CITY MASTERPLANNING

LIVEABLE CITIES

RAMBØLL

A simple comparison

Copenhagen

1950

1995

2010

Beijing

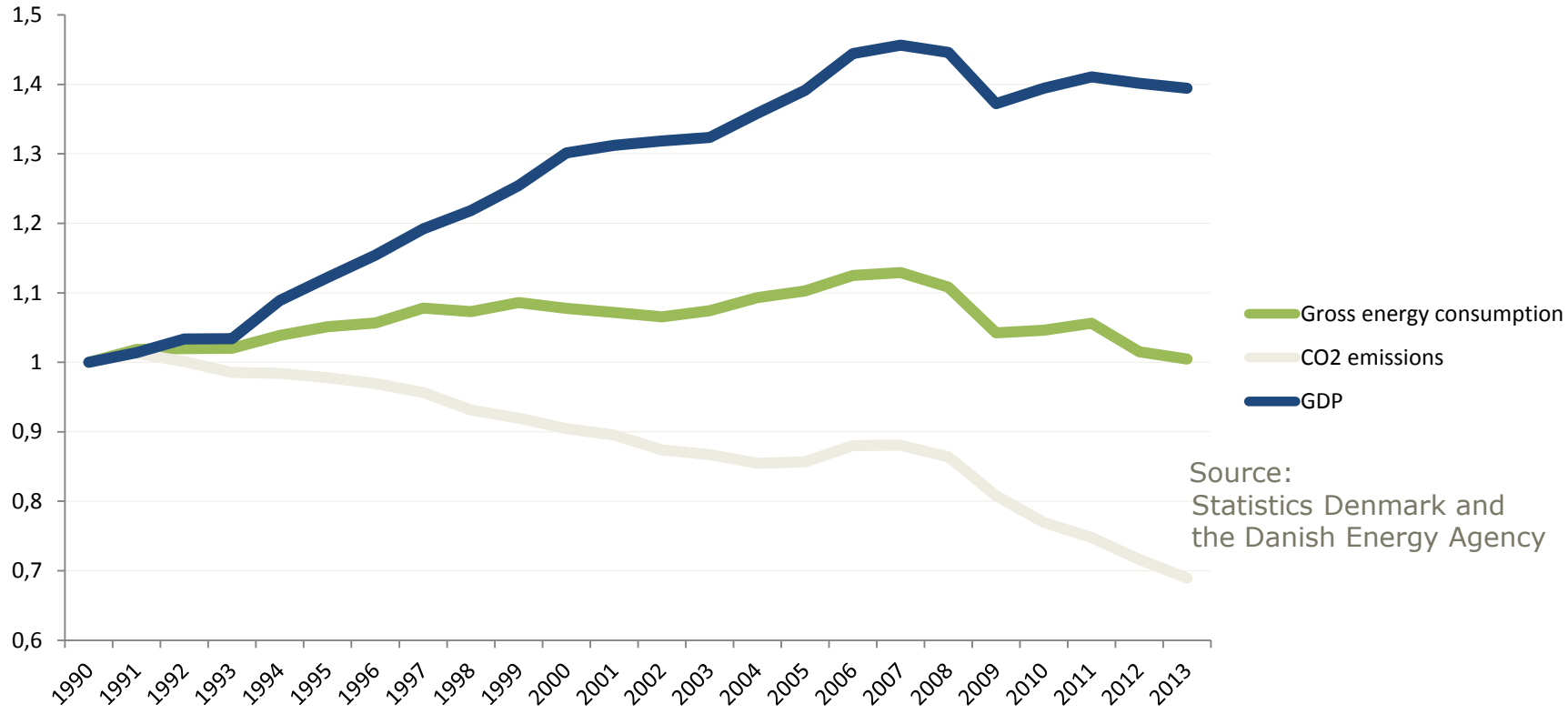
1950

1984

2010

DE-COUPLING GDP AND CO_2

GDP, energy consumption and CO2 emissions in Denmark 1990-2013

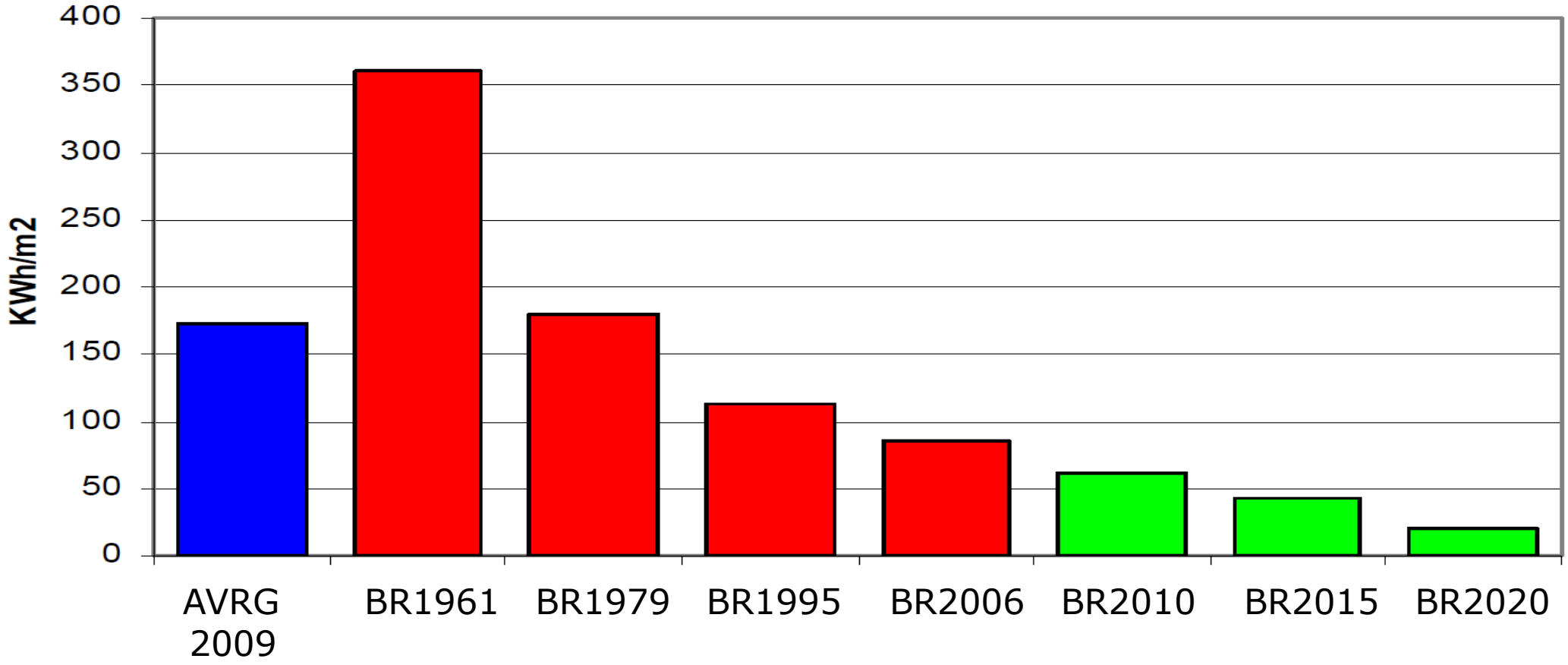


Source:
Statistics Denmark and
the Danish Energy Agency

RAMBØLL

CLIMATE RESPONSIVE DESIGN

PASSIVE STRATEGIES FOR OUTDOOR AND INDOOR COMFORT



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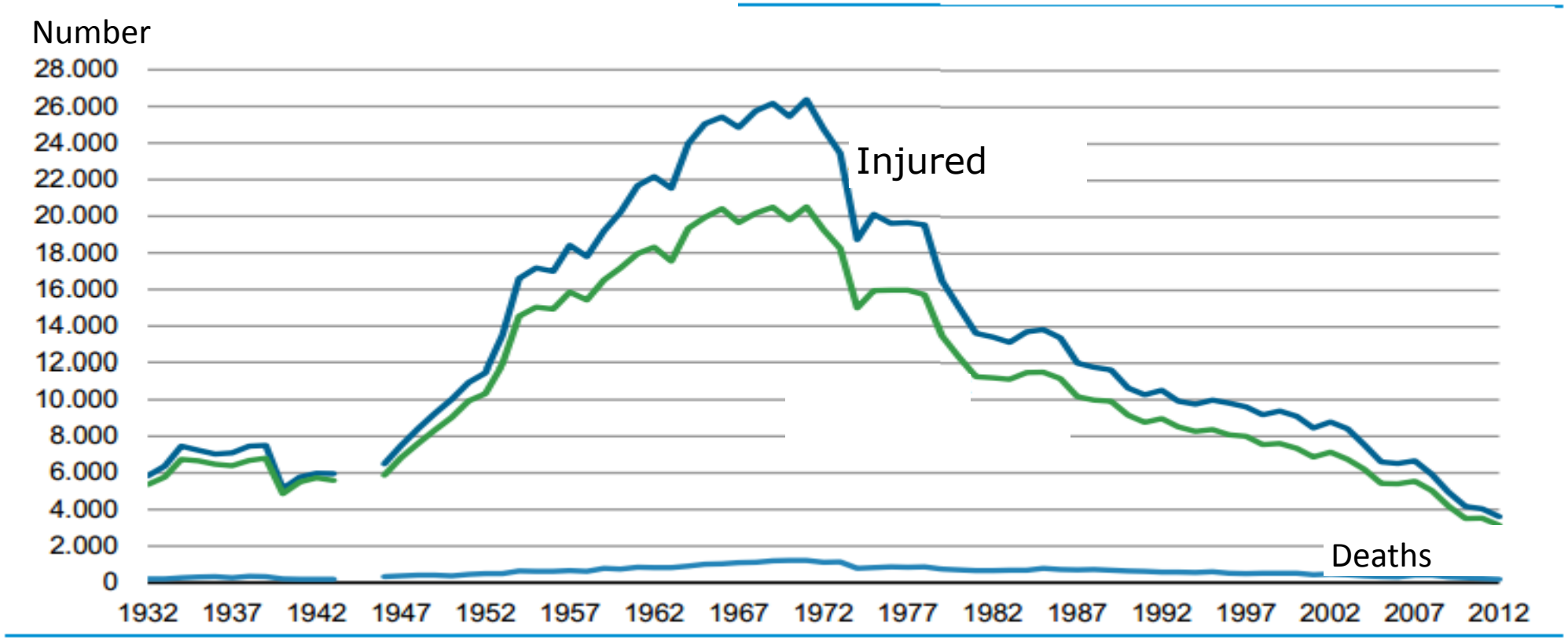
ACHIEVEMENTS
TRAFFIC ACCIDENTS



Number of deaths in traffic in 1972: 1762

Number of deaths in traffic in 2012: 167

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COPENHAGEN IN TRANSITION:
RECESSION → SUSTAINABLE SMART CITY

Copenhagen 1980
Recession

Copenhagen 2014
European green capital

RAMBØLL

COPENHAGEN IN RECESSION

Copenhagen 1980's
Recession

A commission concluded

- Lack of transportation infrastructure
- Lack of quality apartments
- Jobs moved our of Copenhagen
- Families moved out of Copenhagen
- Copenhagen had no funding
- State couldn't donate funds

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THE URBAN DEVELOPMENT VEHICLE IN COPENHAGEN

SALE OF BUILDING RIGHTS

1,000 EURO/m²

METRO AND INFRASTRUCTURE

MASTERPLAN

ARCHITECTS COMPETITION

CHANGE OF ZONING

DEVELOPMENT COMPANY
LAND INTERPOSED

5 EURO/m²

ORESTAD FIRST GENERATION
URBAN DEVELOPMENT VEHICLE

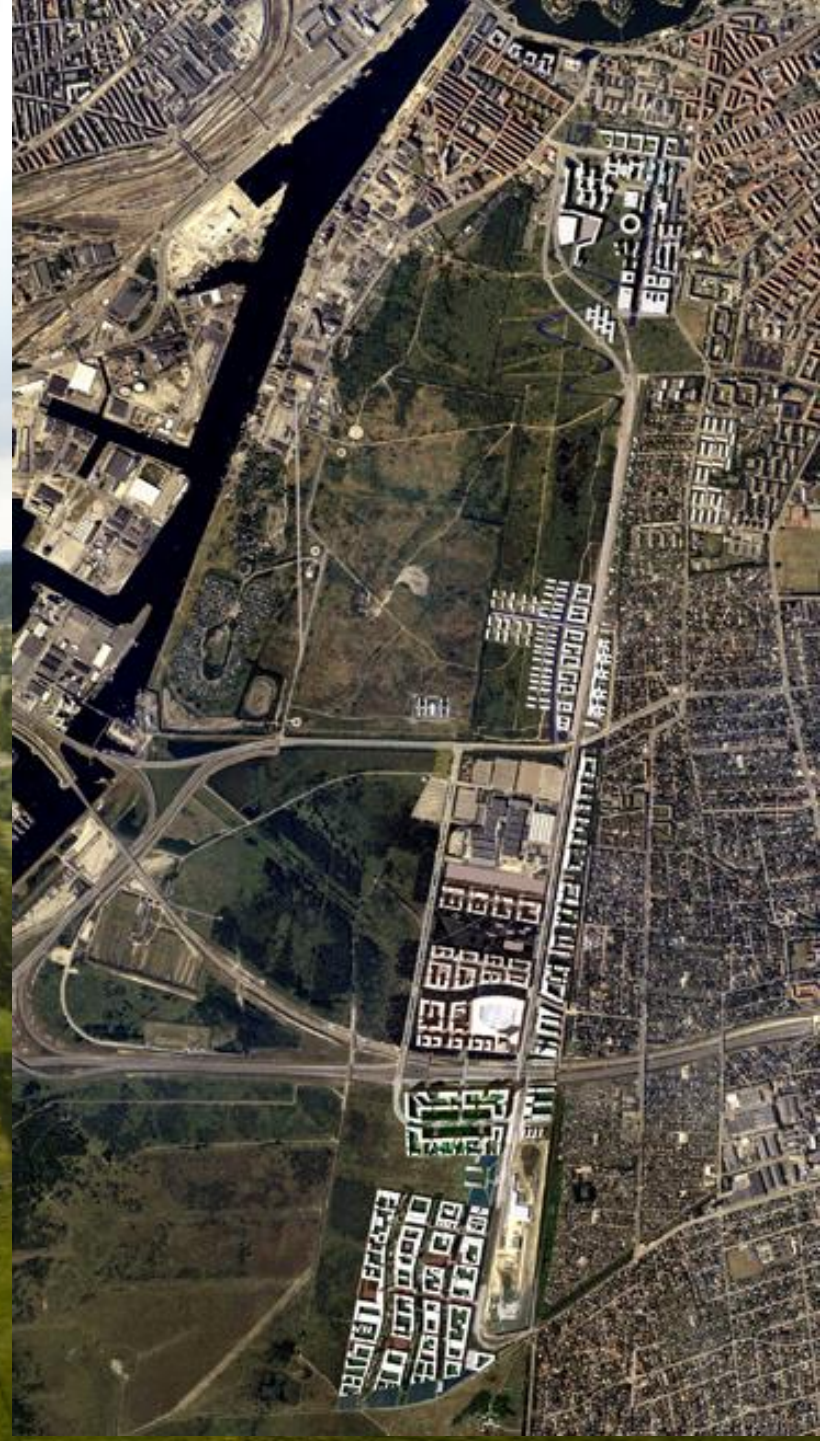
Facts

Ørestad
3,1 km² floor area
50.000 jobs
25.000 residents
6 metro stations

Purpose
Develop and sell building rights to finance METRO

Planning idea
Pre-implementation of infrastructure to maximize land value before sale

Status 2017
70 % developed



ØRESTAD SOUTH – BEFORE SALE OF BUILDING RIGHTS

ØRESTAD SYD VISION
CURRENTLY UNDER CONSTRUCTION

SMART, SUSTAINABLE AND LIVEABLE

Best practice to next practice

- Best practice today is sustainability
- Not content with best practice
- Best practice is retrospective
- Cities last for the next 100s of years
- Future practice is liveability

Liveability is the ever moving objective

- Prime **enablers** are:
  - Sustainability
  - Smart city
  - Mobility
  - Viability
  - connectivity
  - Flexibility
  - Resiliency

CREATING LIVEABLE CITIES

Ramboll planning principles:

1. Liveable cities planning must be based on **sustainability** and provide the standard of living we believe is adequate and appropriate and efficient
2. Liveable cities also include **cultural values**, identify and sense of belonging
3. Liveable cities are supported by **SMART** technology

Liveable cities planning should promote **'Green Growth'**

Before

After

Bishan Park, Singapore

RAMBØLL

NORDHAVN – next practice
NOMINATED 'WORLDS BEST MASTERPLAN'

Sustainable, smart, liveable

- 40,000 inhabitants 40,000 workplaces
- CO2 neutral and energy plus
- Design for passive energy saving
- Smart city solutions
- Public transport prioritization
- Parking strategy
- Super bicycle paths
- District heating and cooling

- High performance building envelopes
- Large energy store
- Sea wheat for bioethanol and biogas
- Intelligent waste handling
- Solar systems

MORE MOBILITY – LESS TRAFFIC

LIVEABILITY AND SMART PLANNING
IMPROVE MOBILITY - REDUCE TRAFFIC

Definition of 5 minute city

- The five minute city makes it possible to reach basic shops, institutions, work places and cultural facilities within 5 minutes walk
- Or within 5 minutes walk to a public transport mode leading to the destination

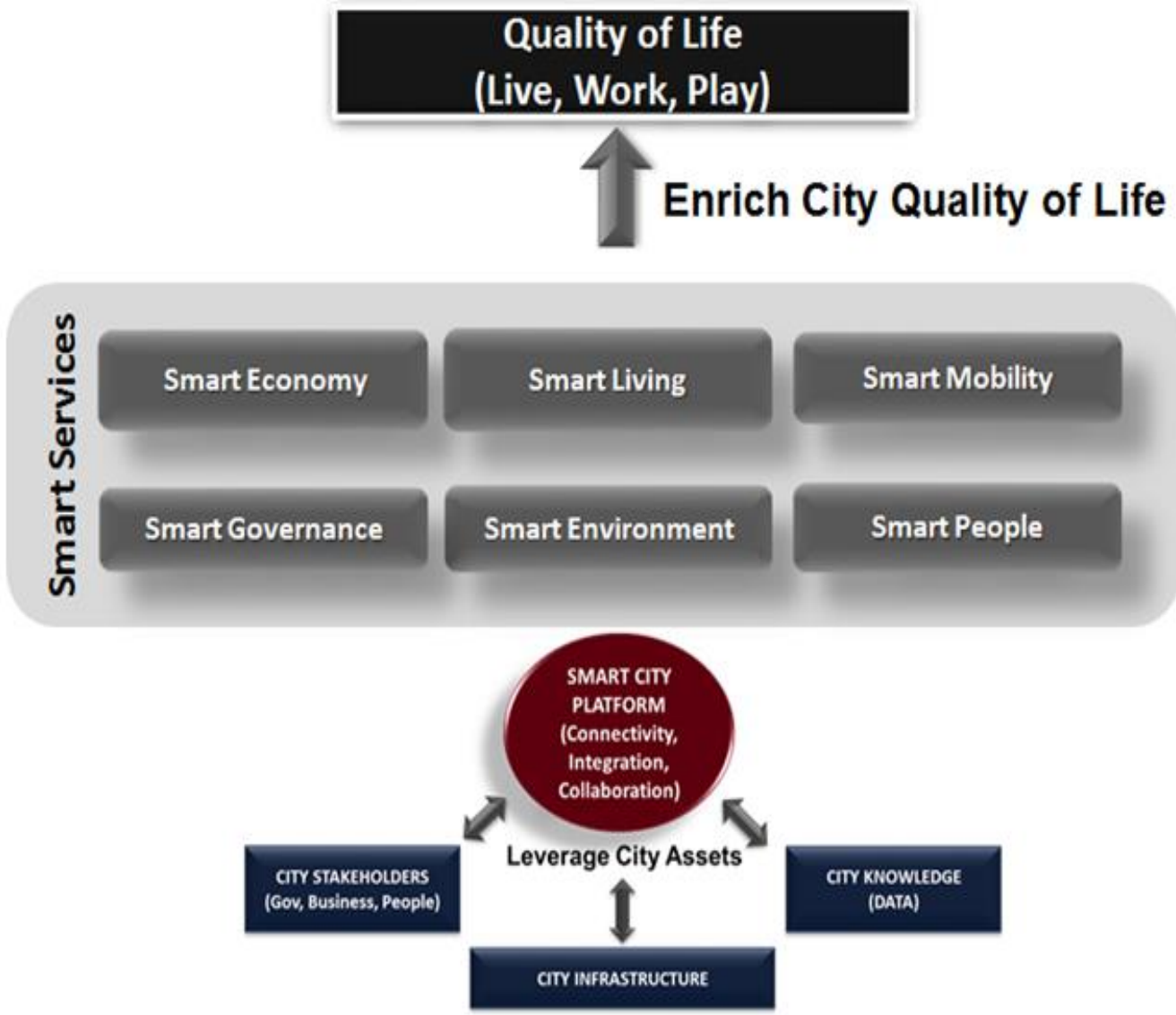
Why?

- To create urban life
- Social interconnectedness
- Networking
- Sustainable behaviour and transportation

SMART CITY DEFINITION –

RAMBOLL AND THE DANISH MINISTRY OF HOUSING, URBAN AND RURAL AFFAIRS

- A smart city is a city which through **technological, architectural and administrative** innovations form the basis for sustainable development to ensure quality of life for the citizens
- A smart city is **interconnecting across sectors, citizens, businesses and organizations** through open data availability and ICT infrastructure
- A smart city supports a connected and intelligent infrastructure to **improve economical, political, social and cultural efficiency, development and behaviour**



WE MUST BE ABLE TO WORK TOGETHER TO CREATE THE LIVEABLE CITY

Liveable and smart cities expert services

RAMBØLL

URBAN INNOVATION – ROAD TO SUCCESS

1. **A strong and guiding political vision**
   - Quality of life (Liveable, clean, safe, diverse, sustainable)
   - Growth (knowledge, innovation, employment)
2. **A holistic approach to planning urban developments/retrofitting**
   - Acknowledgement that investments in physical infrastructure need to be viable and go hand-in-hand with investments in social and cultural infrastructure.
3. **Structured approach to dialogue with citizens and investors**
   - Open dialogue with investors on need for municipal "trigger investments". Transparency in political decision making and trust in the future.
   - Involvement of citizens. Not only in hearings and formalized engagement processes. But also in structured co-creation processes

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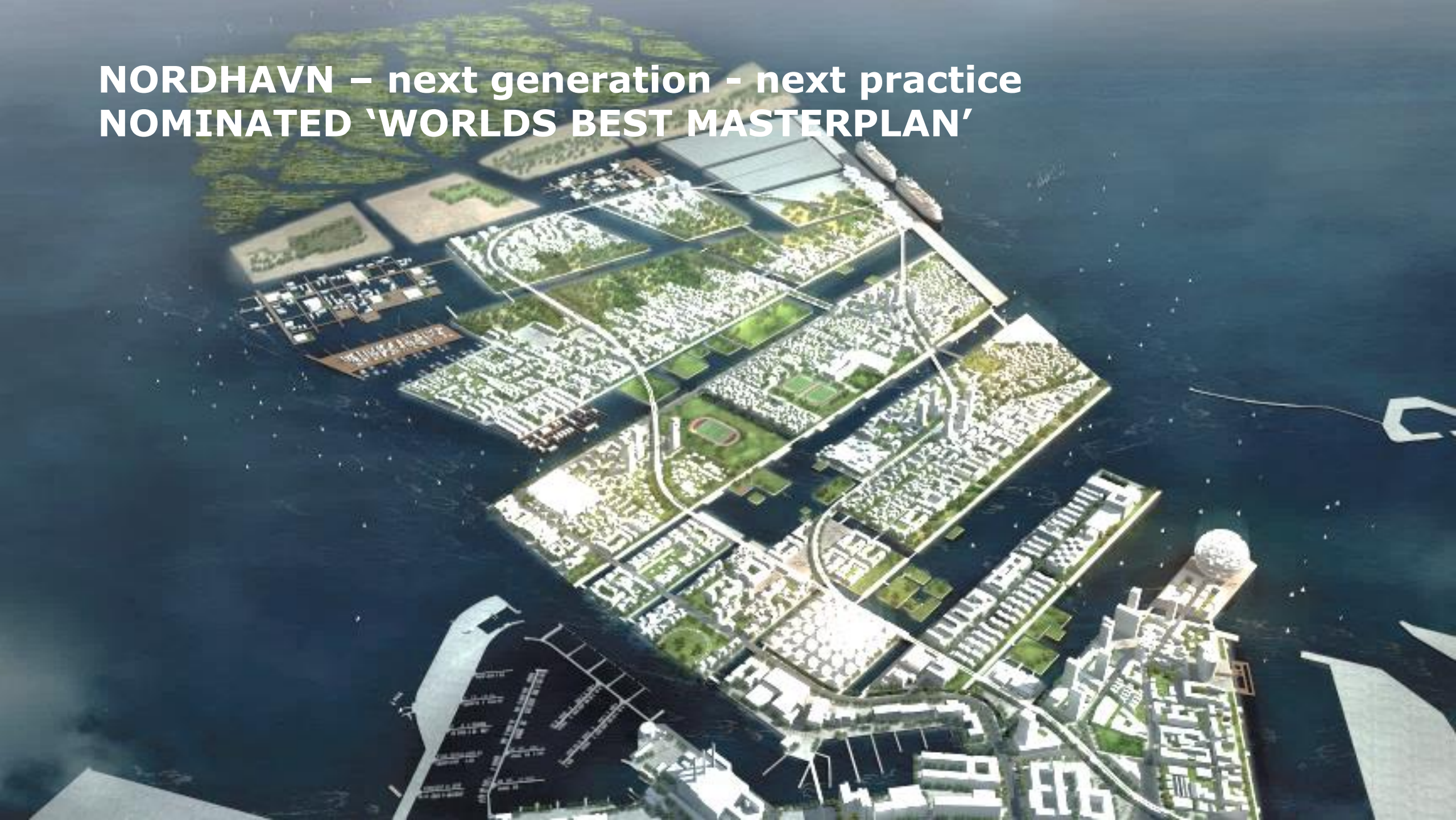
NORDHAVN – next generation - next practice
NOMINATED ‘WORLDS BEST MASTERPLAN’



AMAGER RESOURCE CENTER DENMARK

Challenge

Recover the energy resource from 440,000 tonnes of waste annually

What we do

Owner’s Engineer

Services ranging from planning to commissioning of M&E

Effect

Flagship waste-to-energy facility from an environmental and energy efficiency point of view

Image: Amager Ressourcecenter

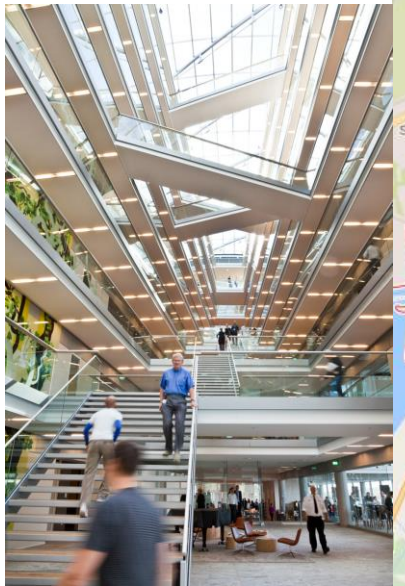
1. Ramboll Head Quarter

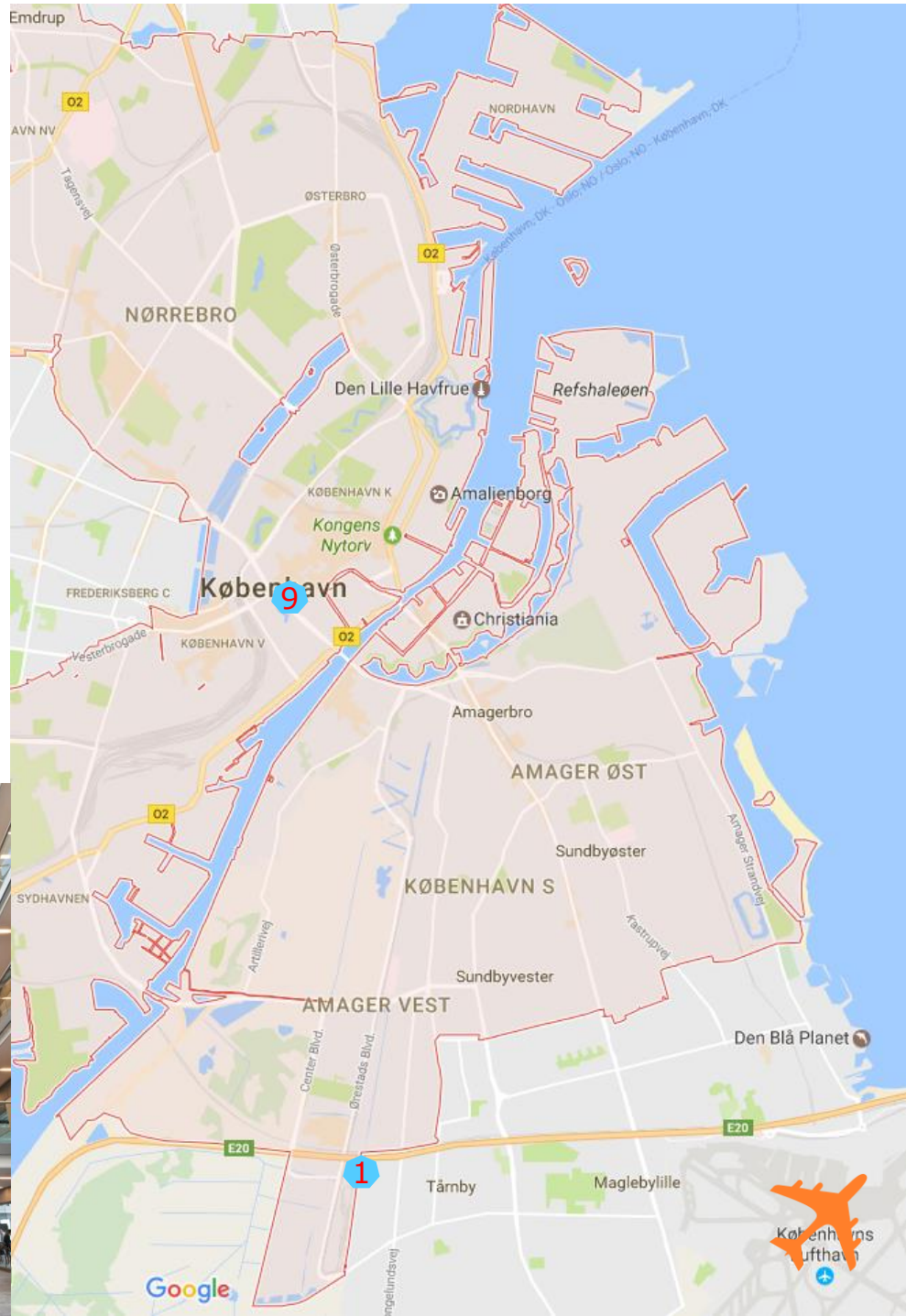
Architect: Dissing & Veitling

Engineer: Ramboll

40.000 m^2

2000 employees





INSPIRATIONAL TOUR OF COPENHAGEN

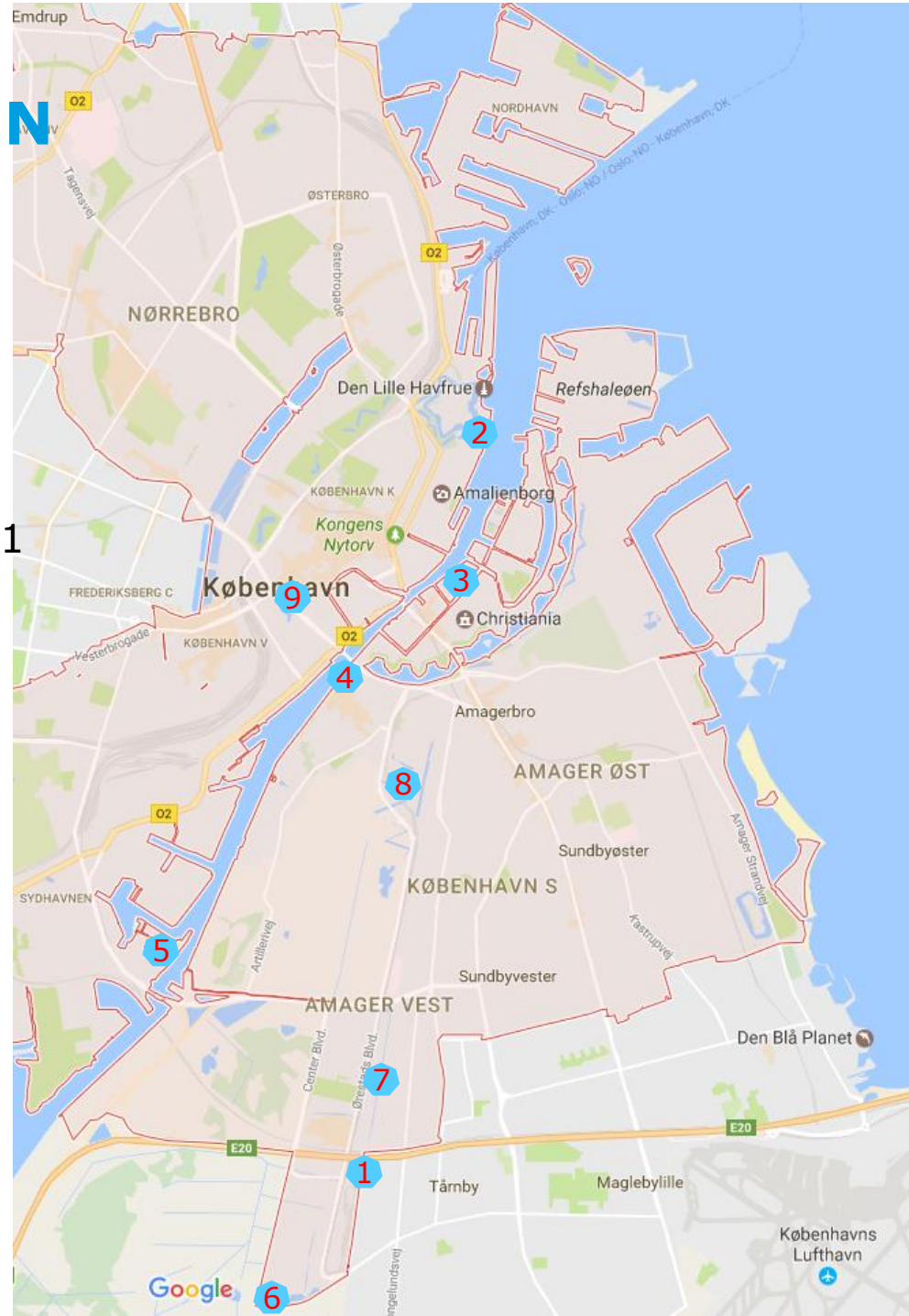
6. Ottetallet – 8-building or Infinity Building

Architect: BIG - Denmark

Total: 62.000 m^2 - Mixed use

Apartments: 476

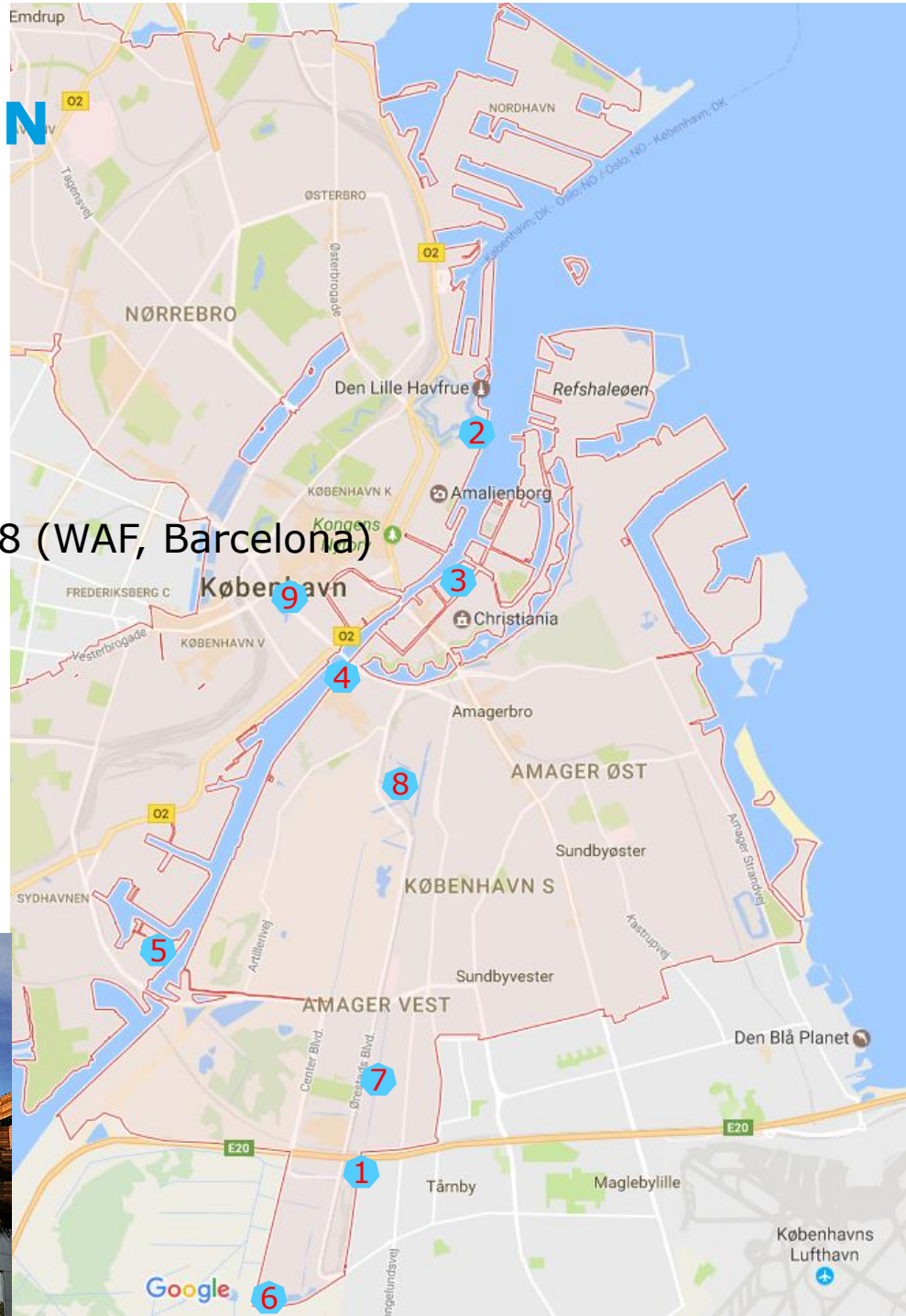
Worlds best residential building 2011 (WAF, Barcelona)



INSPIRATIONAL TOUR OF COPENHAGEN

7. VM Mountain

Architect: BIG - Denmark
Total: 25.000 m^2 - Mixed use
Apartments: 80
Worlds best residential building 2008 (WAF, Barcelona)
Parking: 650 spaces

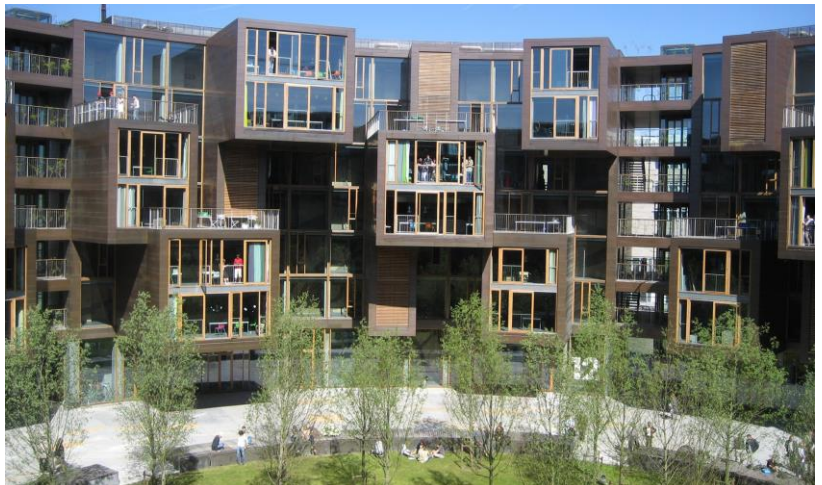


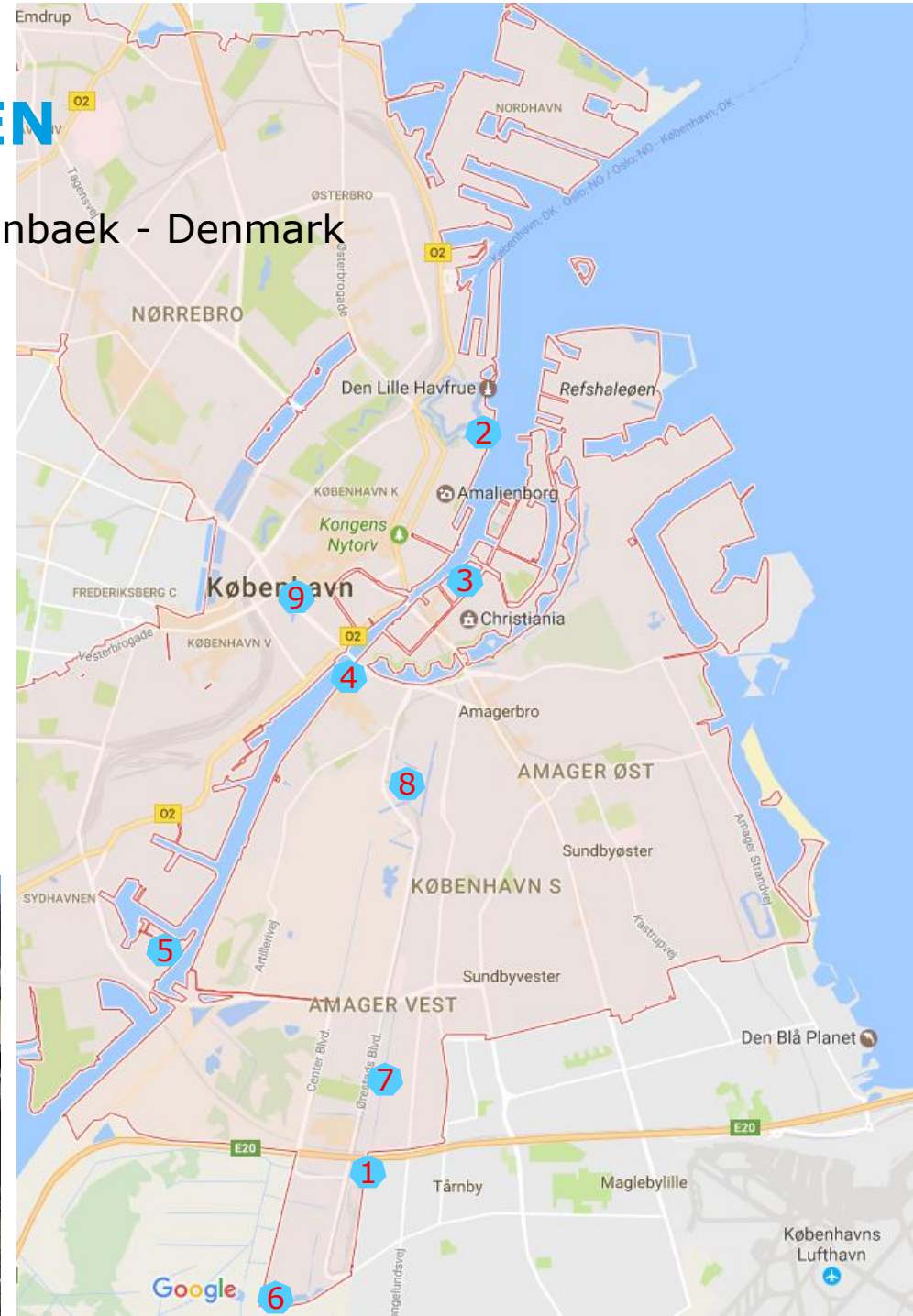
INSPIRATIONAL TOUR OF COPENHAGEN

8. Tietgen Dormitory

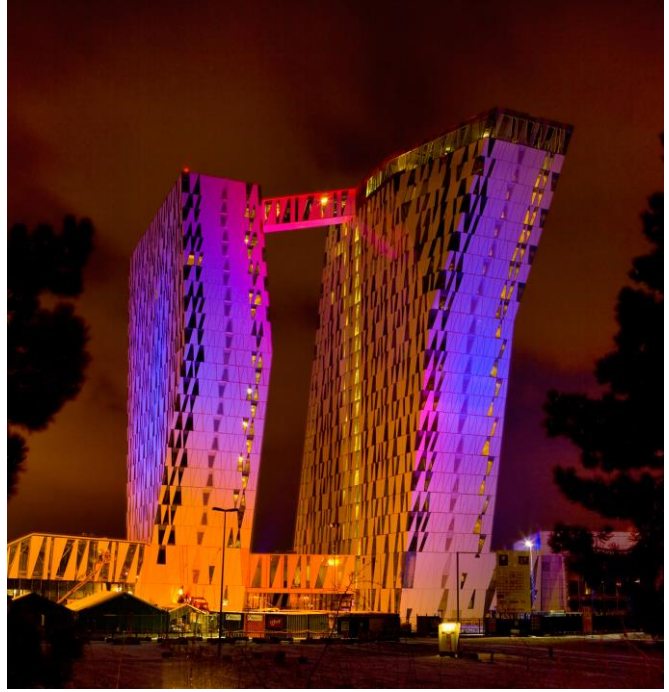
Architect: Lundgaard & Tranbaek - Denmark

Apartments: 360





BELLA SKY



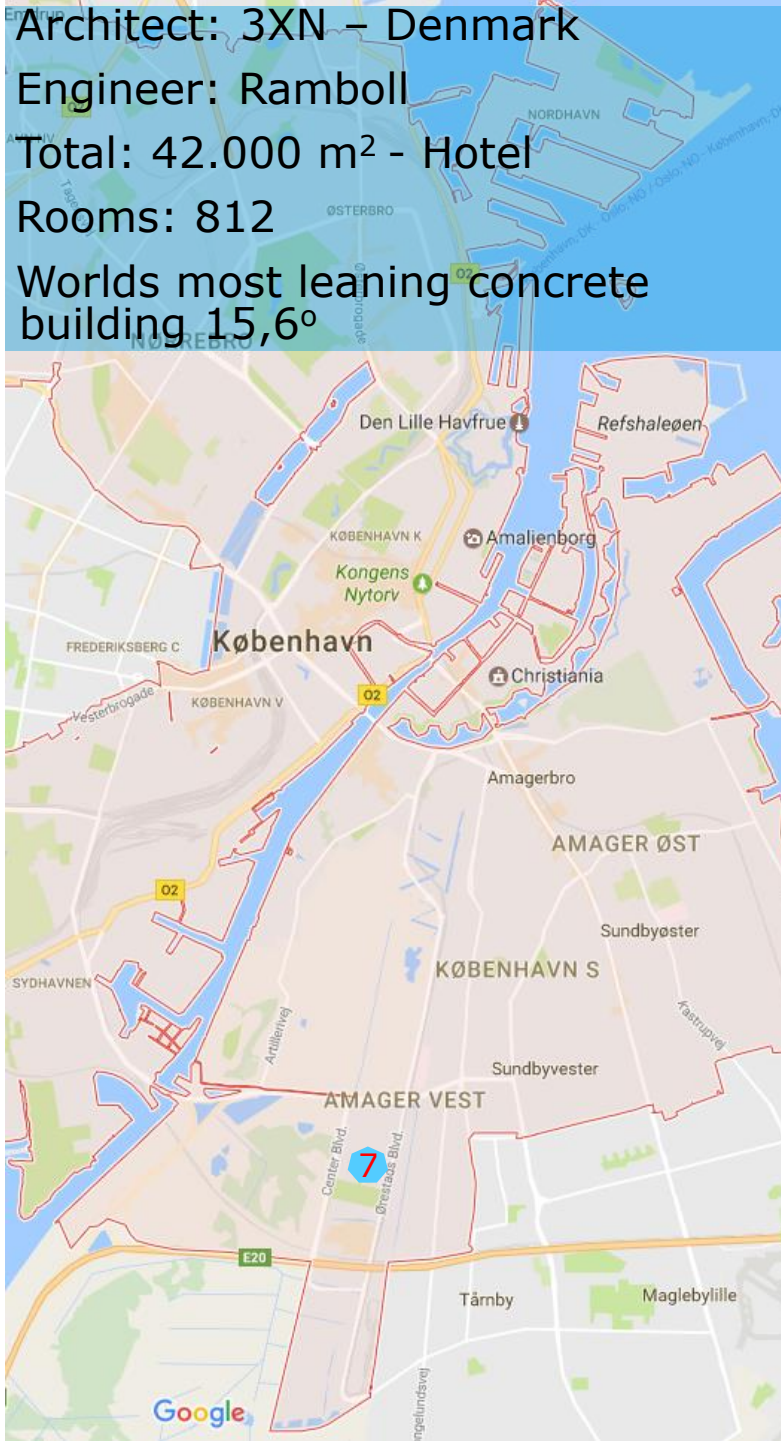
Architect: 3XN – Denmark

Engineer: Ramboll

Total: 42.000 m² - Hotel

Rooms: 812

Worlds most leaning concrete building 15,6°

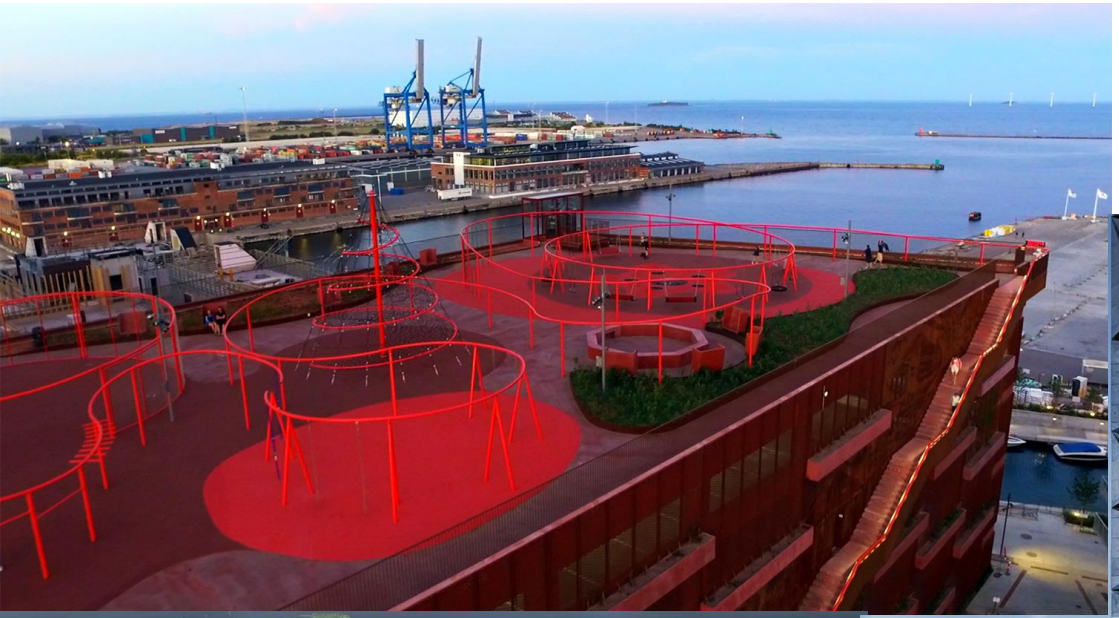


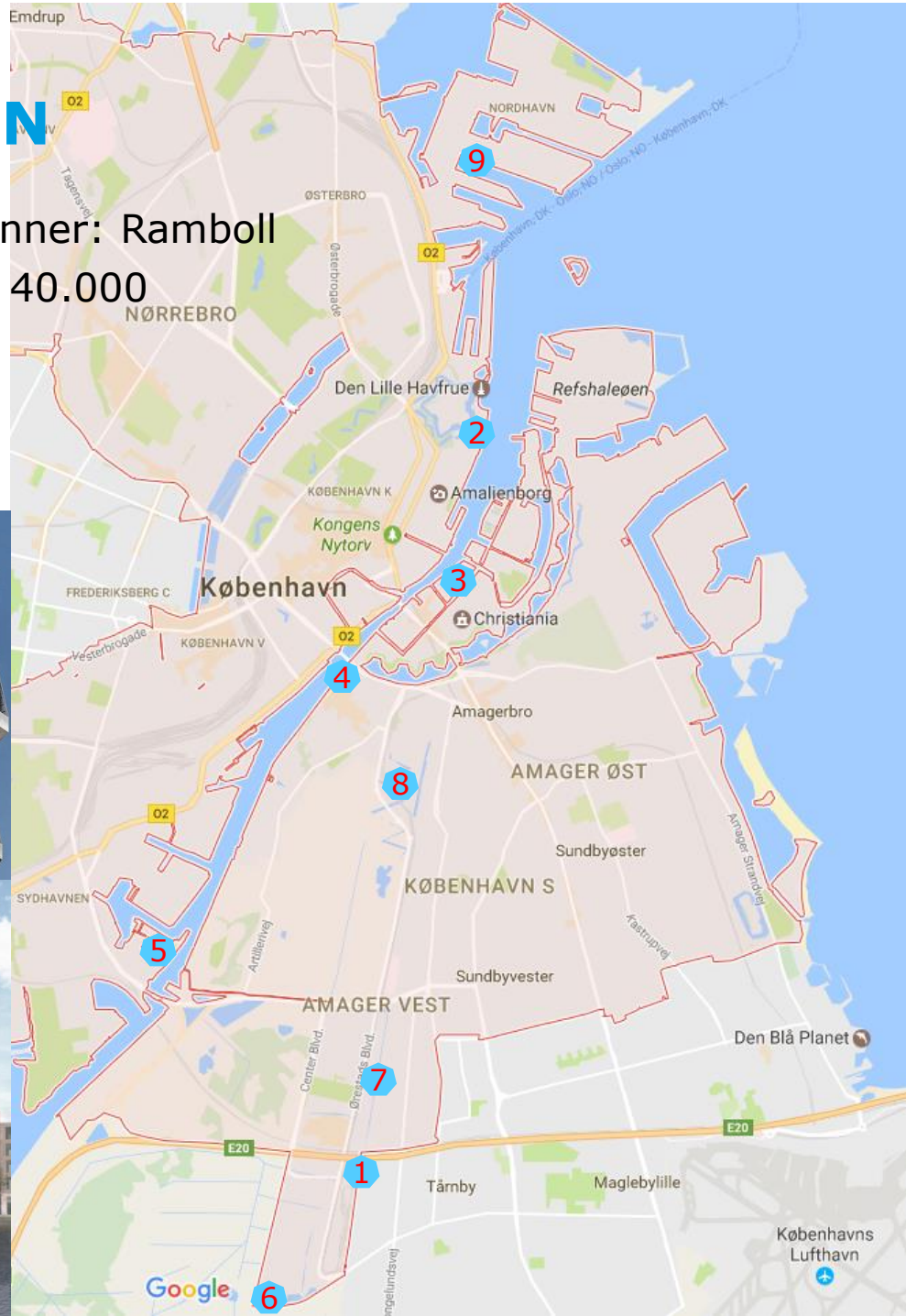
INSPIRATIONAL TOUR OF COPENHAGEN

9. Nordhavn

Architect: COBE, Masterplanner: Ramboll

Apartments: 20.000, Jobs: 40.000





THANK YOU

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