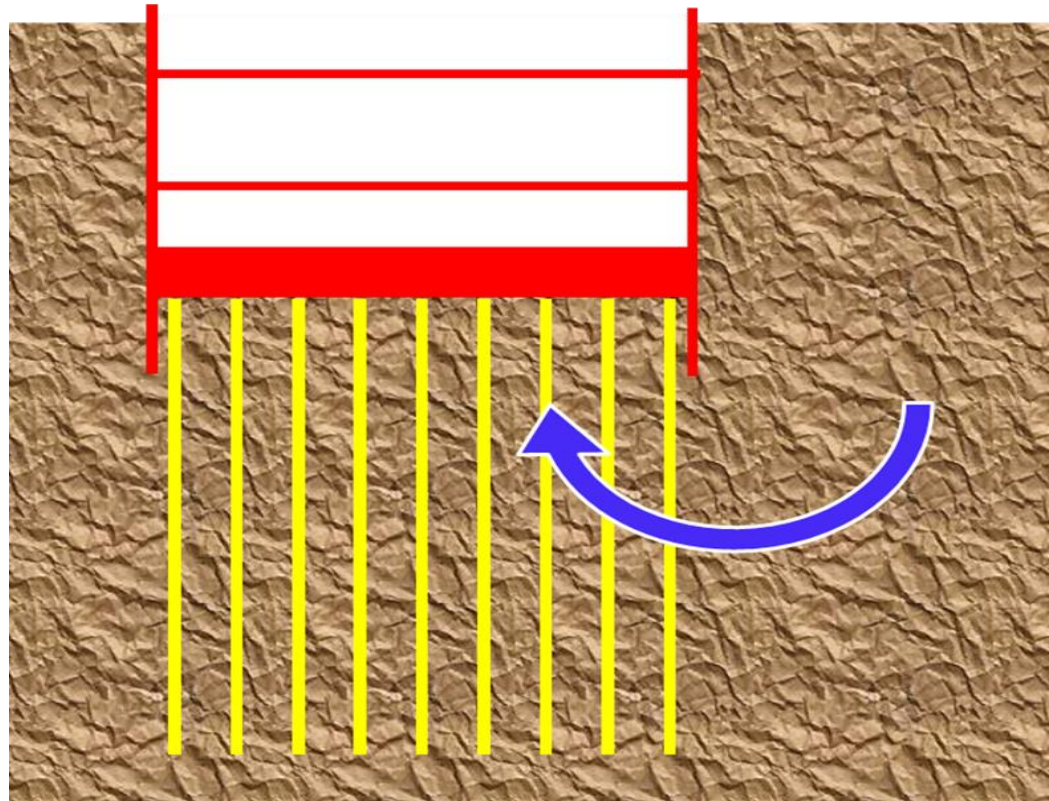


Construction challenges

Contract Centralen

Stability will be a problem to solve, and excavation base must be secured...

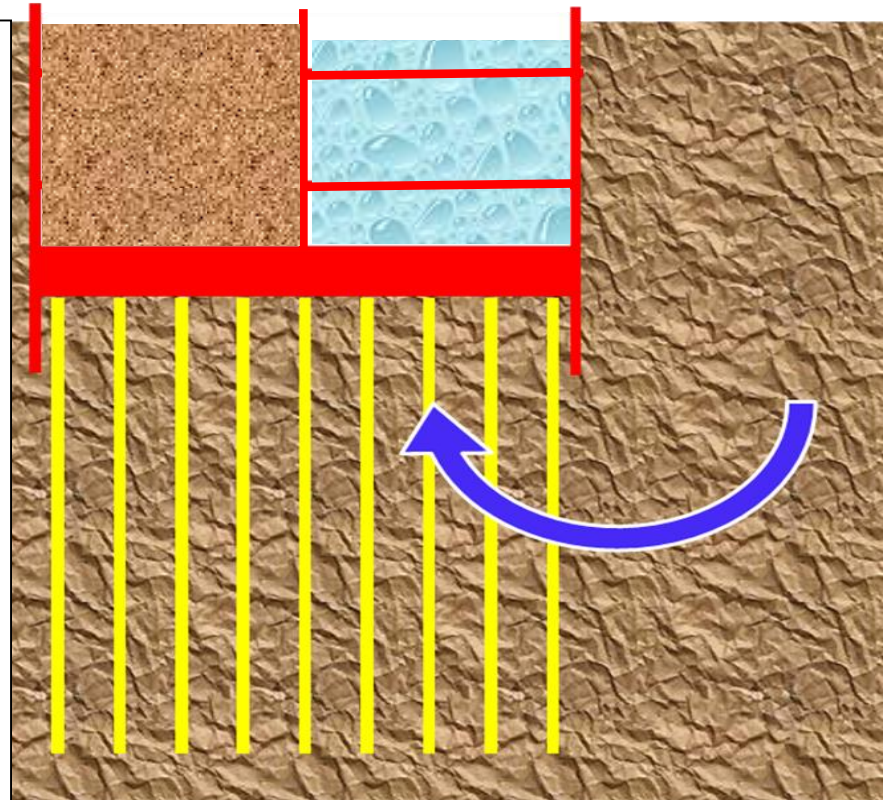
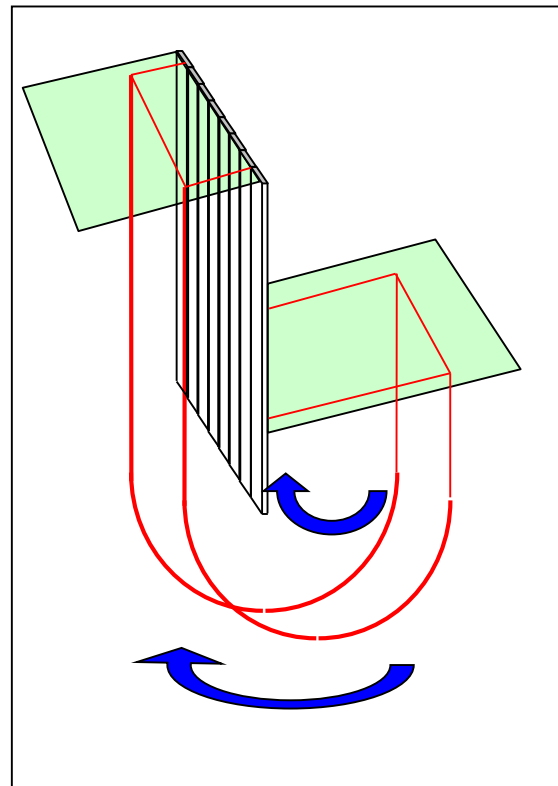
...before you get there!



Construction challenges

Contract Centralen

It will require a combination of measures.

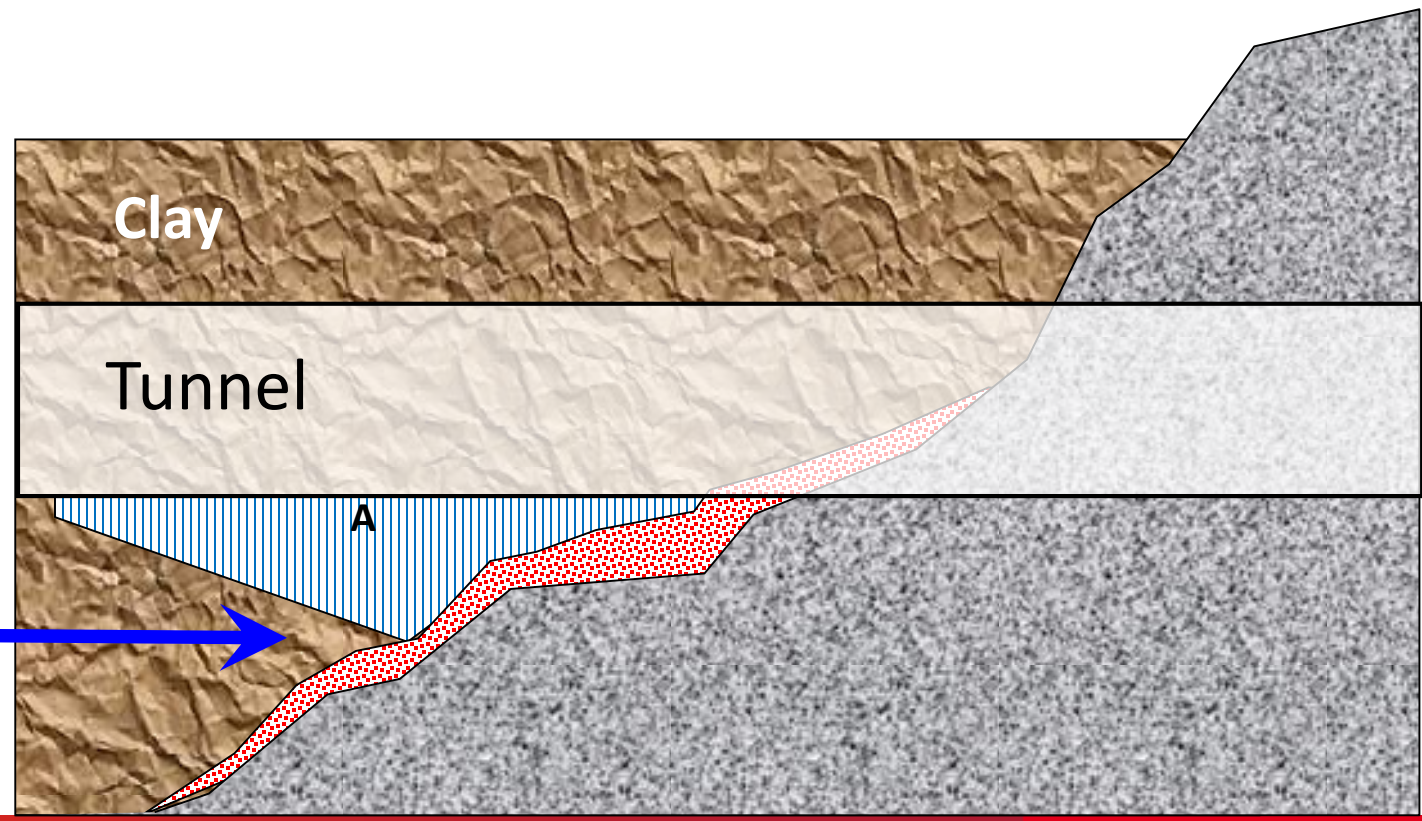


Construction challenges

Contract Centralen

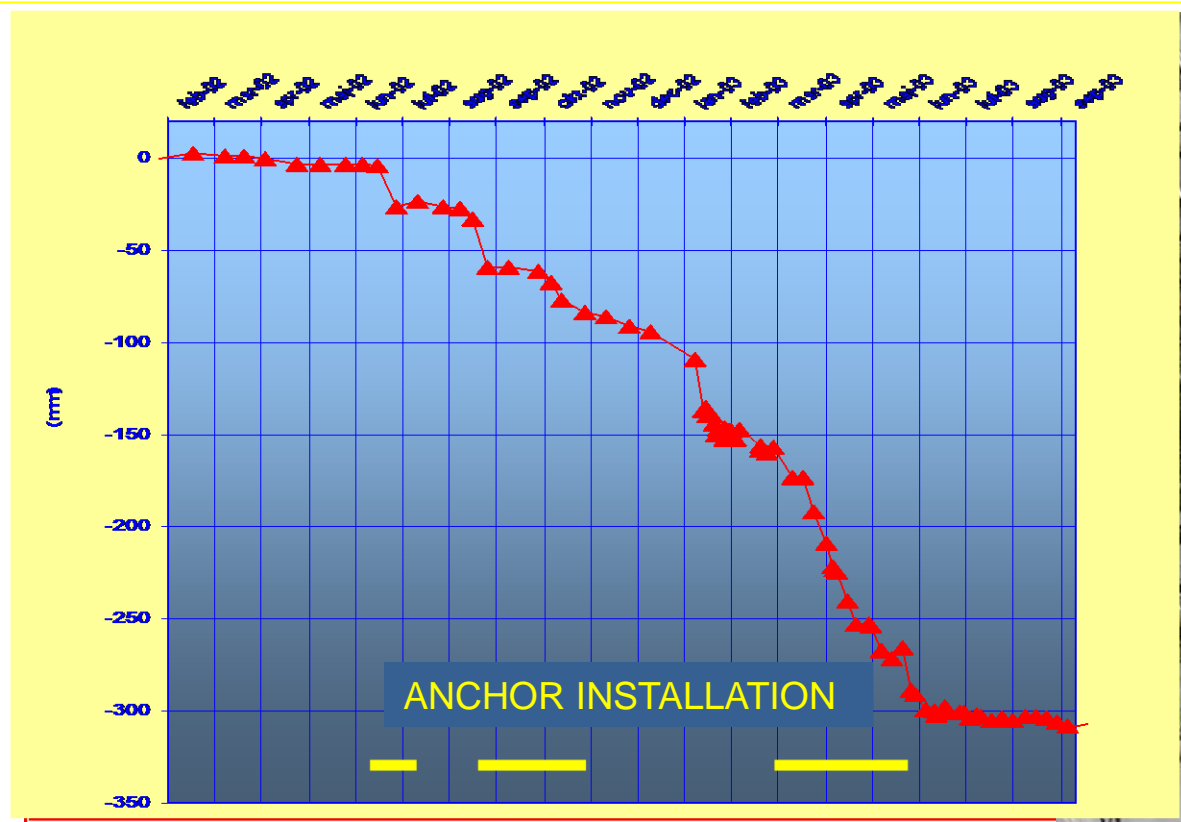
Interfaces between soil and rock are a bit tricky...

- Settlements
- Ground water



Construction challenges

Contract Centralen

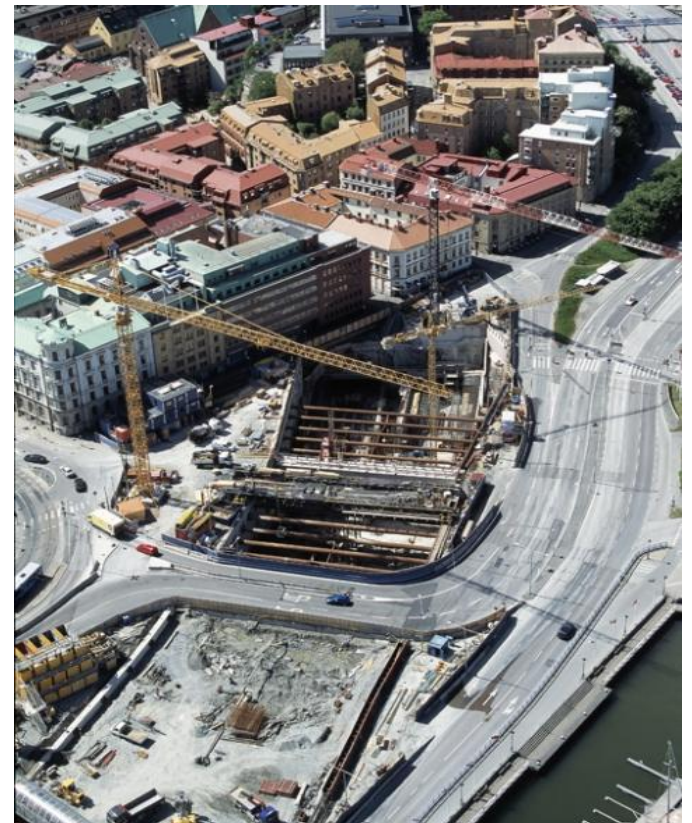


www.stonybrook.digication.com500

Construction challenges

Contract Centralen

Stepwise construction for accessibility

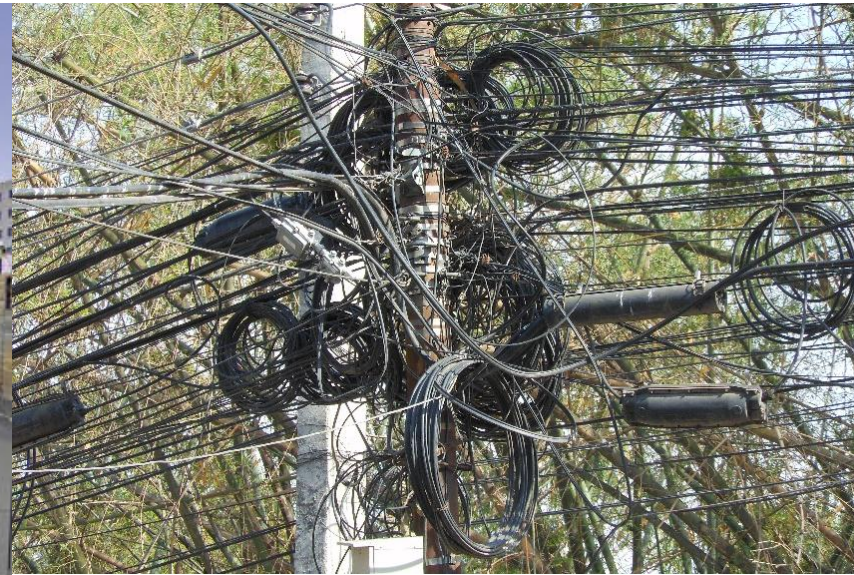


Construction challenges

Contract Centralen

Massive concrete structures...

...and comprehensive installation works.



www.azbigmedia.com612

www.travellingbag.com.au

And now a short break!



Lillian Brunbäck

Procurement Manager

Procurement Strategy

<http://www.trafikverket.se/westlink/>





HISINGÖ

Olskroken

Design & Build
Early Contractor Involvement

E45

SÄVENÄS

E20

Centralen

Design & Build
Early Contractor Involvement




Göta älv

Northern
tunnel entrance

Station
Centralen

LUNDEN

E6/E20

-  Tunnel in rock
-  Tunnel in soil/clay
-  Surface railway

What is ECI?

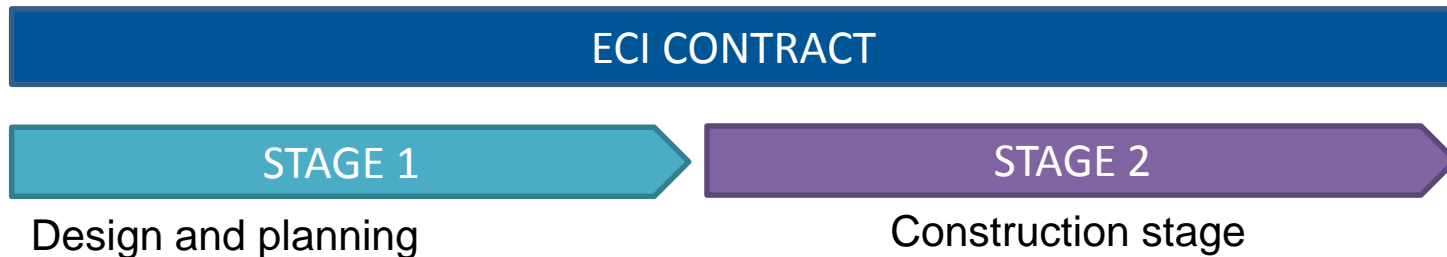
Early Contractor Involvement

1. The contractor will enter the project in an early stage.
2. Collaboration/Partnering.
3. The contractor affect the design of the project early on, when major influence is possible on the time, cost and content.

What do we want to achieve?

- Early availability of construction expertise.
- Improved project delivery with reduced project cost and reduced overruns of time and cost.
- Better relationships and understanding of parties.
- Gaining time by parallel instead of a sequence of procedures.
- Better risk assessment, better appreciation and management of risks.
- Increased opportunity for innovation.

Contract model



ECI contractor continues to Stage 2 subject to agreement.



Conditions of contract

ECI CONTRACT

STAGE 1

ABK 09 General Conditions of Contract
– for Consulting Agreements for Architectural and Engineering Assignments for the Year 2009

Compensation:

- Cost plus Contractors fee

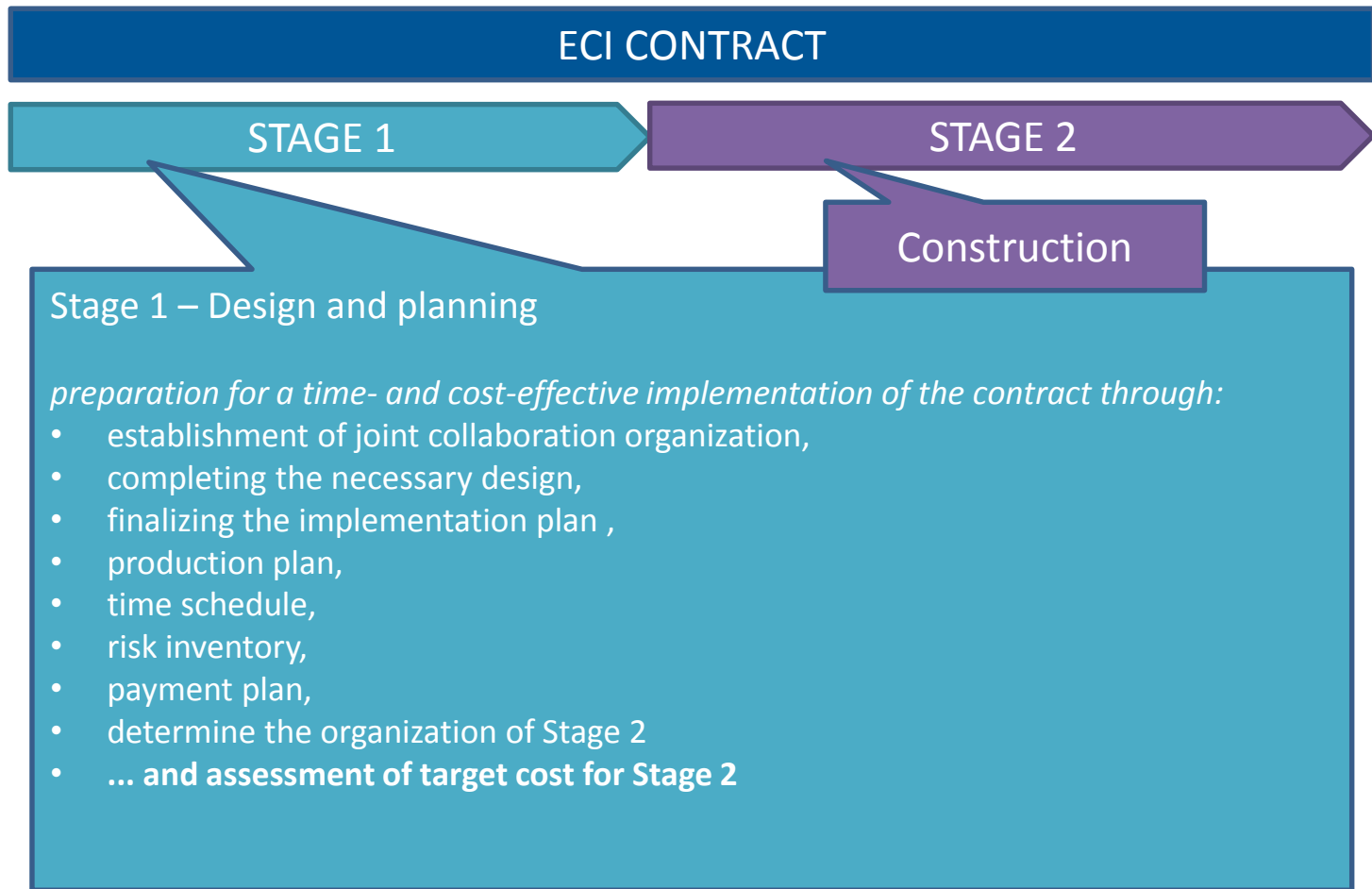
STAGE 2

ABT 06 General Conditions of Contract for Design and Construct Contracts for Building, Civil Engineering and installation works

Compensation:

- Cost plus overheads and profit
- Target cost as incentive

Stage 1



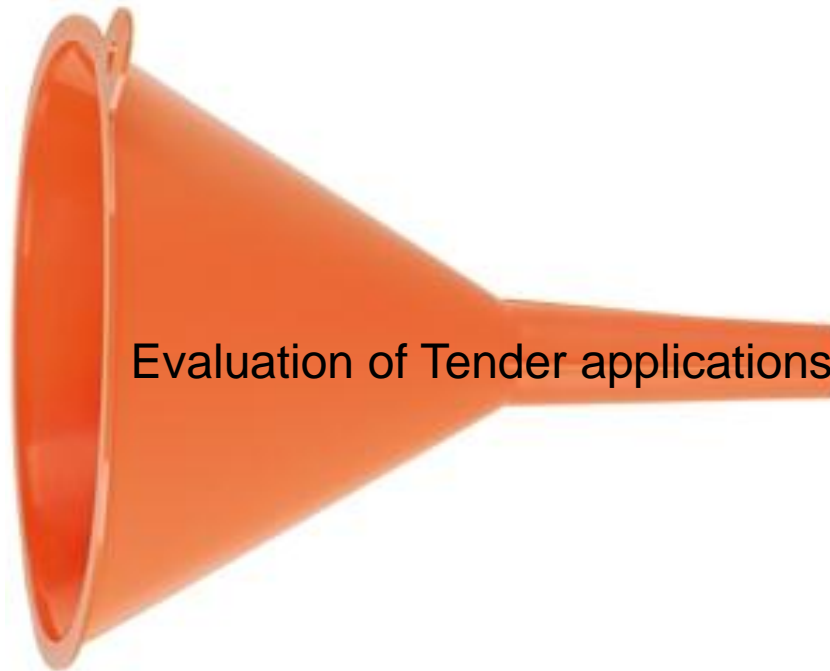
Procurement procedure

- LUF – Utilities sector (Försörjningssektorn)
- Negotiated procedure (Förhandlad upphandling)
- Prequalification
- Prequalification notice advertised in
 - Sweden Current procurements
<http://www.trafikverket.se/en/startpage/Suppliers/Procurement/Current-procurements/>
 - Tender alert services: Opic, Allego etc.
 - Europe Official Journal of the European Union
TED (Tenders Electronic Daily)



Prequalification

PQ made available
to all interested
Candidates



Evaluation of Tender applications

Invitation to Tender
to maximum of
4 qualified Tenderers

Prequalification

Evaluation of PQ applications

1. Obligatory Requirements

- Financial strength
- Reference projects
Construction contracts
- Reference projects
design contracts

2. Selection among qualified applicants

- Reference projects
Construction contracts
- Reference project
Collaboration contract
- Reference projects
Design contracts

Prequalification

Olskroken

Published 2015-02-01

Centralen

To be published 2015-04-15



Award criteria

- Most economically advantageous tender
- Preliminary evaluation criteria (not yet decided)
 - Reference projects Construction
 - Collaboration, Collaboration Plan
 - Implementation Plan, stage 1
 - Work environment and safety

Preliminary timetable

Olskroken

2015-02-01 Prequalification submission is published.

2015-05-15 Last day to apply for prequalification.

2015-06-15 Tender enquiry are sent to prequalified suppliers.

2015-11-16 Last day to submit a tender.

Centralen

2015-04-15 Prequalification submission is published.

2015-08-31 Last day to apply for prequalification.

2015-10-01 Tender enquiry are sent to prequalified suppliers.

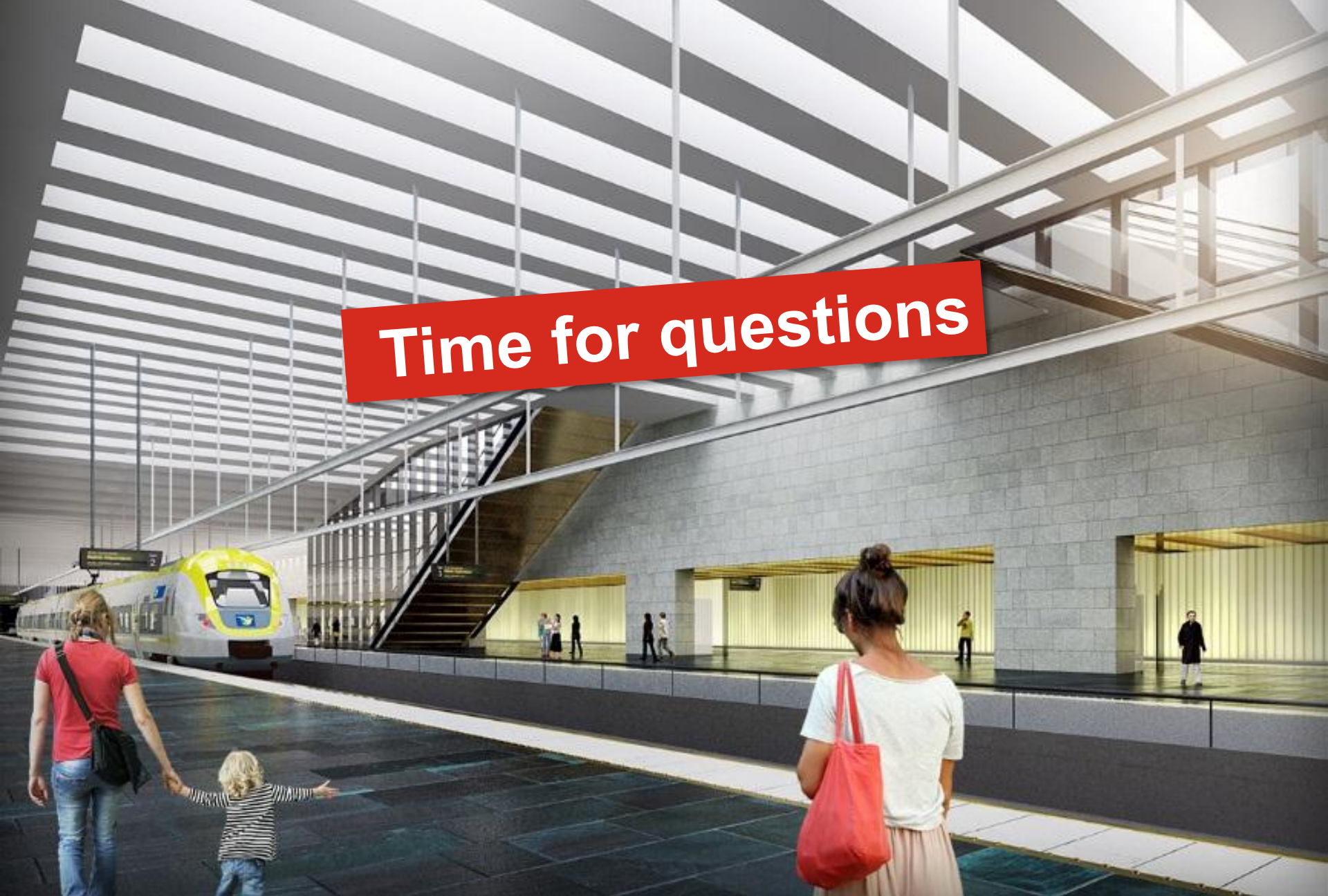
2016-02-15 Last day to submit a tender.

Pendeltåg
også

kar trevlig resal

3141

Time for questions



Subscribe!

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trafikverket.se/westlink

trafikverket.se/olskrokenproject

