

# AB Stokab

## Stockholm makes hi-tech economy and society a reality

### Council-owned AB Stokab rolls out large-scale dark fibre network across city

AB Stokab, formed in 1994 and owned by the City of Stockholm, is providing a passive fibre optic communications network to the highly knowledge-intensive Stockholm region.

#### General Information

**Location:**

City of Stockholm

**Infrastructure owner:**

AB Stokab, wholly-owned by the city of Stockholm

**Population:**

Over 850,000 people

**Service Providers:**

Over 100 operators and service suppliers are using Stokab's network to deliver their services

Today, some 90 % of all Stockholm's households and nearly 100 % of all companies have FTTH connections with speeds of up to 1 Gigabit-per-second. Stokab is responsible for the expansion, maintenance and leasing of these connections, with the aim of realising optimal conditions for IT development in the region. The network is open to all parties, on equal terms, and Stokab rents 'dark fibre' connections to anyone who requires them. Customers are required to supply their own active equipment.

From its inception, the City Council has considered Stokab a public infrastructure company, much like a public organisation responsible for roads. The deployment of Stokab's initial network was financed by loans backed by the City of Stockholm, and it connected mainly public institutions and universities. The network began to expand rapidly as more and more private businesses started purchasing dark fibre circuits.

For several years, the service sector, including IT and other knowledge-intensive activities, has been responsible for creating the majority of new jobs in Sweden, as well as an increasing percentage of the country's export revenue. Roughly 60% of Sweden's IT employees are located within the Stockholm region and some studies claim this is the most knowledge-intensive region outside of the US.

Several Stockholm-based tech companies, such as Skype, Spotify and Transmode, have gone on to become big players in their industries. In the 2011 edition of its Cities of Opportunity study, PwC examined services in 26 large global cities. It identified Stockholm as having the best network for schools, the second best broadband quality, and the best digital economy.



#### Deployment

**Penetration:**

Over 90 % of Stockholm's households subscribe to FTTH

**Time to deploy:**

1994-2012

**Stokab's orders by volume**

- 50 % service providers, communications operators and mobile broadband operators
- 10 % public entities
- 40 % remaining customer categories (media companies, B2B integrators, real estate companies)

#### MEETING THE DEMAND

From 1994 until 2000, telecom operators, large enterprises and government agencies and organisations were increasingly demanding fibre. In Stockholm, 90% of households live in multi-family properties. These households began demanding broadband access on a large scale around 2000. In 2005, market demand was still growing, with requests from large property owners. To cater for these requirements, Stokab has been consistently rolling out FTTH from 2007 to 2012. Stokab offers network termination points in building cellars. Property owners connect their own fibre network to these house nodes, and the connections run to individual apartments and other relevant locations.

## Business Case

### Total Investment:

SEK 3,000 million for the backbone network and  
SEK 1,500 million for FTTH

### Investors:

City of Stockholm owns Stokab 100 %

- No public subsidies. All funding comes from customer revenues
- Gradual deployment allowed for cash-flow generation early on

### Business Model:

PIP - Physical Infrastructure Provider

More than 100 operators and service suppliers are using Stokab's network to deliver their services. These services include everything from Internet connection to TV, telephony and specific Cloud-based services. Regardless of what kind of business model operators and service providers use, Stokab's solutions make it possible for them to reach end customers simply and cost-effectively. The large fibre network has also facilitated the rollout of mobile high-speed networks like 3G and 4G/LTE. Stockholm is now the world's only city with four competing LTE networks. For public services, such as hospitals, schools and security camera networks, leasing connections from Stokab guarantees reliable and powerful infrastructure. Stokab's wholly-owned subsidiary, S:t Erik Kommunikation AB, is responsible for administering and developing communications solutions on behalf of the city. Sweden now has over 200 municipal networks, most of them similar to the Stokab model.

### FINDING FINANCING



"The challenge here, as with all fibre projects, is realising low cost of deployment," explains Anders Broberg, Head of Communications, AB Stokab. "Another issue is obtaining agreement from all property owners. We tackled these challenges by building area-by-area, in order to achieve economies of scale, and working in a highly-structured manner."

All financing comes from our customers, and we have never used taxpayers' money. All expansion has been made possible through earnings and loans. People interested in receiving fibre weren't asked to pay a fee up front. In fact, we took quite the opposite approach. We paid every property owner a symbolic SEK 500 (just under EUR 60) to connect their property with fibre."

Analyst firm United Minds compared broadband prices in ten European cities and concluded that Stockholm's dark fibre connections were offered at the lowest price among the cities analysed. From 2006 onwards, Stokab introduced a simple, transparent pricing structure, allowing customers to anticipate prices and build business models without having to continuously rely on Stokab's sales teams. This proved very valuable to integrator and operator customers in particular.

## End-user Services

Provided by over 100 operators and service providers, services include everything from Internet connection to TV, telephony and specific Cloud-based services

The high-speed network has also made implementation of e-services very straightforward. Stockholm's infrastructure makes it easy to develop joint solutions. As almost all citizens use the Internet, the current demand for e-services is vast. Access to a robust fibre network is proving absolutely essential for the local economy. In fact, the number of jobs has actually increased during the financial crisis.



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