



# Broadband to the citizens

**The Finnish regional network association 25/3 2009**

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Svenska Stadsnätetsföreningen *The Swedish Urban Network Association*

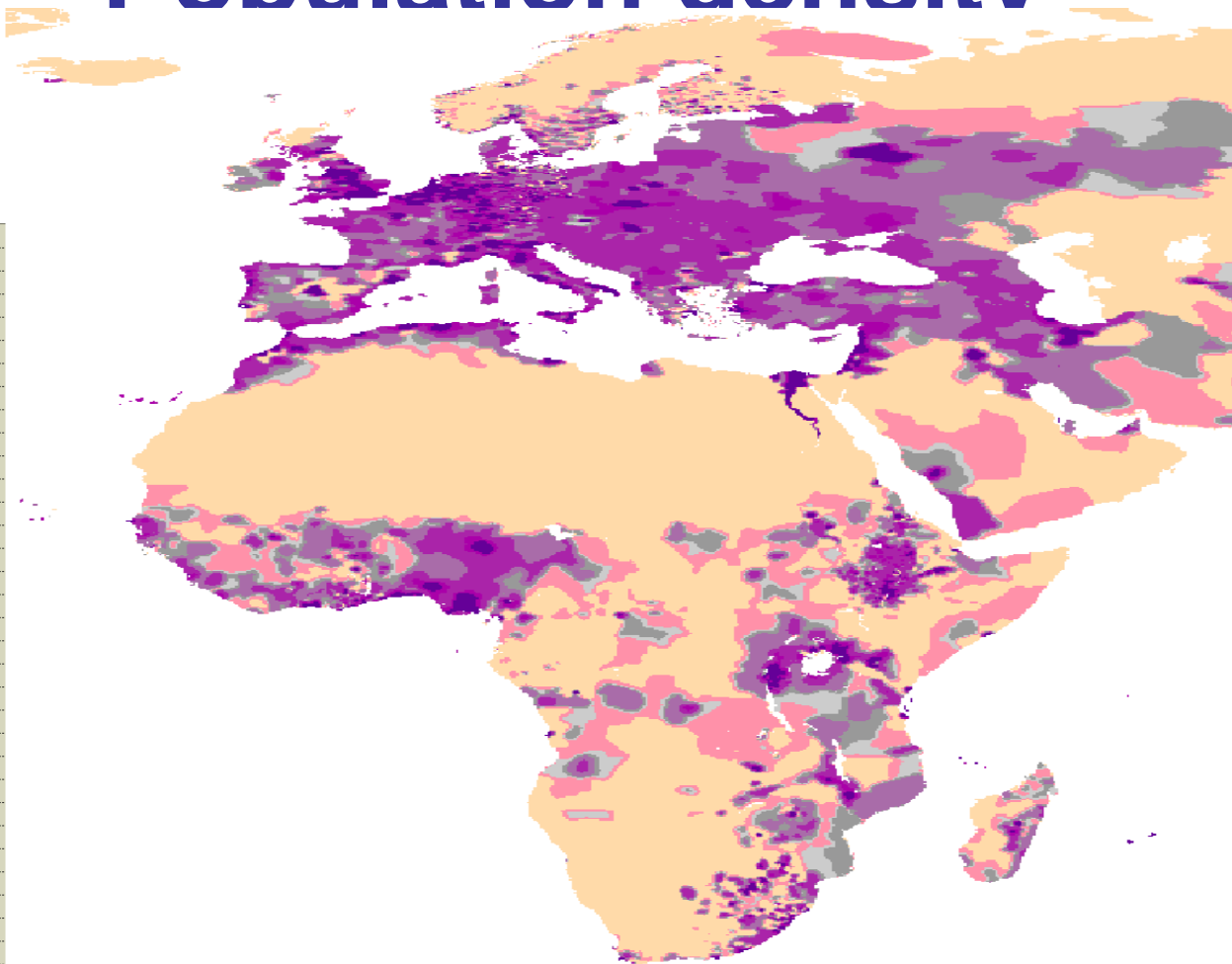
**[www.ssnf.org](http://www.ssnf.org)**



# Population density

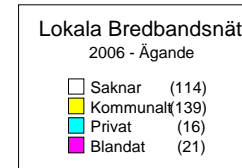
Smoothed  
Population  
Density

White	No Data
Lightest yellow	0 - 5
Light yellow	5 - 7
Yellow	7 - 9
Orange	9 - 12
Light orange	12 - 14
Light red	14 - 16
Red	16 - 18
Dark red	18 - 21
Dark red	21 - 23
Dark red	23 - 26
Dark red	26 - 30
Dark red	30 - 33
Dark red	33 - 37
Dark red	37 - 40
Dark red	40 - 44
Dark red	44 - 48
Dark red	48 - 53
Dark red	53 - 57
Dark red	57 - 63
Dark red	63 - 68
Dark red	68 - 75
Dark red	75 - 82
Dark red	82 - 90
Dark red	90 - 100
Dark red	100 - 111
Dark red	111 - 126
Dark red	126 - 149
Dark red	149 - 181
Dark red	181 - 234
Dark red	234 - 376
Dark red	376 - 24584

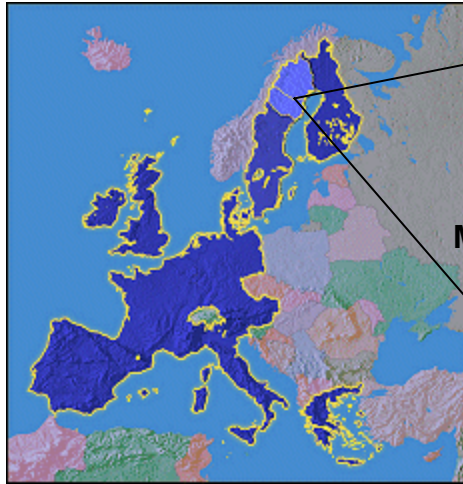


# Municipal City nets in Sweden

- City nets: 152 of 290 municipals
- Working in 176 kommuner
- 85% is own by the local municipal energi company's or direct the by the municipal.

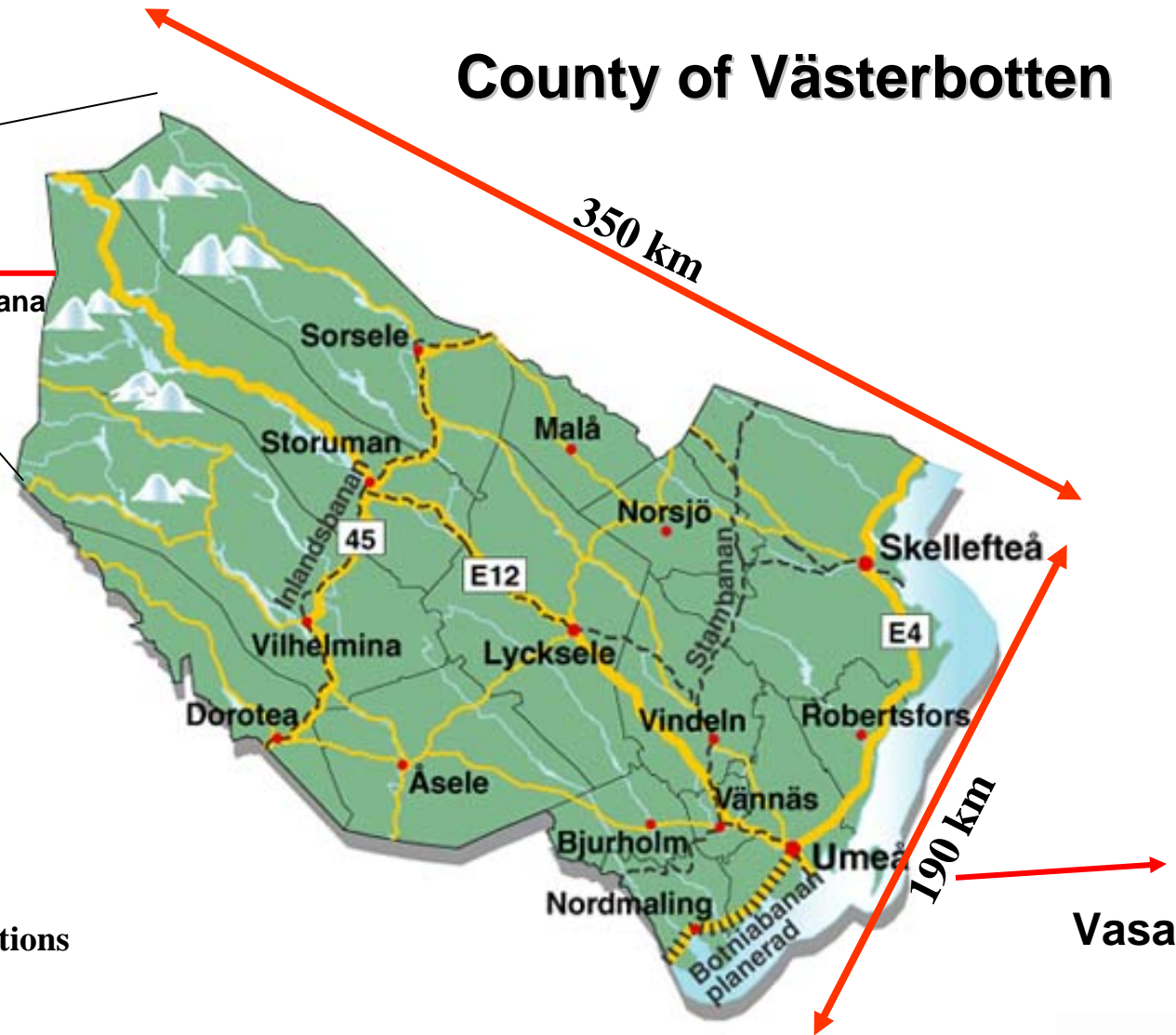


# Rural areas



Mo i Rana

## County of Västerbotten



Inhabitants: 256 000

Area: 59194 km<sup>2</sup> (1/8 of Sweden)

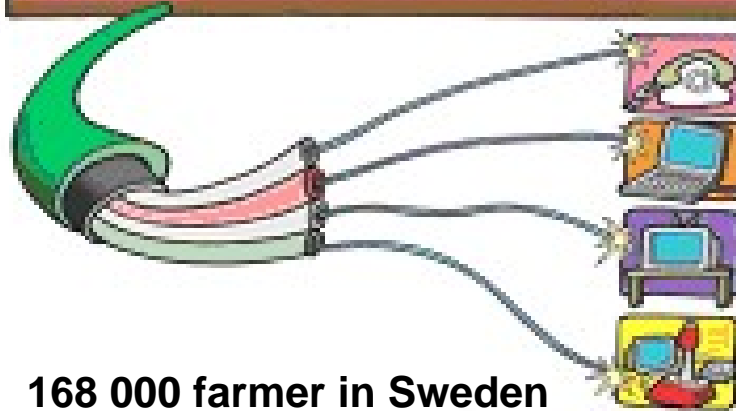
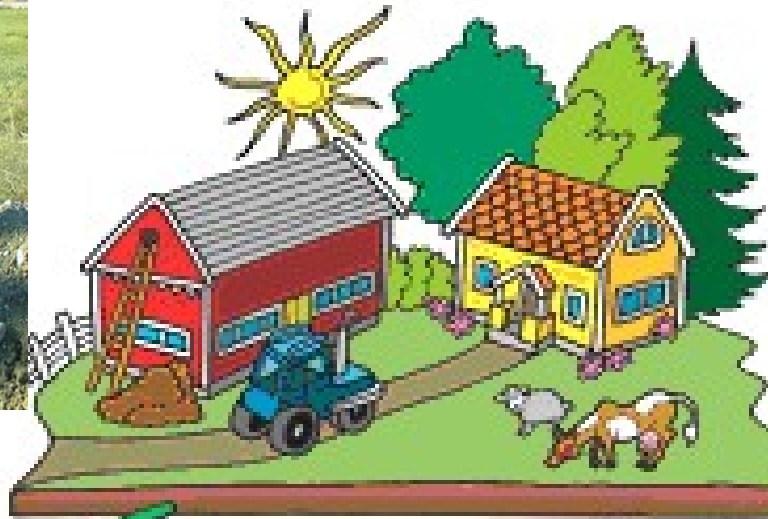
2x Holland ( 16 Mil Inhabitants )

80% have FTTx

300 village have dig down canalisations

# Fiber to the Village

A broadband project between LRF och SSNf



168 000 farmer in Sweden

# What is brokadband – how fast is fast ?

2 Mbit/s = 30 telephone call 5 Mbit/s = one Tv-canal 20 Mbit/s one HDTV canal  
Sending X-ray photo to a hospital whit 1 Mbit/s hastighet 9 minutes

1-10 Mbit/s

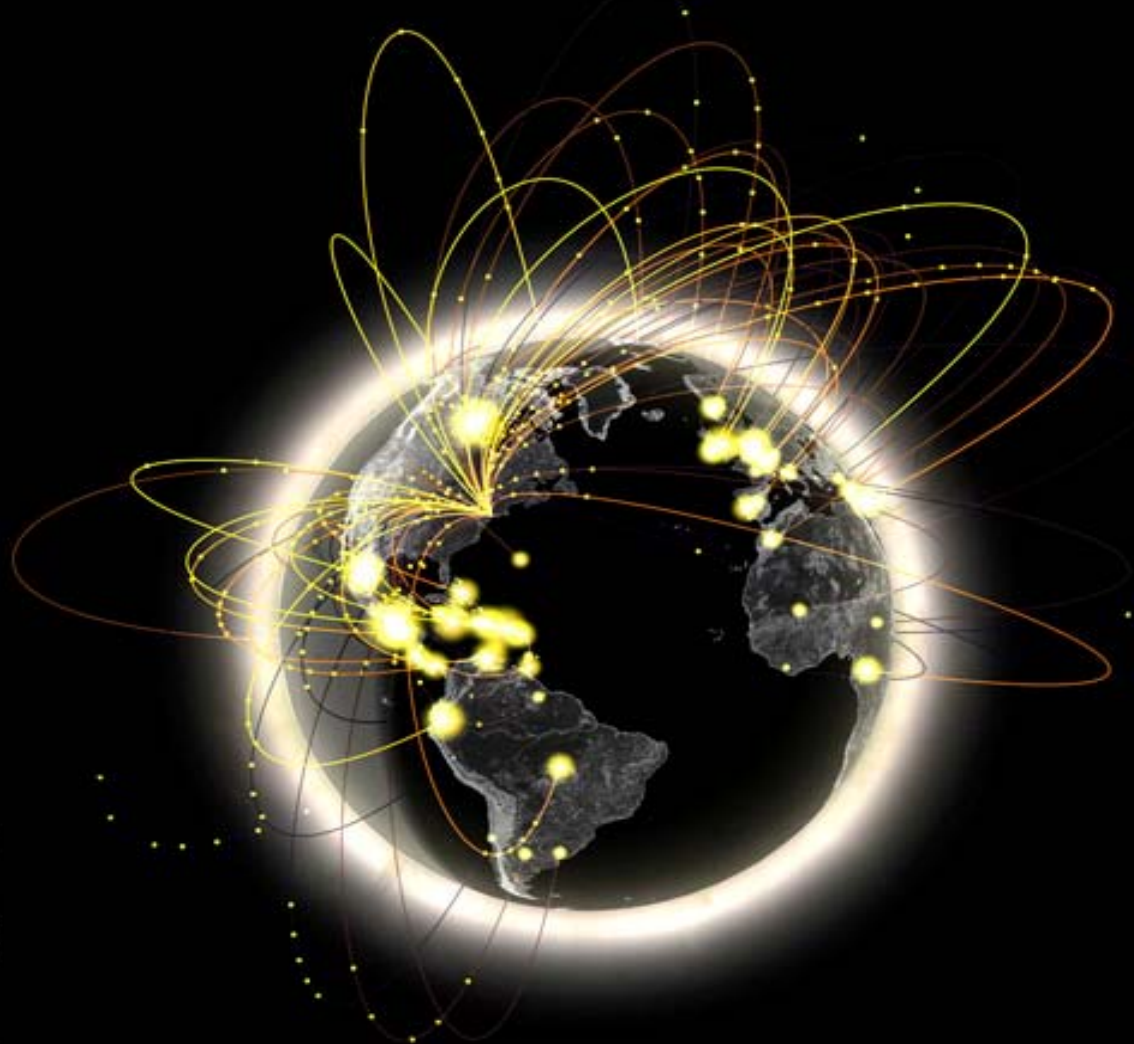


10 Mbit/s -1Gbit/s

FiberSpdEN.exe



# Internet



## Globe Encounters

In the Information Age, the flow of Internet traffic between locations is nearly ubiquitous. Globe Encounters visualizes the volumes of Internet data flowing between New York and cities around the world over the past 24 hours. The size of the glow on a particular city location corresponds to the amount of IP traffic flowing between that place and New York City. A larger glow implies a greater IP flow.

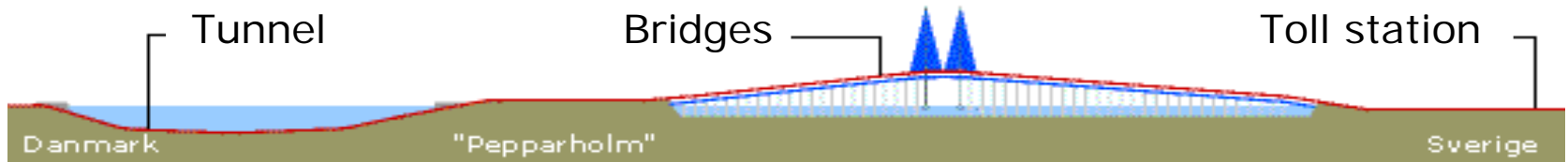
**IP traffic | total**  
outgoing from new york



# Sweden a link betwin east - west



70% av Russian Internet trafic

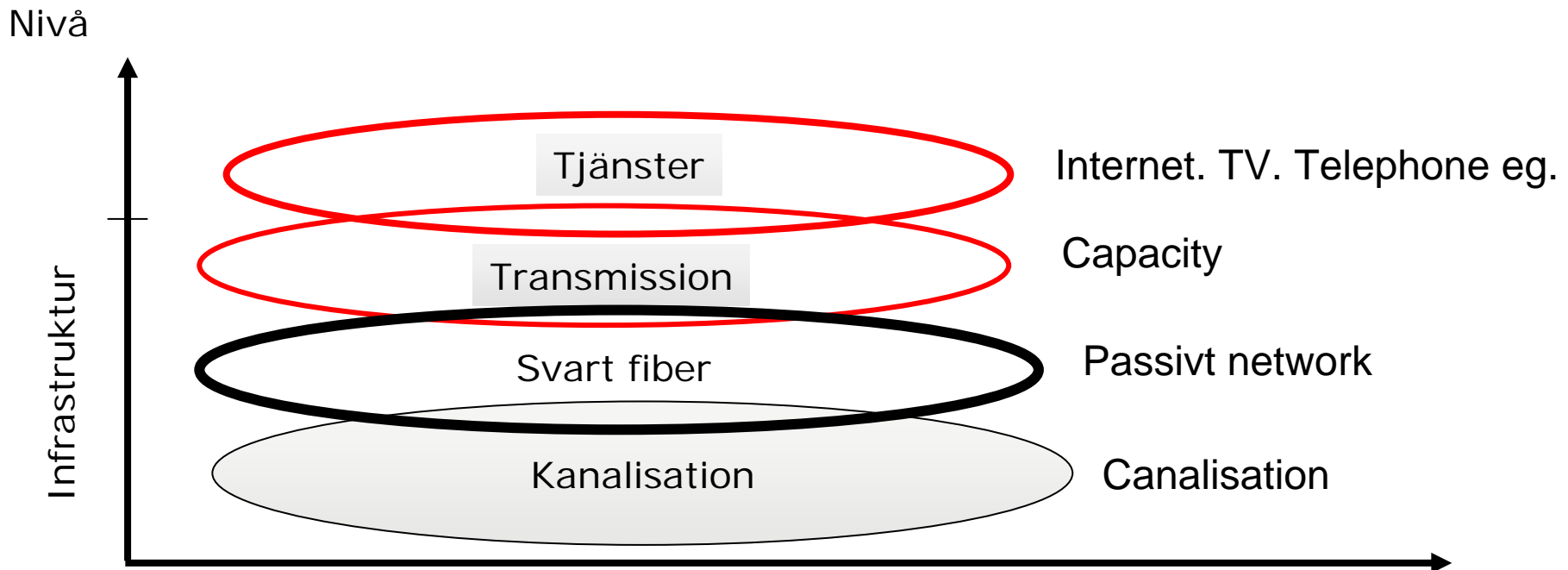


# Fiber to the village



# Concept Fiber to the village

The village people dig down the canalisation to a connections point to the local networks ho operates the network and provides the village whit service.



# How to do it

## Installation:

On the pole.  
Or digg down

The village model “the last mile”  
”Byalagsmetoden”

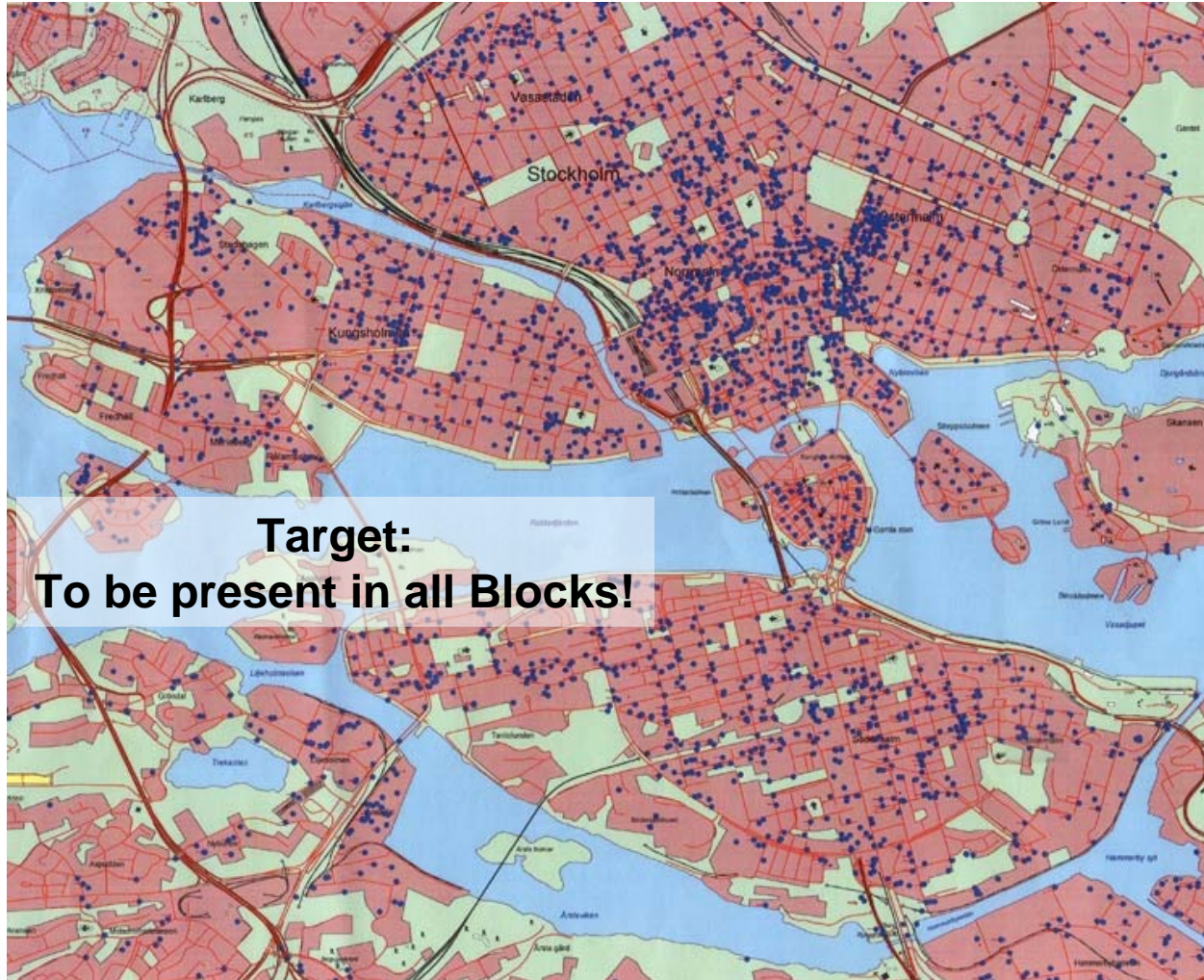


# Stokab – One of the world largest metro net

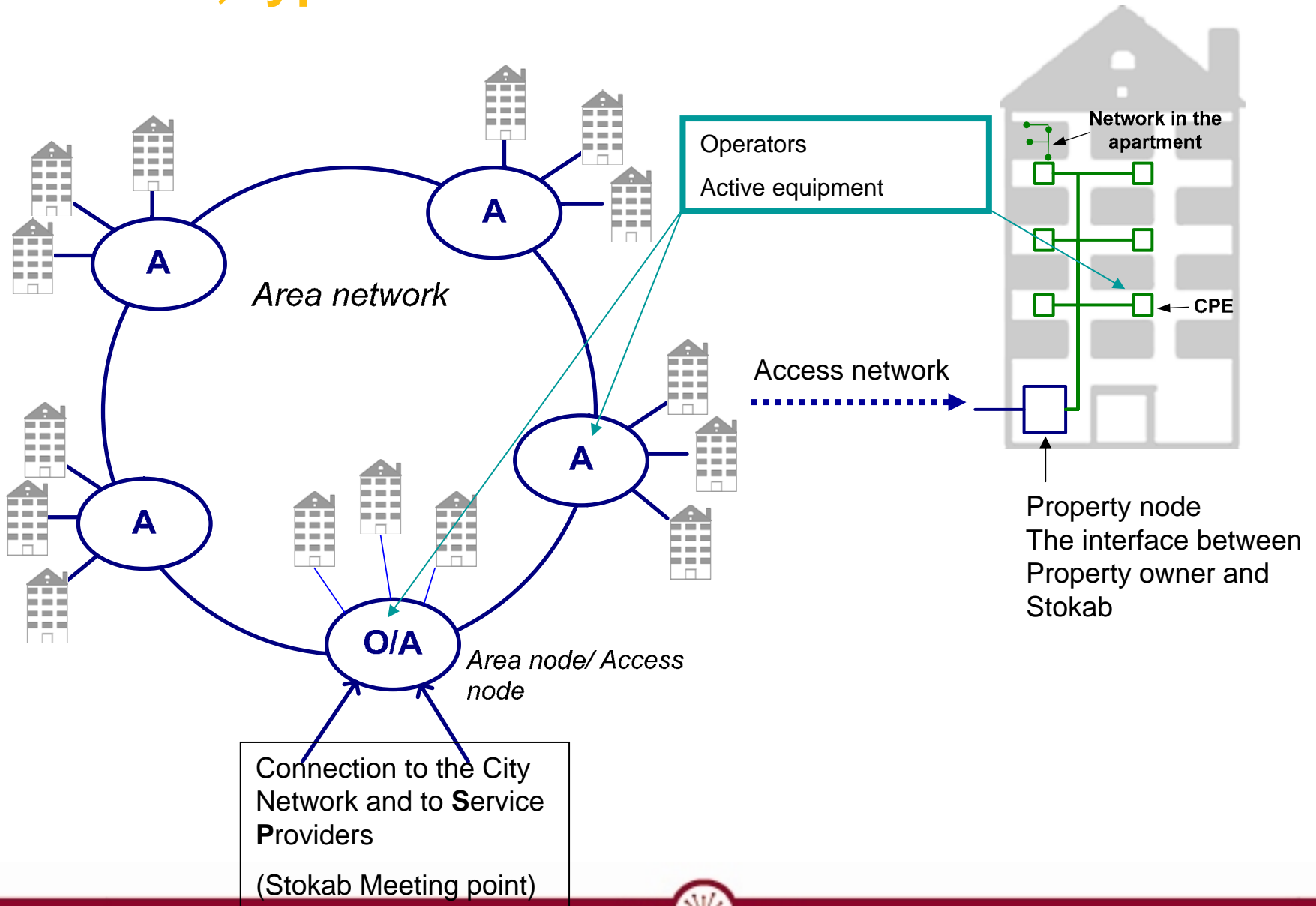


**1 MILJON FIBER km**  
**5.000 Cable km**  
**300 Connections points**  
**6 000 Customers points**

# Optical Distribution Points in City centre of Stockholm



# Stokab, typical network for broadband access



# Area node / Access node



Switch Access  
(active Ethernet)

ODF Termination

UPS Power  
(batteries if needed)

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# C E S S A F A R

CENTRALT SYSTEM FÖR ACCESSER

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Operators cooperate with SSNf true  
A common broker system for dark fiber access  
and soon capacity

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# Kiitos !

