



Broadband Development Strategy in Croatia for the period 2011 – 2015



Ministry of the Sea, Transport and Infrastructure
Electronic Communications and Postal Service Directorate

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Basic assumptions of the Strategy

- ❖ this Strategy stipulates strategic objectives for the development of broadband networks and services that are of key importance for the economic development
- ❖ Strategy is addressing business sector, civil society, government sector and other public entities, scientific and research institutions, academia, etc..... in one word, all stakeholders on the market of electronic communications networks and services which are included or will be included in the development and promotion of the information society in Croatia
- ❖ this Strategy is a follow-up of the ***Broadband Development Strategy of the Republic of Croatia by the year 2008***, that has laid down the foundations of the broadband access development in Croatia since 2006

Basic assumptions of the Strategy

- ❖ this Strategy incorporates efficient implementing principles to decrease the **digital divide**, both among particular Croatian regions (counties), and between Croatia and EU Member States
- ❖ it refers to the EC Communication of 19 May 2010 – **A Digital Agenda for Europe**, with aim to deliver sustainable economic and social benefits from a digital single market based on fast and ultra fast internet and interoperable applications
- ❖ Strategy is focused to the part of the Digital Agenda for Europe concerning the **broadband access**

A Digital Agenda for Europe

❖ Key performance indicators:

1. Broadband targets:

- a) basic access \Rightarrow 100% by 2013
- b) fast access (30 Mbps or more) \Rightarrow 100% by 2020
- c) ultra-fast access (100 Mbps or more) \Rightarrow 50% by 2020

2. Digital single market

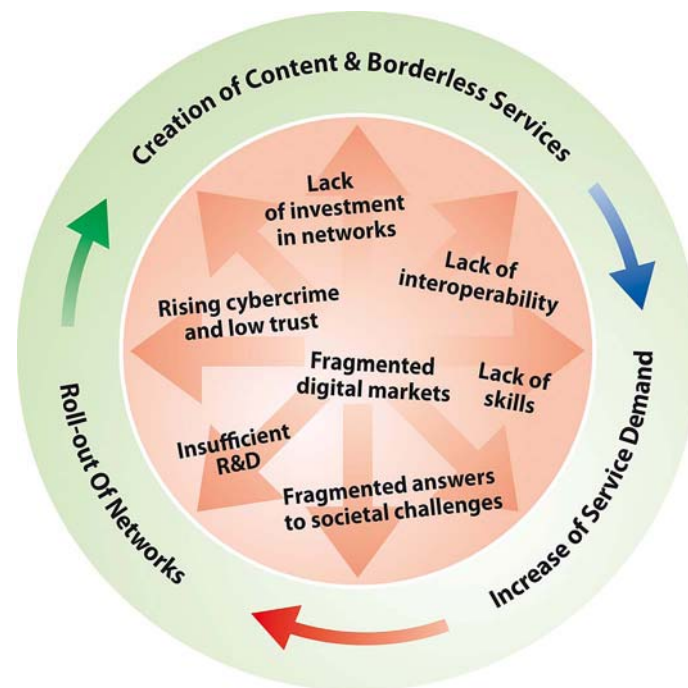
3. Digital inclusion:

- increase regular Internet use from 60% to 75% by 2015

4. Public services

5. Research & innovation

- double public investment in ICT R&D to EUR 11 billion



Virtuous cycle of the digital economy

6. Low Carbon Economy

Basic assumptions – Switchover Strategy implemented

❖ ***National TV Broadcasting Switchover Strategy*** was completed on **5 October 2010**, by switching-off the analogue TV broadcast in the Capital of Zagreb and neighbouring counties ⇒ thus, a ***digital dividend*** became available for different allocations:

- **additional nationwide digital terrestrial television programmes in either standard definition (SDTV) or high definition (HDTV)**
- **digital terrestrial television programmes at regional and local level**
- **television services for mobile phones (DVB-H) and other types of mobile video and multimedia**
- **mobile communications, such as voice calls or information data**
- **wireless broadband communications services**
- **wireless microphones for theatres, television and radio production and live music events**
- **short range wireless applications, such as fixed wireless access at home**
- **public safety services, such as wireless communications for the emergency services**

Basic assumptions – impact to Croatian economy

- ❖ assessments of GDP growth due to the increase of the number of broadband users:
 - ❖ countries with less broadband development \Rightarrow 0.47% GDP increase
 - ❖ countries with fast broadband development \Rightarrow 0.63% GDP increase
 - ❖ large industrial countries \Rightarrow 0.70% GDP increase
 - ❖ most developed countries (knowledge societies) \Rightarrow 0.89% GDP increase
- ❖ by 2015 \Rightarrow investment in broadband in EU Member States will open ~1 million of new jobs, with effect of ~850 billion EUR
- ❖ assessments of direct broadband development benefits in Croatia for the period 2010 – 2019 \Rightarrow between **2.2 and 3.2 billion EUR**
- ❖ **10%** increase in number of broadband users \Rightarrow generates **1.38%** of GDP growth in Croatia (increase of new jobs and growth of overall economic activities)

Strategy implementing principles

- ❖ Strategy recognizes three basic principles:
 - ❖ service and technological neutrality principle
 - ❖ net neutrality principle
 - ❖ *principle of incorporating the broadband access into the scope of universal service*
- ❖ requirements to be met for the implementation of third principle ⇒ incorporating the broadband access into the scope of universal service:
 - ❖ future development of the relevant EU regulatory framework (results of Universal Service Directive revision)
 - ❖ completion of relevant market analysis
 - ❖ certain level of market development, with significant penetration of broadband connections

Value chain I

- ❖ Strategy defines three main links of value chain:
 - ❖ users
 - ❖ services and contents
 - ❖ electronic communications networks and network interconnection services
- ❖ Key target broadband users groups:
 - ❖ locations gathering a lot of people, such as schools and public libraries, public administration offices, municipality and county offices, research and scientific centres, hospitals, cultural institutions, etc.
 - ❖ users from suburban and rural areas
- ❖ Services and contents:
 - ❖ information services, communications services, audiovisual services, entertainment services, services for users with special needs, e-government, e-education, e-health, e-commerce, e-banking, etc.

Value chain II

- ❖ Electronic communications networks and network interconnection services:
 - ❖ wireline networks:
 - ❖ existing telephone networks (xDSL – copper)
 - ❖ next generation networks (FTTx)
 - ❖ cable networks
 - ❖ hybrid fibre-coaxial networks (HFC)
 - ❖ wireless networks:
 - ❖ GSM/GPRS/EDGE – 2nd generation mobile networks
 - ❖ UMTS/HSDPA/HSPA+ – 3rd generation mobile networks
 - ❖ Wi-Fi – wireless local networks
 - ❖ WiMAX – wireless access
 - ❖ LTE – 4th generation mobile networks

Value chain III

- ❖ Next Generation Networks (NGN) development:
 - ❖ basic concept of NGN \Rightarrow a single network for all types of information and services (voice, data, video, etc.)
 - ❖ **20 September 2010** – Commission Recommendation on regulated access to Next Generation Access Networks (NGA) \Rightarrow aimed at fostering the next generation networks access development, with recommendations to NRAs on how to regulate access networks
 - ❖ this Strategy recommends the next generation access network regulation to be carried out in accordance with the EC Recommendation, based on procedures of analyses of the market of wholesale access to network infrastructure and the wholesale broadband access market

Value chain IV

- ❖ increase of broadband access availability of existing access infrastructure:
 - ❖ implementation of new optimization methods/algorithms and operation modes, without change in loop length ⇒ **spectrum management** method:
 - ❖ static spectrum management (SSM)
 - ❖ dynamic spectrum management (DSM)
 - ❖ use of advanced xDSL technology, with shortening of copper pairs or introducing FTTC or FTTH solutions
- ❖ introduction of Internet protocol version 6 (IPv6):
 - ❖ preparation of the transition plan from IPv4 to IPv6, due to the lack of address resources of the Internet protocol version 4 (limited to ~4.2 billion IP addresses), which will be exhausted by 2011 or 2012 (due to new mobile devices on the net – PDA, MDA, notebooks, iPad, etc.)

Main and specific objectives of the Strategy

❖ Main strategic objective:

- ❖ to create conditions for the fast development of broadband access infrastructure and services requiring high speed access, as a basis to enable further development of information society and knowledge society, while ensuring the availability of broadband access services under the same conditions on the whole territory of the Republic of Croatia
- ❖ based on the implementation of the main objective mentioned above, Croatia shall retain and further strengthen its leading position as regards broadband services and technologies in the SEE region

Main and specific objectives of the Strategy

❖ Specific strategic objectives:

❖ Strategy identifies three specific objectives:

- ❖ ensuring efficient market competition
- ❖ ensuring the availability of Internet broadband access
- ❖ encouraging the demand for broadband services and for the usage of broadband access by citizens and enterprises, both in business and everyday life

❖ Ensuring efficient market competition:

- ❖ development of open infrastructure
- ❖ sustainable infrastructure-based market competition
- ❖ NGN development (FTTx)
- ❖ importance of mobile broadband access, as a key enabler of broadband growth (in particular, to decrease digital divide)
- ❖ efficient management of built infrastructure of predominantly state-owned utility companies

Main and specific objectives of the Strategy

❖ Ensuring the availability of Internet broadband access:

- ❖ target values for the availability of Internet broadband access:

Indicator / Target value	2013	2015
Availability of fixed broadband access connections (percentage of inhabitants with service access)	75% (≥2 Mbps)	35% (≥30 Mbps)
Availability of overall broadband access (percentage of inhabitants with service access)	90% (≥2 Mbps)	50% (≥30 Mbps)

- ❖ construction of broadband access infrastructure ⇒ shall be included in the projects for the reconstruction of existing and building of new transport and utility infrastructure at local and regional level
- ❖ in the future ⇒ broadband availability might be increased by incorporating the broadband access into the scope of universal service

Main and specific objectives of the Strategy

❖ Encouraging the demand for broadband services and for the usage of broadband access:

❖ target values for the number of broadband users:

Indicator / Target value	2013	2015
Overall number of fixed broadband connections	1,000,000 (≥ 2 Mbps)	500,000 (≥ 30 Mbps)
Overall number of mobile broadband connections	500,000 (≥ 2 Mbps)	700,000 (≥ 2 Mbps)
Percentage of broadband connections in the total number of connections	50%	75%

- ❖ importance of targeted education on the use and benefits of broadband services, as well as in specific areas, such as personal data privacy, copyright, intellectual property rights, etc.
- ❖ comprehensive computerization of public administration at all levels

Measures to implement Strategy objectives

❖ Measures to implement the main strategic objective:

- ❖ to use all available resources to eliminate threats and obstacles, in close cooperation with the local and regional authorities that have to be empowered in terms of their administration capacities
- ❖ to include these measures into the programmes and plans of all public administration bodies and other public institutions, local and regional authorities, etc.

❖ Measures to implement specific strategic objectives:

- ❖ measures for ensuring efficient market competition
- ❖ measures for ensuring the availability of Internet broadband access
- ❖ measures for encouraging the demand for broadband services and for the usage of broadband access

Financial and feasibility assessment of the Strategy

- ❖ in the areas with low population density or heavy terrain, where the construction of fiber optic network is not feasible ⇒ further development of copper pairs with advanced xDSL technologies shall be encouraged
- ❖ in the areas without built fixed electronic communications infrastructure ⇒ broadband access shall be ensured by mobile technologies, such as UMTS, WiMAX and LTE
- ❖ **Financial estimates:**
 - ❖ to achieve at least **1 million** fixed broadband connections **by the end of 2013**, where at least 20% of them are built on fiber optic network at locations with existing electronic communications infrastructure ⇒ there is an estimate of **230 million kunas** of investment
 - ❖ to achieve final target value of **500,000** fixed broadband connections **by the end of 2015** on fiber optic network, with 200,000 households already being covered by fiber optic network and with existing electronic communications infrastructure ⇒ there is an estimate of **730 million kunas** of additional investment

Financial and feasibility assessment of the Strategy

- ❖ in the areas of Croatia where there is no sufficient interest for the investment in broadband infrastructure, possible sources for funding the broadband development projects are:
 - ❖ Government incentives (state budget)
 - ❖ EU pre-accession funds
 - ❖ EU structural and cohesion funds (after Croatia's accession to EU)
 - ❖ EBRD funds
- ❖ to prepare and implement broadband development projects in Croatia it is necessary to ensure and strengthen adequate administration capacities at national, regional and local level

Action Plans for the implementation of the Strategy

- ❖ Strategy sets forth two implementing Action Plans:
 - ❖ for the period **2011 – 2013**
 - ❖ for the period **2014 – 2015**
- ❖ an Action Plan consists of an introductory SWOT analysis, the list of continuous activities and individual measures, responsible institutions (stakeholders) and corresponding deadlines
- ❖ continuous activities and individual measures shall comprise following chapters:
 - ❖ legislative and regulatory measures
 - ❖ ensuring efficient market competition
 - ❖ ensuring the availability of Internet broadband access
 - ❖ encouraging the demand for broadband services and for the usage of broadband access by citizens and enterprises, both in business and everyday life

Action Plans for the implementation of the Strategy

- ❖ Supervision and monitoring mechanism for the implementation of the Strategy:
 - ❖ Individual reporting on the implementation of particular measures and/or activities ⇒ on the request of MSTI to the responsible public administration body or other responsible institution
 - ❖ Annual report on the implementation of the Strategy ⇒ in the competence of MSTI which sends the report to the Government for the adoption, within 3 months after the expiry of the current reporting year
- ❖ The Government carries out a comprehensive monitoring of the Strategy implementation through annual reports, and it may also request a full report from the MSTI for a period shorter than one year
- ❖ the current management, supervision and monitoring tasks related to the Strategy implementation are within the competence of the MSTI

A public consultation on the Draft Strategy

The screenshot shows a Windows Internet Explorer browser window displaying the website <http://www.mmpi.hr/default.aspx?id=7188>. The page is titled "Ministarstvo mora, prometa i infrastrukture" (Ministry of the Sea, Transport and Infrastructure). The main content area features a blue sidebar with a navigation menu and a main text area. The main text area contains the following information:

Javna rasprava o prijedlogu Strategije razvoja širokopojsnog pristupa u Republici Hrvatskoj u razdoblju od 2011. do 2015. godine
Zagreb, 2. studenoga 2010.

Ministarstvo mora, prometa i infrastrukture objavljuje javnu raspravu o **prijedlogu Strategije razvoja širokopojsnog pristupa u Republici Hrvatskoj u razdoblju od 2011. do 2015. godine**, kojeg je izradila Radna skupina ovoga Ministarstva na temelju odredaba članka 4. Zakona o elektroničkim komunikacijama.

Navedenom Strategijom utvrđuju se strateški ciljevi razvoja širokopojsnih mreža i usluga kao jedne od ključnih grana gospodarskog razvoja, a namijenjena je gospodarstvu, civilnom društvu, tijelima državne uprave i drugim tijelima javne vlasti, znanstveno-istraživačkim i obrazovnim ustanovama, odnosno svim sudionicima na tržištu elektroničkih komunikacijskih mreža i usluga koji su uključeni ili će biti uključeni u razvoj i promicanje informacijskog društva.

Strategija nastavlja pozitivne stečevine dosadašnjeg razvoja širokopojsnog pristupa, započeto Strategijom razvoja širokopojsnog pristupa internetu u Republici Hrvatskoj do 2008. godine, uz djelotvornu provedbu načela smanjivanja digitalnog jaza između pojedinih hrvatskih regija, kao i digitalnog jaza između Republike Hrvatske i država članica Europske unije.

U svrhu što kvalitetnije pripreme prijedloga Strategije te uključivanja što šire stručne i opće javnosti u javnu raspravu, Ministarstvo poziva sve zainteresirane da svoja mišljenja, primjedbe i prijedloge u vezi s navedenim prijedlogom Strategije dostave ovom Ministarstvu **najkasnije do 3. prosinca 2010. godine**, i to na adresu elektroničke pošte: bb-strategija@mmpi.hr, putem telefaksa na broj: 01/619-66-62, ili poštom na adresu: Ministarstvo mora, prometa i infrastrukture, Uprava elektroničkih komunikacija i pošte, Prilazlje 14, 10 000 Zagreb.

The sidebar menu includes categories such as "O NAMA", "PROMET", "Elektroničke komunikacije", "INFRASTRUKTURA", "PRESS CENTAR", "NATJEČAJI", and "LINKOVI".

A public consultation launched on **2 November 2010**

at the MSTI website www.mmpi.hr

Conclusion on **3 December 2010**

Cullen Forum 4 – Sarajevo, 4-5 November 2010



**Thank you for your
attention**

www.mmpi.hr

Ministarstvo mora, prometa i infrastrukture

Ministry of the Sea, Transport and Infrastructure

