

# The open access fibre network in Stockholm



**Stefan Carlsson, CTO**



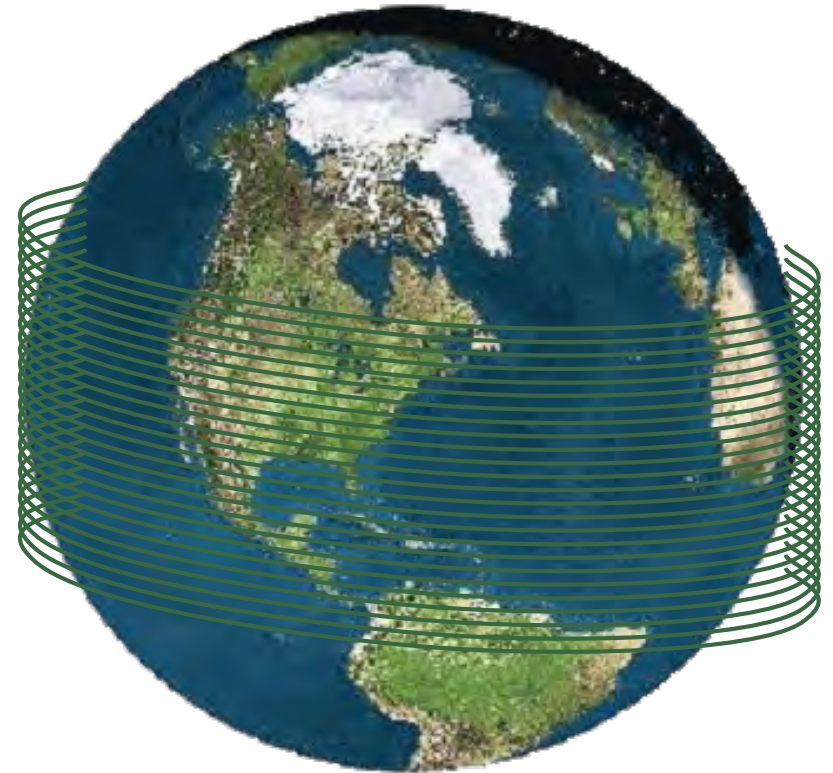
# Stokab

- Owned by the City of Stockholm
- Founded in 1994
- No public funding: loans and earnings
- 100 employees
- Limited to greater area of Stockholm
- B2B (Business to business)
- Only Physical Infrastructure Provider (PiP)  
= Dark fibre operator
- Covering with multifibre FTTH connections
  - 90% of the households
  - Almost 100% of commercial buildings



# Stokab fibernet

- 1,800,000 km fiber (45 laps around the world)
- 9 800 km of fiber optical cable
- 600 Nodes
- 24 000+ Termination locations
- 400 000 Appartments connected (FTTH)



# Stockholm area – Stokab's net



## Stockholm region

- 6 519 km<sup>2</sup>
- 2,37 million citizens
- 1,025 million households
- 26 cities

• Bucharest

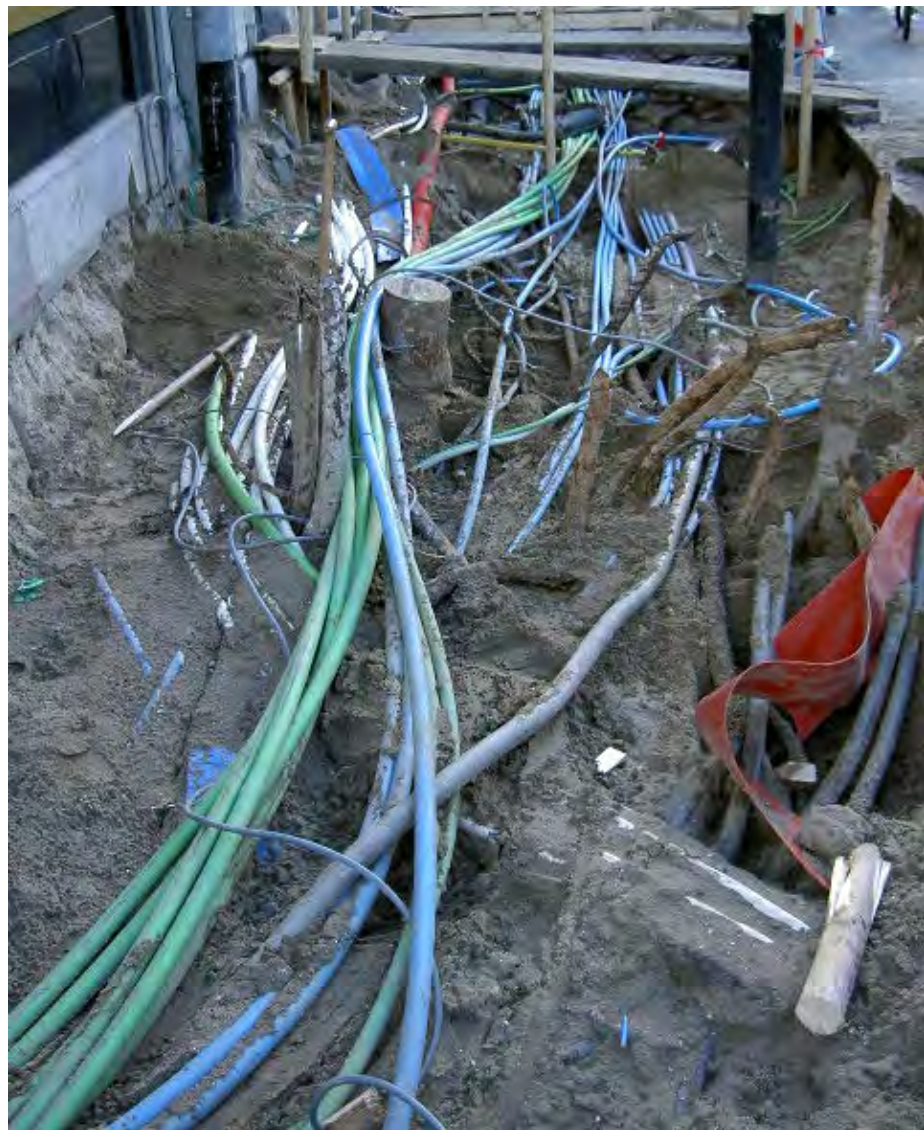


# Stockholm's principle approach

- Public sector responsible for infrastructures
- Infrastructure shall be:
  - open to all on equal terms
  - create competition at the service level
  - provided by a neutral player
  - long term planning & future capacity
- Pricing must be:
  - non-discriminatory
  - transparent
- Stimulate service development & innovation
  - contributing to growth, jobs and a sustainable development
- Minimize civil works in streets











NETFLIX

DEEZER

Spotify



E-health  
Smart  
building  
Traffic  
management  
...

Services

Service providers

Active  
network

Electronic  
communication  
Operators  
(Fixed/mobile)

Public institutions/  
Companies

Physical  
infrastructure

Stokab

# Experiences from Stockholm

- Low investment costs = Lower threshold for new company entries
- > 900 customers and >100 operators and service providers in Stokab's fiber network
- Lease dark fibre to fixed prices
- Low prices for end customer: 1 Gbps (down and up) €20-25 and 100 Mbps €15 (households/month)
- Platform for innovation – a multitude of start-ups



**Winner of the World Smart City Award  
2019**

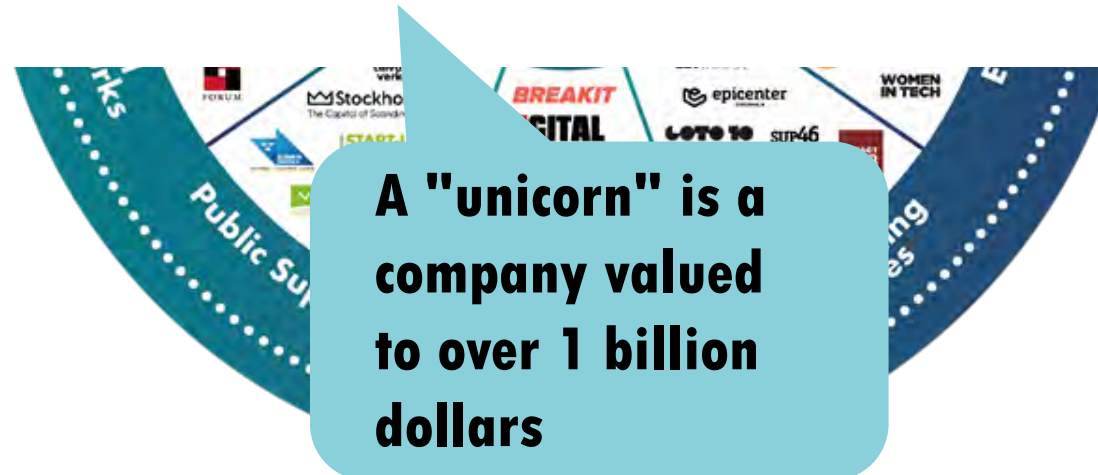
Smart City Expo World Congress,  
Barcelona



# Stokab's fibre network: >100 operators & service-providers



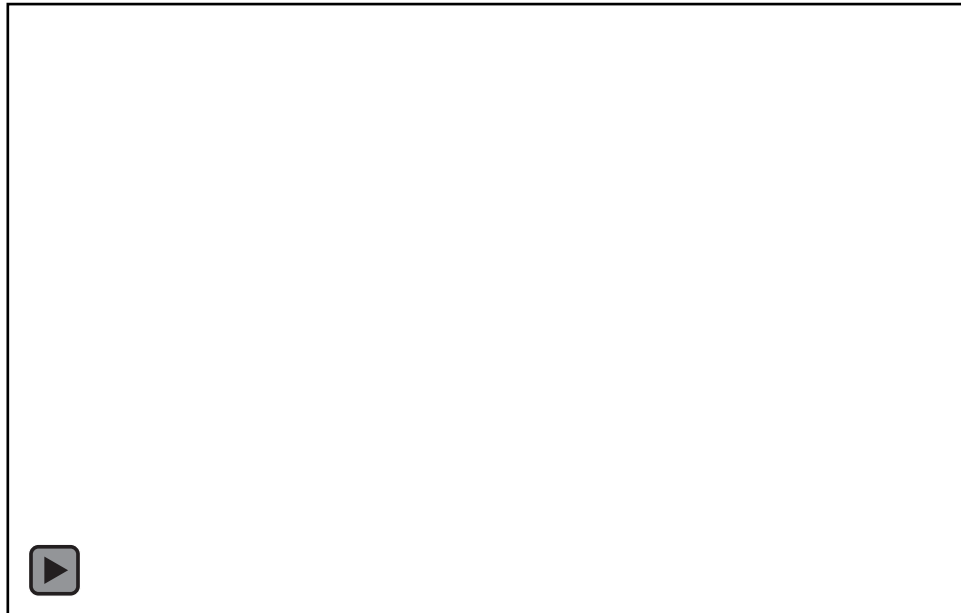
# Stockholm: most unicorns per capita next to Silicon Valley.





# Events broadcasted live directly through our fibre network

TV cameras connected directly to the fibre network allowing production from a central control room. A very cost-effective solution



# >16 billion SEK in socio-economic return

- Lower costs for operators to lease dark fibre
- Lower broadband prices for enterprises and households
- Innovations, new services and enterprises = also new job opportunities
- Increased real estate and property value
- Savings for Stockholm's local government
- Possibilities to produce television in a whole new way
- Earlier deployment of 4G/LTE – Stockholm first in Europe



Source: RISE Research Institutes of Sweden



# The connected city - benefits for the society

- Real time information to the citizens
- Camera surveillance for security and safety
- Sensors that monitor pollution and traffic or other services.



# Advanced traffic management

- **Today**  
Traffic signals - predefined time intervals via copper network.
- **Tomorrow**  
Sensors measure the traffic in real time via fibre to central points.

The City: plans to connect 500 local traffic facilities with multisensors



Test of multisensor  
in the inner city of Stockholm





**Stockholms Infrastructure for ICT and future services  
IoT, 5G and Smart City**