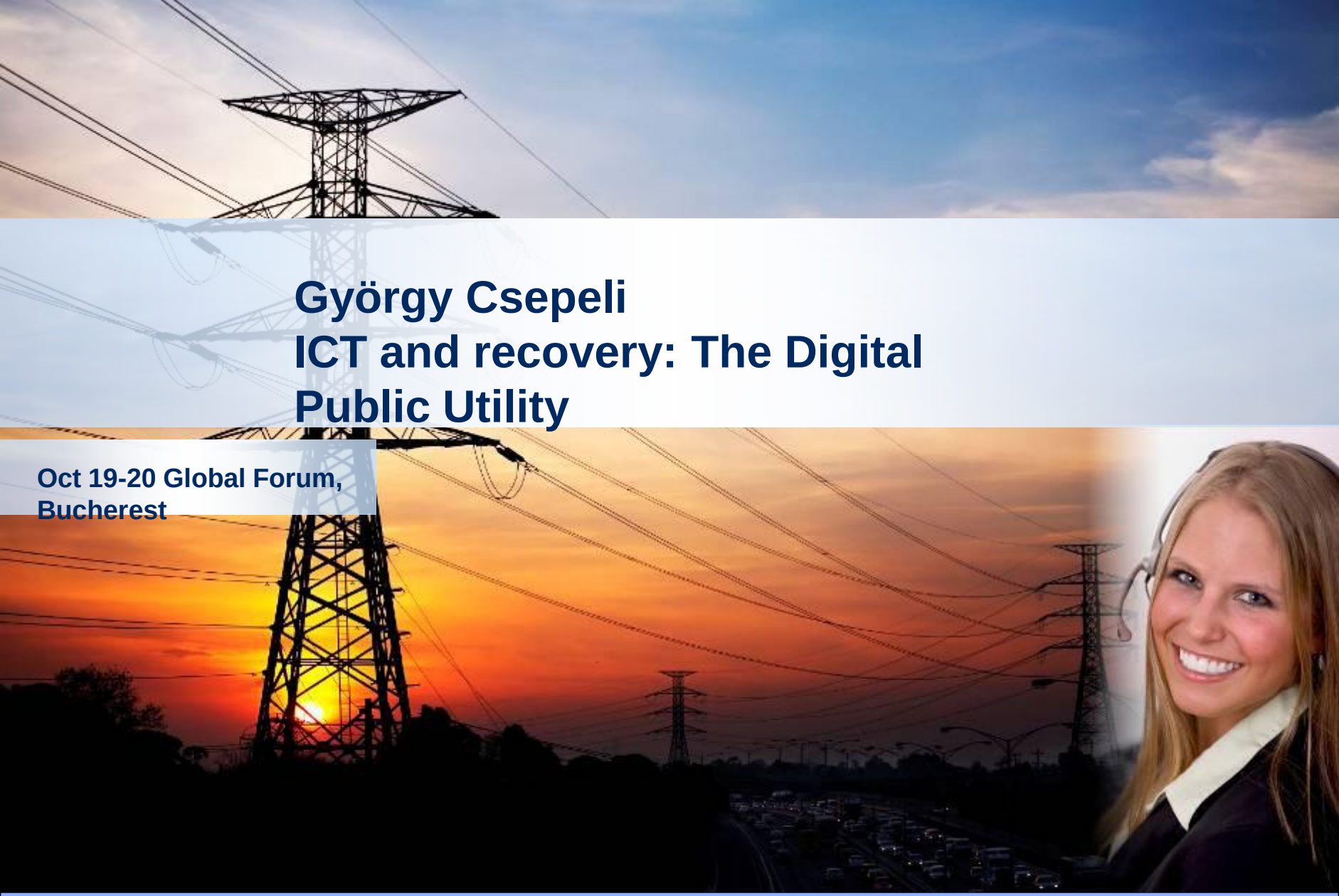
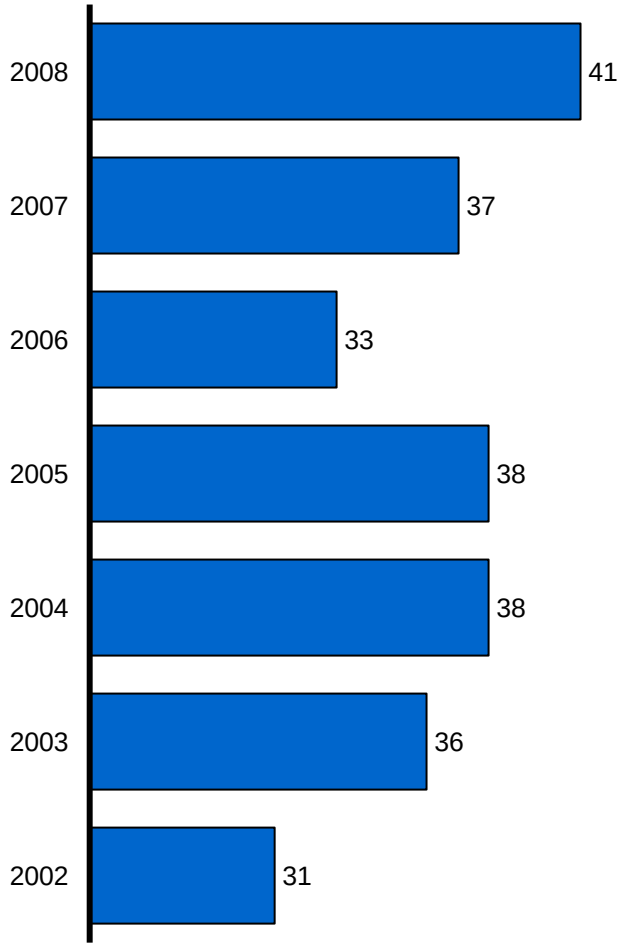
György Csepeli
ICT and recovery: The Digital Public Utility



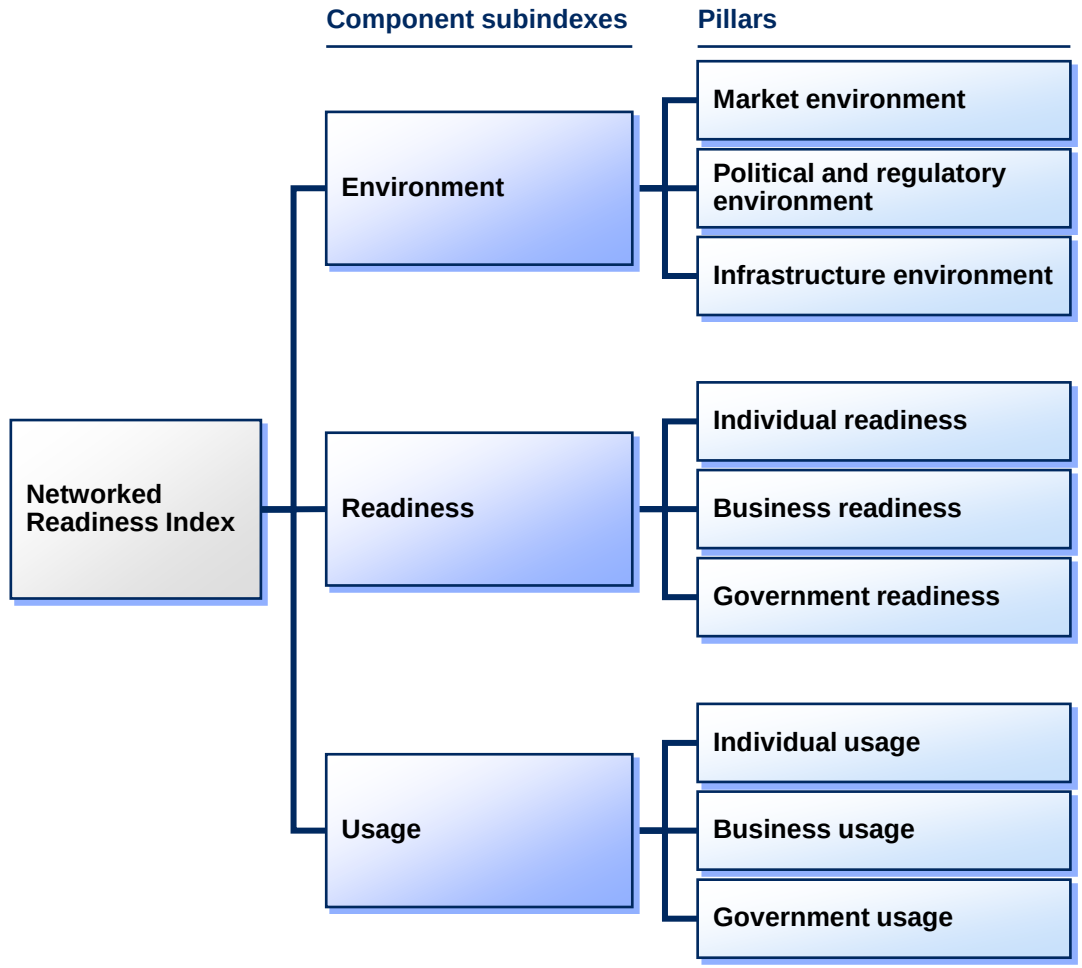
Oct 19-20 Global Forum, Bucherest

HUNGARY'S ICT DEVELOPMENT HAS BEEN LAGGING BEHIND OTHER COUNTRIES IN THE LAST FEW YEARS

Hungary' global ranking based on network readiness



Elements of network readiness index



Hungary's global position has significantly deteriorated

Source: Global Information Technology Report; World Economic Forum

THE HUNGARIAN TELECOMMUNICATIONS SECTOR FACES NUMEROUS CHALLENGES

Real broadband connectivity is expensive

- Telecommunications spending to GDP is one of the highest in its peer group, while the available broadband bandwidth is well below the EU average (3 Mbps vs 7 Mbps)
- Wide broadband (8 Mbps) prices are high even in nominal terms (Hungary: EUR 36, Romania: EUR 13, UK: EUR 20)

Real broadband connectivity is low

- Only ~1.000 settlements are equipped with at least 6 Mbps of broadband bandwidth
- ~1.100 settlements do not have optical middle-mile access at all, while an additional 1.100 are served by a monopolistic provider

Broadband penetration is low

- National residential broadband penetration is cca. 14.5%
- Especially the regions that are lagging behind in economic power are ill equipped with average broadband penetration of cca. 3%

Government service is inflexible and costly

- The Government network is serviced with an average bandwidth of 512 kbps
- Of the 2.507 settlements served by the “public network”, 1.905 are served just by ADSL connection

Source: NHH, The National Regulatory Authority

TELECOMMUNICATIONS SPENDING IN HUNGARY REMAINS HIGH, WHILE THE NETWORK IS OUTDATED

ESTIMATE

Real broadband connectivity is expensive

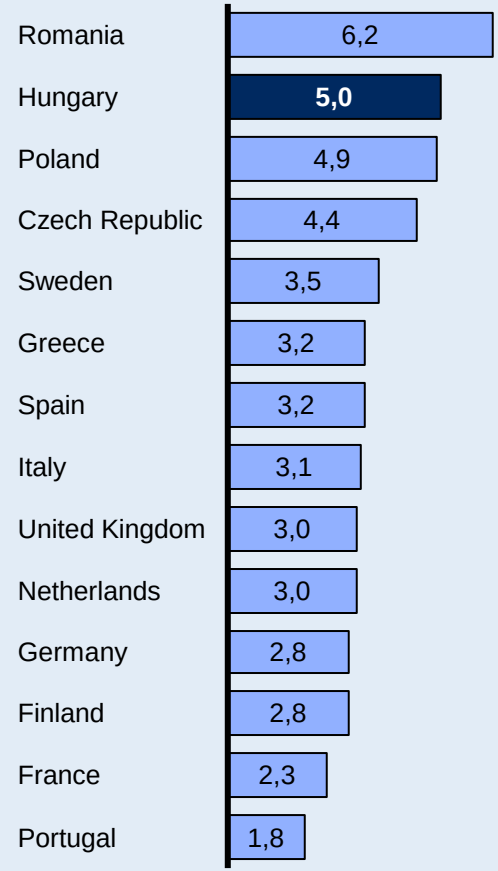
Real broadband connectivity is low

Broadband penetration is low

Government service is inflexible and costly

One of the most expensive networks…

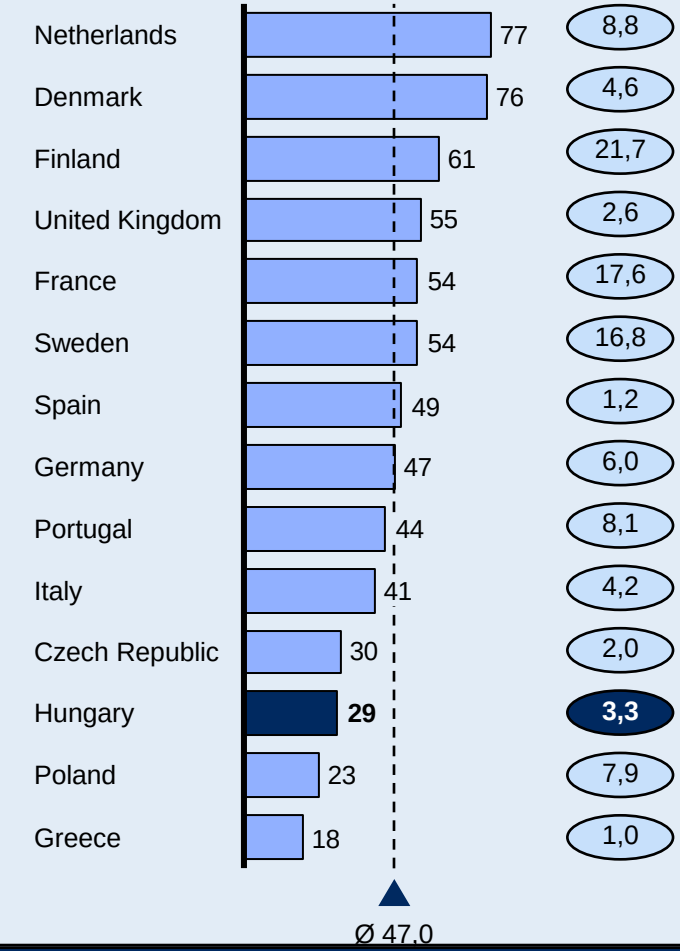
Telecommunications spending to GDP, 2006, %



…which is among the least developed networks

Average residential penetration, (%) *

Average bandwidth (Mbps)



Comparing the 30 OECD countries in terms of broadband performance, Hungary occupies the not so positive 25th position

* ITIF data as of 2008, Romania is not among the countries analysed

Source: Eurostat; ITIF – Information Technology & Innovation Foundation; Comparison of OECD broadband markets

THE HUNGARIAN BROADBAND MARKET IS CHARACTERISED BY INSUFFICIENT SUPPLY FROM A NUMBER OF PERSPECTIVES

Real broadband connectivity is expensive

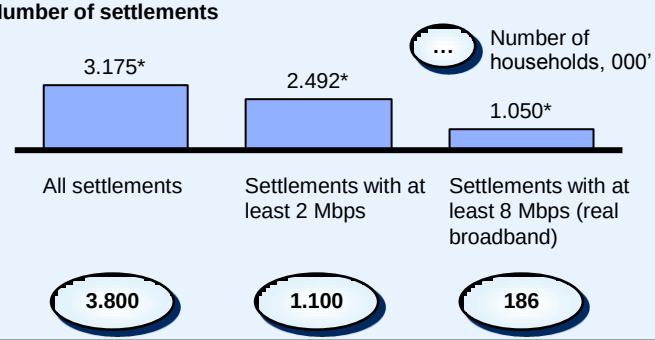
Real broadband connectivity is low

Broadband penetration is low

Government service is inflexible and costly

Real broadband reach is limited

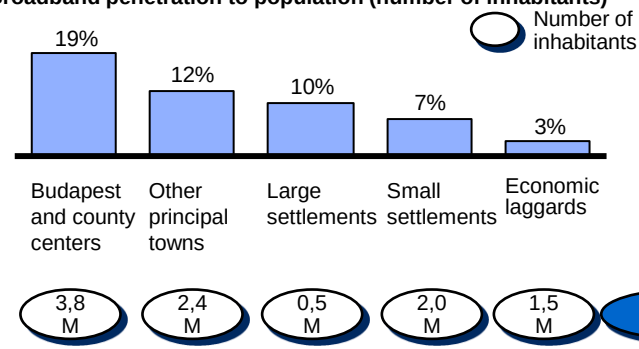
Number of settlements



- **Only ~1,000 settlements have real broadband connectivity and within these only ~200,000 out of 3.8 million households have access**
- **The public network reaches only 2,507 settlements and even among these only 1,905 have ADSL quality connection (min. 2 Mbps)**

Improvement is needed in the number of settlements reached, as well as in actual bandwidth provided

Broadband penetration to population (number of inhabitants)



- **Denmark: 34,5%**
- **Netherlands: 33,5%**
- **Finland: 27,7%**
- **United Kingdom: 23,9%**
- **Czech Republic: 13,0%**

To close the development gap, lower prices and radical infrastructure-development is indispensable

Government ICT service level is not sufficient

- **The average bandwidth at EKG** endings is low (512 Kbps)**
- **Only 20% of endings can sustain higher than 2 Mbps bandwidths**
- **Only 1,905 of the 2,507 settlements reached by public network have ADSL quality connections (min. 2 Mbps)**
- **All ICT services to the government are virtually provided by one player, thus price and quality of the service is inadequate**

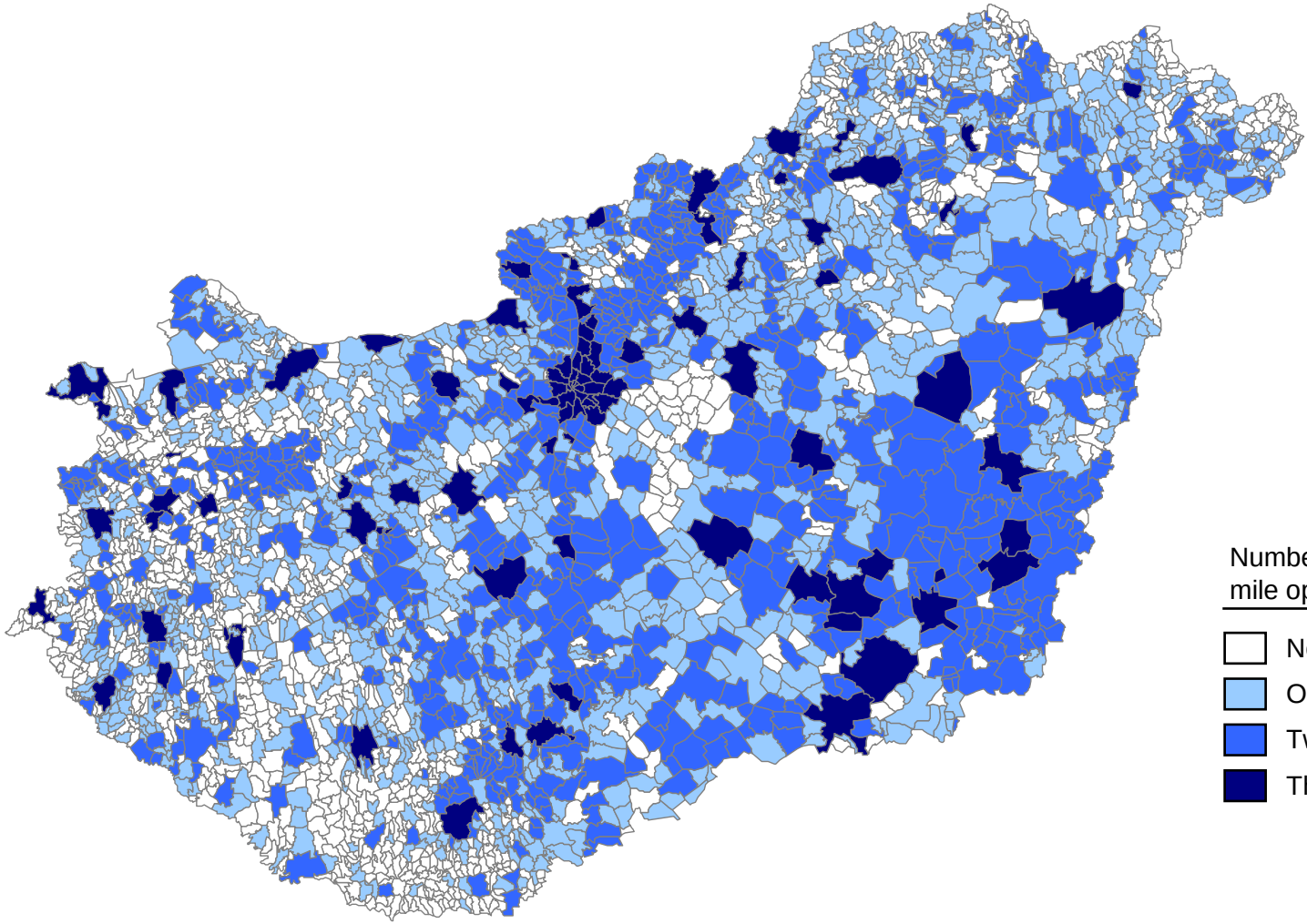
For the country's development a new provider is needed which can deliver a unified infrastructure at low cost to the existing architectures

* The numbers are not to be added together, they show how many settlements belong to each category out of the total (cumulative)

** E-Government backbone system

Source: KSH, NHH

HUNGARY'S FIBRE OPTIC MIDDLE MILE MAP – MANY SETTLEMENTS CURRENTLY REMAIN UNSERVED



Number of middle mile optical providers	Settlements
None	1.207
One	1.100
Two	773
Three+	72

~1.200 settlements in Hungary are without any middle mile optical access. The market players were unable to solve this deficiency

Source: Government study. The 223 settlements covered by the GOP 3.1.1 are not shown on the map

GOVERNMENT INTERVENTION IS NEEDED TO COUNTER THE CURRENT CHALLENGES OF THE ICT SECTOR – AS A COHERENT PART OF THE STIMULUS PROGRAM

Market players won't achieve digital ascension on their own...

Long breakeven	• Optical network investments have a utility like breakeven, more than 10 years
Low yield	• Does not provide extraordinary yield regarding the complete investment, therefore solely private financing is impossible, concerning the risks
Financial crisis	• High level of investment needed, which is extremely difficult for private investors to provide in the current financial and economical environment
Legacy	• Incumbents are reluctant to replace their current outdated, but written-down networks

…therefore government intervention is needed

- The government has to take initiative
- There are designated EU-funds for such government investments
- An investment with utility like requital can be deployed at low social cost
- Launch would boost competitiveness

Government intervention is desirable due to the nature of the investment and its externalities.
Implementing a Digital Public Utility:

- **Increases bandwidth which makes new applications possible**
- **New applications set ICT market on a growth path**
- **Growth in the ICT market has favorable effects on other sectors as well**

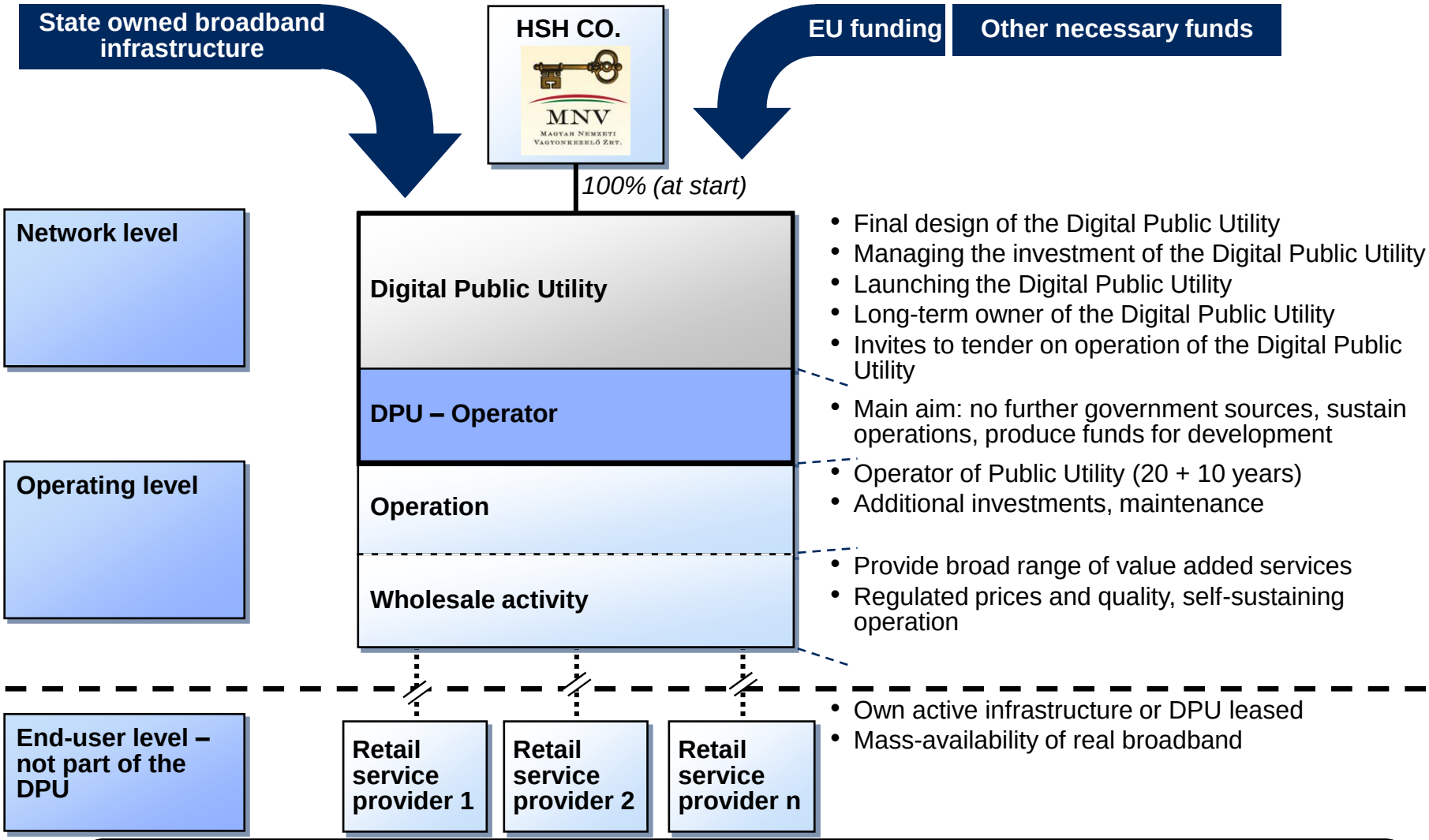
WHAT IS THE DIGITAL PUBLIC UTILITY?

- Homogenous optical network
- Gives unlimited capacity, real broadband
- Open to everyone – “open access”
- Ensures access competition
- Can work self sufficient applying free market logic
- Utilizes existing State-owned optical resources
- EU funded

- Cheap internet
- Fast network
- Boost in penetration
- Possibility of a cheaper and more flexible governance and administration

- In contrast to the isolated and fragmented Government investments, the Digital Public Utility would be a complete solution for a serious challenge of the ICT sector (namely the availability of a basic infrastructure)
- Increases the ICT market, subsequently the GDP and through stimulus the whole market
- It is an all-around solution to the infrastructural lag and as a positive side-effect resolves the question of information culture and available content

THE DPU'S OPERATING MODEL



- **The MNV establishes a 100% MNV owned subsidiary for the development and the operation of the Digital Public Utility**
- **The Digital Public Utility provides wholesale services in an open-access model**
- **End-user services are not part of the Digital Public Utility**

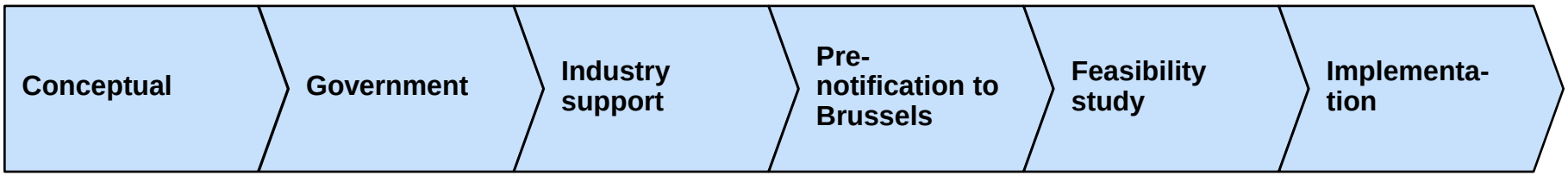
THE DPU AND THE EUROPEAN ECONOMIC RECOVERY PLAN HAVE ALIGNED INTERESTS

'The European Agricultural Fund for Rural Development: Europe investing in rural areas'.

	European Economic Recovery Plan	Digital Public Utility	Match
Goals	• Broadband access to under-served and high cost areas where the market cannot deliver	• Targets under-served, white and grey areas which represent a market failure	✓
Timing	• Aim to reach 100% coverage of high speed internet by 2010	• Start of wholesale operations expected in 2010	✓
Deployment	• Funds injected into existing rural development programs, which have been drafted and approved on the basis of the rules established for the EAFRD	• The DPU is expected to form an integral part of Hungary's rural part of Hungary's rural development program at the time of its modification prior to 30 June 2009	✓
Scale	• The HLG meeting of 20 February confirmed that no size restrictions exist, however projects are expected to be "small scale"	• While the DPU at large is an investment of EUR ~200 million, a part focusing solely on passive infrastructure of grossly under-served rural areas can be identified	✓

As long as the policy and the legal framework allows, the DPU aims to fully utilize the funds set aside for Hungary under the broadband initiative of the Economic Recovery Plan

STATUS OF DPU PROJECT



Conceptual	Government	Industry support	Pre-notification to Brussels	Feasibility study	Implementa-tion
• Scope of the project • Preliminary investment plan • Preliminary business plan • Impact of the project	• Government cabinet has expressed its support	• Industry players have learnt from the concept through conferences • Incumbent telecom company signed cooperation agreement	• 15-page conceptual material has been sent to Brussels • Clarification of open question is in progress	• There is significant part of feasibility study (~30–50%) is available • Finalization is needed	Implementation is planned to start in fall, 2009

Pre-consulting with Brussels has yielded satisfactory results