

Case study:
MAXPROGRES multiservice network 99
in the city of Brno, Czech Republic



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Outline of talk



- **Introduction**
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- **MAXPROGRES multi-service network 99**
- **Services provided over MAXPROGRES network**
- **Critical factors and problems**
- **Lessons learned and conclusions**

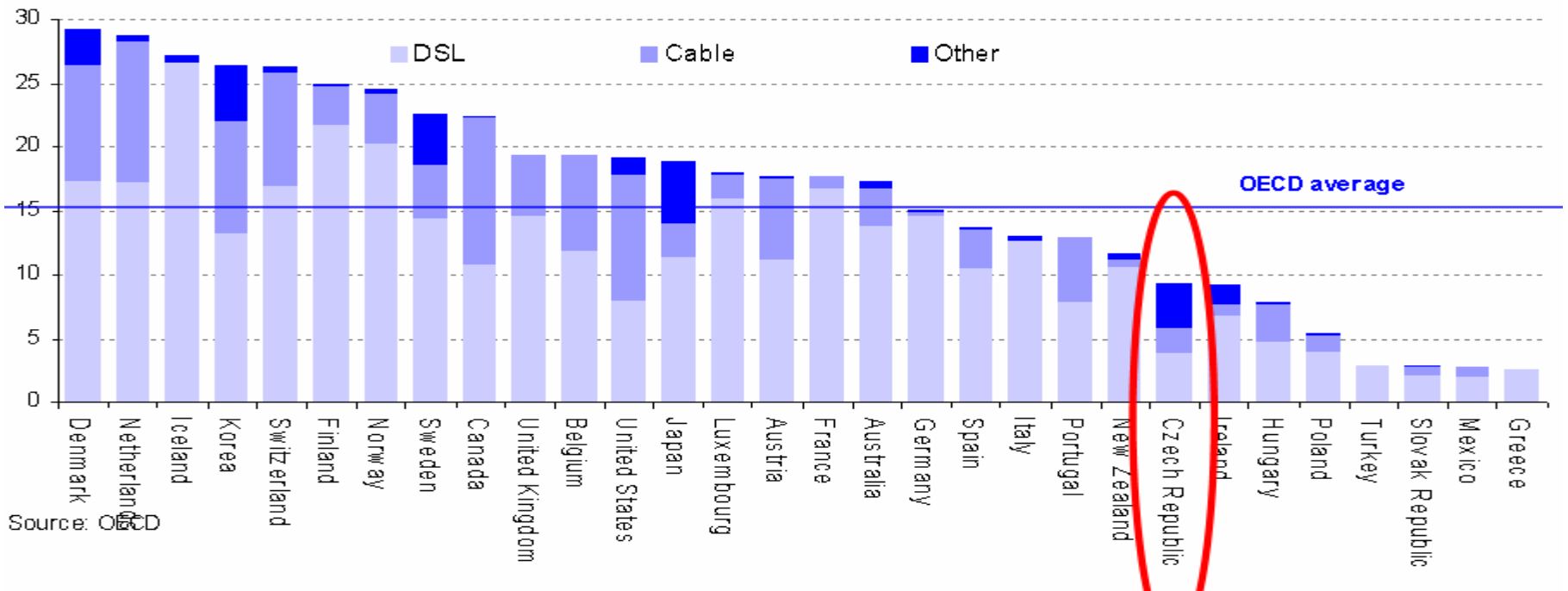
Introduction (1)



- The Czech Republic joined the European Union in 2004
- It is lagging behind in the provision of broadband (BB) services compared with OMSs
- As part of its “Broadband strategy”, the Czech government provided certain financial support to building BB infrastructure in underserved areas
- But the level of support provided was far from sufficient to solve the problem
- The incumbent and the nation-wide operators are not interested in building advanced (FTTx) BB access nets
- BB drivers in CR: Municipalities and small private firms

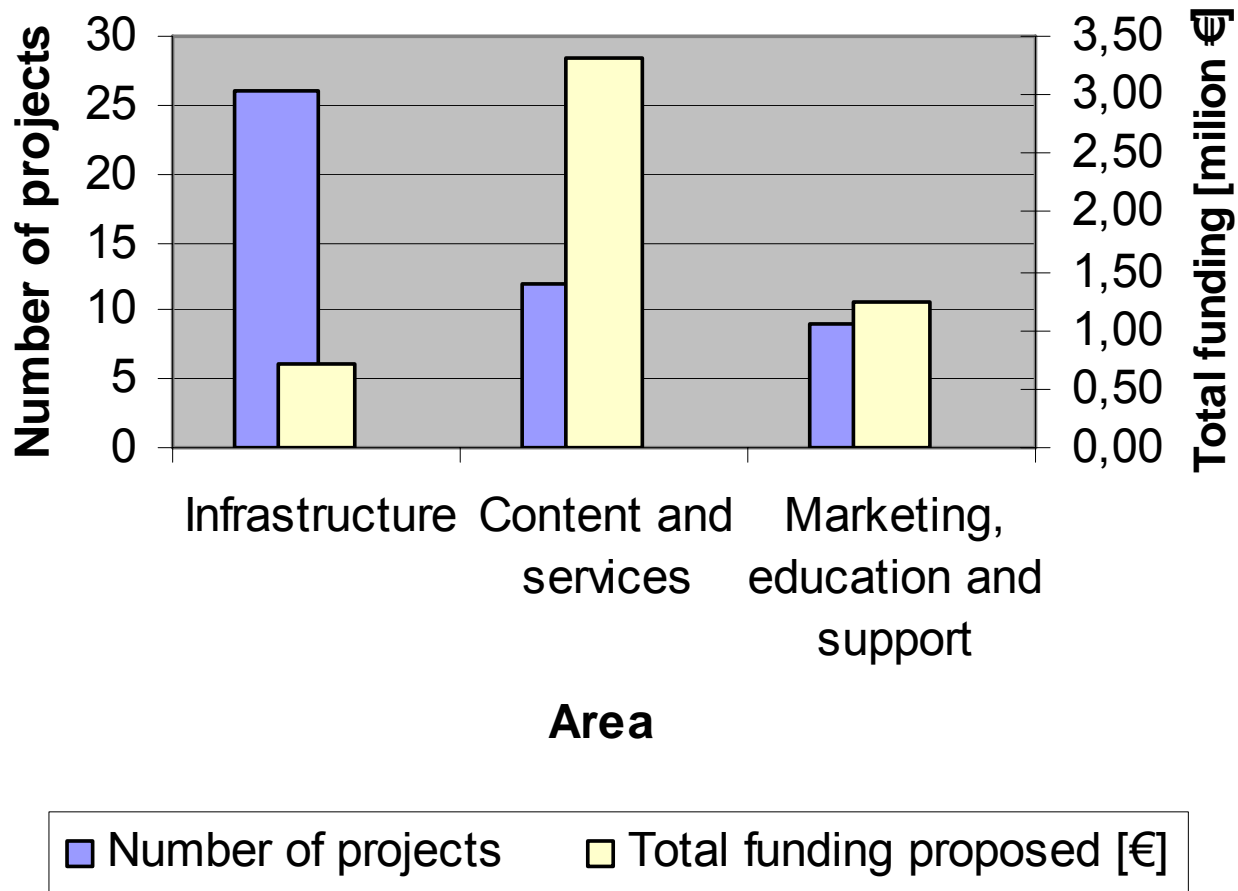
Introduction (2)

BB in CR compared with the rest of the world



Introduction (3)

Support to BB projects from the state „BB Fund“



Introduction (4)



	12/2005	most current
Incumbent's ADSL (including "wholesale")	225 701 + 48 465 (self/supply + wholesale, incumbent)	427 000 (30.9.2006)
Other ADSL	7 151 (Source: ARM 12)	N/A (estimate: 12000)
cable Internet	132 944 (Source: ARM 12)	200 000 (PR ČAKK, 27.9.206)
Wi-Fi	200 000 (Source: ARM 12)	250 000 (7/2006, internetprovsechny.cz)
CDMA	70 342 (Eurotel)	90 000 (TO2 CR, 23.10.2006)
FTTx	17 049 (Source: ARM 12)	30 000 estimated
FWA	8 875 (Source: ARM 12)	10 000 estimated

Strategic considerations and business model (1)



FTTx/small company = too risky for investors!

Step-by-step approach by MAXPROGRES:

1. Sale of electronic and optical components only
2. Profit from step 1 used to build optical fibre links for nation-wide telco operators in cities and towns.
Installing extra capacity for wholesale and own future needs
3. Wholesale of the spare fibre infrastructure (dark fibres and/or wavelengths)
4. Establishing its own optical fibre backbone network (MAN) - wholesale of data circuits to service providers
= (private) „open network“

Strategic considerations and business model (2)



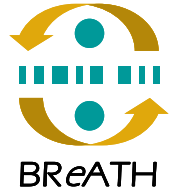
5. Marketing survey and promotional campaign in buildings close to MAN backbone. Connecting them by 1Gb/s links and Ethernet switches
6. Installation of in-building UTP-based networks in multiple-dwelling houses, connection of committed residential customers
7. Provisioning a portfolio of services to their customers

Note: Co-operation with developers in green-field situations

The underlying strategy:

1. Involvement progressively in mature markets segments minimizing the risk of becoming unsustainable
2. A profit from a preceding stage was invested in the next stage on the path towards becoming a full-fledged network and service provider on a wholesale and later also on the retail basis

MAXPROGRES multi-service network 99 (1)



The city of **Brno** (370 000 citizens) is the capital of Moravia, the eastern part of the CR

Why Brno?

There was high demand by corporate and institutional customers for optical fibre infrastructure and high speed data circuits that suited the MAXPROGRES strategy to build its own broadband infrastructure as part of the so-called “joined” construction of optical fibre (backbone) infrastructure for other (in this particular case mobile) network operators

MAXPROGRES multi-service network 99 (2)



Still, for two years, the revenues from selling on a wholesale basis the transmission capacity of its fibre network were not sufficient to finance construction of new optical fibre links

Therefore, extension of the **MAXPROGRES multi-service network 99** had to be subsidized by other MAXPROGRES divisions over this period

MAXPROGRES multi-service network 99 (3)

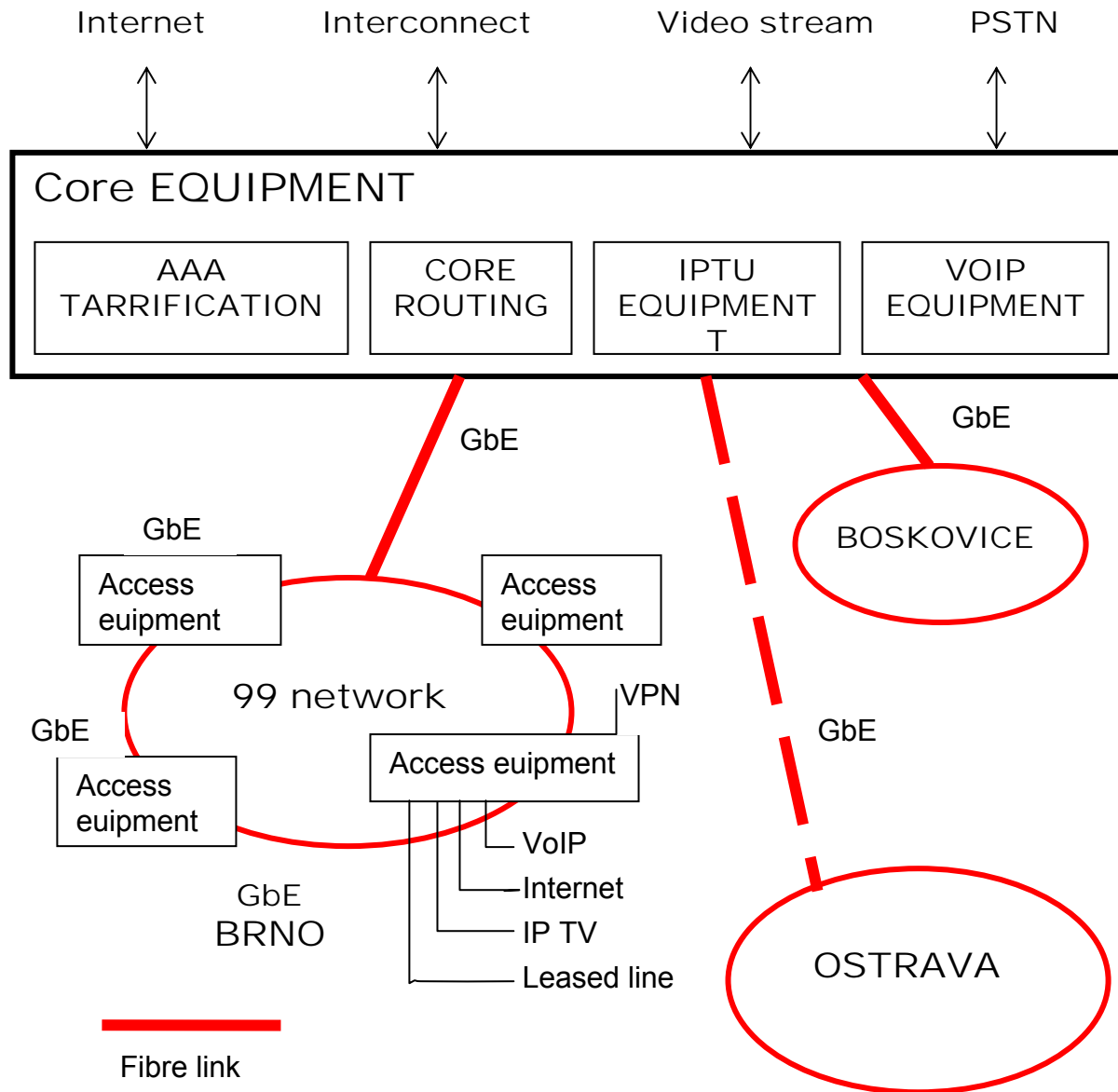


MAXPROGRES is applying its business model developed for the city of Brno also to other cities and towns with some modifications respecting specific local conditions:

1. the town of **Boskovice** (11 400 citizens). No competition (apart from the incumbent's ADSL network)
2. The city of **Ostrava** (313 000 citizens, second largest city of Moravia) - network under construction

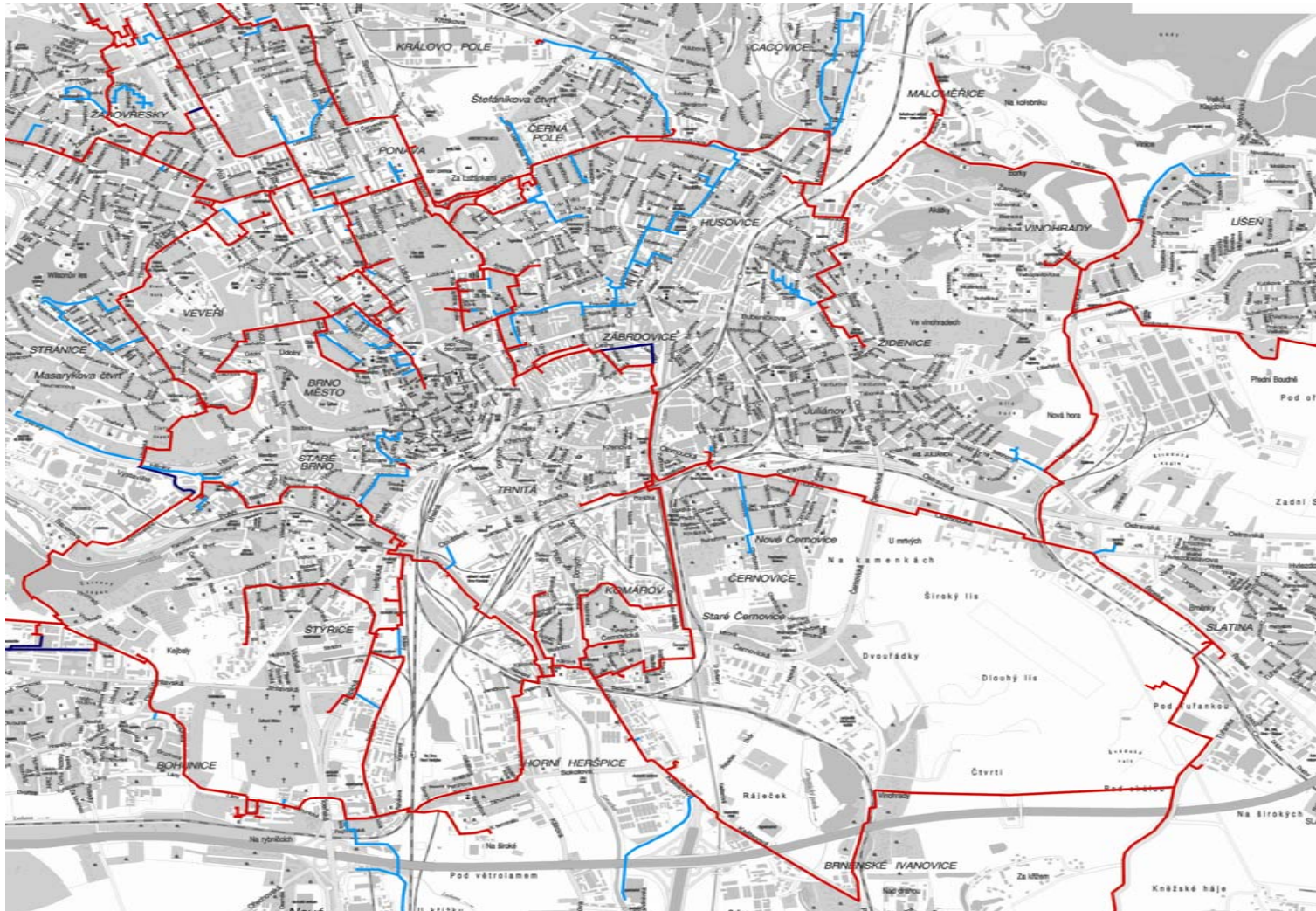
At present, MAXPROGRES has about 1000 retail customers including institutions, business and households served over its FTTB multiservice network

Architecture of MAXPROGRES network



Layout of MAXPROGRES cable links in the city of Brno

Read lines – completed cable links. Blue lines – planned links

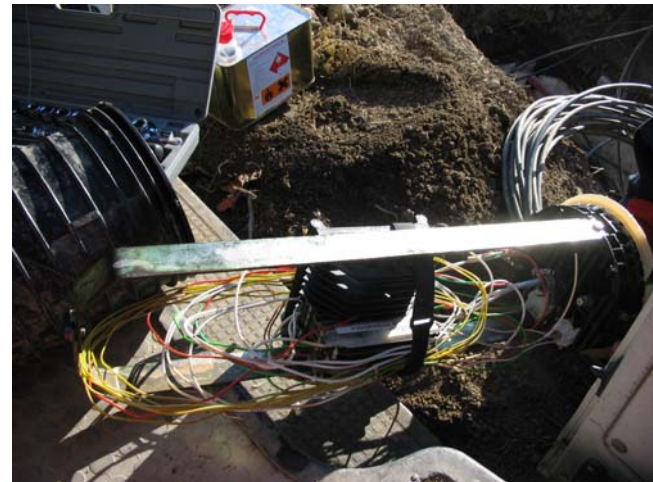


Outdoor installation of cables (1)



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Outdoor installation of cables (2)



Network and end user equipment



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Services provided over MAXPROGRES network (1)



- **Wholesale services:**
 - Dark fibres, wavelengths, raw data circuits
 - Virtual private networks (VPN)
 - „Open network“
- **Retail services:**
 - High-speed Internet
 - Voice services (VoIP)
 - Triple play service (VoIP, Internet, IPTV)
- **Other services**
 - co-location of servers in its buildings
 - Hosting
 - “99 security” service for monitoring customers’ objects, etc.

Services provided over MAXPROGRES network (2)

High speed Internet



“99internet profi” for corporate customers SLA, 24/7/365 service, higher speeds available up to 1 Gb/s		“99internet” for households	
Guaranteed down/upload speed	Price/month	Down/upload speed	Price/month
4Mbps / 4Mbps	357 €	50Mbps/50Mbps	30 €
2Mbps / 2Mbps	214 €	25Mbps/25Mbps	15 €
1Mbps / 1Mbps	143 €	FUP data volume limit for 50Mb/s is 25 GB/month. FUP data volume limit for 25Mb/s is 12 GB/month. When these limits are exceeded, the data rate is reduced to 128 kb/s till the end of the current month. Aggregation ratio is 1:50.	

Services provided over MAXPROGRES network (3)

VoIP



99phone profi		99phone	
Type of connection	Price/minute	Type of connection	Price/minute
Calls within fixed networks in CR during peak hours	2.8 €cents	Calls within fixed networks in CR during peak hours	3.6 €cents
Calls within fixed networks in CR outside peak hours	2.1 €cents	Calls within fixed networks in CR outside peak hours	2.1 €cents
Calls to mobile networks	14 €cents	Calls to mobile networks	15 €cents
Calls inside “99” network	FREE	Calls inside “99” network	FREE
International calls	www.99maxprogres.cz/firmy/99-phone-profi/cenik-mezinarodnich-hovoru/	International calls	www.99maxprogres.cz/firmy/99-phone-profi/cenik-mezinarodnich-hovoru/
Additional services	Price/month		
Voice Box	1.78 €		

Services provided over MAXPROGRES network (4)



Triple play service (VoIP, Internet, IPTV)

- At present (end of year 2006) a pilot operation with 20 commercial customers is in progress. Will become fully operational on a commercial basis at the beginning of year 2007
- The service is accessible at all ports of the network
- It will include VoD, virtual video recorder, time-shifted recording and HDTV programmes
- The basic offer includes 15 TV channels, the extended offer includes over 30 channels plus three premium channels of MPEG 2 quality at 7 Mb/s
- The overall transmission capacity between the (access) switch and the CPE is 100 Mb/s. Several STBs (when a customer has several TV receivers) can be connected over a single UTP cable and a multicast-capable household terminal = a switch at about 100 €

Critical factors and problems



- 😊 A committed well co-ordinated **team of specialists** able to embrace the many activities including design, construction, operation and maintenance of the network followed by marketing and provision of services to customers
- 😊 Acquiring **sufficient capital to construct the backbone network** since it does not pay off much before the access part of the network is constructed (requiring further investment) and end customers are connected
- 😊 Sufficient **demand for BB services** in a particular locality
- 😊 Have a **vision** and be flexible – feel for the customers needs
- 😊 Helpful, co-operative **local authorities**
- 😞 **Bureaucracy**, complicated **regulation** and **copyright** issues

Lessons learned and conclusions



- As the company grows, **careful balance** has to be maintained **between revenues** from providing the services **and** the amount of **investment** for expanding the network
- **Alternative sources of investment** have to be found (including PPP, venture capital, EU structural funds where applicable)
- **Customers that ensure quick return on investment should be preferably connected** to the network
- **Marketing and promotion of broadband**, possibly in co-operation with local and regional authorities and enthusiasts, are of utmost importance
- It is worthwhile to **invest in training and educating the company personnel** (this can be supported from the EU structural funds). MAXPROGRES is developing a relationship with local universities
- **Bundles of services should be custom made** as much as possible. Services offered to large companies should certainly be different for those offered to households

Thank you for your attention



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Thank you for your attention