NEMZETI FEJLESZTÉSI MINISZTÉRIUM

Green Paper on the Development of the Infocommunications Sector in 2014-2020

prepared within the

SROP-1.1.19-2012-2012-0009 project

Preparation of Impact Studies and Strategies
at the

Ministry of National Development

Secretariat of the Minister of State for Infocommunication and Consumer Protection

December 2014

MAGYARY PROGRAM

MAGYARORSZÁG MEGÚJUL

A projekt az Európai Unió támogatásával, az Európai Szociális Alap társfinanszírozásával valósul meg.

INTRODUCTION

The "**Green Paper on the Development of the Infocommunications Sector in 2014-2020"** Action Plan was prepared within the SROP-1.1.19-2012-2012-0009 project Preparation of Impact Studies and Strategies at the Ministry of National Development. The purpose of this document is to describe in more detail the measures defined in the **National Infocommunications Strategy,** to specify the objective, operational tasks, estimated funding requirement of each measure and the expected results and institutions responsible for implementation, as well as to lay down the concept for the measures to be implemented within the respective Operational Programmes in the 2014-2020 EU planning period (EDIOP, HROP, EEEOP, PSDOP, ITDOP, TOP).

The infocommunications sector has a major role in Hungary both in its economy and society. The **ICT industry generates approximately 12% of the Hungarian GDP** and the number of employees working in that sector is extremely high even compared to the majority of the OECD member states. Carefully planned and precisely implemented actions aimed at the destruction of the factors impeding any further dynamic development of the sector are required for Hungary to be able to exploit the potentials inherent in the ICT sector and to be competitive with the other European countries.

The **Green Paper** takes all that into account and **sets out** the infocommunications **development trends** contained in the National Infocommunication Strategy for the same period as the 2014-2020 EU budget period, the public policy, regulatory and support tasks at action plan level, **defines the operational tasks required for the implementation of the various actions/measures within the framework of the sets of instruments of the various pillars** and **designates the bodies and institutions responsible for the implementation of the individual measures.**

The Green Paper follows of the logic of this Strategy and lists the planned actions by pillar. It makes proposals for the operational implementation of the measures, strictly following the structure of the pillars defined in the strategy, as indicated below:

- **PILLAR1. Digital infrastructure**: availability of the electronic communications infrastructure for the supply and use of digital services;
- **PILLAR 2. Digital competencies:** digital competencies of the residents, and employees of micro- and small enterprises, as well as the public sector;
- **PILLAR 3. Digital economy:** the external and internal information systems of the ICT sector in a narrow sense of its definition and the enterprises using the electronic (commercial, banking, etc.) services of the sector;
- **PILLAR 4. Digital state**: supply of internal IT services, supporting the operation of the government, electronic public administration services for the population and corporate target groups and other electronic services within the scope of interest of the state (e.g., health, education, library, cultural heritage related services or services aimed at the division of the state data and information assets).
- **HORIZONTAL FACTORS:** the strategy defines E-inclusion, Security and R+D+I as horizontal factors, which appear in the pillars, most relevant in content.

Pillars of the National Infocommunications Strategy

Digital competencies			*Digital economy*			*Digital state*		
Population	*SMEs*	*Public administration*	*ICT industry*	*e-services*	*Corporate IT*	*Government IT*	*e-administration*	*e-public services*
e-acceptance			*R+D+I*			*Security*		
Digital infrastructure								
Optical backbone network			*Optical area network*			*Local networks (NGA)*		

PILLAR 1. DIGITAL INFRASTRUCTURE

DI/E1/A1

Pillar **D1 - Digital infrastructure**	**Set of instruments** E1 -Promoting the development of NGA networks	**Related actions (code number)**
	Measure/action **A1 - Establishment of a broadband infrastructure recording system (mapping) (accurate infrastructure and coverage map)**	DI/E1/A4 DI/E3/A3

Objective of the measure	The purpose of the measure is to create a detailed broadband infrastructure registration system and a map-based database for the total network topology (backbone area and local network), broken down by technology and bandwidth.
Related strategic objectives	Relevant measures of the Digital Agenda (Actions 45, 46) EDIOP specific objective 8.1: Availability of new generation broadband networks
Content of the measure	There are two aspects of development: 1. completion of a broadband map, 2. and commissioning an infrastructure registration system. The databases most contain the broadband access points by network level (backbone, area and local network broken down by bandwidth and technology). All ducts must be documented and displayed on the map. The data will have to be used for preparing statistics.

Operational tasks	**Responsible**	**Scheduling**
I. Completion of a broadband map for launching NGA tender 1. Requirement specifications by the MND (1 month)	MND Deputy Secretary of State for Infocommunication, PMO, MI	2014 Q2
1. Consultations with NMIA on the available data, and the relevant data supply obligations of the service providers	MND Deputy Secretary of State for Infocommunication	2014 Q3
2. Issue of the tender, selection	MND Deputy Secretary of State for Infocommunication, MNE	2014 Q4
3. Completion of a database, map – processing of available data - collection of missing data - classification of data into databases - display of data and information on the map	MND Deputy Secretary of State for Infocommunication	2015 Q1

II. Setting up an infrastructure and monitoring registration system 1. Working-out and launching of the developmental construction	MND Deputy Secretary of State for Infocommunication, MNA PSDOP MA, GITDA	2015 Q2
2. The startup and the commencement of operation of the Infrastructure Attendance and Monitoring System, detailed survey of the electronic communications network assets, development of geographic information system	MND Deputy Secretary of State for Infocommunication, PMO PSDOP MA	2015 Q3
3. Establishing a mapping system may require the review of the legislative environment governing NMIA; NMIA must have legal authorisation in order to update the data of the mapping system. If the existing legislation is not suitable, it should be examined if the president of NMIA has legislative authority to manage potential defects.	NMIA	2015-2016

Estimated costs	Level 1: net HUF 24 mn (EDOP RA) Level 2: establishment of complete registration and monitoring system Total: HUF 2 bn (PSDOP: HUF 1,722 bn, CCHOP priority 9.: HUF 278 million)
Expected result	Through the system, integrating the networks to be built allows the continuous monitoring of the result of the measure which aims the development of the new generation broadband networks and their accessibility (EDIOP 3.4). On the other hand another system will be available, which is constantly updatable. This system may promote the coordination of network building and it provides information about the exact trail and features of the existing networks, the available infocommunication services of the area, the needs of the demand side and the related development needs. Is also satisfies the expectations of the directive 2014/61/EU of the European Parliament and Council. The Attendance System can support the work of the public sector and the authorities, the further development planning of the electronic communications service providers and the utilities consultation. It can also satisfy the information request of the public sector related to network building.
Monitoring/indicators	Output indicator: Completion of a broadband infrastructure recording system (mapping) Result indicator: Full-scale street and adress-level query opportunity on the broadband telecommunication networks available at the settlement concerned.
Other remarks	Other remarks: • The service providers make the display of technology more difficult, it is not in their interest. • Harmonisation of data collection with OSAP is required. • An administrative and residential platform will need to be

	developed if the intention is to put the online version into operation. • Connection with electronic utility registry (MI) is necessary.

DI/E1/A2

Pillar **D1 -Digital infrastructure**	**Set of instruments** E1 -Promoting the development of NGA networks	**Related actions (code number)**
	Measure/action **A2 - Promotion of market driven NGA developments**	DI/E1/A3 DI/E1/A4
Objective of the measure	Promotion of the establishment of high-speed local networks by removing obstacles from the regulatory environment pertaining to network development and, in the case of state/municipality public utility developments and road building, through recommendations for sharing the substructures, promotion of the forms of self-regulation and peer-regulation and employment of public interest agreements	
Related strategic objectives	Relevant actions of the Digital Agenda (Actions 45, 113, 114, 117) EDIOP specific objective 8.1: Availability of new-generation, nationwide broadband networks	
Content of the measure	The current 'general requirements' of the Electronic Communications Act need to be modified with rules, setting clearer requirements for municipalities in the terms of the use of public areas in order to remove the obstacles from the regulator environment of network building. The regulations should aim primarily at the acceleration and simplification of the procedures, related to be use of public areas. All regulatory instruments need to be identified that can accelerate the licensing of construction work. It is absolutely indispensable to elaborate detailed regulatory concept followed by an implementation decree in order to effectively perform the task. Concerning the use of buildings and structures owned by the various utility companies the competent authorities need to review the options to simplify the use and lower the costs of the facilities. The regulatory concept should examine the possible harmonisation of the regulations for other infrastructure investments (e.g., road, sewer, water), applying the synergies involved in joint development. The requirement of prior cabling of any real property constructed as new, included in the construction regulations, could also be investigated further. The work for the introduction of a standard municipality construction regulation framework has to be accelerated in order to make construction conditions predictable, licensing foreseeable and to specify the administration deadlines. In order to rationalise construction costs, it is also important to declare that the ducts and pillars installed locally (including also those of utilities) may be used without having to build parallel infrastructure. The minimisation of the procedural/administration deadlines of authorities, the rationalisation of conditions subject to licenses and the possibility to overrule decisions may accelerate the construction process. In order to achieve that, the EU recommendations need to be integrated into the Hungarian legislation and the existing regulations must be revised. The recommendation of European Commission for broadband networks, the ex-ante conditions and the regulations applicable to support contracts needs to be monitored on a regular basis. The amount and quality of state	

	support are defined, the EU support opportunities are analysed and occasionally initiated and, in particular cases the PPP structure is reviewed based on the prepared projects, the service provider's development ideas and local government initiatives		
Operational tasks	**Responsible**		**Scheduling**
1. Identification of construction regulations for and obstacles to network construction; preparation of legal amendments., Regulation of the completion of Local Building Regulation, certain degree standardisation of regulations		PMO, MND Deputy Secretary of State for Infocommunication, MI, NMIA	2015 Q2
2. Review of the possible harmonization of regulations on other infrastructure investments (e.g., roads, sewer, water)		PMO, MND Deputy Secretary of State for Infocommunication, MI	2015 Q2
3. Legal and other form stimulation of infrastructure sharing		MND Deputy Secretary of State for Infocommunication, MI	2015 Q2
4. Requirement of service providers mandatory data service		NMIA	2016
Estimated costs			
Expected result	As a result of public policy measures aimed at improving the regulatory environment, network development will be faster and cheaper. It can lead to more active investment activities at the actors currently operating on the market and at the new entrants. The NGA network developments can be implemented faster, the residents and companies will have better access to high quality broadband services.		
Monitoring/indicators	Output indicators: Number of amended legal regulations Result indicator: Shortened licensing processes		
Other remarks	Risk: The development of electronic telecommunication infrastructure continues to be second priority compared to other territorial development and local government aspects. The change will be postponed due to serious conflicts of interest.		

DI/E1/A3

Pillar D1 -Digital infrastructure	Set of instruments E1 -Promoting the development of NGA networks	Related actions (code number)
	Measure/action **A3 - Further development of the market regulatory system to encourage investments and competition (liberalisation of wholesale price regulations, consideration of regional differences, and employment of obligations compliant with the new EU recommendations)**	DI/E1/A2 DI/E1/A4

Objective of the measure	The objective of the measure is to elaborate a competition and investment incentive regulatory model which drives the participants in the NGA market towards activities, favourable to the economy and encourages them to conduct further developments reduce their prices and expand their services in disadvantaged regions.
Related strategic objectives	Relevant actions of the Digital Agenda (Actions 47, 112, 113, 114) EDIOP specific objective 8.1: Availability of new-generation, nationwide broadband networks
Content of the measure	Elaboration of a competition and investment boosting regulatory model through the following measures: **Effective and flexible frequency management** - technology neutral use in the various bands; - general licence, encouragement of use based on licence exemption - facilitating spectrum trade (transfer, rent) elaboration of the rules of trading, etc. **Encouragement and protection of innovation and investments** - consideration to the investor's risks - Investment boosting revision of JPE access obligations

Operational tasks	Responsible	Scheduling
1. See the content of the measure	NMIA	2015-2016

Estimated costs	-
Expected result	There are increasing intentions to invest into broadband networks, with fuel obstacles in entering the market, and lower broadband service prices, to make services and application requiring large bandwidth available for more people within society
Monitoring/indicators	Output indicator: Number of developed new regulatory models Result indicator: Rate of Hungarian households with NGA network (with a minimum band width of 30 Mbps): 75.7% in 2013; target value: 100% in 2020

Other remarks	

DI/E1/A4

Pillar **D1 -Digital infrastructure**	**Set of instruments** E1 -Promoting the development of NGA networks	**Related actions (code number)**
	Measure/action **A4 -Employment of development policy instruments (reimbursable subsidies, non-reimbursable subsidies, other Union funds, etc.) to support network development and network migration.**	DI/E1/A1 DI/E3/A3

Objective of the measure	The purpose of the measure is to elaborate financial instruments that promote an increase in the volume of NGA investments, accelerate the development and make it easier for market actors to have access to funding required for development. Depending on the need for the extent of state intervention, the following financial instruments may be applied: • **Development tax allowance** (modification of the conditions of the format tax allowance in order to promote NGA development) • **Revision of telecommunications tax and official tariffs in order to boosting investment** • **Reimbursable subsidies (credit facility, credit guarantee** for market actors in order to accelerate development projects implemented in the framework of private investment) • **Non-reimbursable subsidies** (direct support of the developments of market actors from national or EU resources only in areas where there is no other similar category infrastructure (broadband or NGA) and its establishment is unlikely in the near future).
Related strategic objectives	Relevant measures of the Digital Agenda (Actions 43, 45, 48) EDIOP specific objective 8.1: Availability of new-generation, nationwide broadband networks
Content of the measure	The availability of infocommunications networks, suitable for more intensive use and satisfaction of bandwidth requirements is a fundamental prerequisite of the dissemination of the state-of-the-art broadband services. As a result of the continuous increase of the number of users and the increased demand for average bandwidth per user, the traffic of digital networks is expected to multiply in the coming few years in Hungary, which the existing networks are no longer able to support due to lack of capacity. The market actors already began to develop high capacity NGA regular networks that are capable of satisfying the increasing demand, or are already working on such projects, yet the acceleration of the implementation of the new generation networks requires also the encouragement of the volume of developments with development policy instruments. Within the framework of the measure an analysis must be conducted to identify which financial instruments should be used in order promote

most effectively the NGA network development and network migration. The areas of development need to be separated into segments, in which the market actors are likely to establish and further develop the NGA networks under market terms and conditions and segments that requires state intervention due to a lack of market-based investments (in under developed and obsolete regions, where the payback of market investments in unlikely within a foreseeable period).
In the first segment consideration should be given to the dissemination of a development tax allowance and reimbursable subsidies to accelerate the market development processes, while in the latter segment non-reimbursable subsidies may be recommended.

Volume of planned investments
Based on market estimations, investments in the value of HUF 180-210bn are required so that access to an at least 30 mbps internet network could be guaranteed to all Hungarian households. This means that another 25-40% of households (1-1.6 m households) should be connected to the new generation network.

Potential investment models
Considering national endowments and investment needs and in order to most efficiently utilise the resources available, the development of NGA access networks can be implemented in the coming seven year-period in a model assuming the participation of private companies in network construction and operation, with support granted. If proven necessary for the attainment of goals, state outsourcing will also come into question.

Development tax allowance
Discrimination free encouragement of innovative, higher functionality investment project (IT networks, suitable for HDTV streaming) on the supply side, through development tax allowances. This type of the tax allowance can be used to satisfy the development criteria, stated also in the EU sectorial policy: the doubling of the infrastructure may be justified only in higher functionality networks.
It is a favourable impact of a tax allowance that the same funds can be used to finance various development project and the service prices may be set lower. The sector would develop significantly more slowly without the tax allowance, although the objective is to accelerate the development process, and the tax allowance could be an ideal means for that. If it is applied, the necessary legal regulation will have to be established in order to promote NGA (fixed and wireless technology) developments.
Revision of telecommunications tax and official tariffs in order to boosting investment

Reimbursable subsidy
The reimbursable subsidy can make it easier for companies designing broadband investment projects, which were deemed too risky by the financial institutions before due to the size of the project, to have access to loans. The applicants can have access to the subsidy in the form of a loan or a guarantee. Within the framework of this programme the state would provide a refinancing credit facility for the development

	companies through the financial intermediary system, or would mediate guarantee options to the financial intermediaries. **Non-reimbursable subsidy** Support to development in this form may be recommended in those segments where there is no NGA service and its installation is unlikely on an exclusively market basis in the future either. The service providers, selected for support in competition must provide active and passive wholesale access on equity basis and free of any discrimination. Support must be granted in open and transparent, discrimination free and technology neutral tenders. The service provider must offer the widest possible active and passive wholesale access on their fair and discrimination free conditions, including also the effective and total independence of the NGA networks. Wholesale access must be provided for at least seven years, and the right of access to be duct or network pillars cannot be limited. If support is provided for the construction of a duct, the duct must be sized to be able to host more than one cable networks and different network topologies. The wholesale access fee must be based on the price and principles of the National Regulatory Authority and the frequency values of the country or observed in similar, more competitive areas of the EU, and the support received by the network operator also needs to be taken into account.

Operational tasks	**Responsible**	**Scheduling**
1. Completion of an impact study/feasibility study for the application of the various financial instruments:	MNE, MND Deputy Secretary of State for Infocommunication	2014 Q1
2. Review and potential amendment of the tax regulatory environment in order to promote NGA investments	MND Deputy Secretary of State for Infocommunication, MNE	2015 Q2
3. Establishment of a framework system for the allocation of NGA specific reimbursable subsidies Evaluation of the results of earlier tender developments; specification of target areas for development ('white spots')	MND Deputy Secretary of State for Infocommunication	2015 Q2
4. Elaboration and launching of a scheme for applications for the establishment of NGA networks in obsolete regions	MND Deputy Secretary of State for Infocommunication, MNE EDIOP MA	2015 Q2

Estimated costs	Non-reimbursable subsidy (EDIOP 3.4.1/B): HUF 70-85 bn Reimbursable subsidy (EDIOP priority 8.): HUF 40-45 bn

Expected result	The construction of NGA network and network migration will be accelerated, as a result of which the conditions of access to high quality broadband services of the residents and companies will improve. By using development policy instruments internet access may also be approved in obsolete areas, because it can contribute to the convergence of particular region and, indirectly, can also boost economic growth both in the obsolete and advanced regions.
Monitoring/indicators	Output indicator: Number of settlements with NGA network coverage within the framework of the subsidy. The number of further households with access to at least 30 Mbps network. Target value (2020): 1 million. Result indicator: Ratio of households covered by NGA (min. 30 Mbps bandwidth) network (Base: 75.7%, 2013, Target: 100%, 2020)
Other remarks	The completion of the DI/E1/A1 measures, i.e., the availability of a detailed registration system of broadband coverage by technology and bandwidth are prerequisites of the measure Any further planning of the development instruments is influenced greatly by the efficiency/implementation of former development projects.

DI/E2/A1

Pillar **D1 -Digital infrastructure**	**Set of instruments** Promoting the development of wireless broadband services	**Related actions (code number)** DI/E2/A2
	Measure/action **A1 - Promoting the development of wireless broadband services**	

Objective of the measure	To boost competition and increase the supply of wireless broadband services in rural areas through using further frequencies.
Related strategic objectives	Relevant actions of the Digital Agenda (Actions 44, 49)
Content of the measure	Making available the frequencies, required for the development of wireless broadband services in view of market demand, EU policies and commitments.

Operational tasks	**Responsible**	**Scheduling**
1. Identification of further 500 Mhz frequency band in the 400 MHz-6 GHz range for promoting the increase in wireless data traffic in line with the EU goals and to expand the coverage of wireless networks for Internet purposes, as indicated below: • 3.4–3.8 GHz band: The band must be made available and, subject to market demand, the licensing procedure must be conducted.	NMIA	2015
2. Preparation of international co-ordination agreements and proposal of the conclusion of the agreements in order to facilitate the use of broadband systems in the respective bands in the border zones.	NMIA	2015

Estimated costs	No further costs are required other than those stated in the NMIA budget
Expected result	With the allocation of frequencies the volume of wireless broadband developments will increase, and the service quality will improve owing to the larger bandwidth capacities.
Monitoring/indicators	Output indicator: Number of allocated frequencies Result indicator: Mobile broadband coverage (Target: 95%, 2016) Mobil internet bandwidth (Target: EU average, 2016)
Other remarks	

DI/E2/A2

Pillar **D1 -Digital infrastructure**	**Set of instruments** E2 - Promoting the development of the new generation (4G, LTE) mobile broadband services	**Related actions (code number)** DI/E2/A1
	Measure/action **A2 - Establishing a regulatory environment to strengthen competition on the mobile market**	

Objective of the measure	Boosting the competition on the market of mobile broadband services
Related strategic objectives	Relevant actions of the Digital Agenda (Actions 49, 112, 113)
Content of the measure	High quality legislative framework and conditions, as required for the effective operation of spectrum management.. Making the institutions more flexible, stronger and more open to users to the industry, preserving its national and international recognition and high quality.

Operational tasks	**Responsible**	**Scheduling**
1. Review of the effective system of frequency charges including the following: • Review of the whole system of frequency charges, which takes into account technology development, supports effective frequency use and usage proportionate considerations, as well as ensures transparency	NMIA	2015 Q2
2. Identification of incentives in the system of charges in bands, facilitating wireless broadband services	NMIA	2015 Q2

Estimated costs	No further costs are required other than those stated in the NMIA budget
Expected result	As a result of the regulatory measures, competition will increase on the market of mobile services and the price of services will decline further. Consequently, the state-of-the-art wireless broadband services will become available on a much wider basis.
Monitoring/indicators	Output indicator: Number of regulations reviewed Result indicator: Mobile broadband coverage (Target: 95%, 2016)
Other remarks	

DI/E3/A1

Pillar D1 -Digital infrastructure	Set of instruments E3 - Support to the development of missing area network sections	Related actions (code number) DI/E1/A1 DI/E3/A3
	Measure/action **A1 - Laying the policy foundations for the optical area network development support (concept and action plans)**	

Objective of the measure	Subject to the implementation of the EDOP 3.1.2 project a conceptual/action plan has to be prepared to lay down the basis of development of further area networks supporting the construction of sections where there are bottlenecks, caused by NGA local network development, or points that were left out from previous developments, as well as areas where there was only negligible area network development.
Related strategic objectives	Relevant actions of the Digital Agenda (Actions 46) EDIOP specific objective 8.1: Availability of new generation broadband networks
Content of the measure	Parallel with the encouragement of the development of NGA network action the new mapping system will also be required and, based on the available OSAP data, the regional area network spots will need to be identified, where despite former development (EDOP 3.1.2, etc.) the available area network is still unable to support minimum or the increased traffic. Within the framework of this measure the area network of the settlements left out from the development should be installed in the framework of a priority project, primarily by using funds which were originally allocated for the 2007-2013 period but are still available.

Operational tasks	Responsible	Scheduling
1. Review of the efficiency of the EDOP 3.1.2 project	MND Deputy Secretary of State for Infocommunication, MNE EDOP MA	2015 Q1
2. Analysis of NGA mapping and OSAP data	MND Deputy Secretary of State for Infocommunication	2015 Q1
3. Decision on the required area network developments	MND Deputy Secretary of State for Infocommunication	2015 Q1
4. Elaboration of an adequate scheme (integrated with the NGA developments) based on the strategy and EU guidelines	MND Deputy Secretary of State for Infocommunication, MNE EDIOP MA,	2015 Q2
5. Issuing new tender schemes (integrated with the NGA developments)	MND Deputy Secretary of State for Infocommunication, MNE EDIOP MA	2015 Q2

Estimated costs	See DI/E1/A4
Expected result	The dedicated resources can be used for specific purposes in order to eliminate the bottlenecks in the area network and to develop the missing network sections.
Monitoring/indicators	Output indicator: Completion of new tender schemes (model)
Other remarks	

DI/E3/A2

Pillar D1 -Digital infrastructure	Set of instruments E3 - Support to the development of missing area network sections	Related actions (code number) DI/E3/A1 DI/E3/A3
	Measure/action **A2 - Promotion of market development using public policy measures (e.g., detailed infrastructure map, in the case of state/municipality public utility developments and road building recommendations to share the substructures, employment of public interest agreements, spread of investment risks, etc.)**	

Objective of the measure	Encouraging the construction of area network sections which contain bottlenecks as a result of NGA local network developments or have been left out from former development projects, or where only negligible area network development took place.
Related strategic objectives	Relevant action of the Digital Agenda (Action 47)
Content of the measure	As a supplement of the action aimed at encouraging the development of NGA networks, those small regional area network spots will also need to be identified, based on the future mapping system and available OSAP data , where despite former development (EDOP 3.1.2, etc.) the available area network is still unable to support minimum or the increased traffic. The new mapping system will facilitate the registration of optical cables used in broadband area network connections, and the various ducts, forming the infrastructure components, as well as their potential distribution, which may be achieved on business and regulatory basis. Making use of the synergies of the construction work is another option (road, telecommunications cable, electricity cable, etc.). Regulations will need go be developed to ensure the synergy in compliance with the cost cutting guidelines of the Commission. There are further opportunities in the financial schemes that can be used for the investment, the area network connections of disadvantaged sub-regions could entail an investment risk, which may be mitigated or minimised with the help of banking and partnership schemes.

Operational tasks	Responsible	Scheduling
1. Transposition of Directive 2014/61/EU (15 May 2014) on measures to reduce the cost of deploying high-speed electronic communications networks to the Hungarian legal context	MND Deputy Secretary of State for Infocommunication, MI, PMO, NMIA	2016 Q1
2. Initiation of infrastructure distribution-based projects	MND Deputy Secretary of State for Infocommunicat	2015 - 2020

	ion, MI, PMO, NMIA	
3. Initiation of investment risk-based infrastructure projects	MND Deputy Secretary of State for Infocommunication, MI, PMO, NMIA	2015 - 2020[1]

Estimated costs	See DI/E1/A1 Action
Expected result	It will be possible to define exactly the location of the required area network development and the allocated resources can be used for their specific purposes. Indirect: owing to the sufficient capacity area network, the high quality broadband services and applications are expected to spread in the country, contributing to economic growth and higher quality standards.
Monitoring/indicators	Output indicator: Number of settlements, not covered by any optical area network (Target: 0%, 2018) Result indicator: Number of population, not covered by any optical area network (Target: 0%, 2018)
Other remarks	Implementation in line with the DI/E1/A1 action.

1

DI/E3/A3

Pillar D1 -Digital infrastructure	Set of instruments E3 - Support to the development of missing area network sections	Related actions (code number)
	Measure/action **A3 - Establishment of development credit schemes of tender schemes to support developments that cannot be implemented on a market basis; (e.g., tax relief for developments, allocation of application funds to support investments not recoverable on a market basis, etc.)**	DI/E1/A4 DI/E3/A1 DI/E3/A2

Objective of the measure	Support of the installation of a passive layer in the area network telecommunications infrastructure, adjustable without limitation to the long-term needs of the users, with reimbursable and non-reimbursable support, in disadvantaged, regions of Hungary that are less attractive in business terms and where to date the area network sections of a broadband network infrastructure, connecting settlements have not yet been established on market basis.
Related strategic objectives	Relevant measures of the Digital Agenda (Actions 43, 48) EDIOP specific objective 8.1: Availability of new-generation nationwide broadband networks
Content of the measure	Support to settlements, not accessible with an optical network (according to the EU terminology NGA white) due to the inadequacies of an adequate capacity area network in having access to sufficient quality and capacity broad band services with the most effective financial instruments or a combination thereof. The goal is to build the optical district network to all settlements, not yet reached with the optical network of the sub region and, also to the neighbouring settlements whenever possible, in each project within the framework of the supported investments and to establish one access aggregation point in each settlement which can satisfy the access requirements through standard interfaces of the service providers operating various technology network in the particular settlement. The examination the options of establishing the Budapest Internet Exchange (BIX) Development and Data Exchange Centres can be justifiable, considering the principles of non-discrimination and network neutrality. **Content of the measure** • **Construction of a network section between sub-regional centres and settlement PoP-s, with an advanced technology that enables** o all existing and potential Internet users of a particular settlement (enterprises, public institutions, households and private individual) to have access to at least 30 Mbps download provided that the local network can support that speed or that is permitted through mobile broadband coverage (platform

	neutrality).
	
	• **PoP installation in settlements and is commissioning in line with the open access criteria as well as**
	  ○ extension of the infrastructure to at least 2 public institutions by settlement,
	  ○ where the ICSS and/or eHungary Point exist, the infrastructure need to be built to the building hosting them.
	
	Investment models: District network (backhaul network) development can be implemented through the investment of private companies (with additional state subsidies, if necessary), state outsourcing or within the framework of a state development model (the state is the developer and the operator). The last model should be applied if private companies are not ready to invest even if given some subsidies because they can see no chance that there investment will pay off even in the long run.

Operational tasks	Responsible	Scheduling
1. Establishing a framework system for the allocation of reimbursable funds	MND Deputy Secretary of State for Infocommunication	2015 Q1
2. Selection of the development policy instrument, which is most suitable according to the settlement, with special regard to the absorption of the resources allocated to EDOP 3.1.2 and the collection of a wide range of information and ideas from service providers.	MND Deputy Secretary of State for Infocommunication	2015 Q2
3. Working out the facility to be applied (integrated with NGA developments)	MND Deputy Secretary of State for Infocommunication, MNE EDIOP MA	2015 Q2
4. Launching new tender facility	MND Deputy Secretary of State for Infocommunication, MNE EDIOP MA	2015 Q2

Estimated costs	In the EDIOP 3.4.1 facility: Non-reimbursable subsidy (EDIOP 3.4.1): HUF 5-10 bn Reimbursable subsidy (EDIOP priority 8): HUF 5.10 bn
Expected result	A high quality long-term sustainable area network infrastructure will be in place in all targeted settlements with practical use of public resources.
Monitoring/indicators	Output indicator: Number of settlements not accessing a sufficient capacity area network (Target: 0%, 2018) Result indicator: Ratio of residents not accessing a sufficient capacity area network (Target: 0 %, 2018)
Other remarks	Some operational tasks overlap with the ones defined in the

	DI/E1/A4 measure Risks: Failure of the implementation of the earlier EDOP 3.1.2 calls for proposals

DI/E4/A1

Pillar **D1 -Digital infrastructure**	**Set of instruments** E4- Developing network access of public institutions	**Related actions (code number)**
	Measure/action **A1- Developing network access of public and local government institutions(health, education, public collections institutions, social, child welfare and child protection as well as community institutions, local governments and their institutions)**	DA/E1/A3 DA/E2/A3 DA/E5/A2 DA/E5/A5
Objective of the measure	The objective of this measure is to improve the quality of the services used and provided by public administration, local government, education, health, social, other human sector and else state institutions through the development of the network supply.	
Related strategic objectives	EDIOP 8.2 specific target: Supplying institutions lacking access with broadband connection	
Content of the measure	Pursuant to the Government Decree No. 346/2010. (XII. 28.) on government networks, the government telecommunication service provider provide network connections to the majority of the public administrative agencies through the National Telecommunications Backbone Network (NTBN). As a result of the network consolidation, started in 2011, the NTBN network was established on 1 January 2012 in order to enable institutions to use the telecommunications services satisfy their basic communications needs on a state-owned high security network infrastructure, contrary to any previously used market solution. As a result of the development the Service Provider currently supports more than 6000 locations following the expansion of the network offered by the former market service provider and the installation of more than 2000 new locations. However, consolidation will not stop there. On the one hand, the current network infrastructure needs to be developed and new institutions of locations will need to be connected. 1. The NTBN network is based on the state-owned backbone network that reaches county seats. The institutions access the services through the various backbone network hubs and the backhaul network, connecting the specific building (endpoint) to the network. Certain sections of the backhaul networks are still provided by market service providers but they are currently being replaced, although the process requires several years of development. The primary aspect in the establishment of the backhaul network is to use already existing sections and to consolidate any connection that is currently operated in parallel operation. And the development of broadband optical networks and local NGA networks will form the infrastructural basis of broadband band internet access of public administration, health and other public (or local government) institutions. 2. In order to make the established connections live, the internal infrastructure of the institutions will also need to be developed.	

On the institutional side the current situation is heterogeneous; some organisations have sufficient network and local infrastructure but the majority of them have very little services, which must be developed. One of the main advantages of the co-ordinated connection of the institutions is the predictability of the capacities, i.e., the service provider is able to offer the required and sufficient bandwidth in all cases facilitating the cost effective use of public resources. The purpose of the development is to offer broadband Internet and data transmission services to institutions for the use of new infocommunications devices and services. Further central (cloud, address registry, video conference, etc.) services will also be made available on the network.

The NTBN network is currently used mostly by the central public administrative agencies and their regional organisations, government offices in Budapest and in the counties, the police organisations and the budgetary agencies founded by them, as well as state-owned companies. The supply and connection of those institutions (with the use of EU resources) is a continuous process, and promotes also the transformation of the public administration system. However, the network supply of public institutions is rather heterogeneous, considering that earlier a lower quality of service was also sufficient for their core activities but these days it is absolutely necessary to use the latest infocommunications devices in order to enjoy the benefits of the technology development.

The Public Network Programme, launched in 2005 was aimed to provide Internet access to organisations defined by the law that are not connected to any other public network (e.g., predecessor of NTBN) in order to facilitate the electronic communication of those institutions through the Internet in high quality and in a cost effective manner. As a result of the network consolidation, launched in 2011 the networks were redefined also on the basis of the institutions using them. Two networks were formed as the successors of the Public Network Programme: the Sulinet, which supports public education and cultural, social institutions and other training institutions, as well as Köznet, which supports public internet access points. The local governments and health institutions are and will be supplied through the NTBN network.

The development consists of two phases. First, the infrastructure of the particular institution and location will have to be developed (procurement and commissioning of network and active and passive devices) and network connection (i.e., use of the backbone and backhaul network). The network connection is provided by the government telecommunications service provider either on the existing network or by building new network sections.
With the development the costs of operation can also be reduced and the quality of service can be improved.

Investment models:
When developing the access of state networks and public institutions, it is either the state that plans, constructs and operates the network or has private companies do the construction and operation within the

	framework of outsourcing, while the state remains to be the owner of the networks and performs supervision on the operator(s). Pursuant to the National Infrastructure Development Programme of Government Decree No.5/2011. (II. 3.) the NIIF Institute is in charge of the co-ordinated development of the information infrastructure of the higher and public education institutions, research and development locations, public collections and other training, scientific, cultural organisations on the HBONE backbone network and their national computer network services, as well as provides access to national and informational network connections and information services. Pursuant to the Government Decree No. 5/2011 (II.3.) the development of the data network connections of public education institutions, schools, research institutions universities, cultural and public collections forms a unit with the development of the higher education and research network, linked tothe Sulinet programme. within the *Digital State* pillar, DÁ/E5/A5 "*Development of public education and higher education, as well as research infocommunications infrastructure and services, supply of state of the art infocommunications devices to institutions, introduction of cloud-based services, gradual expansion of the research-based network basic infrastructure (GEANT, HBONE) and computer technology (HPC) capacities"* measure. The HBONE provided services on more than 5500 locations in 2013. Since December 2010 HBONE has offered HBONE+ network hybrid infrastructure for the group of institutions defined in the Government Decree and has offered capacities to NTBN. HBONE naturally relies on the development results of the local NGA networks during its own development activities.

Operational tasks	**Responsible**	**Scheduling**
1. Review of the telecommunications services of the institutions	MI, MHR	In progress
2. Preparation and approval of an action plan and schedule following the survey	PMO, MI, MHR	2015 Q2
3. Launching priority tender facility	MI, MND Deputy Secretary of State for Infocommunication, MNE EDIOP MA	2015 Q3
4. Procurement of the devices required for the connection, and potential network development	NISZ Zrt., NIIF	2015 Q4
5. Scheduled connection of the institutions	NISZ Zrt., NIIF	from 2016

Estimated costs	Total: HUF 7,15 bn EDIOP 3.4.2: min. HUF 5bln CCHOP priority 3: min. HUF 2,15 bn
Expected result	Improved quality of the telecommunications serviced used by the institutions and also of the services provided to citizens.

Monitoring/indicators	Output indicator: Number of new access points established for state or local authority owned institutions on government-owned telecommunications networks (target value: at least 3,300) Result indicator: Bandwidth accessible at the network endpoints at state/local authority institutions (target value: 30 Mbps)
Other remarks	

DI/E5/A1

Pillar **D1 -Digital infrastructure**	**Set of instruments** E5 -Full consolidation and increase of the capacity of government networks	**Related actions (code number)** DI/E4/A1 DI/E5/A2
	Measure/action **A1 -Professional and technical conceptional foundation of the completion of the public network consolidation, further development, enhancement and capacity increase of the National Telecommunications Backbone Network**	

Objective of the measure	The purpose of the measure is to create a national network, through the development of government network and extension of consolidation, which is capable of supplying public and public administrative agencies and public institutions and providing more effective services to citizens.
Related strategic objectives	EDIOP national specific target 8.2: Supplying state institutions lacking access with broadband connection
Content of the measure	The purpose of the measure is to develop the telecommunications networks of the government and authorities, which form the basis of high quality and secure electronic administration and public services, to modernise obsolete active devices, and to complete the consolidation, started over the last few years. The developments will facilitate more effective capacity management, the replacement of parallel sections, as a result of which higher capacity can be provided and the current service standard may be increased. The development of broadband optical networks and local NGA networks will form the infrastructural basis of broadband band internet access of public administration, health and other public (or local government) institutions. Pursuant to the Government Decree No. 346/2010. (XII. 28.) on government networks, the government telecommunication service provider provide network connections to the majority of the public administrative agencies through the National Telecommunications Backbone Network (NTBN). As a result of the network consolidation, which began in July 2011, the NTBN network was established on 1 January 2012 in order to enable institutions to use the telecommunications services satisfy their basic communications needs on a state-owned high security network infrastructure, contrary to any previously used market solution. As a result of the development the capacities of the backbone network were transferred to the new state-owned network in November 2011, and in 2012 the approximately 2500 endpoints were also transferred. However, consolidation will not stop there. On the one hand, the network infrastructure will need to be developed and, on the other hand, the number of connected premises will also need to be increased. The NTBN network is based on state-owned high capacity reserves backbone network, the most of the backhaul network connecting the backbone network hubs user endpoints are provided by the market service providers. In order to eliminate them, parallel network connections need to be eliminated and further network development is required. The network development does not necessarily

	mean green field investment, but the use of certain network segments of the existing state infrastructure e.g., through the replacement of a network section used by a market service provider by transferring it to the network components with free capacities, established primarily for the performance of the tasks of the specific institution (e.g., MÁV, Magyar Közút Zrt. etc.). The development is time consuming, considering that in a particular area (e.g., county) the total state and non-state-owned network infrastructure needs to be reviewed followed by the connections established between the network sections and the construction of potential new sections. As a result of the development a lot of savings can be achieved in the network operation costs and, according to preliminary estimates, under the current conditions, the specific costs of the endpoint network can be reduced by even 15% of three years from 2016. **Investment models:** The development of the NTBN is to be implemented within the framework of a state model, i.e. the state is to be responsible for its planning, construction and operation through a state-owned company (NISZ Zrt.: National Infocommunication Services Ltd.)

Operational tasks	Responsible	Scheduling
1. National survey and status analysis of the network infrastructure	MI	In progress
2. Identification of the parallel features and development options based on a survey	MI	In progress
3. Working out and launching priority facilities	MI, MND Deputy Secretary of State for Infocommunication, MNE EDIOP MA	2015 Q3
4. Network development, elimination of parallel features, replacement of networks	NISZ Zrt.	2015-2017
5. Scheduled connection of the institutions	NISZ Zrt.	2015-2017

Estimated costs	Total: HUF 4,28 bn EDIOP 3.4.3: min. HUF 3 bn CCHOP priority 3: min. HUF 1.28 bn
Expected result	Improved quality of the telecommunications serviced used by the institutions and also of the services provided to citizens.
Monitoring/indicators	Output indicator: Physical availability of the National Telecommunications Backbone Network (NTBN) Result indicator: Increase in average capacity accessible through the network
Other remarks	

DI/E5/A2

Pillar **D1 -Digital infrastructure**	**Set of instruments** E5 -Full consolidation and increase of the capacity of government networks	**Related actions (code number)**
	Measure/action **A2 - Developing the telecommunications and communications networks of standby agencies**	
Objective of the measure	The purpose of the measure is to develop the government networks to create a national network, which is suitable for satisfying the telecommunications needs of standby agencies and thus provide more effective services to citizens.	
Related strategic objectives	National Cyber Security Strategy (No. 1139/2013. (III. 21.) government decree)	
Content of the measure	At present several networks and network components support the communications needs of the emergency agencies. The separate government communications networks support the fundamentally national defence, national security and diplomatic tasks. The basic network infrastructure and services are provided by the National Telecommunications Backbone Network (NTBN), which serves the communication needs of state administration agencies including emergency services. Within the NTBN in order to perform the tasks of different users certain services are logically separated (VPN) (in case of disaster management agencies these are for example the VPNs of ambulance, police, firefighters and the Monitoring and Residential Alarm System, which provides early information about serious accidents and their effects in the vicinity of hazardous industrial plants). The **Private Police Network (ZRH)** was originally a network with national coverage, which provided data and voice communication services for the Ministry of the Interior and its agencies, as well as police organisations through microwave connections. As a result of the development activities of the last two years it offers data communications services through optical connections in the territory of Budapest and in the national coverage the microwave connections are used only for voice services. At present the PPN has approximately 40,000 users who can be served more effectively by using the capacities of the NTG. The Private Police Network has reached its current format through the interconnection of several former systems and by using certain solutions, which were originally deemed to be temporary solutions but became final. The operation maintenance and transparency as well as extension with the new services of this complex network generate a greater burden. With the development of the network in 2014-2015 the migration of ZRH network to NTBN will be realized. After the migration special attention should be paid for the operation and continuous improvement of the network in order to perform law enforcement duties. The **Single Digital Radio Communication System (EDR)** is a high availability reliable national radio telecommunications system,	

	developed primarily for emergency organisations (e.g., police, ambulance, disaster protection). The EDR was opened in 2007 after the assessing of the needs of the emergency agencies and the planning. The actual national territorial coverage is 99.2% in terms of onboard mobile radio devices, installed in cars and 88.0% for the manual radios used in outdoor spaces. However, over the 10 years since the requirement specifications major changes took place in the operation and control of the user emergency agencies as well as in the development of the applied TETRA technology. Consequently, the organisations have a need not only for increasing the volume of the abilities of the system, but also for expanding the services. In that interest, the following needs to be done the partial modernisation of the EDR system, installed in 2006, establishment of the technical basis of the developments, required and sufficient for the expected services and improvement of the TETRA radio service level, increase of radio coverage (territorial coverage). **Investment models** The planned investments are to be implemented within the framework of a state model, i.e. the state is to be responsible for the planning, construction and operation of the network through a state owned company which, in the case of emergency organisations, will be the government communications service providers.

Operational tasks	**Responsible**	**Scheduling**
1. National survey and status analysis of the network infrastructure	MI, PMO, NISZ Zrt,, Pro-M Zrt.	In progress
2. Identification of the development options based on a survey		In progress
3. Network development		In progress
4. Scheduled connection of the institutions and increasing capacity as required		from 2015 Q3

Estimated costs	under planning
Expected result	Improved quality of the telecommunications serviced used by the institutions and also of the services provided to citizens.
Monitoring/indicators	Output indicator: Number of connected institutions, units Result indicator: Bandwidth accessible at the network endpoints
Other remarks	

PILLAR 2 DIGITAL COMPETENCES

DK/E1/A1

Pillar **DK - Digital competences**	**Set of instruments** E1 - Development of digital competences within the population	**Related actions (code number)**
	Measure/action **A1 - Reduction of the digital divide between various groups of society**	DK/E1/A4 EB/E1/A1

Objective of the measure	It is necessary that the most disadvantaged social groups to develop their basic digital competences as it is one of the most important key competences required at the labour market.
Related strategic objectives	Relevant actions of the Digital Agenda (Actions 57, 58, 59 62, 66, 126) **EDIOP 13.1 specific target: Improved access of the population of employment age, especially of people with low qualifications, to formal training opportunities improving labour market competences**
Content of the measure	• Development of digital competency as the most important labour market key competence among disadvantaged people of employment age, through trainings. • Information supply on the options of infocommunications technologies (ICT), promoting employment, e-health, cost cutting information collection, remote education,. remote work, e-administration, community integration, • Encouraging all disadvantaged target groups of employment age to use community Internet supply points, • Development and co-ordination of telehouses, libraries and other public education institutions, operating as eHungary points, according to the standard digital literacy concept, and support of the standardised training and mentoring activities of the experts working there.

Operational tasks	**Responsible**	**Scheduling**
1. Establishment of a task force with the ministries concerned	MND Deputy Secretary of State for Infocommunication, MNE State Secretariat for Vocational Training and Labour Market, (SSVTLM), MHR, PMO	2014 Q4
2. Elaboration of a concept	MNE, SSVTLM, MHR, MND Deputy Secretary of State for Infocommunication	2014 Q4
3. Preparation and launching of facility	MND Deputy Secretary of State for Infocommunication, MNE State Secretariat for Vocational Training and	2015 Q1 H2

		Labour Market, MNE EDIOP MA	
Estimated costs	EDIOP 6.1.2: HUF 17.9 bn		
Expected result	Decrease in the level of digital illiteracy among the disadvantaged citizens		
Monitoring/indicators	Output indicator: Number of digitally illiterate people participating in digital competence development (Target: 200 thousand people, by 2020) Result indicators: Number of participants gaining a certificate or statement of accomplishment in digital competence development.		
Other remarks			

DK/E1/A2

Pillar **DK - Digital competences**	**Set of instruments** E1 - Development of digital competences within the population	**Related actions (code number)** DK/E1/A3 EB/E1/A2 DA/E4/A1
	Measure/action **A2 - Promotion of the dissemination of online government, public administration and e-health services**	

Objective of the measure	Promotion of public e-services encouragement of their use, access to e-services in small settlements and among and priority among the disadvantaged groups. The developed e-administrative, e-health and e-cultural services financed by European Union resources must be acquainted with citizens and enterprises.
Related strategic objectives	Relevant Actions of the Digital Agenda (Actions 57,62,65) Magyary Programme Healthy Hungary 2014-2020 Health Sector Strategy EDIOP 7.1 national specific target: Enhancing citizens' access to ICT
Content of the measure	Related Hungarian research data reveal that Hungary is significantly behind the EU average as regarding the use of digital services, despite of that there is no huge lag in the digital accessibility. The reasons for non-usage include cognitive, motivational obstacles as well. Previous surveys reveal that the citizens concerned are still not interested in computers (and the online world) and/or believe that using these would not be beneficial to them, and the ratio of people who refrain from usage do not their lack of ability continues to be high. As a starting point of the action a research needs to be performed again regarding with respect to the reasons of non-usage. In addition to developing access points, the programme therefore aims to significantly increase the use of internet and ICT also by removing motivational obstacles. One of the important factors of the spreading of ICT use is constituted by modern and user-friendly e-administration, e-health care and other online services (e.g. cultural), which significantly contribute to improving competitiveness and the quality of life, considering which their widest possible use should be encouraged. It also needs to be examined if these programmes can be extended across the borders. **Elements of the measure**: Encouragement of the dissemination of government, public administration, health and cultural e-services among the residents, in co-operation with the respective ministries and other (e.g. operators) actors Communication, motivation, attitude formation campaigns

Operational tasks	**Responsible**	**Scheduling**

1. Conducting a survey on up-to-date household online services and their potential dissemination.	MND Deputy Secretary of State for Infocommunication, MHR, MI, PMO, COAEPS	2015 Q1
2. Elaboration of (consultations on) a motivation and dissemination programme and campaign for the dissemination of state digital contents and other ICT products and services.	MND Deputy Secretary of State for Infocommunication, MHR, MI, PMO, COAEPS	2015 Q3
3. Launching programmes (facilities) and campaigns targeting the above.	MND Deputy Secretary of State for Infocommunication, MHR, MNE EDIOP MA, COAEPS	2015 Q4

Estimated costs	EDIOP 3.3.2 HUF 5 bn
Expected result	Equal opportunities in having access to e-public services, promotion of an individual lifestyle through the dissemination of e-health services, supply of better quality health services and a major improvement in the quality of life. The implementation of the measure will cut the expenditures significantly in the public sector.
Monitoring/indicators	Output indicator: Number of programmes and campaigns implemented Result indicators: Increase the use of online administration and health services.
Other remarks	

DK/E1/A3

Pillar **DK - Digital competences**	**Set of instruments** E1 - Development of digital competences within the population	**Related actions (code number)**
	Measure/action **A3 - Improving the quality of life of citizens with the help of ICT**	DK/E1/A2 DK/E1/A1

Objective of the measure	To increase access to ICT applications and devices to citizens in order to improve the quality of life of the population and to increase digital economy.
Related strategic objectives	Relevant Actions of the Digital Agenda (Actions 57, 58, 66) Lifelong learning framework strategy
Content of the measure	The development of general digital literacy ensures stronger social integration, access to digital services and thereby better life opportunities. Disadvantaged citizens should be provided digital devices and services in order that the measure could be implemented. The purpose of acquisition of digital devices and corresponding software (even Open Source software) is increasing accessibility to digital services for those citizens who do not have any digital skills. The use of infocommunication technologies raises social integrity, and indirectly helps their inclusion in case of qualification, employment and competitiveness. Promotion of the spread of innovations that can be used in everyday life, implementation of an activity related to the elaboration of a responsible ICT using approach that promotes the achievement of the above objectives.

Operational tasks	**Responsible**	**Scheduling**
1. Making a preliminary survey broken down by various target groups as to how much they are parts of the digital world and on the situation of access to ICT devices	MND Deputy Secretary of State for Infocommunication	2015 Q1
2. Acquisition of digital devices	MND Deputy Secretary of State for Infocommunication	2015 Q2-2020
3. Preparation and launching of a call for proposals	MND Deputy Secretary of State for Infocommunication	2015 Q2

Estimated costs	State budget in 2015- 2020: HUF 10-12 bn
Expected result	Access to existing and planned administration and market e-services will be facilitated by providing citizens access to e-administration and market e-services made accessible through the outcomes of other projects and by encouraging their use.
Monitoring/indicators	Output indicators: The number of disadvantaged citizens accessed through the service. Result indicators: Increase of everyday ICT use among the residents (%)

Other remarks	

DK/E1/A4

Pillar **DK - Digital competences**	**Set of instruments** E1 - Development of digital competences within the population	**Related actions (code number)**
	Measure/action **A4 - Development of public internet access points as well as strengthening the correlation between public education and public internet access points**	DK/E1/A1 EB/E1/A1

Objective of the measure	The measure aims to develop the infrastructure and services of communal ICT access points and, through these, to facilitate e-inclusion. The network of eMagyarország (eHungary) points and cultural institutes play a significant role in developing the digital competence of rural populations, provides internet access points to citizens and thereby makes it possible for the state to disseminate to citizens through these access points the services it provides electronically to the greatest extent possible.
Related strategic objectives	Relevant Actions of the Digital Agenda (Actions 66, 68) Public education development strategy EDIOP 7.1 national specific target: Increasing citizens' access to ICT
Content of the measure	In a significant segment of society, narrowing the digital gap has progressed very slowly; what is more, some 41% of the adult population is still digitally illiterate. In the case of the most disadvantaged groups, even creating a need for demand is an essential task, to which the state-run communal access points are highly suitable. The development of the former significantly contributes to involving the digitally illiterate population in the information society. The network of communal ICT access points, cultural institutes and Community Service Spaces play a significant role in developing the digital competence of the rural population, provides internet access to citizens and thereby makes it possible for the state to disseminate to citizens through these access points the services it provides electronically to the greatest extent possible. Some of the points (approximately 400) were already given subsidies for the modernisation of their facilities necessary for the provision of the services they provide in the previous budget period already, while a significant part of them were left out of the development. In order that these points could provide services to citizens at an appropriate standard, infrastructure and service development is required. Within the framework of the measure, the development of already existing but primarily of still to be established communal internet access points and the widening of the range of services they offer are to be subsidised by improving the infrastructure, facilities and services and human resources of the access points, in order that a broad spectrum of the digitally still illiterate population be given a chance to become part of the digital world. It also needs to be examined if the programme – which is financed from EDIOP resources – can be extended across the borders.

Operational tasks	**Responsible**	**Scheduling**
1. Survey of the eMagyarország (eHungary) network, (including Integrated Community Service Spaces, public libraries).	MND Deputy Secretary of State for Infocommunication, PMO	2015 Q1
2. Elaboration of a construction through the development concept of the communal internet access points which takes into account the reinforcement of the relationship (co-operation) of these points and the public educational institutions	MND Deputy Secretary of State for Infocommunication, MHR, MNEEDIOP MA	2015 Q2

Pillar **DK - Digital competences**	**Set of instruments** E2 Measures aiming at the enhancement of internet penetration and online presence of micro, small and medium-sized enterprises **Measure/action** **A1 – Sector-specific motivation and attitude-formation programmes targeted at the owners and managers of micro, small and medium-sized enterprises in order to make them aware of the benefits of the use of the internet and the infocommunication devices and applications**	**Related actions (code number)** DG/E3/A1 DG/E3/A2 DG/E3/A4

Objective of the measure	Increase in the innovative approach and up-to-date business knowledge of Hungarian micro, small and medium-sized enterprises, improvement of the skill level and professional use of ICT instruments and applications, i.e., the integration of enterprises into the digital economy. The related objective is to increase the participation of SMEs in supports schemes aimed at corporate ICT development to be launched within EDIOP (primarily the future EDIOP 3.2.2 Support of corporate process management and e-trade schemes) in order to increase the efficiency of the absorption of funds and achievement of the OP objectives.
Related strategic objectives	EU Small Business Act 'Facilities SMEs' access to funding' target Relevant measures of the Digital Agenda (Actions 57; 58, 128) SME strategy EDIOP national specific target 6.2: To raise the utilisation level of infocommunication solutions among enterprises
Content of the measure	- Elaboration of SME (sector) specific attitude formation and dissemination programmes - Establishing a national chamber SME ICT counselling network - Implementation of sector specific ICT attitude formation and competence development programmes for SMEs based on the national network of chambers of economy (events, e-learning, voucher, quality assessment system). - Elaboration and launch of a communication, information and media campaign, describing the role of ICT devices and services in companies (for manages) especially those that facilitate a higher degree of IT services, and more complex solutions that improve the efficiency of operation and the income generating capacity of the company. - Ensuring the sustainability of the programme and preparation of an interactive portal presenting the best practices, within the framework of which the SMEs can upload the project documents of their implemented ICT developments, thus assisting the managers of SMEs preparing for or planning, development. - Elaboration of an IT procurement decision supporting system on an interactive portal, offering customized ICT products and services according individual characteristics specified by the company (size of company, corporate lifecycle, activity etc.), free of charge for the SMEs.

	Main knowledge elements: Basic ICT devices and solutions Cloud services Complex IT solutions for SMEs Electronic trade opportunities E-administration applications IT counselling services Form of implementation: indirect encouragement of companies with ICT motivation and sectorial focus, with the involvement of the major designated interest representation organ of the companies , and through the application of priority project procedures.

Operational tasks	Responsible	Scheduling
1. EDIOP 3.2.1 'Elaboration of the increase of the ICT skills and knowledge of managers, owners and employees of micro, small and medium-sized enterprises' scheme	MND Deputy Secretary of State for Infocommunication, HCIC	2014 Q4
2. EDIOP 3.2.1 National launch of the 'Elaboration of the increase of the ICT affinity and knowledge of managers, owners and employees of micro, small and medium-sized enterprises' scheme	MND Deputy Secretary of State for Infocommunication, MNE EDIOP MA, HCIC	2015 Q1
3. Implementation of the programme	HCIC Consortium	from 2015 Q2

Estimated costs	EDIOP 3.2.1: HUF 5 bn
Expected result	With the measure the ICT motivation and qualifications obstacles of Hungarian SMEs will decrease and they will become able to keep up with the technical expectations of the times through effective use and storage of information, thereby their competitiveness will be better, they will have a better chance to operate on the market and join the supply chain and will also have stronger job creating and preserving abilities.
Monitoring/indicators	Output indicator: Number of SMEs involved in the ICT motivation and attitude formation programmes: target: 8,000 Result indicator: The number of new business ICT solutions introduced at the SMEs involved in the programme, target value: 16,000
Other remarks	

DK/E3/A1

Pillar **DK - Digital competences**	**Set of instruments** E3 -Development of digital competences among the public sector employees (public service employees, public servants, health and social workers, teachers, etc.).	**Related actions (code number)** Actions of the Digital State pillar
	Measure/action **A1 - Integration of practical e-administration skills in the public administration training (basic and high level) programmes designed for public service employees and other public sector workers**	

Objective of the measure	Developing the IT user and e-administration knowledge of public sector employees
Related strategic objectives	Magyary Programme Lifelong learning framework strategy PSDOP The development of preparedness of human resources working in the administration sector E-administration
Content of the measure	The development of IT (especially e-administration) knowledge of all people working in the administration and the public services sectors must be continuously taken care of.

Operational tasks	**Responsible**	**Scheduling**
1. The survey of the IT skills of people working in the public administration and the public services sectors.	MI, PMO, MHR,NUPS	2015 Q1
2. Elaboration of a modular syllabus, based on a series of several supplementary training activities	MI, PMO, MHR, NUPS	2015 Q2
3. Regular further training of public administration and the public services sectors employees in ICT, transfer of their current knowledge and information	MI, PMO, NUPS	from 2015 Q3

Estimated costs	Total: HUF 2.9 bn KÖFOP: HUF 2.5 bn CCHOP Priority 9: HUF 0.4 bn
Expected result	Increasing the number of individuals with user level or even higher knowledge of ICT in public administration
Monitoring/indicators	Output indicator: Increase in the number of users trained in public administration Result indicator: Increase in the number of further trained government IT experts
Other remarks	

DK/E3/A2

Pillar **DK - Digital competences**	**Set of instruments** E3 - Development of digital competences	**Related actions (code number)**

	within the public sector	DA/E5/A5
	Measure/action **A2 - Support of acquiring basic, medium and high level digital competences among public education and higher education employees (teachers, tutors working in higher education) and launch of training programmes providing special infocommunications methodology information**	
Objective of the measure	To increase and develop the IT knowledge of all public employees, working at any level of the educational system and in related cultural istitutes. In order to reform the educational system and to make it competitive, it must have experts who recognise and support the need for digital competencies. The individuals working in education are committed to an exemplary conduct, and therefore it is extremely important that they should also try and make the importance of digital competencies clear to young people through extending their own knowledge.	
Related strategic objectives	Relevant Actions of the Digital Agenda (Action 61,62) Public education development strategy Strategy of Higher Education Lifelong learning framework strategy	
Content of the measure	The lack of motivation is a problem, and therefore measures need to be elaborated that contain significant incentives. Knowledge can be obtained and expanded through education and training. The obtained knowledge and competence could be a motivating tool encouraging people to acquire further information. In order to achieve that goal, training and further training activities must be organised on a wide basis. In the first step the current situation and the level of digital literacy of the employees need to be assessed. That requires the involvement of local organisations and trade unions and assotiations, who do not only conduct a survey, but also inform their employees on the importance of digital competencies, and then encourage teachers to acquire that knowledge. Following the status analysis a national comparison must be prepared in order to develop appropriate training and education plans. Following level testing, training packages can be elaborated to teach individual at various levels from the digitally illiterate to regular computer users. New types of training are required in order to resolve the problem to make the target group truly motivated to use those skills as everyday practice in their own lives and not only until they acquire the qualifications. Apart from motivation, the lack of adequate infrastructure and instruments is also a problem. Consequently, a further objective is to develop a sufficient environment, where the acquired knowledge can be used. In order to increase the efficiency of the organised training, IT teachers of institutions and experts, using computer technology at higher levels should be involved. Training delivered by them will be more effective because teachers understand and rely on it, and therefore the training can be turned into interactive training, where the knowledge can be acquired much faster and much more efficiently. Work-out of training packages are needed, wich – moreover the use of basic ICT knowledges – adjust to the	

	curriculum of the particular fields, professions and teaching methods. Involvement of the IT teachers and in other ICT application leading, other vocatinal teachers is needed as well. With the involvement of the IT teachers a multiplicator impact can be achieved, because the teachers can be motivated through commitment and remuneration.

Operational tasks	Responsible	Scheduling
1. Completion of a national status analysis with the involvement of local organisations and trade unions (e.g., National Teacher Faculty, Association of Hungarian Librarians, Association of IT and Computing Teachers, partner institutions): assessment of the level of qualifications and status of the available instruments.	MHR	2015 Q1
2. Elaboration of training programmes according to the national data.	MHR	2015 Q1
3. Removing hurdles from the training activities by providing devices and access	MHR	2015 Q1
4. Plans for trainers and their remuneration, launching programmes	MHR	2015 Q2
5. Launching training programmes which provide special, infokommunication methodical skills.	MHR, Deputy Secretary of State for Infocommunication	2015 Q2
6. Elaboration of eCurriculum with methodical guidance	MHR	2015 Q2
7. Training in a low number of lessons in order to develop different level ICT competencies	MHR	2015 Q2

Estimated costs	Under planning: HROP: HUF ~ 3 bn CCHOP: Priority 7
Expected result	All teachers involved in education have minimum IT skills, and digitally literate individuals can expand their knowledge, which in total will increase the quality of education.
Monitoring/indicators	Output indicator: Number of trained educational employees Result indicator: Enhanced use of ICT facilities during lessons
Other remarks	

DK/E3/A3

Pillar **DK - Digital competences**	**Set of instruments** E3 - Development of digital competences within the public sector **Measure/action** **A3- Review and repositioning of the infocommunications education (IT, subject and infocommunications as a type of approach and a useful supplementary tool in training)**	**Related actions (code number)** DG/E1/A1

Objective of the measure	Re-positioning of infocommunications training, and strengthening its role in public education
Related strategic objectives	Relevant actions of the Digital Agenda (Actions 57, 58) Public education development strategy Strategy of Higher Education
Content of the measure	The options to increase the number of IT lessons in all types and years of school need to be examined. It is suggested to have at least 1 IT lesson per week in every training form, every year. IT education should be made mandatory again in public education institutions from the fourth year and the options to implement it from the first year should also be considered. It is necessary to revise the curriculum and its adjustment to the National Basic Curriculum. IT education must be made mandatory again in special schools. IT lessons should be reintroduced in the last two years of secondary schools in order to train students choosing IT as one of the subject in their GCSE exam. It is important to teach basic programming skills (playful robot programming, developing mobile phone application, etc.) in practical way and expectations both in public education and vocational training. The conditions of teacher training with IT major also need to be examined and strengthened. The IT training and the preparation them to use ICT applications, need to be supervised especially regarding the training of Bas and teachers. The ICT competences of graduating prospective teachers are unsatisfied and uneven according to the institution they were studying, which do not make them capable for the every-day use of ICT and the transmission of digital literacy. The digital pedagogy must be disseminated widely together with a change in the respective culture of teachers, with special regard to the education of disadvantaged and increasingly disadvantaged children. Encouragement for an IT engineer career is a main objective in relation to such people. The significant updates of ICT syllabus and curriculum are indispensable.

Operational tasks	**Responsible**	**Scheduling**
1. Preparation of a proposal on the options	MND Deputy Secretary of	2015 Q3

	to increase the number of IT lessons in public education	State for Infocommunication, MHR	
2.	Wide dissemination of the tools of digital pedagogy, further training of teachers, strong ICT training of students of teacher training colleges	MHR, MND Deputy Secretary of State for Infocommunication	2015 Q3
3.	Promotion of the career as an IT engineer among children with disadvantaged and increasingly disadvantaged status, involvement of special activities, special groups and guest speakers, etc. and other instruments	MHR, MND Deputy Secretary of State for Infocommunication	2015 Q3
4.	Providing eContent and eCurriculum in high quality	MHR	2015 Q4

Estimated costs	Under planning (HROP, CCHOP)
Expected result	More effective IT lessons in public education, increase in the number of students opting for an IT career, reduction in the shortage of the IT engineers
Monitoring/indicators	Output indicator: Number/ratio of teachers trained with the support of ICT instruments Number and ratio of digital training materials and contents, available free of charge Number of pilot initiatives in public education Result indicator: The increasing number of students participating in teacher training who are attending compulsory IT training. Increase in the number of teachers using ICT in education daily, increase in the number of students applying for training in natural sciences in higher education, increase in the number of subject materials supplementing only e-learning and traditional training materials
Other remarks	

PILLAR 3 DIGITAL ECONOMY

DG/E1/A1

Pillar **DG - Digital economy**	**Set of instruments** E1 - Improving the quantitative and qualitative indicators of higher level ICT training in order to reduce the shortage of experts	**Related actions (code number)** DK/E3/A3
	Measure/action **A1 - Strengthening of IT as a subject and digital culture in the new content regulations of public education, attracting students to ICT profession**	

Objective of the measure	Review and co-ordination of lower, secondary and higher level IT education, and its regular modernisation by taking into account the new devices and the need to satisfy the requirements of the labour market.
Related strategic objectives	Relevant actions of the Digital Agenda (Action 58,60) Public education development strategy Strategy of Higher Education
Content of the measure	Information technology as a subject needs to be confirmed in the new contents of public education and be considered as a horizontal development area, dedicated to digital literacy and digital competencies. Modernisation of the contents of IT training, user level skill development, group work and national and international community building tasks, involving also parents for the implementation of family and local community programmes. Use of ICT applications in the teaching of other subject through the processing of various topics (e.g., environmental protection, science, history). Organising ICT themed competitions, study groups, foundation of scholarships in order to increase the popularity of IT. The other objective is to teach students for secure Internet use.

Operational tasks	**Responsible**	**Scheduling**
1. Regular revision of the subject material in line with the technology development	MHR	2015-2020
2. Regular teacher training (e.g. e-learning, MOOC), creating awareness of the advantages of using ICT (faster, more effective, creative education, experience offered to students, elimination of any digital gap between the teachers and students)	MHR	2015-2020
3. Dissemination of model training programmes in order increase ICT use and the efficiency of IT training	MHR, MND	2015-2017
4. Planning and issuing tender facility	Deputy Secretary of State for Infocommunication	2015 Q2
5. Making a career in IT attractive to students with special regard to encouraging disadvantaged students	MHR	2015-2020

to opt for a career as an IT engineer, through educational groups, activities, with the help of decision-makers of IT companies and guest speakers		
6. Procurement of devices, software and services that support IT training in primary and secondary schools	MHR	2015-2020

Estimated costs	under planning (HROP priorities 3 and 4, CCHOP priority 7)
Expected result	More effective IT lessons in public education, increase in the number of students opting for an IT career, reduction in the shortage of the IT engineers
Monitoring/indicators	Output indicators: Number/ratio of teachers trained with the support of ICT instruments Number and ratio of digital training materials and contents, available free of charge Number of pilot initiatives in public education Result indicators: Increase in the number of teachers using ICT in education daily, increase in the number of students applying for training in natural sciences in higher education, Increase in the number of subject materials supplementing only e-learning and traditional training materials
Other remarks	

DG/E1/A2

Pillar **DG - Digital economy**	**Set of instruments** E1 - Improving the quantitative and qualitative indicators of higher level ICT training in order to reduce the shortage of experts	**Related actions (code number)** DG/E1/A3
	Measure/action **A2 - Regular monitoring of higher level IT trainings and their adjustments to market requirements with the involvement of market actors and/or their NGOs (e.g., ICT Association of Hungary)**	

Objective of the measure	Modernisation and renewal of Hungarian IT engineer training, reduction in the migration of well-trained experts
Related strategic objectives	Relevant actions of the Digital Agenda (Actions 59, 60) Higher education strategy
Content of the measure	It is a well-known fact in training and on the labour market that while graduates and expert holding diplomas in many disciplines at the beginning of their career find it difficult to get a job in Hungary, highly trained IT experts will be required both in Hungary and abroad on a continuous basis. Important components for improving the process affecting the training: - modernisation and regular revision of the IT OKJ in vocational training and in adult training - rationalisation of higher education vocational training, by making it more market-oriented - regular development of IT engineer training in higher education Counter effects: Drastic decline in the number of IT lessons in primary and secondary schools relatively low wages in the ICT sector in Hungary compared to other countries

Operational tasks	**Responsible**	**Scheduling**
1. Annual reviews of the contents of higher-level IT trianing (based on employers' recommendations)	MHR, MNE	2015-2020
2. Setting up the IT unit of the higher education round table	MHR, MND Deputy Secretary of State for Infocommunication	2015 Q2

Estimated costs	-
Expected result	Modernisation and renewal of Hungarian IT engineer training, reduction in the migration of well-trained experts
Monitoring/indicators	Output indicator: Number of reviewed trainings and courses Result indicator: Rise in the number of participants in higher ICT education
Other remarks	

DG/E1/A3

Pillar **DG - Digital economy**	**Set of instruments** E1 - Improving the quantitative and qualitative indicators of higher level ICT training in order to reduce the shortage of experts **Measure/action** **A3- Encouragement and support of cooperation between educational institutions and ICT enterprises (establishment of competence centres, research cooperation, etc.)**	**Related actions (code number)** DG/E1/A2
Objective of the measure	Support to co-operation between lower secondary and higher educational institutions and ICT companies	
Related strategic objectives	Relevant actions of the Digital Agenda (Action 59) Strategy of Higher Education EDIOP specific target 6.1: Increasing the international competitiveness of the ICT sector	
Content of the measure	One of the salient problems is that the number of IT specialists with up-to-date knowledge is low, while the Hungarian ICT market could give work to many more IT specialists and engineers than the current number of graduates in this field. One of the reasons for this is that there is not a close enough cooperation between ICT enterprises and educational institutions. The shortage of specialists affects both the ICT sector itself and sectors using ICT, and limits the growth of the sector as well as of the economy in general. In view of the above it is a priority goal to increase the number of IT higher education students and successful graduates by raising interest in and demand for IT and related studies (through open days, competitions, road shows), on the one hand, and to encourage cooperation between companies in the ICT industry and educational institutions through motivation and communication campaigns, events, workshops and corporate counselling, on the other hand. Potential components of the measure: • Within the framework of career orientation workshops held at the educational institution, representatives of the IT enterprise draw students' attention to the qualifications they represent and to employment opportunities potentially available, by presenting the range of responsibilities involved in the potential jobs, in a way meeting students' age, and telling them about earning opportunities and challenges in the profession. Interested students from the school could visit the site of the IT enterprise concerned and have a glance into the activities performed there. If possible, the IT enterprise should help set up a model enterprise office at the educational institution, helping the establishment and continuous operation of the former by facilities and/ or experience.	

	• Developing cooperation with various institutions which have pursued or would pursue similar social efforts (e.g. ICAKA Hungary); encouraging establishing relations between start-ups and institutions / educational institutions supporting the former and creating scholarship opportunities for the youth, intensive development of international student cooperation programmes. • Operating robotics workshops at secondary schools, arousing interest in high tech industries and the sponsoring of the former by companies. • Seeking sponsors in higher education; strengthening university-research-corporate relations; facility modernisation; sponsoring short study trips abroad		
Operational tasks	**Responsible**		**Scheduling**
1. Examining the situation and problems of and obstacles to IT specialist and engineer training in Hungary; conducting analyses.			2015 Q1
2. Launching a tender facility in order to improve cooperation between ICT companies and higher education institutions with a view to increase the number of IT graduates.	MND Deputy Secretary of State for Infocommunication		2015 Q2
Estimated costs	Total: HUF 8.5 bn EDIOP 3.1.1.: HUF 6 bn CCHOP priority 3: HUF 2.5 bn		
Expected result	With the help of the established co-operation students will find it significantly easier to choose a career, and personal contacts make it possible that the IT company would be considered as a partner of the school as a practical training site, as well as a potential site of future employment. The educational institution can also benefit from the relationship since the pool where it can choose its potential students from will be bigger. ICT companies can profit, accordingly, as well, being able to employ a higher number of ICT specialist career starters with knowledge meeting market demands.		
Monitoring/indicators	Output indicators: Number of educational institutions which were able to develop active co-operation with one or more IT companies operating in their area Number of competence centres and cooperation relations established Result indicator: Increase in the number of graduated IT students Increase in the number of IT graduates who find a job at rural ICT enterprises		
Other remarks			

DG/E1/A4

Pillar **DG - Digital economy**	**Set of instruments** E1 - Improving the quantitative and qualitative indicators of higher level ICT training in order to reduce the shortage of experts	**Related actions (code number)** DK/E3/A2
	Measure/action **A4 - Encouragement and support of ICT adult training programmes in order to enable employees to swap from areas, close to IT (e.g., graphic artist, designer, mathematician, etc.) to IT, encouraging girls to opt for an IT career, and encouraging female workers for retraining**	

Objective of the measure	Review of occupation, similar to IT, decision on the conditions of re-training and assistance in re-training to IT. Approaching female employees is especially important.
Related strategic objectives	Relevant actions of the Digital Agenda (Action 60) Public education development strategies Strategy of Higher Education Lifelong learning framework strategy
Content of the measure	The target group is formed by workers, currently working in different areas but would like to retrain as IT experts, or who have realised that without ICT skills their chances to find a job will decrease significantly and, following the acquisition of basic skills would like to learn an occupation that requires ICT/IT skills. Primarily individuals with similar qualifications, with whom the number of experts with professional IT skills can be extended. At the same time, recently graduated, generally young IT experts having high-level theoretical knowledge but little practical experience should be able to acquire knowledge that enhances their 'marketability' through the transfer of practical knowledge and experiences of market actors.

Operational tasks	**Responsible**	**Scheduling**
1. Assessment of the status of qualifications, which are disadvantaged in terms of the labour market, but are similar to IT professions	MNE SSVTLM, MHR, MND Deputy Secretary of State for Infocommunication	2015 Q2
2. Elaboration of retraining programmes by taking into account former studies (acquired competencies)	MNE SSVTLM, MHR, MND Deputy Secretary of State for Infocommunication	2015 H2
3. Preparation and issuance of a call for proposals related to the programme.	MNE SSVTLM, MHR, MND Deputy Secretary of State for Infocommunication,	2015 Q3
4. Implementation of (sectorially qualified)	MNE SSVTLM, MHR,	2016-2018

	trainings (e.g. e-learning, MOOC) in line with market requirements for employees switching jobs (e.g., from the fixed telecommunications sector into mobile or media IT networks, media communication experts, etc.) Specialised trainings (e.g., Network database, Telecommunications, Chip design, energy, e-health, media IT training, etc.) Practical, hands-on (work-based) trainings at manufacturers and service providers Development of communication skills, project approach and project management capacities Support to post gradual training	MND Deputy Secretary of State for Infocommunication	
5.	Encouragement of higher education actors for satisfying special further training requirements of the companies of the IT sector and encouraging female students in secondary schools and higher education and other female employees already working in similar jobs, in the same way as men are encouraged for an IT career	MNE SSVTLM, MHR, MND Deputy Secretary of State for Infocommunication	2016-2020

Estimated costs	under planning, EDIOP priority 6 and/or HROP)
Expected result	It is likely that more trained workers will be able to find a job in the ICT sector, the pace of decline in the shortage of IT engineers can slow down and more IT experts can stay in Hungary.
Monitoring/indicators	Output indicators: Number of participants in retaining activities • Number of participants in further training • Number of universities/companies who took part in training programmes • Result indicators • Increase in the number of experts employed by manufacturers' R+D+I centres • Increase in the ratio of fulfilled jobs that required IT skills • Increase in the number of workers who find a job as a result of retraining

DG/E2/A1

Pillar **DG - Digital economy**	**Set of instruments** E2 - Support of the development of exportable application and electronic services of Hungarian ICT companies **Measure/action** **A1 - Seed capital financing and incubation support for ICT start-up companies;**	**Related actions (code number)** DG/E2/A2 DG/E2/A3
Objective of the measure	To improve the capital position of innovative ICT, micro, small and medium-sized enterprises in their start-up (seed and initial) phase through seed capital financing and incubation support (as a supplement to programmes supporting the technological incubator and start-up enterprises and the Jeremie programme)	
Related strategic objectives	Relevant Action of the Digital Agenda (Action 127) National Strategy on Research and Development Innovation (RDI) S3 National Strategy on Smart Diversity EDIOP 2.2. boosting R+D+I activity among knowledge and technology intensive enterprises	
Content of the measure	Special support is required for the capital financing, required for the entry into the market and dynamic growth of innovative, knowledge and technology intensive SME enterprises because the companies trying to introduce innovations, especially the innovative companies of the rapidly developing technology intensive and high tech sib-sector face more difficulties than the general difficulties. Those companies can provide especially effective help towards the modernisation of the economy and the acceleration of its dynamism. Another reason for the need of long-term state support is that investment into the operation of an entrepreneur incubator is the most cost effective method for job creation. Owing to the use of this instrument, the failure ratio of start-up enterprises can be reduced significantly, their innovation performance can be improved and their growth can be accelerated. Within the framework of this measure the supply of capital required for the growth of the companies and support for the financing of incubators are basic tasks, to which a state organ is to be designated. In Hungary the volume of venture capital investment is very low in international comparison. The majority of the existing investments favour production activities that are mature for the market instead of activities still in the innovation phase. Some investors have recently opted to early financing of technology companies, but the invested capital is very low. Consequently, **the designation of state-owned fund management company could be an effective method for the mediation of funds.** Its main responsibility is to promote the development of micro, small and medium-sized enterprises, operating in the Hungarian IT and telecommunications sector with good growth potential with classical venture capital, primarily in the early phase of operation. The fund can make up for basic inadequacies in the Hungarian private venture capital investment market, because at the moment there is no other similar fund in Hungary. The Fund can supplement the previously announced New	

	Széchenyi Venture Capital Programme (JEREMIE II), which provides capital financing mainly to small and medium-sized enterprises in their growth phase, not registered in the central region. In addition, it also finances enterprises that started with a split or through legal succession, where a former successful enterprise deems feasible the launch of a new activity in a company with a separate legal entity.

Operational tasks	Responsible	Scheduling
1. Examine and establish an institutional system for the implementation of the programme	MND Deputy Secretary of State for Infocommunications, PMO, MNE	2015 Q1
2. Launching the programme	MND Deputy Secretary of State for Infocommunications, PMO, MNE EDIOP MA	2015 Q2

Estimated costs	Total: HUF 7.29 bn EDIOP priority 2: HUF 2.5 bn (non-reimbursable) CCHOP priority 2: HUF 1.29 bn (non-reimbursable) EDIOP priority 8: HUF 3.5 bn (reimbursable)
Expected result	The capital position of the companies of the Hungarian ICT SME sector in their early (seed and initial) stage will improve, which will also dynamise the implementation of innovative developments.
Monitoring/indicators	Output indicator: Number of supported ICT technology incubators Result indicators: Increase in the number and volume capital investments Rate of Hungarian ICT SMEs operating with the involvement of venture capital
Other remarks	From 1 July 2014 venture capital (risk financing) support can be provided pursuant to the new general block exemption regulation (GBER) and the risk financing guideline. If the conditions listed in Chapter 1 of GBER are fulfilled, the support can be provided in a national procedure with the approval of the State Aid Monitoring Office (SAMO). If the conditions are not fulfilled, the measure must be reported to the DG competition of the Commission (the procedure requires at least 6 months and it is not yet worth launching it until the new regulation is available). It should be highlighted that the draft guideline expects certification of the market inadequacy in the SME's access to funding to such depth that indicates a relatively long approval procedure.

Pillar **DG - Digital economy**	**Set of instruments** E2 - Support of the development of exportable application and electronic services of Hungarian ICT companies	**Related actions (code number)** DG/E2/A1 DG/E2/A3 DG/E2/A4 KFI/E3/A2
	Measure/action **A2 - targeted support for the marketability of the products and services of ICT companies**	

Objective of the measure	Support for the development of innovative ICT ideas into market products and services, their implementation and utilisation for business purposes.
Related strategic objectives	EDIOP 6.1 national specific target: Increasing the international competitiveness of the ICT sector.
Content of the measure	The innovative developments can be used only if marketable products can be generated from them and they can be applied to a smaller or larger target group, also with special regard to international coverage. That is why activities involved in the development of ICT products and services and their introduction to the market should be supported.

Operational tasks	**Responsible**	**Scheduling**
1. Consultation with professional organisations	MND Deputy Secretary of State for Infocommunications	2015 Q1
2. Review of market requirements	MND Deputy Secretary of State for Infocommunications	2015 Q1
3. Elaboration of support schemes	MND Deputy Secretary of State for Infocommunications, MNE EDIOP MA	2015 Q2
4. Launching of calls for proposals	MND Deputy Secretary of State for Infocommunications, MNE EDIOP MA	2015 Q2

Estimated costs	Total: HUF 9 bn - EDIOP 3.1.2/A: HUF 3.5 bn (non-reimbursable) - EDIOP 8: financial instruments: HUF 5.5 bn (reimbursable)
Expected result	Owing to the marketability of innovative developments, the sector's economic performance will improve further, thus contributing to GDP increase.
Monitoring/indicators	Output indicator: Number of innovative ICT developments marketed within the framework of the support. Result indicator: Increase in the ratio of marketable innovative ICT developments.
Other remarks	

DG/E2/A3

Pillar DG - Digital economy	Set of instruments E2 - Support of the development of exportable application and electronic services of Hungarian ICT companies Measure/action **A3 - Support in the initial international efforts of ICT start-up companies (exhibitions, conference, private start-up events, etc.)**	Related actions (code number) DG/E2/A1 DG/E2/A2 DG/E2/A4

Objective of the measure	Support of participation of start-up ICT enterprises in international events, competition and innovation tenders
Related strategic objectives	EDIOP 6.1 national specific target: Increasing the international competitiveness of the ICT sector Relevant Action of the Digital Agenda (Action 127)
Content of the measure	Currently there are very few world standard ICT products and services on the world market that were developed in Hungary. The software and IT service export is not dynamic enough in the Hungarian infocommunications sector, although the opportunities and facilities are good. The essential joint professional platform is not always active among Hungarian companies, there is no internationally effective sectorial representation, the ratio of participation of Hungarian companies in various foreign exhibitions and fairs is also low. Appearance in international events and presentation of their business ideas would provide great opportunities to stand out for start-up companies. Participation in technological exhibitions can lead to international recognition and may attract the attention of potential foreign investors too. Within the framework of the measure a support scheme will be developed in which the following expenses are eligible for support in relation to participation in special exhibitions, conferences and other start-up events: • market-specific advertising and marketing activities, • software localization, • travel expenses (accommodation, travel) • participation fee, • rental of premises, design of the information stand • specific costs of certain marketing devices (printed information materials, electronic data media, and production costs of other leaflets) • costs of mandatory conformity and certification procedures • costs of the market organisation, • costs of membership in international organisations

Operational tasks	Responsible	Scheduling
1. Elaboration of the support scheme	MND Deputy Secretary of State for Infocommunications , MNE EDIOP MA	2015 Q2

2. Call for proposals		MND Deputy Secretary of State for Infocommunications, MNE EDIOP MA	2015 Q3
Estimated costs	Total: HUF 4 bn - EDIOP 3.1.3/A: HUF 2 bn (non-reimbursable) - EDIOP 8: financial instruments:.: HUF 2 bn (reimbursable)		
Expected result	The companies will gain international recognition. Hungarian ICT companies will be able to implement their business ideas with the help of potential foreign investors. The products and services generated by the company can be sold on the market, there will a boost to the export of the sector as a result of which its presence in external markets will also expand.		
Monitoring/indicators	Output indicator: Number of start-up companies attending international events with the help of the support Result indicator: Increase of Hungarian software and IT services exports		
Other remarks			

DG/E2/A4

Pillar **DG - Digital economy**	**Set of instruments** E2 - Support of the development of exportable application and electronic services of Hungarian ICT companies **Measure/action** **A4 - Support programme for smart and medium enterprises (SMEs) in infocommunication to promote export when they step into new markets which activity has indirect impact on national software export.**	**Related actions (code number)** DG/E2/A2 DG/E2/A3 KFI/E3/A2
Objective of the measure	Support to the expansion abroad of Hungarian ICT companies with the help of specifically targeted credit facilities in order to enable them to exploit their export opportunities more widely and to increase their competitiveness on the external markets.	
Related strategic objectives	EDIOP 6.1 specific target : Increasing the international competitiveness of the Hungarian ICT sector	
Content of the measure	The software development and IT services sector is dominated by Hungarian-owned companies that produce internationally marketable products and services with high quality employees and with high added value. Consequently, this sector is one of the sectors of the Hungarian economy that could be a breakthrough point also towards the world market. That is why the increase in the number, economic potential and export capacity of those companies is an important factor of competitiveness. In the framework of this measure the objective is to generate resources, with internationally favourable and competitive prices, through prefinancing loans and guarantee with an interest rate, fixed for the entire tenor in order to offer medium-term financing for export production in the long term. The support cannot compete with the banks operating in the private sector. It promotes the implementation of export deals that would otherwise not be established and assist the preservation of existing jobs in Hungary, the creation of new jobs, and the development of the national economy. In addition to the above, the following expenses are also eligible for support within the framework of this action: • market-specific advertising and marketing activities, • software localization, in relation to participation in special exhibitions, conferences and other start-up events: - travel expenses (accommodation, travel) - participation fee, - rental of premises, design of the information stand - specific costs of certain marketing devices (printed information materials, electronic data media, and production	

	costs of other leaflets) - costs of mandatory conformity and certification procedures - costs of the market organisation, costs of membership in international organisations

Operational tasks	Responsible	Scheduling
1. Review of the applicable EU regulations in view of the export pre-financing support opportunities	MND ICSS, MNE	2015 Q2
2. Elaboration of a call for proposals for allocating reimbursable subsidies to the actors operating in the financial intermediary system	MNE EDIOP MA, MND ICSS	2015 Q2
3. Launching of call for proposals and facilitation of reimbursable subsidies through financial intermediaries	MND ICSS, EDIOP MA,	2015 Q3

Estimated costs	Total HUF 10 bn - EDIOP 3.1.3/B: HUF 3.5 bn (non-reimbursable) - EDIOP 8 financial instruments:: HUF 6.5 bn (reimbursable)
Expected result	Improved export capacity of the producers of Hungarian ICT products and services, and an increase in the volume of the export of products and services.
Monitoring/indicators	Output indicator: Disbursed export pre-financing loan amount Result indicator: Growth in Hungarian software and IT services exports
Other remarks	

DG/E3/A1

Pillar **DG - Digital economy**	**Set of instruments** E3 - Support to the development of internal IT and electronic services of SMEs **Measure/action** **A1 - Support of the introduction of IT systems (integrated corporate governance, management information, administration, etc.) within the company**	**Related actions (code number)** DK/E2/A1 DG/E3/A2 DG/E3/A4

Objective of the measure	To strengthen the efficiency and income generating capacity of Hungarian SMEs through effective infocommunications solutions (enterprise management systems, CRM, decision supporting solutions, etc.) in internal corporate business processes.
Related strategic objectives	EU Small Business Act 'Facilitate SMEs' access to funding' objective Relevant measure of the Digital Agenda (Actions 128) SME Strategy EDIOP 6.2 national specific target: Raising the usage level of infocommunication solutions among enterprises 3.2.2 Increasing the efficiency and informatisation of SMEs
Content of the measure	Envisaged actions and programmes EDIOP 3.2.2/A 'Corporate process management and e-trade support' call for applications for non-reimbursable subsidy and (subject to availability) micro credit (EDIOP 8. financial instruments priority) combined scheme (Part 1) Complex corporate infocommunications developments and solutions assisting modern corporate operation, organisational control and production/services are eligible for support within the framework of the scheme in the following target areas: 1. Corporate CRM, sales; 2. Manufacturing; 3. Human resource management and contract-based wage accounting; 4. Controlling and decision support 5. Procurement, logistics; 6. Distance and group work support; 7. Finance, accounting; 10. Introduction of a workflow (WF) system; 11. Introduction of an electronic document management system 12. Introduction of a supplementary specialised system (using knowledge management or ERP-related mobile technology or geographic information technology (GIS) or RFID technology) Support: max 40 %, HUF 1 – 15 mn (non-reimbursable) + max 45%, HUF 1 -15 mn (micro credit)

Operational tasks	**Responsible**	**Scheduling**
1. EOP 2.2.1 (2.2.3) and CHOP 1.2.5 (1.2.7) Ex post evaluation of the support scheme	NMD ICSS MNE EDIOPMA,	2015 Q1
2. New (combined with micro credit is	NMD ICSS MNEEDIOP MA	2015 Q1

possible) EDIOP 3.2.2 'Corporate process management and e-trade support' call for proposals		
3. Launch of the new (combined with micro credit is possible) EDIOP 3.2.2 'Corporate process management and e-trade support' call for proposals	NMD ICSS MNEEDIOP MA	2015 Q1

Estimated costs	Total HUF 25 bn - EDIOP 3.2.2/A HUF 11 bn (non-reimbursable subsidy) - EDIOP 8 financial instruments : HUF 14 bn (microloan)
Expected result	With the measure the SMEs will become able to keep up with the technical expectations of the times through effective use and storage of information, thereby their competitiveness will be better, they will have a better chance to operate on the market and join the supply chain and will also have stronger job creating and preserving abilities.
Monitoring/indicators	Output indicator: • Number of businesses with support EDIOP 3.2.2 total target value: 3000 Result indicator: • Number of introduced new business ICT applications and modules in supported enterprises: EDIOP 3.2.2 total target value: 8000
Other remarks	

DG/E3/A2

Pillar **DG - Digital economy**	**Set of instruments** E3 - Support to the development of internal IT and electronic services of SMEs **Measure/action** **A2 - Encouragement of the online presence of micro, small and medium-sized enterprises and support of the introduction of product and service sales support online solutions (web shops, web stores, market places, auction sites, legal online music and audiovisual services, etc.)**	**Related actions (code number)** **DK/E2/A1** DG/E3/A1 **DG/E3/A4** **DG/E4/A1**

Objective of the measure	Increasing the electronic trade turnover of Hungarian SMEs by improving extra-company and inter-company business processes through disseminating infocommunication solutions (online stores, market places, etc.) facilitating electronic trade
Related strategic objectives	EU Small Business Act 'Facilitate SMEs' access to funding' objective Relevant measures of the Digital Agenda (Actions 9; 104; 128) SME Strategy EDIOP 6.2 specific target: Raising the usage level of infocommunication solutions among enterprises
Content of the measure	Envisaged actions and programmes EDIOP 3.2.2 'Corporate process management and e-trade support' call for applications for non-reimbursable subsidy and (subject to availability) micro credit (EDIOP 8 financial instruments priority) combined scheme (part 2) Info communication development, aimed at the increase of corporate e-trade and development of modern B2B business e-services are eligible for support in the following target areas: 1. Internet sales (Company webstore) 2. B2B-based virtual shopping centres/electronic services 3. Virtual companies Support: max 40%, HUF 1 – 15 mn (non-reimbursable) + max 45%, HUF 1 -15 mn (micro credit)

Operational tasks	**Responsible**	**Scheduling**
1. Ex post evaluation of EDOP 2.2.1 (2.2.3) CHOP 1.2.5 (1.2.7) support schemes	MND ICSS, MNE EDIOP MA	2015 Q1
2. Elaboration of the new (combined with micro credit if possible) EDIOP 3.1.5 'Corporate process management and e-trade support' call for proposals	MND ICSS, MNEEDIOP	2015 Q1
3. Launch of the new (combined with micro credit is possible) EDIOP 3.1.5 'Corporate process management and e-trade support' call for proposals	MA MND ICSS, MNE EDIOP MA	2015 Q1

Estimated costs	Total HUF 16 bn - EDIOP 3.2.2/A: HUF 7 bn (non-reimbursable subsidy); - EDIOP 8 financial instruments : HUF 9 bn (micro credit)

Expected result	With the measure the SMEs will become able to keep up with the technical expectations of the times, thereby their competitiveness will be better, they will have a better chance to operate on the market and join the supply chain and will also have stronger job creating and preserving abilities.
Monitoring/indicators	Output indicator: Businesses with support: EDIOP 3.2.2 Total target value: 3000 Result indicator: Number of introduced new business ICT applications and modules in supported enterprises EDIOP 3.2.2 Total target value: 8000
Other remarks	

DG/E3/A3

Pillar DG - Digital economy	Set of instruments E3 - Support to the development of internal IT and electronic services of SMEs	Related actions (code number) DK/E1/A3
	Measure/action **A3 - Instruments aimed at increasing the IT skills of employees (e.g., training);**	

Objective of the measure	Assistance in the adaptation to fast changes in IT solutions, use of basic applications at skill level, dissemination of the innovative approach and increase in up-to-date knowledge among the employees.
Related strategic objectives	Relevant action of the Digital Agenda (Action 126) EDIOP 12.1 specific target: Raising the activity and awareness of labour market participants in the fields of work organisation methods and work quality.
Content of the measure	The purpose of the training is to encourage company employees to use ICT devices, programmes and business softwares extensively. The objective is to boost the global competitiveness of the Hungarian SME sector through the development of word processing, spreadsheet and database management as well as presentation skills of the employees into high level skills required on the labour market and their ICT focused business training and modernisation of relevant e-business knowledge

Operational tasks	Responsible	Scheduling
1. Working out training programmes for SME employees (digital skill development, advanced ICT training)	MNE SSVTLM, MND ICSS	2015 Q1
2. Launching ICT training programmes for employees	MNE SSVTLM, MND ICSS, MNE EDIOP MA	2015 Q1

Estimated costs	under planning (EDIOP priority 6)
Expected result	Increase in the number of SMEs using e-learning solutions for training Increase in the number of SME employees using ICT devices at user level.
Monitoring/indicators	Output indicator: Number of SMEs taking part in the training programmes Number of updated e-learning materials Result indicator: Number of SME employees who have acquired a certificate
Other remarks	

DG/E3/A4

Pillar **DG - Digital economy**	**Set of instruments** E3 - Support to the development of internal IT and electronic services of SMEs **Measure/action** **A4 - Support of the development and implementation of cloud-based (e.g., IaaS, PaaS, SaaS) corporate services and ICT solutions and ICT-based innovation.**	**Related actions (code number)** DK/E2/A1 DG/E3/A1 DG/E3/A2 DG/E4/A1

Objective of the measure	Cloud computing, which is based on Internet-based services, intelligent clients and tools enables companies to reduce, IT investment costs and to use higher quality ICT solutions. Support is required for the market development of those solutions; in addition, in order to increase the efficiency of the company and competitiveness, companies need to be encourage to introduce and use cloud-based services (IaaS, PaaS and SaaS).
Related strategic objectives	EU Small Business Act 'Facilitate SMEs' access to funding' objective Relevant measures of the Digital Agenda (Actions 107, 120; 121) SME Strategy EDIOP 6.2 specific target: Raising the usage level of infocommunication solutions among enterprises
Content of the measure	Envisaged actions and programmes I. 'EDIOP 3.2.3/A Support of the development and implementation of cloud-based (e.g., IaaS, PaaS, SaaS) corporate services combined' scheme of non-reimbursable support and (if possible credit guarantee capital (EDIOP 7. priority financial instruments) The purpose of the support is to encouraged development and introduction in the market of cloud-based IaaS, PaaS, SaaS solutions and tools supporting corporate operation, management, production and services, offered to small and medium-sized companies (SMEs) by specialised companies. (Further) development of cloud-based applications is eligible for support that are innovate and can expect considerable market demand (e.g., niche) both on the national and regional international markets. The scheme aims at those segments of the Hungarian application providers that intend to serve sectors with their solutions where there is a shortage of IT services at the moment but are important to the national economy. Support: max 40%, HUF 20 – 250 mn (non-reimbursable) + max 40%, HUF 20 250 mn (micro credit) II. 'EDIOP 3.2.3/B „Dissemination and introduction to SME-s of could-based (IaaS, PaaS, SaaS) corporate services, e-invoicing, e-signature and other state of the art IT applications'. On the demand side indirect sector focussed encouragement is needed for the enterprises in order to disseminate the cloud-type business solutions with the involvement of professional organisations and institutions, mediating support and with the help ofvoucher facilities and other non-traditional means of support. Scope of support and amounts: to be defined later.

Operational tasks	**Responsible**	**Scheduling**
1. EDOP 3.4.1 Ex post evaluation of the support	NMD ICSS MNEEDIOP	2015 Q1

scheme		
2. Elaboration of a new (combined with financial instruments if possible) EDIOP 3.2.3/A 'Support to the development and introduction in the market of cloud-based (IaaS, PaaS, SaaS) corporate services and ICT solutions' call for proposals scheme	NMD ICSSMNEEDIOP MA	2015 Q2
3. Launch of EDIOP 3.2.3/A call for proposals scheme	NMD ICSS MNEEDIOP MA	2015 Q2
4. Development of a new 'EDIOP 3.2.3/B „Dissemination and introduction to SME-s of cloud-based (IaaS, PaaS, SaaS) corporate services, e-invoicing, e-signature and other state of the art IT applications' call for proposals scheme.	NMD ICSS, MNEEDIOP MA	2015 Q2
5. Launch of a new 'EDIOP 3.2.3/B call for proposals scheme.	NMD ICSSMNEEDIOP MA	2015 Q2

Estimated costs	EDIOP 3.2.3/A: HUF 2 bn (non-reimbursable subsidy); EDIOP 8: financial instruments: HUF 3.5 bn (reimbursable) EDIOP 3.2.3/B: HUF 4 bn (non-reimbursable subsidy); EDIOP 8: HUF 5 bn (reimbursable subsidy); CCHOP priority 1: HUF 360 mn
Expected result	The introduction of cloud-based solutions contributes to the improvement of the internal and external corporate operation of Hungarian SMEs, thus improving competitiveness. With the help of the targeted support the market of IT companies engaged in cloud computer technology in Hungary can improve, the number of clients can increase and the companies can offer their services on the international market (primarily in the neighbouring countries), as a result of which the Hungarian ICT exports could also be boosted.
Monitoring/indicators	Output indicator: EDIOP 3.2.3/A: Businesses with support: Target: 25 EDIOP 3.2.3/B: Number of involved intermediary organisations EDIOP 3.2.3: Number of SMEs, reached with cloud-based solutions: aggregated target: 4000 Result indicator: EDIOP 3.2.3: Number of new cloud-based IT solutions introduced at the supported companies, aggregated target: 10 000
Other remarks	

DG/E4/A1

Pillar **DG - Digital economy**	**Set of instruments** E4 - Boosting the market of electronic commerce, electronic invoicing and electronic payments, dissemination of e-signatures	**Related actions (code number)** DG/E3/A3
	Measure/action **A1 - identification and mitigation of the factors impeding the dissemination of electronic services (business and consumer trust, regulatory background, framework, etc.);**	
Objective of the measure	Further encouragement of the spread of electronic retail trade, maintaining the pace of growth	
Related strategic objectives	Relevant actions of the Digital Agenda (Actions 9, 104)	
Content of the measure	According to the 2012 action plan of the EU Commission the dissemination of electronic trade needs to be encouraged in order to form a single digital market. The Hungarian measures must achieve that with legislative and non-legislative instruments.	

Operational tasks	**Responsible**	**Scheduling**
1. Identification of administrative and legal obstacles preventing the dissemination of electronic trade and regular consultations with the interest	MND ICSS	continuous

	representation organisations in that context.		
2.	Transposition of the EU legal acts, implemented within the framework of the 2012 e-trade action plan of the Commission.	MND ICSS/affected ministries	depending on the action plan
3.	Awareness increasing campaign to boost consumer trust and avoid fraud	MND ICSS	2015 Q2
Estimated costs	-		
Expected result	Increasing e-trade turnover in all segments		
Monitoring/indicators	Output indicators: The motivation campaign is completed and launched; the transposition of the EU legal acts referred to in Paragraph 2 is implemented; Result indicator: continued annual growth of AB2C e-trade.		
Other remarks			

PILLAR 4 DIGITAL STATE

DÁ/E1/A1

Pillar **DÁ – Digital State**	**Set of instruments** E1 - Supply of the IT background supporting the internal public administration processes and electronic public administration services	**Related actions (code number)** DA/E1/A3
	Measure/action **A1 - Further development of the single government IT background (hardware and software infrastructure, operation), IT background supporting the internal processes and services of government institutions (G2G);**	

Objective of the measure	A stable and secure government IT background should be established and operated reliably in order that the internal processes and operational efficiency of institutions can be improved.
Related strategic objectives	Relevant actions of the Digital Agenda PSDOP Government and state IT development
Content of the measure	Establishment of a new, modern, extremely energy efficient, high security IT data centre supply the IT background that supports the internal public administration processes and electronic public administration services by providing a safe location for public administration IT instruments. A network service with sufficient availability and capacity should be provided for government institutions, which enables them to conduct their operation based on network relations. The established professional computer centre will facilitate an ideal level of operational costs through the physical location of IT devices (not used by end users) even with the enforcement of operational requirements, including especially security criteria. The IT (computer) capacity will be made available, based on which government institutions can use capacities better and can operate more effectively.

Operational tasks	**Responsible**	**Scheduling**
1. Working out the concept	PMO, MI	2015Q1
2. Launching schemes	PMO, MI, PMO PSDOP	2015 H1

3. Establishing the network environment of data centres, followed by establishing the software infrastructure to the operation of the hardware layer	NISZ Zrt.	2015
4. The more effective and complex utilisation of the free capacities of the existing physical systems based on the cloud concept can reduce the impacts on development of the inadequate financing of institutional IT projects.	NISZ Zrt.	2015-2016
5. The developments will enable the creation of a more efficient capacity management and the elimination of parallel sections, thereby ensuring increased capacities and enabling an increase in the current standard of service.	NISZ Zrt.	2016

Estimated costs	Total: HUF 12.78 bn PSDOP 11 bn CCHOP priority 9: HUF 1.78 bn
Expected result	The more effective and more complex utilisation of the free capacity of the existing physical systems with the cloud concept may reduce the impact on development of the inadequate financing of the IT investment projects of institutions. Contrary to isolated systems, there will be high availability (data are accessible) and safe data storage (data cannot be lost, their preservation may be guaranteed). He systems implemented there will provide the central part of the cloud infrastructure to be used intensively, which fundamentally define the performance indicators of the layers built on them. In the course of new institutional development in an established clout it will not necessarily be required to design an own infrastructure as a project. The central requirements for the government IT systems can be implemented more effectively. As a result of central development the insufficient financing of institutional IT developments can be improved indirectly through the cloud infrastructure. Group work and content provision could develop between government agencies according to standard solutions.
Monitoring/indicators	Output indicators: Number of the replaced present datacentres Result indicator: The extent of specific operational cost reduction in the central government thanks to the IT developments
Other remarks	

DÁ/E1/A2

Pillar **DÁ – Digital State**	**Set of instruments** E1 - Supply of the IT background supporting the internal public administration processes and electronic public administration services	**Related actions (code number)** DÁ/E2/A1 DÁ/E1/A3
	Measure/action **A2 - Development of information systems, supporting the internal public administration processes, development of IT (e.g., economy support, personnel, document management) government services and cloud-based state IT services**	

Objective of the measure	Establishment of a standard IT infrastructure for government, local government and other state agencies, supply of integrated IT services and application services (ASP), by taking into account special information security and service levels.
Related strategic objectives	Relevant actions of the Digital Agenda Magyary Programme PSDOP: Government and state IT developments
Content of the measure	Implementation of administration, communication (e-mail) office applications of public administration agencies and ministries as a service. The required infrastructure can be achieved through the further development of the capacity of the government cloud.

Operational tasks	**Responsible**	**Scheduling**
1. Review of the public administration application assets	PMO, MI	2014-2015
2. Launching schemes	PMO, MI, MNE EDIOP MA	2015 Q2
3. Horizontal expansion and capacity increase, improved operational safety	MI, NISZ Zrt.	2015-2016
4. Vertical expansion - increase of the service level	MI, NISZ Zrt.	2017-2018

Estimated costs	Total: 10.45 bn PSDOP: 9 bn CCHOP priority 9: HUF 1.45 bn
Expected result	Wider availability with more capacities. With the implementation of the administration, communication (e-mail) and office applications and special systems of public administration agencies and ministries in the form of services effective licence management and simpler user support can be achieved, and therefore costs can be saved. The development of a standard service package also points towards efficiency.

Monitoring/indicators	Output indicators: Number of replaced previous applications based on outdated technologies Number of newly implemented and launched central governmental (G2G) IT services Result indicator: Reduction in the operational costs of governmental IT applications The extent of specific operational cost reduction in the central government thanks to the IT developments
Other remarks	

DÁ/E1/A3

Pillar Digital state	Set of instruments E1 - Development of electronic public services and accessibility of the digital data assets Measure/action A3 - Digitisation of internal and external processes of the sectorial institutions	Related actions (code number) DI/E4/A1 DÁ/E3/A4 EB/E2/A2

Objective of the measure	Electronisation of processes and connections between actors operating in de major public sector institutional and supply systems (pension and social matters, employment, justice, police, security, disaster protection, defence, national security, construction, territorial development, climate issues, agricultural issues, rural development, tax administration, financial organisations) and between institutions (internal) and sectors (institutions) concerning citizens and corporate matters. Through the infocommunications developments the efficiency of the institutional system will improve and times, resources and costs can be saved in the sectors.
Related strategic objectives	Relevant measures of the Digital Agenda (Actions 21-27; 79; 110) PSDOP Government and state IT development
Content of the measure	Actions and programmes envisaged for support within the framework of the measure. • Complex infocommunications development assisting the co-ordinated and cost-effective operation of the social, child welfare and child protection systems. (HROP) • Electronisation of cultural public services and development of the infrastructure required for accessing them, IT development in the institutions providing cultural services (HROP) • Improvement of the ICT infrastructure and e-administration of employment institutions; (PSDOP) • Renewal of the infocommunications systems of defence forces, judicial agencies and courts; (PSDOP) • Infocommunications developments, supporting the operation of police and other security agencies; (PSDOP) • Development of the IT systems of agricultural and rural centres; (PSDOP) • Developing the information systems to support the makers of the document in authentication in public administration (PSDOP) • Digitalization of base documents belonging to registers of national data assets (PSDOP) • Infocommunications development of the institutions of other sectors. (PSDOP) Form of implementation: a project pool or project channel will be established for the sectors (central institutions) within the PSDOP and HROP (additional resource for Central Hungary: CCHOP), where the projects will be collected and evaluated according to the infocommunications strategy and the government strategy concerning

	the specific field. After the support decision has been made, the development projects will be implemented under the co-ordination of a central organisation, Scope of support and amounts: to be defined later.

Operational tasks	Responsible	Scheduling
1. Appointment of the organisation co-ordinating the central IT developments and arrangements for the legal authorisation	PMO, MI, MND ICSS	2015 Q1
2. Opening of the PSDOP project pool / project channel (launching constructions)	PMO, MI, MND ICSS, PMO PSDOP MA	2015 Q2
3. Selection of the first development projects	PMO, MI, MND ICSS, PMO PSDOP MA	2015 Q3
4. Launch and implementation of the development projects	Central co-ordination organisation and project owners	2015 Q3 - 2020

Estimated costs	Total: HUF 42.26 bn HROP: HUF 4 bn PSDOP: HUF 30 bn CCHOP priority 7: HUF 1.7 bn CCHOP priority 9: HUF 6.56 bn
Expected result	By implementing(in a co-ordinated fashion) of the developments, supported in the measures, the following can be achieved: • Reduction in the implementation time of the projects • Interoperability in the complete state IT spectrum • Sustainable operation in all segments • Improvement in the quality and efficiency of public services, reduction of the operating expenses
Monitoring/indicators	Output indicator: Number of sectorial IT development projects, launched and implemented under central co-ordination Result indicators: Number of sectorial/institutional functional areas covered by the new IT services of the implemented systems Number of the public electronic services, made available or further developed as a result of the project
Other remarks	Related actions: Strengthening the cooperation and transferability of databases, performing data cleansing processes, secure data exchange and further increase in data protection

DÁ/E1/A4

Pillar **Digital State**	**Set of instruments:** E1 - Development of electronic public	**Related actions (code number)**

	services and accessibility of the digital data assets	
	Measure/action **A4 – Development of the IT background supporting the operational and internal processes of regional public administration (government offices, district offices, government windows**	DÁ/E1/A1 DÁ/E1/A2

Objective of the measure	The standardisation and consolidation of the IT systems of regional public administration organs in order to reduce operational costs and enhance operational efficiency. The development requires the replacement of amortised facilities, the acquisition of new facilities and the standardised operation of these two thereafter (in part through NISZ Zrt. as the governmental IT service provider).
Related strategic objectives	Magyary Zoltán Programme PSDOP e-public administration
Content of the measure	Priority developments (projects) in the following fields: • the development of the IT system providing legal supervision • supporting the maintenance of IT relations between regional and central offices • developing the procedural order and work processes of the Budapest and county government offices in order to establish automated workflow through file management and administrational systems.

Operational tasks	**Responsible**	**Scheduling**
1. Preparation of programme; consultations with the ministries concerned	PMO, MI, NISZ Zrt.	2015 Q1
2. Elaboration of schemes	PMO, MI, PMO PSDOP MA	2015 Q2
3. Launching the schemes	PMO, MI, MND ICSS, MI PSDOP MA	2015 Q3
4. Implementation of the projects	PMO, MI, NISZ Zrt.	2015 – 2018

Estimated costs	Total: HUF 27.88 bn PSDOP: HUF 24 bn CCHOP priority HUF 3.88 bn
Expected result	Through the infocommunication developments implemented, the following can be achieved: • savings in resources and operational costs can be realised in regional public administration, • the quality of state services and the efficiency of processes within the regional public administration institutional systems are to improve
Monitoring/indicators	Output indicator: The number of functional fields in regional public administration

	covered by the newly introduced systems from an IT point of view Result indicator: The rate of specific cost reduction in regional public administration thanks to the IT developments
Other remarks	

DÁ/E2/A1

Pillar **DÁ – Digital State**	**Set of instruments** E2 - Digitisation of public administration processes, ICT support to the public administration reform **A1 - Encouragement and support paperless processes in central public administration institutions**	**Related actions (code number)**

Objective of the measure	The purpose of this measure is to operate the data management and the operation of effectively, more modern and cost efficiently general administrative processes. Further purpose is to work out electronic authentication in data and document delivery among public administrations and further joint organisations, moreover to give support for the whole procedure going fully electronically. As a result of the development the internal processes of public administration will definitely improve and become faster, time, resources and costs can be saved and the level of information security will also be higher.
Related strategic objectives	Magyary Programme - to reduce the administration burden, - to reduce paper consumption, - to reduce the throughput and administration time of various matters, - transfer to a different organisation and administration without re-registration of documents already registered electronically in one organisation (registered, digitised), - co-operation between the information systems used by the organisations - development of fully electronic digital image-based administration within the organisations, - controlled entry and utilisation of partner and client data, - transfer of documents of long-lasting value into the e-archive, - fast and cost effective monitoring of changes, resulting from legal regulations and requirements stemming from organisational restructuring.
Content of the measure	The purpose is to enable such developments that can support the document handing according to general requirements on document handing for organisations in public administration (to get access to filing system, to transfer documents electronically among organisation units) and the introduction of the hybrid postal services. It also need to involve all who were not obliged in the first developing phase. Over the above mentioned there are two developing areas. One of this is to digitalize inner workflow, the other one is to establish identified electronic forward/ delivery on data providing among organisations through computer interface. This action will lead: - to reduce administrative burdens/less administration burden -to reduce paper consumption/ less paper printings - to reduce the throughput and administration time in various matters/ less time devoted to office routine

	- once digitally filed documents need no further filing when derived to another organisation unit - to give data electronically confident from registers belongs to national data assets - to reduce (minimise and if possible mitigate) paper based processes -to prepare documents with electronically generated authentication signature - to ensure transfer of documents of long lasting value into the e-archive/ to ensure e-archives for documents ranked archive

Operational tasks	**Responsible**	**Scheduling**
1. Review of in the public administration used data management and workflow applications	PMO, MI	2014-2015
2. Working-out and launch of constructions	MI , PMO, PSDOP MA	2015
3. Launching such supportive systems in further institutions which are able to tender documents, process based in the workflow and give electronically confident data. Information giving to end users on supportive systems.	MI	2015-2016
4. Extended facility to storing e-documents	MI, NISZ Zrt., concerned Ministries	2016

Estimated costs	PSDOP source: HUF 8 bn CCHOP priority 9: HUF 1,29 bn
Expected result	The affected public procedures are becoming simple, the workflow in public procedure will be renewed, and information technology based services will be more intensify. The electronically confident data and document exchange will be completed. The problems of physical restoration of documents will be solved indirectly in the long term.
Monitoring/indication	Output indicator: The number of organisations connected to electronic filing system and postal regulated electronic public service Result indicator: Reduced scale in paper based (public) procedures
Other remarks	

DÁ/E2/A2

Pillar **DÁ – Digital State**	**Set of instruments** E2 - Digitisation of public administration processes, ICT support to the public administration reform **Measure/action** **A2 - Coordination of any background development required for the implementation of regulated electronic administration services (REAS);**	**Related actions (code number)** DÁ all actions but particularly DÁ/E4/A1 DÁ/E4/A2

Objective of the measure	Improving G2C and G2B relations through shorter administration deadlines; standard opening hours; online customer services; simple identification; obstacle-free administration.
Related strategic objectives	Relevant objectives of the Digital Agenda (Actions 109, 110) Magyary Programme PSDOP E-government
Content of the measure	With a view to develop, propagate, educate services and if necessary organised consolidation, streamlining of the organisation and operation itself; taking legal and public policy measures (see tasks).

Operational tasks	**Responsible**	**Scheduling**
1. Ex-post law revision, harmonisation, ex-ante impact assessment	MI, PMO, MPAJ, COAEPS, Hungarian Post	2015-2016
2. Decisions on rights, functional utilisation of institutions, effective use of the National data Assets.	COAEPS, NISZ Zrt., Hungarian Post	2015
3. Work-out and launch of constructions	MI, PSDOP MA	2015
4. Developing services	COAEPS, NISZ Zrt., Hungarian Post	2015-2016
5. Work-out appropriate guidance for the end users. The necessary guidance on services which provided by the government compulsory will be worked out too.	PMO, MI, COAEPS, Hungarian Post	2015-2016

Estimated costs	Total: HUF 7 bn PSDOP: HUF 6,027 bn CCHOP priority 9: HUF 973 mn
Expected result	Work-out and launching a widespread system to maintain effective communication with clients.
Monitoring/indicators	Output indicators: Number of reviewed laws and regulations; Number of completed impact studies; Number of completed guidelines; number of trained employees.

	Result indicators: Number of features covered by the systems and/or developments introduced
Other remarks	-

DÁ/E2/A3

Pillar DÁ – Digital State	Set of instruments E2 - Digitisation of public administration processes, ICT support to the public administration reform Measure/action A3 - Local government IT development	Related actions (code number) DI/E4/A1 EB/E2/A1

Objective of the measure	The aims of the intervention are to digitise the internal and external processes of the local government sector, to improve the operational efficiency of the institutions through ITC, to widen the range of electronic services offered by local governments (especially of those provided by the governmental ASP centre) and to raise the standard and quality of these services.
Related strategic objectives	Standardisation and computerisation of the financial processes of local governments PSDOP: E-government
Content of the measure	Country wide extension of the local governmental ASP (centre) Priority developments (projects) in the following fields: • Extending the application portfolio of the local government ASP centre; • Developing access to the registers belonging to the national data assets but not to the ASP centre; • Ensuring the access to the central government specific systems • Launching new central electronic services for local governments; Tendering opportunities for the following fields: • Support for joining local government ASP centre

Operational tasks	Responsible	Scheduling
1. Programme preparation and consultations with the respective ministries	MI, PMO, MND Deputy Secretary of State for Infocommunications, GITDA	2015 Q1
2. Elaboration of schemes	MI, MND, Deputy Secretary of State for Infocommunications GITDA, PMO PSDOP MA	2015 Q3Q2
3. Launching of the schemes	MI, MND Deputy Secretary of State for Infocommunications GITDA, PMO PSDOP MA	2015 Q3
4. Project implementation	GITDA, NISZ Zrt.	2015-2016

Estimated costs	Total: HUF 16.26 bn PSDOP: HUF 14 bn CCHOP priority 9: HUF 2.26 bn

Expected result	Through the IT developments on the customers' side, the standard, quality and efficiency of local government services and administration opportunities are to improve to the benefit of citizens and economic players. Through the introduction of new ICT services and ICT developments, savings are to be realised in the resources and operational costs of the local government system.
Monitoring/indicators	Output indicators: Number of connected local governments Result indicators: Number of new local government IT solutions accessible from the local government ASP centre Number of local government (G2B, G2C) electronic services newly available
Other remarks	

DÁ/E3/A1

Pillar DÁ – Digital State	Set of instruments E - Interoperability and common standards	Related actions (code number)
	Measure/action **A1 - Putting in place a legislative framework for the transferability of infocommunications technologies, elaboration of a system requirements and recommendations for the application of widely used standards in order to achieve interoperability**	DÁ/E3/A2 DÁ/E3/A3 DÁ/E3/A4

Objective of the measure	Legal and semantic development must be completed and standards need to be developed in order to achieve a higher level of interoperability.
Related strategic objectives	Relevant Actions of the Digital Agenda (Actions 21, 22, 89) Magyary Programme Measure 73 of the Simple State Programme, which sets the objective of increasing the interoperability of state databases and complete interoperability in administration based on the matching and co-ordination of records.
Content of the measure	Regulation of the establishment of full interoperability in public administration (see tasks) PSDOP E-government

Operational tasks	Responsible	Scheduling
1. Revision of the regulatory environment, adjustment of the sectorial rules to the general principles of the law	MI, PMO, MPAJ, concerned Ministries	2015 Q3
2. Work-out and launching constructions	MI, PMO, PSDOP MA	2015 Q3
3. Regulation of the minimum content to be regulated in relation to records and synchronisation of data originating from other registers.	MI	2015 Q3
4. Elaboration of the List of Standardised Concepts	MI	2015 Q4
5. Establishment of a register of records	MI	2015 Q4

Estimated costs	Total: HUF 3 bn PSDOP: HUF 2,6 bn CCHOP priority 9: HUF 400 mn
Expected result	Elimination of the administrative burden through the achievement of interoperability.
Monitoring/indicators	Output indicator: Number of reviewed sectorial legal regulations, Result indicators: Number of standard pertaining to the data contained in the records, Number of standardised concepts, Number of registered records.

Other remarks	In the EU 2014-2020 plans interoperability was a priority, and therefore it is extremely important to carry on the regulatory concept established by the end of 2013 and to perform the procedural semantic and technical tasks from EU resources. Measure 73 of the Simple State Programme and the establishment of the matching register was a progressive step towards interoperability, but further regulations still had to be developed in that respect. The regulatory framework of interoperability of state databases is set out in the Act on the general rules of co-operation between state and local government records and the implementation decrease thereof. In addition, the review of the Act on the National Data Assets and the implementation decree is also in progress, forming an inseparable part of the regulatory concept and ensuring full interoperability. The overall objective of the measure is to develop the services Hungarian public administration offered to private individuals and companies in line with the Community interests and basic principles. Legal, technical, semantic and organisational development is required for achieve a higher degree of interoperability. Administration organisation is one of the keys to the success of public administration projects, although it has been neglected so far: integration of IT solutions into procedures and public administration organisation, prior organisation of rights, tasks and correlation between actors, which is a key factor of interoperability. In the subsequent period, in line with the key measures specified by the European Commission, the details of the Hungarian interoperability must be designed by taking into account the further development and maintenance of the legal environment concerning the transferability of infocommunications technologies and the supply of electronic services. In order to standardise the indication and format of registered data, a List of standardised Concepts must be developed. The List of Standardised Concepts is an instrument for collecting the data including in different registers into a single framework in terms of their title, meaningful content and format. As a result of the regulations, the registers will have to be reviewed. The justification of the continuation of parallel registers of certain data will need to be reconsidered; by adjusting the sectorial rules to the general principles of the law certain unnecessary administrative obligations originating from multiple, and often unnecessary collection of data, can also be eliminated. In order to improve the reliability of registers the minimum content of the registers to be regulated, the required synchronisation of data originating from other registers need to be identified. It is also part of the regulatory concept that whenever an authority concludes that any data registered by it and also be other authority are incorrect, they must indicated immediately to the authority keeping the original register. Strengthening the co-operation and transferability of the databases is a key component in interoperability. Significant tasks must be performed in order to achieve compete functional interoperability. One of the most important steps in that respect is the development and transformation of the structure and master data architecture of public records into a

	centrally regulated format. In the course of developing the services we intend to apply the principles of suitability for use, security and data protection, higher conformity with the international environment and transferability in the spirit of subsidiarity and proportionality, availability of the services and equal opportunities. The objective is to reduce the customers' administration obligations, to involve more the parties concerned in the development of services, to make the completed development documented accurately and in detail and to guarantee security and the protection of personal data.

DÁ/E3/A2

Pillar DÁ – Digital State	Set of instruments E3 - Interoperability and common standards	Related actions (code number)
	Measure/action **A2 - Putting in place a legal framework for cross-border recognition and interoperability of secure e-authentication systems**	DÁ/E3/A1 DÁ/E3/A3 DÁ/E3/A4

Objective of the measure	Putting in place a legal framework for cross-border recognition and interoperability of secure e-authentication systems
Related strategic objectives	Relevant actions of the Digital Agenda (Action 21, 22, 23, 24, 26) Magyary Programme
Content of the measure	Putting in place a legal framework for cross-border recognition and interoperability of secure e-authentication systems

Operational tasks	**Responsible**	**Scheduling**
1. Standardisation of Hungarian and international concepts	MI	2015-2016
2. Elimination of any the parallel data handling practice through the instruments of regulations	MI	2015-2016
3. Work-out and launching of construction	MI, PMO, PSDOP MA	2015
4. Implementation in Hungary of the rules of national and international database co-operation, or separate legal regulations	MI	2015-2016
5. Achieving info security in cross border co-operation with the help of regulatory instruments	MI	2015-2016
6. Regulations for new types of registers (e.g., etalon register)	MI , MPAJ	2015-2016

Estimated costs	Total: HUF 3 bn PSDOP: HUF 2,6 bn CCHOP priority 9: HUF 400 mn
Expected result	Co-operation ability of national and international databases may improve significantly
Monitoring/indicators	Output indicator: Reduction in the number of parallel data handling instances, Result indicator: Increase in the number of database co-operation
Other remarks	

DÁ/E3/A3

Pillar DÁ – Digital State	Set of instruments E3 - Interoperability and common standards	Related actions (code number)
	Measure/action A3 - Modernisation of public records and electronic identification (IT and organisational development, interoperability, methodology, human resources, legislation)	DÁ/E3/A1 DÁ/E3/A2 DÁ/E3/A4

Objective of the measure	Introducing conditions of personal identification and personal identification document, suitable for the supply of electronic services
Related strategic objectives	Relevant actions of the Digital Agenda (23, 24, 29) PSDOP: e-administration, government IT Magyary Programme Achievement of full interoperability in public administration
Content of the measure	Electronic customer identification and introduction of a modern personal identification document based on the results of the Customer Gateway, the Matching of Records and the GovCA

Operational tasks	Responsible	Scheduling
1. Central Authentication Agent (KAÜ) development	MI, NISZ Zrt., COAEPS	In progress
2. Elaboration of new development scheme	MI, PMO, MND Deputy Secretary of State for Infocommunications, PMO PSDOP MA	2015 Q1
3. Launching of new scheme	PMO, MI, MND ICSS, PMO PSDOP MA	2015 Q2
4. Introduction of the legal conditions of a single electronic personal identification document	MI, PMO, MPAJ, COAEPS	2015 Q2
5. Opportunities to use electronic personal identification in public administration (personal, legal and physical conditions)	MI, PMO, COAEPS	2015 Q4

Estimated costs	Total: HUF 8.7 bn PSDOP: HUF 7.5 bn CCHOP priority 9: 1.2 bn
Expected result	Electronic identification will become available within a wide range and spectrum; opportunities for citizens and enterprises for the administration of their affairs are simplified.
Monitoring/indication	Output indicator: The number of emitted documents suitable for electronic identification Result indicator: Number of citizens who have possibility electronic identification
Other remarks	The results of the Customer gateway, and Matching of Registers and

	the GovCA, a Central Identification Agent System needs to be form from the mandatory public Regulated Electronic Administration Services (REAS), which is able to electronically safely identify a customer with the help of various instruments. The implementation of a new type of personal documents is another objective, to enable customers to use the related services. Based on the developments of other Member States and the main trends, we intend to rely on the results of the STORK project and the experiences of other national interoperability framework systems. At present our personal documents comply with the Schengen requirements, but they do not contain even the minimum electronic features and are not suitable for any electronic service. A modern public administration system requires personal identification cards which are suitable for electronic services.

DÁ/E3/A4

Pillar DÁ – Digital State	Set of instruments E3 - Interoperability and common standards	Related actions (code number)
	Measure/action **A4 - Strengthening the cooperation and transferability of databases, performing data cleansing processes, secure data exchange and further increase in data protection**	DÁ/E3/A1 DÁ/E3/A2 DÁ/E3/A3

Objective of the measure	Based on the regulatory and semantic developments, a higher level of interoperability must be achieved by integrating data protection and information security points.
Related strategic objectives	Relevant actions of the Digital Agenda (Actions 23, 24, 89) PSDOP: e-administration, government IT Magyary Programme: Full interoperability in public administration
Content of the measure	Putting in place a legislative framework for the transferability of infocommunications technologies, elaboration of a system requirements and recommendations for the application of widely used standards in order to achieve interoperability;

Operational tasks	Responsible	Scheduling
1. Database cleansing	MI, MND, COAEPS	in progress
2. Completion of data relational matrix	MI	in progress
3. Preparation of data relational regulations	MI	in progress
4. Secure physical data relations	MI	in progress
5. Working out new development scheme	PMO, MI, MND Deputy Secretary of State for Infocommunication	2015 Q1
6. Launching new scheme	PMO PSDOP MA, COAEPS	2015 Q2

Estimated costs	Total: HUF 3,2 bn PSDOP: HUF 2.6 bn CCHOP priority 9: HUF 420 mn
Expected result	Elimination of the administrative burden (both for citizens and enterprises) through the achievement of interoperability.
Monitoring/indication	Output indicator: Number of information systems managing data traffic through data synchronization; Result indicator: Number of regular data transfers between various state registers Number of data cleansed records
Other remarks	In the EU 2014-2020 plans interoperability was a priority, and therefore it is extremely important to further develop the regulatory concept established by the end of 2013 and to implement technical

	developments from EU resources. Measure 73 of the Simple State Programme and the establishment of the matching register was a progressive step towards interoperability, but further regulations are still needed in that respect. The regulatory framework of interoperability of state databases is set out in the Act on the general rules of co-operation between state and local government records and the implementation decrease thereof. In addition, the review of the Act on the National Data Assets and the implementation decree is also in progress, forming an inseparable part of the regulatory concept and ensuring full interoperability. The **overall objective** of the measure is to develop the services Hungarian public administration offered to private individuals and companies in line with the Community interests and basic principles. Legal, technical, semantic and organisational development is required for achieve a higher degree of interoperability. Administration organisation is one of the keys to the success of public administration projects, although it has been neglected so far: integration of IT solutions into procedures and public administration organisation, prior organisation of rights, tasks and correlation between actors, which is a key factor of interoperability. In the subsequent period, in line with the key measures specified by the European Commission, the details of the Hungarian interoperability must be designed by taking into account the further development and maintenance of the legal environment concerning the transferability of infocommunications technologies and the supply of electronic services. The registers must be reviewed. The justification of the continuation of parallel registers of certain data will need to be reconsidered; by adjusting the sectorial rules to the general principles of the law certain unnecessary administrative obligations originating from multiple, and often unnecessary collection of data, can also be eliminated. In order to improve the reliability of registers the minimum content of the registers to be regulated and the required synchronisation of data originating from other registers need to be identified. In the course of developing the services we intend to apply the principles of suitability for use, security and data protection, higher conformity with the international environment and transferability in the spirit of subsidiarity and proportionality, availability of the services and equal opportunities. The objective is to reduce the customers' administration obligations, to involve more the parties concerned in the development of services, to make the completed development documented accurately and in detail and to guarantee security and the protection of personal data.

DÁ/E3/A5

Pillar **DÁ – Digital State**	**Set of instruments** E3 - Interoperability and common standards **Measure/action** **A5 - Apart from technology neutrality and consideration to IT security requirements, development based on software with open source codes need to be encouraged**	**Related actions (code number)**
Objective of the measure	Increase of the ratio of open standards and free software, dissemination of open standard-based technologies and free software. Sub-targets: 1. Implementation of the EU directive, elimination of technological isolation. 2. Promotion of open access to data and their utilisation for economic purposes in line with the EU directives.	
Related strategic objectives	PSDOP Governmental IT development	
Content of the measure	For Objective 1: – assessment of the technological isolation, – elaboration of public and institutional free software strategies, – elaboration of a free software public procurement guide, – requirement for, and implementation of e-government solutions based on software using open source codes,, – mandatory use of open standards, such as MSZ ISO OpenDocument, in public administration, – mandatory procurement of hardware, compatible with several operating systems, – support to the procurement and development of software products, compatible with more than one operating system at least on the client side, suitable for use of several platforms, and containing clients that may be used with a web browser only For Objective 2: – elaboration of a governmental open data strategy, – collection of data owners and elaboration of their open data strategy, – mandatory publishing of data in a format, suitable for electronic processing According to the 1479/2011 (XII.23.) Government Decision the authorities under Governmental control can only use such document format in their electronic communication, which is publicly available, can be used without restriction and based on a standard which is approved by a national standards organization. This Government Decision does not have to be applied in any cases which are technically and economically justified or in order to fulfil the obligations arising from international treaties.	
Operational tasks	**Responsible**	**Scheduling**

1. Specification in progress	MI, MND Deputy of Secretary of State for Infocommunication, PMO, NISZ Zrt.	2015 Q3 at the earliest

Estimated costs per objective	Total: HUF 3,02 bn PSDOP: HUF 2,6 bn CCHOP priority 9: HUF 420 mn
Expected result	1. Objective – cost cutting – improving, widely used electronic public services – dissemination of software with open source codes 2. Objective – economic growth through new products, services and job creation 3. Objective – elimination of IT security threats – dissemination of open technologies – increase in software legitimacy
Monitoring/indicators	Output indicator: Number of directives transposed Result indicators: Objective 1 – improving indicators reflecting the degree of technological isolation and development of infocommunications (e.g., specification of closed technologies in public procurements, etc.) Objective 2 – establishment of open data providers and databases registering their data increased in the volume of open data, – survey of projects using open data and launched with the support from the measure and their economic importance Objective 3 – Strong decline in the not supported base and user applications, – significant rise in the Internet usage of open operating systems
Other remarks	

DÁ/E4/A1

Pillar DÁ – Digital State	Set of instruments E4 - Introduction of high level and advanced residential and corporate e-services	Related actions (code number)
	Measure/action **A1 - Electronisation of public administration services to residents and corporate entities, elaboration of a system of REAS, which form mandatory obligations of the state and are available also on the market**	DÁ/E2/A2 DÁ/E4/A2

Objective of the measure	Co-ordination of regulated administration services in order to promote more effective management of public administration matters. The introduction of user-friendly (fast, comfortable, accessible online) state services supported by regulated electronic administration services (REAS; G2B, G2C) at central governmental and regional public administration institutions for citizens and enterprises.
Related strategic objectives	Relevant action of the Digital Agenda (Action 89) PSDOP e-administration Magyary Programme
Content of the measure	Supporting client-side (G2C and G2B) IT developments related to public administration expert systems, based on REAS, and necessary for serving citizen and enterprise clients, which facilitate the dissemination of electronic administration and the online accessibility of public administration services. Adopting online case monitoring and electronic invoicing solutions; establishing cloud-based, centralised administration systems with public interfaces.

Operational tasks	Responsible	Scheduling
1. Surveys on administration process types generated in public administration	MI, PMO, concerned ministries	2015
2. Breakdown of processes into segments, these determining of REAS connection	MI, PMO, concerned ministries, COAEPS	2015
3. Redefinition of the REAS compatibility processes	MI, concerned ministries, COAEPS	2015
4. Working out development schemes	MI, PMO, PMO PSDOP MA	2015 Q3
5. Launching the development schemes		2015 Q4

Estimated costs	Total: HUF 20.9 bn PSDOP: HUF 18 bn CCHOP priority 9: HUF 2.9 bn
Expected result	Through the IT developments on the customers' side, the standard, quality and efficiency of local government services and administration opportunities are to improve to the benefit of citizens and economic players. Administrational burden is to ease.

Monitoring/indicators	Output indicators: Number of assessed process types Result indicators: Number of redefined processes Number of standardized, electronic processes
Other remarks	The purpose of the new model is to enable public administration to operate electronically within its boundaries. It is an important aspect of the new model that it pushes electronisation only within public administration (in order to improve efficiency), while leave a choice for customers (a new components for that is a register of orders in order to prevent individual orders to be issued in the case of each contact). Naturally, the legal regulations may limit the possible choices (at present they are applied in the tax regulations). The administrative procedures need to be inserted to the defined framework of available REAS in order to realize the new model.

DÁ/E4/A2

Pillar **DÁ – Digital State**	**Set of instruments** E4 - Introduction of high level and advanced residential and corporate e-services	**Related actions (code number)**
	Measure/action **A2 - Decisions on matters that can be managed primary electronically and development of a complete switch-over schedule (roll-out plan).**	DÁ/E2/A2 DÁ/E4/A1

Objective of the measure	Administration processes that can be managed primary electronically
Related strategic objectives	Magyary Programme PSDOP E-government
Content of the measure	Putting in place legal and technology conditions to make sure that certain regulatory matters can be managed primary electronically. The NIS prescribed that the regulatory affairs of enterprises must be exclusively electronically arranged by 2020. For the implementation of this measure reviewing the existing legal processes and procedures is needed. The target in the G2C relationships as well is the development of the electronic administration options as much as possible.

Operational tasks	**Responsible**	**Scheduling**
1. Establishment of regulatory process types	PMO, MI	2015
2. Review of the regulatory environment	PMO, MI	2015
3. Defining and digitalization of the new processes and Allocation of a REAS to certain processes	PMO, MI, COAEPS	2015
4. Work-out and launching of constructions	MI, PMO, PSDOP MA	2015
5. Physical creation of new processes	MI, COAEPS	2016
6. Introduction of processes that may be managed only electronically	MI, concerned ministries	2018

Estimated costs	Total: HUF 3,02 bn PSDOP: HUF 2,6 bn CCHOP priority 9: HUF 420 mn
Expected result	Electronisation of the administration of certain regulatory matters and introduction of an electronic administration method as the primary solution (time saving)
Monitoring/indicators	Output indicator: Number of reviewed regulations and case types Result indicator: Number of matters that can be managed only electronically
Other remarks	Introduction of user-friendly (fast and comfortable) electronic (G2B, G2B) public services in the central government, in courts and in local government institutions, for citizens and for companies. Introduction

	of e-monitoring and electronic invoicing solutions, implementation of cloud-based centralised administration systems with public interfaces. The public administration times and the number of parties involved in an administration process can be reduced as a result of the development and the degree of electronisation of the processes can be increased. Target groups of the measure: central administrative agencies, government institutions, local governments, companies, citizens.

DÁ/E5/A1

Pillar **DÁ – Digital State**	**Set of instruments** E5 - Development of electronic public services and accessibility of the digital data assets **Measure/action** **A1 - Preparation of an e-health Action Plan**	**Related actions (code number)** DÁ/E5/A2
Objective of the measure	Elaboration of an action plan aligned to the Health Hungary 2014-2020 Health Sector Strategy and the National Infocommunications Strategy, laying down the basis of the IT development of the Hungarian health sector, its maintenance and regulations until 2020, and aiming at the reform and structural transformation of the health sector, approval of the action plan by the government and its implementation in the institutional system. The general (complex) objectives to be defined in relation to e-health are as follows: • increasing the (functional) degree of computerisation of health institutions • improving the efficiency of the processes of the health system, reduction of the operating expenses of the institutions through an increase in integration supported with infocommunications tools • increase in the strategic planning ability and the efficiency of operational economic and quality control, improving the efficiency of the system • support to patient journey administration and strengthening of the efficiency of operation of the public health development centres • support to health conduct and a responsible social approach, strengthening the responsibility of individuals in health development, increasing the individual responsible decision-making level • improving the throughput capacity of the health system and the efficiency of prevention, care and treatments through IT development • adjustment to international electronic health systems	
Related strategic objectives	Relevant actions of the Digital Agenda (Actions 75-78) Health Hungary 2014-2020 Health Sector Strategy HROP priority 1: Development of e-health care	
Content of the measure	Elaboration of e-health measures and actions up to 2020 based on the following needs, directions and plans: *a) Regulatory instruments* The following regulatory instruments will contribute to the strategic objectives in e-health: ○ Modifications in the legal regulations, required for the IT development of health sector ○ Putting in place a legal background, required for adequate management of patient data	

	○ Centralised sectorial control, strengthening of the Health IT Programme Office and increasing its rights ○ Legal bases of the IT requirements of the health sector ○ Consolidation of institutional and organisational frameworks ○ Standardisation of IT strategy, security and other regulations in the health sector *b) Fiscal (support) and development policy instruments (HROP, PSDOP, EDIOP, CCHOP):* ○ Qualitative development of sector management decision making and strategic planning ○ Qualitative and quantitative development of the existing central e-health services ○ New, central e-health services ○ Standardisation of the processing of healthcare supply system data ○ Development of information dissemination to the population ○ Developments supporting healthy lifestyles ○ Improvement in the broadband network access of health institutions ○ Support to the development in Hungary of solutions supporting a healthy lifestyle ○ Dissemination of modern applications supporting a healthy lifestyle (among the residents) (motivation and attitude formation campaign) *c Public policy and diplomatic instruments* The following public policy instruments will have to be applied in e-health in order to achieve the strategic goals ○ Spreading and dissemination of state-of-the-art applications supporting a healthy lifestyle (among the residents) (media activity) ○ Involvement in the development of international (primarily EU) e-health standards and their adaption in Hungary ○ Co-operation in relation to international (primarily EU) AAL programmes ○ Participation in the EU e-health initiatives and organisations (e.g., e-Health Task Force)

Operational tasks	**Responsible**	**Scheduling**
Establishing a task force(s) elaborating the e-Health Action Plan and its (specific) measures: involved organisations: GYEMSZI, OEP, ÁNTSZ-OTH, MND Secretariat of State for Infocommunication and Consumer Protection	MHR Health, MI, MND Deputy Secretary of State for Infocommunication	2015 Q1

1. and background institutions, professional organisations		
2. Elaboration of an E-health Action Plan, approval by government and introduction in the service system	MHR Health, MND Deputy Secretary of State for Infocommunication	2015 Q1
3. Launch of (new) e-health measures	MHR Health, MND Deputy Secretary of State for Infocommunication	2015 Q3

Estimated costs	HUF 25 mn (SIOP/SROP Technical Assistance Framework?)
Expected result	Establishment and approval of an e-health action plan, with the implementation of the measures of which the following can be achieved: • Interoperability in the total health service centre spectrum • Standard electronic data handling • Sustainable operation in all segments • Improvement in the quality and efficiency of health services • Reduction in operating expenses relating to hospital services • Minimisation of administrative health expenses
Monitoring/indication	Output indicator: Action plan is completed Number of e-health actions, launched and implemented by the government Result indicators: The ratio of medical care events in the public financed system that can be reached in the central electronic register (target: 95%). Ratio of Hungarian central systems, compatible with international e-health systems (target: 100%)
Other remarks	

DÁ/E5/A2

Pillar DÁ – Digital State	Set of instruments E5 - Development of electronic public services and accessibility of the digital data assets	Related actions (code number) DI/E4/A1 DK/E1/A2 DÁ/E5/A1
	Measure/action A2 - Development of e-health services	

Objective of the measure	Health information technology will become an organic part of the services more and more obviously. These days treatments or the operation of the insurance system can hardly been imagined without adequate records and computers, and the up-to-date diagnostic instruments may also be considered target IT instruments with a slight exact duration. The combination of the devices and applications result in the supply of more advanced health services and access to them. The purpose of the measure is to increase the degree of computerisation of internal and external processes of health institutions. Within the health system the aim is to develop horizontal (monitoring the patient supply process and the 'movements' of the patients within the system) and vertical data communications and data flow in order to comply with the EU requirements of connecting to cross-border e-health systems. Development introduction and dissemination of electronic and health solutions supporting a healthy lifestyle, e.g., remote monitoring, remote diagnostics and telemedicine applications. The general (complex) objectives related to e-health developments are as follows: • increasing the (functional) degree of computerisation of health institutions • improving the efficiency of the processes of the health system, reduction of the operating expenses of the institutions through an increase in integration supported with infocommunications tools • increase in the strategic planning ability and the efficiency of operational economic and quality control, improving the efficiency of the system • support to patient journey administration and strengthening of the efficiency of operation of the public health development centres • support to health conduct and a responsible social approach, strengthening the responsibility of individuals in health development, increasing the individual responsible decision-making level • improving the throughput capacity of the health system and the efficiency of prevention, care and treatments through IT development • adjustment to international electronic health systems
Related strategic objectives	Relevant actions of the Digital Agenda (Actions 75-78) Healthy Hungary 2014-2020 Health Sector Strategy HROP priority 1: Development of e-health care

Content of the measure	Planned areas of development (in all cases, co-financing proportionate to the Central Hungary Region, from CCHOP) **Qualitative development of sectorial management decision making and strategic planning** Total: HUF 3 bn • Inter-institutional, strategic planning targeted development • Improving intra-sectorial information sharing • Setting up a sectorial data store including public health data by using the systems available and enhancing their analysing capacity • Improving the exploration capacity of hidden correlations, • Improving control efficiency based on inter-institutional information sharing **Quantitative and qualitative development of the existing central e-health services** Total: HUF 5.2 bn • Improvement and enlargement of authentic data hubs; their national and international integration; central terminology services, putting into place IT measures improving patient and medicine safety • Extending the reporting system; consolidation of vertical data flow • Supporting inter-sectorial data exchange (NTCA, HST, KSH Statistical Office, MPAJ Company Information Registry, etc. and back) • Related operation, supervision and capacity targeted hardware/software developments **New central e-health services** Total: HUF 6 bn • Working out the central elements of telemedicine services • Enlarging chronic illness management and patient pathway monitoring functions • Capacity enlargement related to the standardisation of GP systems • Elaborating sectorial IT security concept and regulation; supporting implementation including business continuity and archiving targets • Related capacity-natured hardware/software developments (e.g. central units of the e-pathology development) **Standardisation of the processing of supply system data** Total: HUF 2.5 bn • Establishing structured data storage; terminological standardisation; setting up a quality assessment system for data recording and processing systems; adjustment to international standardisation efforts • The functional enlargement of existing systems in the following directions: decision support, prediction, process management,

improvement of process informatisation, intra-institutional patient pathway management, methodological support for joining new central services

Development of information dissemination to the population

Total: HUF 1 bn

- Establishing an authentic healthcare information system; developing the existing online information systems and their interactive contents,
- Developments supporting the improvement of health awareness
- Developing public health communication elements
- Setting up an assessment system for civil and market information dissemination
- Authentic and continuously updated publishing of supply-access information (information, address book related to cross-border services) and, through that, improving equal access
- Co-ordinating information functions organised on a territorial basis

Developments supporting healthy lifestyles

Total: HUF 2.3 bn

- Establishing the legal regulation of the peripheral systems, i.e. the horizontal dataflow of telemedicine services
- Establishing Ambient Assisted Living (AAL) and lifestyles supporting programmes based on AAL instruments by using central telemedicine services; utilisation of opportunities of cost reduction in the supply systems
- Examining opportunities of developing chronic illness management programmes for the population based on the territorial-based health organisation system; compliance-programmes

Supporting methodology development and institutional training, education and practical applications related to e-healthcare developments:

Total: HUF 2 bn

Improvement in the broadband network access of health institutions (see Action DI/E4/A1):
Dissemination of up-to-date (household) applications supporting healthy lifestyle (motivation and attitude formation campaign) (see Action DK/E1/A2)

Operational tasks	Responsible	Scheduling
1. Elaboration of an E-health Action Plan, approval by government and introduction in the service system	MHR Health, MND Deputy Secretary of State for Infocommunication, PMO	2015 Q1
2. Elaboration of (new) e-health development schemes (HROP, PSDOP, EDIOP,CCHOP)	MHR Health, MND Deputy Secretary of State for Infocommunication, MHR HROP MA	2015 Q2

3. Launch of (new) e-Health development schemes (with HROP, PSDOP, EDIOP and CCHOP support)	MHR Health, MND Deputy Secretary of State for Infocommunication, PMO, MHR HROP MA	2015 Q3
3. Implementation and completion of 2007-2013 e-Health (SIOP-SROP-EPAOP) central projects	MHR Health, project owners	2015 Q4
4. Implementation of 2015-2020 e-Health development projects	MHR Health, project owners	2015-2020

Estimated costs	Total: HUF 22 bn HROP priority 1: HUF 15.4 bn CCHOP priority 7: HUF 3,5-6.6 bn (to be defined later)
Expected result	Implementation of a national e-Health system 2.0, with the introduction and operation of which and with the related actions (see E-health Action Plan 2014-2020) the following can be achieved: • Interoperability in the total health service centre spectrum • Standard electronic data handling • Sustainable operation in all segments • Improvement in the quality and efficiency of health services • Reduction in operating expenses relating to hospital services • Minimisation of administrative health expenses
Monitoring/indicators	Output indicator: Number of e-health development projects, launched and implemented by the government Result indicators: The ratio of medical care events in the public financed system that can be reached in the central electronic register (target 95%).Ratio of Hungarian central systems, compatible with international e-health systems (target: 100%)
Other remarks	

DÁ/E5/A3

Pillar DÁ – Digital State	Set of instruments E5 - Development of electronic public services and accessibility of the digital data assets	Related actions (code number)
	Measure/action **A3 - Along with the digitization strategy, digitization of the analogous stock of public collections, e-archive developments**	DI/E4/A1

Objective of the measure	Review of the cultural possessions to be digitised, digitization, providing electronic services and central hosting which is needed for the access. Protection and salvage of public collections for long-term digital preservation.
Related strategic objectives	Relevant action of the Digital Agenda (Action 79)
Content of the measure	Tasks of digitisation of the cultural possessions within the framework of the measure: - elaboration of a strategy of digitisation; - introduction of digitisation and meta-data standards (in line with the competence centres of public collections sector and the EUROPEANA), construction and development of meta data base and name libraries elaboration of the adequate infrastructure (establishment of digitisation workshops, extension of the infrastructure of the leading institutions); - training and further training of experts; - allocation of resources required for tasks; - digitisation; - long-term central archiving

Operational tasks	Responsible	Scheduling
1. Elaboration of a strategy of digitisation;	MHR, MND Deputy Secretary of State for Infocommunication	2015
2. A survey of the group of collections to be digitised	MHR and Library Institute	2016
3. Digitalisation of collections	Public collections under the governance of the sector competence centres	2016-2020

Estimated costs	under planning
Expected result	The cultural public assets can be preserved and made accessible in the long term by taking in to account intellectual property rights
Monitoring/indicators	Output indicator: Number of cultural collections reviewed Result indicator: Number and ratio of digitised cultural public possessions

	Ratio of digitalisation of the analogous stock to be digitised; target value: 50%
Other remarks	Compliance with the effective copyright regulations is a key issue in terms of digitisation of documents subject to copyright protection. The digitisation constitutes the multiplication of the work, the authorisation for which is the exclusive right of the copyright holder. The disclosure of digitised works (on a network or any other medium) falls within the category of conveyance to public, and that activity is governed also by numerous other binding regulations (e.g., contract with the joint right manager). The decision-makers must take into account that copyright fees must be paid The public collection sector can fund those expenses only from central (budget) resources, i.e., the royalties must be included not only in the tenders to be launched, but also in the annual costs of operation - maintenance. It is another problem that if the copyright holder is not willing to enter into a licensing agreement may prevent the digitisation of works protected by copyright and their conveyance to the public.

DÁ/E5/A4

Pillar DÁ – Digital State	Set of instruments E5 - Development of electronic public services and accessibility of the digital data assets	Related actions (code number)
	Measure/action **A4 - Full implementation of the directives regulating the re-utilisation of EU public data, ensuring public access to public data also in practice, and creating transparent conditions on the markets of re-utilisation of public data**	

Objective of the measure	Introduction of a re-utilisation practice of public data in compliance with the EU legislation
Related strategic objectives	Relevant action of the Digital Agenda (Action 3)
Content of the measure	Implementation of the 2013/37/EU directive amending 2003/98/EC directive

Operational tasks	Responsible	Scheduling
1. Transposition of the 2013/37/EU directive into the national law (Amendment of Act LXIII of 2012 on the re-utilisation of public data)	MHR, MND Deputy Secretary of State for Infocommunication	2015 Q2

Estimated costs	-
Expected result	Dissemination of the practice of re-utilisation approval of the legal regulation
Monitoring/indicators	Output indicator: Approval of the legal regulation Result indicator: Expansion of the range of data available for re-utilisation
Other remarks	The legislation must be developed in co-operation with MPAJ and MI (constitutional law/e-administration)

DÁ/E5/A5

Pillar DÁ – Digital State	Set of instruments E5 - Development of electronic public services and accessibility of the digital data assets	Related actions (code number)
	Measure/action **A5 - Development of public education and higher education, as well as research infocommunications infrastructure and services, supply of state of the art infocommunications devices to institutions, introduction of cloud-based services, gradual expansion of the research-based network basic infrastructure (GEANT, HBONE) and computer technology (HPC) capacities measure.**	DI/E4/A1 DI/E5/A1 DK/E3/A2

Objective of the measure	The goals are to increase the supply of infocommunication tools for and the computerisation of elementary, secondary and higher education institutions and the Hungarian research sector and institutions, to develop and introduce new educational ICT contents and services (e.g. cloud-based), as well as to facilitate access to public services. It is necessary to enhance the operational efficiency of educational institutions through software automation and cloud solutions.
Related strategic objectives	Respective goals of the HORIZON2020 Relevant actions of the Digital Agenda (Action 132) HROP priorities 3 and 4: Development of e-education S3 National Intelligent Specialisation Strategy National higher and public education strategies
Content of the measure	Priority developments (projects) in the following fields: • Improving the supply of infocummication facilities to public education institutions • Developing the infrastructure required for accessing public education public services • Developing public education digital contents and services • Introducing systems and infocommunication solutions (e.g. on finance management) supporting institutional operation • Improving the supply of infocommunication facilities to higher education institutions • Developing central and institutional digital contents and introducing new e-services in higher education • Enhancing operational efficiency in education- and research-targeted computers by software automation and cloud solutions • Progressive renewal of the research-targeted base network infrastructure (GEANT, HBONE) and the high performance computing (HPC) capacity

Operational tasks	Responsible	Scheduling
1. Elaboration of a new strategic IT education concept (and Action Plan) by the Hungarian Government	MHR, PMO, MND ICSS	2015 Q1

2. Elaboration of (new) e-educational development schemes (HROP, CCHOP)	MHR, PMO, MND Deputy Secretary of State for Infocommunication, MHR HROP MA	2015 Q2
3. Launching of (new) e-educational development schemes (HROP, CCHOP)	MHR, PMO, MND Deputy Secretary of State for Infocommunication, MHR HROP MA	2015 Q3

Estimated costs	Total: HUF 27.5 bn HROP priorities 3 and 4: HUF 22 bn CCHOP priority 7: HUF 3-5.5 bn (to be defined later)
Expected result	- As a result of ICT developments, the efficiency of education improves, which may result in better qualified students - The created infrastructure will provide world standard research network connections and services based on the results of the HBONE+ and GN3+ projects. - Educational training as well as student talents will be supported within the country and across the borders with the help of European and Hungarian knowledge-based communities - A stable and also the most advanced communication e-infrastructure will be created at education institution, which is suitable for meeting the educational tasks of the future
Monitoring/indicators	– Output indicators: – Number of educational institutions affected by IT development – Internet bandwidth available to educational institutions in general – Result indicators: – Number of institutions connecting to the educational cloud – Calculation (Pflops) and data storage capacity (Ebyte) available for Hungarian education and research Increase in the number of research and industrial co-operations (precommercial procurement) (%)
Other remarks	The development of the Sulinet network will be realized within the frame of Action DI/E4/A1 which supplies the Hungarian higher and public education institutions and research network.

HORIZONTAL FACTORS / E-INCLUSION

EB/E1/A1

Horizontal components eI - eInclusion	**Set of instruments** E1 - Targeted programmes for the infocommunications realignment of disadvantaged citizens missing out on the use of digital tools and services due to the lack of access and/or the required knowledge and skills	**Related actions (code number)** DK/E1/A1 EB/E1/A2
	Measure/action **A1 - Complex e-inclusion strategy in relation to the government strategies aimed at the social realignment of disadvantaged groups;**	

Objective of the measure	Completion of an e-inclusion strategy in order that citizens who consciously or due to lacking access and/or knowledge refrain from using digital facilities and services also benefit from the advantages of the digital age
Related strategic objectives	Relevant Actions of the Digital Agenda Social Inclusion Strategy
Content of the measure	Defining tools to disseminate digital literacy on the basis of community points (eHungary Points, ICSSs, libraries, etc.), and educational, cultural and community institutions, focusing on the target groups with the highest needs (e.g., unemployed, disadvantaged families, old people, etc.); online campaigns for improving social solidarity among ICT users. The strategy will be the basis of the activities to be implemented within the framework of the DK/E1/A1, reduction of the digital divide between various groups of society measure.

Operational tasks	**Responsible**	**Scheduling**
1. Consultations with state secretariats, responsible for social realignment social, public educational, cultural, vocational and adult training, employment and development policy	MND Deputy Secretary of State for Infocommunication, ministries concerned	2015 Q1
2. Identification of target groups, status analysis, decisions on development activities tailored to target groups	MND Deputy Secretary of State for Infocommunication	2015 Q1
3. Analysis of how the digital competence development can be integrated into the strategy and measures of the respective ministries, how it can provide the greatest possible assistance to a specific target group and, based on that, how it can be used as a horizontal component of the development policy	MND Deputy Secretary of State for Infocommunication	2015-2020
4. Approval of the strategy; launch of its actions	MND Deputy Secretary of State for	2015 Q1

	Infocommunication	
Estimated costs	-	
Expected result	It will be possible to develop the digital competencies of disadvantaged groups in the most professional cost effective manner, in co-operation with the relevant partner ministries to ensure greater reduction in digital illiteracy and slow down the exclusion of the disadvantaged groups.	
Monitoring/indicators	Output indicator: Completed and approved strategy Result indicators: Increase in the number of disadvantaged, digitally literate individuals Shortening of the employment search period among the unemployed Increase in the ratio of weekly internet users (%) Increase in the ratio of daily internet users (%) Decrease in the ratio of private individuals who never use the internet (%) Decrease in the number of people stating the lack of confidence as the reason for not using the internet	
Other remarks		

EB/E1/A2

Horizontal component eI - eInclusion	**Set of instruments** E1 - Targeted programmes for the infocommunications realignment of disadvantaged citizens missing out on the use of digital tools and services due to the lack of access and/or the required knowledge and skills	**Related actions (code number)** EB/E1/A1
	Measure/action **A2 - Creating social awareness of the importance of e-inclusion (with national communication support)**	
Objective of the measure	To reduce digital exclusion resulting from the lack of digital competencies (digital literacy) and internet access. In a wider sense, the initiative aims at offering digital equal opportunities to socially disadvantaged people by removing barriers stemming from physical mobility and geographical distances.	
Related strategic objectives	Relevant actions of the Digital Agenda Social Inclusion Strategy	
Content of the measure	The purpose of the measure is to develop and, occasionally expand and enhance the IT skills of citizens living in MDR regions through access and availability of instruments. The alignment of the digitally illiterate individuals living in MDR regions is a fundamental issue, not only because they should also be able to enjoy the benefits of the digital age, but also digital literacy is absolutely necessary for everyday life and for looking for work. In addition, they also improve the quality of life, enhance knowledge and contribute to the dissemination of e-administration in a wide range. The lack of motivation is a problem, therefore measures need to be developed that provide incentives to the target group and lead to digital openness An integrated social policy approach is also required; it is not enough to organise training only, a complex approach is required for achieving the goals and making the programme successful, in which the supply of the tools and access to them are absolutely necessary. The first step of the measure is to define the target groups and the regions to be involved. It is another important aspect that the action should extent to all MDR regions providing that the resources are available. Consequently, the goal is to provide motivated training to the most disadvantaged families, which can be achieved in an organised framework, involving local experts and organisations, and using carefully designed subject materials. Motivation can be handled within the framework of a preference programme. Participants of the programme can purchase computers, accessories and have access to the Internet with sufficient discounts in computer shops, contracted by the programme. The advantage of this method is a guarantee of the acquisition of useful knowledge and a reduction in the number of households without a PC as well as the supply, within a limited framework, the opportunity of	

	an individual choice of tools.		
Operational tasks		**Responsible**	**Scheduling**
1. Discussion on the target groups and decisions on the involved MDR.		MND Deputy Secretary of State for Infocommunication	2016 Q1
2. Elaboration of the discount scheme		MND Deputy Secretary of State for Infocommunication	2016 Q2
Estimated costs	-		
Expected result	Reduction of the digital illiteracy in MDR regions Increase in the motivation of the digitally illiterate groups		
Monitoring/indicators	Output indicators: Number of participants in discount schemes Result indicators: Increase in the number of disadvantaged, digitally literate persons Shorter job seeking periods for the unemployed Increase in the ratio of weekly internet users (%) Increase in the ratio of daily internet users (%)		
Other remarks			

EB/E1/A3

Horizontal component eI - eInclusion	**Set of instruments** E1 - Targeted programmes for the infocommunications realignment of disadvantaged citizens missing out on the use of digital tools and services due to the lack of access and/or the required knowledge and skills	**Related actions (code number)**
	Measure/action **A3 - 'Digital solidarity' programme, within the framework of which natural persons and companies can offer devices, education or other support, in an organised framework, to assist the realignment process of those lagging behind**	

Objective of the measure	To promote the realignment of groups, legging behind in terms of infocommunications with minimum costs and minimum intervention. E-inclusion refers to the complex approach which aims at enabling citizens rejecting digital devices and services, either deliberately or due to lack of access and/or the required skills and knowledge to enjoy the benefits of the digital age. Relevant actions of the Digital Agenda Social Inclusion Strategy
Related strategic objectives	
Content of the measure	The biggest advantage of the measure is that the IT devices, no longer in use are sent to a household where they are needed instead of being scrapped. This option relieves the companies from further expenses and also enables them to take part intensively in social responsibility. As a unique solution, private individuals also take part in this measure within companies. They can make considerably offers and can also arrange for the appropriate use of their devices no longer in use. Following the communication of the programme an easily accessible mediation point will be required, which should be formed near the local government or an e-Hungary point. The mayor provides information on the programme, for example by way of announcements. The participation of the mayor and the local government is important because it suggests security to citizens. If required, the EU resources can be used to finance the employment of people for performing the additional work. Companies can offer not only computers and laptops but also educational materials and accessories. The offered training materials may be included in the education programmes taking place in the region. Disadvantaged, digitally illiterate individuals, excluded from the digital world may apply for the offered devices under specific criteria.

Operational tasks	**Responsible**	**Scheduling**

1. Notification of companies on the possibility to take part in the programme	MND Deputy Secretary of State for Infocommunication	2016 Q2
2. Establishment of distribution centres	MND Deputy Secretary of State for Infocommunication	2016 Q3
3. Appointment of individuals assisting in the implementation of the programme	MND Deputy Secretary of State for Infocommunication	2016 Q4

Estimated costs	-
Expected result	Entry of the under developed groups into the digital world
Monitoring/indicators	Output indicator: Number of households having access to devices Result indicator: Increase in the number of disadvantaged, digitally literate persons Shorter job seeking periods for the unemployed Increase in the ratio of weekly internet users (%) Increase in the ratio of daily internet users (%)
Other remarks	

EB/E2/A1

Horizontal component **eI – eInclusion**	**Set of instruments** E2 - ITC-based sectorial or regional development programmes reaching everyone **A1 - Measure/action** **Support of smart city development**	**Related actions (code number)** DÁ/E2/A3 EB/E2/A2
Objective of the measure	The measure targets raising the standard of public services accessible in towns and cities, to be implemented through electronic and infocommunication developments. Dissemination of the intelligent city concept, extensive use of electronic services and involvement of more citizens in the use of public service, e-government, intelligent energy and transport services based on information and communications technology (ICT).	
Related strategic objectives	Relevant Action of the Digital Agenda (Action 111) PSDOP Development of electronic public services TOP Improving the accessibility and quality of local government public services	
Content of the measure	The smart city projects to be implemented most effectively if they are preceded by a thorough needs analysis and feasibility study. A smart city development pilot should often assist disadvantaged regions, encouraging the development of Hungarian digitally obsolete regions (in terms of education, employment or competitiveness) and their integration into the circulation of the economy. Consequently, the people must be in the focus of development, and any improvement in the supply of assets can be only the next step. As the main pilot territory is local government, the model needs to be established by taking into account their ideas, aiming at the integration of local government and citizen services. The pilot must take into account any previously achieved smart city development and their specific quantifiable, measurable, social and economic results and experiences, which must all be integrated into the project. The Horizon 2020 options, which is eligible for direct EU support must also be taken into account, as in the 'Societal Challenges' main priority a large amount of funds (approximately EUR 4.5 bn) is projected for intelligent solutions (city, energy, transport, etc.). Sustainable development is required, i.e., the projects should be viable for operation by the local government(s) for the subscription of Internet and telephone, cable TV. In the course of developments attempts must be made to co-ordinate developments (intelligent energy, transport, city) and to integrate services and to connect to the central, governmental programmes. Priority urban developments (projects) are to be supported from the TOP (PSDOP) funds in the following fields: - introduction of mobile payment and other solutions at public utility services - development of parking lot management systems - introduction of intelligent urban operation systems - electronization of communal public services - modernisation of customer service systems - urban public service developments related to intelligent transport	

	(ITDOP) and energy (EEEOP) systems		
Operational tasks		**Responsible**	**Scheduling**
1. Analysis of the opportunities of the Horizon 2020 Programme; 2. submittal of proposals 3. Review of intelligent cities, analysis of partner relations		MND Deputy Secretary of State for Infocommunication MND Deputy Secretary of State for Infocommunication	from 2014 Q4 2015 Q1
4. Analysis of potential services, user proposals		MND Deputy Secretary of State for Infocommunication	2015 Q2
5. Elaboration of TOP scheme 6. Launch of TOP schemes 7. Implementations of the projects		MND Deputy Secretary of State for Infocommunication, MNE TOP MA MND Deputy Secretary of State for Infocommunication, MNE TOP MA MND Deputy Secretary of State for Infocommunication, project owners	2015 Q1 2015 Q2 2015 Q3
Estimated costs	under planning TOP HUF 4 bn		
Expected result	The standard and quality of urban services improve thanks to the infocommunication developments affecting citizens.		
Monitoring/indicators	Output indicator: Number of supported smart cities Number of newly introduced urban infocommunication services Result indicator: Level of using urban electronic services among the population. Ratio of utilisation of e-administration services		
Other remarks			

EB/E2/A2

Horizontal component **eI - eInclusion**	**Set of instruments** E2 - ITC-based sectorial or regional development programmes reaching everyone	**Related actions (code number)**
	Measure/action **A2 - Sectorial application developments (e.g., intelligent logistics, transport and environmental systems)**	**DÁ/E1/A3** EB/E2/A1
Objective of the measure	I. More effective transport and logistics systems, up-to-date and standard utilisation of multimodal transport and travel information is a community interest, affecting everyone. It is absolutely crucial for Hungary to implement any development in smart transport systems/services along with the continuation of the current European co-operation. The main development trend of the smart transport systems (ITS) are based on 'well-informed passenger (travel information services)', 'well-operated road network (traffic management system)', 'effective and safe transportation of goods', and 'related excellent quality ICT infrastructure' objectives. II. Encouraging the use of smart metering devices and the development of smart grid networks in order to improve energy efficiency through the transformation of the regulatory system, the support of investment into smart metering and a communication programme targeting raising consumer awareness. III. Improving the processes of the environment protection and water management sectors through infocommunication developments	
Related strategic objectives	Relevant actions of the Digital Agenda (Actions 71,73,86,95,96,110,111) National Transport Infrastructure-development Strategy National Energy Strategy 2030 National Building Energy Strategy National Climate Change Strategy National Adaptation Strategy ITDOP Priority 1: Correction of the international (TEN-T) road accessibility Priority 2: Improving international (TEN-T) railway and waterway accessibility Priority 3: Developing sustainable urban transport and improving suburban railway accessibility EEEOP Priority 1: Adjustment to the effects of climate change Priority 5: Increasing energy efficiency; using renewable energy resources	

Content of the measure	I. Considering ICT developments and with a view to develop transport efficiency, safety, sustainability and competitiveness, the development of intelligent transport systems (ITS) is of priority importance. The operational tasks listed below ensure the efficient synergy of the ICT development strategy and the sectorial development of infrastructure considering the above aspects. II. In order to increase energy efficiency and optimise energy consumption, the influence of consumers side, the dissemination of solutions like smart grids and smart metering should be encouraged, on the one hand, by necessary transforming the regulatory system and, on the other hand, by supporting investments into the smart metering applications concerned. Within the framework of transforming the regulatory system, network and retail tariff systems should be established that support dynamic tariff calculation in the case of ultimate users using smart meters (real time metering based on the times of use with reference to critical peak times or granting discounts outside peak times). The 2nd measure of the EEEOP priority 5 which spreads energy management tools for the public sector within the building energy programs instincts the dissemination of smart network tools. The Territorial and Town Development Operational Programme also instincts the dissemination of smart network tools with the support of the measurement and energy management solutions for the intelligent control of power consumption in the municipal infrastructure within the building energy programs. With all these measures the EEEOP supports the development of smart networks and smart network tools, which can be an additional resource of the Green Financing System. Another task within the framework of this measure is to design an information programme facilitating conscious consumer behaviour. The mass dissemination of the use of smart meters enables consumers to precisely monitor and rationalise their energy consumption. III. Further sectorial developments Development of the National Adaptation Geoinformatic System (water management) Further IT development of water management organs and systems Climate policy IT developments.

Operational tasks	Responsible	Scheduling
I. **Transport** 1. Development of transport information services (general) Establishment of a transport data warehouse with a data portal for transport/travel information services. The 'transport data warehouse' is a common solution/service of public organisations, authorities	MND transport companies	from 2015

and the business sector which provides static and real time transport information, generated by a public party (not only traffic and wheatear information, but also multimodal and comodal information) for the business sector The appropriate regulations and supply of adequate data to data providers will ensure a favourable operating environment, required for the establishment of intelligent transport services.		
2. Development of transport information services (roads) Installation of system defining/displaying travel times - M0 and other road sections leading into Budapest continuation of former developments, development of the system using various data sources and relying on the co-operation of the operators in the) Better information for passengers, enabling them to design their routes in the road network around city and within the city by indicating the estimated travel times.	MND, BKK (Centre for Budapest Transport), other transport companies	in progress/ from 2015
3. Development of transport information and telecommunication services (railways, public transport) Establishment of an open, standardised database for public transport (for urban areas and the main routes of the public network) in order to create high quality passenger information services. The purpose is to provide reliable, easily usable and real time passenger information services to passengers using public transport means throughout their travel chain on the basis of a common database. Passengers should receive information on the timetable and real time public transport provided through (commercial) travel information services on their mobile phones and other existing equipment at least in urban areas and on the main routes of the public transport network. The GSM-R telecommunications system will be developed connection of the railway transport.	MND transport companies	in progress/ from 2015
4. Development of ICT support in freight transportation and logistics: Establishment of parking management systems and pilot booking systems. The primary objective is to use ideally the limited truck parking space capacities available along the motorways.	MND transport companies	in progress/ from 2015
5. Intelligent/integrated payment solutions in passenger transportation: More and more passengers demand comfortable and safe electronic payments solutions in passenger transportation, and the technology development and systems offer better and safer solutions to replace tickets produced on paper and bought for cash. The establishment of an intelligent card-based electronic	MND transport companies	in progress/ from 2015

ticketing and pass system and its implementation in public transport could be a basis of future integrated services. The further development of the electronic ticket system can be used as the basis of development of further transport systems/services with an integrated electronic payments solution (use of the parking systems and motorway toll payment), but there is also need for further integration beyond the transport services. Another objective is to use the student cards issued within the framework of the national standard card system in the electronic ticketing system, as it will also certify eligibility for student discount.		
6. In terms of development concerning road safety: Preparations for the introduction in Hungary of the eCall single European emergency system, followed by its scheduled implementation. The European eCall Memorandum of Understanding was signed in June 2011. As a result of the HeERO project supported by the EU Commission numerous implementation recommendations and guides will be made available for the participating countries to provide assistance with the implementation of their respective national eCall applications. In the Hungarian work programme a Hungarian organisation is testing and validating the eCall technology. The call receiving centres implemented in the ESR–112 project must be made suitable for receiving emergency calls through the eCall channel.	MND	in progress/ from 2015
7. Building of Transport Information System and Database (KIRA)	MND	in progress/ from 2015
II. **Energy**		
1. Research of transforming and implementation options of the regulatory system in order to facilitate the dissemination of smart metering solutions and smart grid networks.	MND, Hungarian Energy and Public Utility Regulatory Authority	continuous 2016
2. Closing of central smart metering model projects	MND, Central Smart Metering Ltd., MAVIR	2016
3. Elaboration and launch of a communication programmed aimed at stimulating conscious consumer behaviour	MND, Hungarian Energy and Public Utility Regulatory Authority	2016
III Climate policy, water management	MND, MI	2015 Q2
1. Elaboration of new climate policy and water management IT support schemes (EEEOP)	MND, MI	

2. Launch of the climate policy and water management IT support schemes (EEEOP)		2015 Q3
3. Implementation of developments	MND, MI, project owners	2015-2020

Estimated costs	I. ITDOP priorities1, 2, 3: appr. HUF 20 bn II. EEEOP priority 5: Power plant payment+ CO2 quota funds (for now undetermined degree) III. EEEOP priority 1: appr. HUF 5-7 bn
Expected result	As a result of the measures the services and processes will noticeably improve in transport, logistics, climate policy, environment protection and water management, in a way affecting everyone as well as all relevant institutions: The objectives of improving the efficiency of transport, passenger information, traffic control and other travel information services will be achieved. The conditions of the electronic ticketing and pass system will be put in place and the system will be partially implemented. The parking management system will be completed and the eCall system will also be implemented in order to improve the safety of transport. In the IT supported energy, climate policy, environment protection and water management systems there is more precise information available and predictions, too, become more reliable.
Monitoring/indicators	Output indicators: I. Number of installed display systems Number of newly implemented transport application developments Transport data portal completed II. Amendments in the legislation aimed at disseminating the application of smart metering Number of supported smart metering investments III. Number of newly integrated vocational data bases Number of newly established e-services Result indicators: I. Ratio of fees paid by integrated payment solutions within the total fee revenues (increases) II Number of installed smart meters III The ratio of processes and functional areas covered by the developments within a given sector
Other remarks	

EB/E2/A3

Horizontal components eI - eInclusion	**Set of instruments** E2 - ITC-based sectorial or regional development programmes reaching everyone **Measure/action** **A3 - Extensive encouragement of Green IT developments**	**Related actions (code number)**
Objective of the measure	Encouragement of development and application of ICT devices and "green" solutions in IT, which will help reduce the use and emission of substances that pollute the environment. In that interest it is a priority task to provide incentives to prevent a severe contamination of the environment by the materials used in the production of ICT devices, to make them suitable for recycling and to reduce and minimise the consumption of such devices.	
Related strategic objectives	Relevant actions of the Digital Agenda (Actions 69, 70, 72) IV .National Environmental protection Programme National Sustainable Development Strategy Relevant objectives of the National Climate Change Strategy (NCCS) 2008 – 2025	
Content of the measure	The IT industry is responsible for 2% of the world's carbon dioxide emission. The internet itself also contributes to global warming with thousands of tonnes. Given the robust increase in communication activity, the energy consumption of the sector is likely to increase very rapidly. Immediate actions are required for managing the trends and mitigating the damages. The IT sector must assist in the dissemination of an environmentally aware approach and serve effectively sustainable development. **Reduction of the energy consumption of data centres** Encouragement of the establishment of energy efficient data centres, through which IT capacities and performance can be maximised and simultaneously energy consumption can be reduced and costs may be controlled. **Promoting the development of lower consumption ICT tools and networks** Support of the introduction of energy efficient notebooks, monitors, etc., and new manufacturing technology **Increasing consumer awareness** - Incentives for the use of energy efficient ICT devices among the residents - Energy efficient use of devices (e.g. setting of energy profile, etc.) - Selective collection of electronic waste and promotion of their recycling in order to reduce environmental pollution **Increase of green technology awareness among the companies** A professional award for the 'Best Green IT user' companies	

Operational tasks	Responsible	Scheduling
1. Measuring the energy consumption of data centres, elaboration of a programme aimed at improving efficiency	MND, MA, State Secretariat responsible for the Environment	2015
2. Elaboration of a support programme for implementing manufacturing technologies that improve energy efficiency	MND, MA, State Secretariat responsible for the Environment	2016
3. Elaboration of consumer awareness increasing programmes	MND, M, State Secretariat responsible for the Environment	2016

Estimated costs	under planning (EEEOP)
Expected result	Through the dissemination of environmentally friendly IT devices and applications energy consumption will be lower and environmental pollution will also decrease as the carbon-dioxide emission of the ICT sector is reduced
Monitoring/indicators	Output indicator: Number of green IT campaigns and programmes launched Result indicators: Improved energy consumption at data centres Ratio of energy efficient devices in households
Other remarks	The involvement of the Green Technology Cluster is recommended in the elaboration of programmes

HORIZONTAL FACTORS - R+D+I

KFI/E1/A1

Horizontal components **KFI - R+D+I**	**Set of instruments** E1. -Encouragement and support of the R+D+I activity of the ICT sector **Measure/action** **A1 - Launch of a separate ICT specific R+D+I programme**	**Related actions (code number)** KFI/E1/A2

Objective of the measure	Support of the R+D+I activities of ICT enterprises in all phases in the framework of targeted support schemes, in order to facilitate the R&D activity of the sector.
Related strategic objectives	Relevant actions of the Digital Agenda Relevant targets of Horizon 2020 National Research, Development and Innovation Strategy S3 National Strategy on Smart Diversity EDIOP 4.1.specific target: Enhancing R&I activity.
Content of the measure	Elaboration and launch of targeted support programmes for enterprises in the infocommunication sector which relate to the ICT components of the Hungarian R+D+I strategy and may be further developed in the form of individual national or H2020, EIT projects

Operational tasks	**Responsible**	**Scheduling**
1. Identification of the relevant companies	PMO, NIH (National Innovation Office), MND Deputy Secretary of State for Infocommunication, MNE	2015 Q4
2. Selection of potential ideas and topics	PMO, NIH, , MND Deputy Secretary of State for Infocommunication, MNE	2016 Q1
3. Preparation of a support programme	PMO, NIH, , MND Deputy Secretary of State for Infocommunication, MNE EDIOP MA	2016 Q1
4. Launch of tender scheme	PMO, NIH, MND Deputy Secretary of State for Infocommunication, MNE EDIOP MA,	2016 Q2

Estimated costs	under planning (potential sources: EDIOP priority 2, CCHOP priority 2, Innovation Fund)
Expected result	The R&D activity of ICT companies grows, as a consequence of which the economic performance capacity of the sector improves, contributing to GDP growth.
Monitoring/indicators	Output indicator: Number of ITC enterprises supported with R&D target.

	Result indicator: Increased ratio of research and development investments in the field of ICT.
Other remarks	

KFI/E1/A2

Horizontal components KFI - R+D+I	Set of instruments E1. -Encouragement and support of the R+D+I activity of the ICT sector	Related actions (code number) KFI/E1/A1
	Measure/action **A2 - Support of the innovation activities of knowledge and technology intensive ICT companies**	

Objective of the measure	Assistance in the product and service developments of innovative ICT enterprises, establishment of innovation centres
Related strategic objectives	Relevant actions of the Digital Agenda (Action 50, 53, 55) Relevant targets of Horizon 2020 National Research, Development and Innovation Strategy S3 National Strategy on Smart Diversity EDIOP 4.1.specific target: increasing R&I activity
Content of the measure	Encouraging innovation activity by granting the opportunity of deducting from the company tax base amounts spent on applied research and experimental development and, if possible, by launching targeted tenders within the framework of EDIOP 2 and CCHOP 1 priorities, or from the Innovation Fund, for supporting the innovation activities of ICT enterprises.

Operational tasks	Responsible	Scheduling
1. Conducting an analysis of innovative ICT enterprises	MND Deputy Secretary of State for Infocommunication, PMO, NIH	2015 Q4
2. Selection of development proposals	MND Deputy Secretary of State for Infocommunication, PMO, MNE	2015-2016
3. Establishment of innovation centres	MND Deputy Secretary of State for Infocommunication, PMO, MNE	2016
4. Developing and launching support forms and schemes	MND Deputy Secretary of State for Infocommunication, PMO, MNE	2016

Estimated costs	under planning (potential sources: EDIOP priority 2, CCHOP priority 2, Innovation Fund)
Expected result	The marketability of the enterprises concerned through the production of marketable products and services
Monitoring/indicators	Output indicator: Number of new innovations and marketable products created

	using the support Result indicator: An increase in the ratio of ICT corporate R&D&I expenditure compared to GDP
Other remarks	

KFI/E2/A1

Horizontal components KFI - R+D+I	Set of instruments E2 - Encouragement and support of the participation of ICT SMEs and professional workshops in Hungarian and EU R+D+I tenders	Related actions (code number) KFI/E2/A2
	Measure/action **A1 - Improving information and dissemination relating to available tenders and support of participation in international tenders**	

Objective of the measure	Presenting the tender opportunities to enterprises in order to promote their participation in national and Horizon 2020 R&D programmes.
Related strategic objectives	Relevant actions of the Digital Agenda Relevant objectives of Horizon 2020 National Research, Development and Innovation Strategy S3 National Strategy on Smart Diversity
Content of the measure	Elaboration of possible projects for the 'LEIT ICT', Social Challenges' and FET calls for proposals within the framework of the Horizon 2020 programme, technical assistance to the applicants

Operational tasks	Responsible	Scheduling
1. Organisation of information days	PMO, NIH, (MND Deputy Secretary of State for Infocommunication)	annually
2. Organisation of consultations	PMO, NIH, (MND Deputy Secretary of State for Infocommunication)	continuous
3. Laboratory visits	PMO, MND Deputy Secretary of State for Infocommunication	continuous
4. Support of conferences	PMO, MND Deputy Secretary of State for Infocommunication	continuous

Estimated costs	under planning
Expected result	Increased number of ICT SMEs participating in national and EU R&D&I tenders, thanks to awareness raising about tender opportunities.
Monitoring/indicators	Output indicator: Number of ICT SMEs participating in R&D&I tenders. Result indicator: Amount of subsidies awarded to ICT SMEs within the framework of R&D&I tenders.
Other remarks	

KFI/E2/A2

Horizontal components KFI - R+D+I	**Set of instruments** E2 - Encouragement and support of the participation of ICT SMEs and professional workshops in Hungarian and EU R+D+I tenders	**Related actions (code number)**
	Measure/action **A2 - Encouraging Hungarian participation in the European technology platforms, research networks and programmes (e.g. ARTEMIS, ENIAC, Photonics, Robotika, FET Flagship, European Innovation Partnership, etc).**	

Objective of the measure	Encouragement of European co-operation and partnership of industrial experts in order to benefit from R+D+I opportunities and results and to share information and knowledge.
Related strategic objectives	Relevant actions of the Digital Agenda Relevant targets of Horizon 2020 National Research and Development and Innovation Strategy S3 National Strategy on Smart Diversity
Content of the measure	Strengthening of the activities in the existing platforms, review of the possibilities of joining new platforms and elaboration of projects related to the H2020 platforms

Operational tasks	**Responsible**	**Scheduling**
1. Processing of the role of platforms in H2020	PMO, NIH, MNE, MND Deputy Secretary of State for Infocommunication	2014-15
2. Search for potential participants	PMO, NIH, MNE, MND Deputy Secretary of State for Infocommunication	continuous
3. Assistance in international collaboration	PMO, NIH, MNE, MND Deputy Secretary of State for Infocommunication	continuous
4. Elaboration and support of EIP laboratories	PMO, NIH, MNE, MND Deputy Secretary of State for Infocommunication	2014-15

Estimated costs	under planning
Expected result	Increased participation of Hungarian research workshops, higher education institutions, academic and corporate places of research in ICT-related European research projects, networks and programmes.
Monitoring/indicators	
Other remarks	

KFI/E3/A1

Horizontal components KFI - R+D+I	Set of instruments E3 - Strengthening the co-operation culture and supporting its forms in R+D+I Measure/action **A1 - Support of closer co-operation between ICT companies, universities and research institutes, with special regard to increasing the effectiveness of participating in tenders**	Related actions (code number) KFI/E2/A1 KFI/E2/A2

Objective of the measure	Encouraging cooperation and partnership between enterprises, universities and research institutes for information sharing and the transfer of knowledge in view of a better utilisation of RDI opportunities and achievements and in order to foster successful participation at national or international tenders
Related strategic objectives	Relevant actions of the Digital Agenda (Action 50) Relevant targets of Horizon 2020 National Research and Development and Innovation Strategy S3 National Strategy on Smart Diversity
Content of the measure	Strategic alliances with the most innovative ICT enterprises and universities providing research and innovation; setting up joint projects

Operational tasks	Responsible	Scheduling
1. Extending cooperation with infocommunication professional organisations Renewal of co-operation within the ICT association	MND Deputy Secretary of State for Infocommunication, PMO, MNE	2015
2. Cluster of strategic alliances in ICT topic	MND Deputy Secretary of State for Infocommunication	2015
3. Initiation of strategic co-operation of research centres	PMO, NIH , MND Deputy Secretary of State for Infocommunication, MHR, NIIFI	2015
4. Developing joint programmes	MND Deputy Secretary of State for Infocommunication, PMO,MHR, NIH	2015 – 2017

Estimated costs	under planning
Expected result	The implementation of innovation developments is facilitated by efficient cooperation relations.
Monitoring/indicators	Output indicator: Dissemination/number of strategic cooperation Result indicator: Amount of subsidies awarded to Hungarian players within the framework of international R&D&I tenders.

Other remarks	

KFI/E3/A2

Horizontal components KFI - R+D+I	**Set of instruments** E3 - Strengthening the co-operation culture and supporting its forms in R+D+I **Measure/action** **A2 -Support of ICT cluster development (e.g. training of cluster managers, establishment of model clusters, etc.)**	**Related actions (code number)** DG/E2/A2 DG/E2/A4
Objective of the measure	The scheme aims to support cooperation, in the form of industrial clusters, between Hungarian ITC enterprises, IT higher education and R&D institutions and the civil and professional organisations concerned, as well as the networking of the sector, supporting the realization of other actions of EDIOP priority 3. (e.g. development of digital economy) and the ICT developments of other Operative Programmes (PSDOP: e-administration, governmental IT, HROP: e-health, e-culture)	
Related strategic objectives	S3 National Intelligent Specialisation Strategy EDIOP specific target 6.1: Increasing the international competitiveness of the ITC sector	
Content of the measure	Inter-company co-operation, and assistance in the development of local economic relations and network formation are important aspects of Hungary's competitiveness in the infocommunication sector as well. At present network development is not very intensive, there is lack of confidence among the SMEs, which are competitive disadvantages, especially on the international market. The trust of entrepreneurs is one of the key aspects of a competitive economy, and therefore the promotion of mutually advantageous economic associations is an important development policy objective. Support to the establishment and development of economic networks (clusters, supply chains) is a key priority. Especially those co-operation forms are important where SMEs closely co-operate with large companies and universities. In Hungary co-operation between the various actors of the economy (companies, institutions, R&D workshops) including also cluster formation, are hindered by various actors. Two hindering factors can be specifically highlighted in the field of ICT as well. The first one is the dual structure of the Hungarian economy, i.e. that multinational companies operate in relative isolation. The other important factor is the lack of trust strongly impacting the economy, and the consequential short-term attitude. On that basis the R&D and knowledge intensity of the Hungarian economy needs to be raised substantially, the innovation and absorption capacities of ICT companies must be improved, innovative clusters have to be developed and connection with Hungarian and international knowledge sources and markets will also be required for innovation. It is absolutely necessary to strengthen the regional dimension of innovation due to the regional disparities of the R+D+I support system. Balanced development can be achieved through the promotion of regional R+D+I activities, co-operations and network formation (poles, clusters).	

	Within the framework of the measure the following activities should be supported: **Cluster management**: a) Administration, contacts, new members; b) Benchmarking club; c) Project generation, organisation of joint R&D activities, preparation of joint projects; d) Organisation of presentations, conferences, study trips and exhibitions, meetings of businessmen, shared national and international trips; e) establishment of tender, expert, competence, production, innovation, supplier and logistics databases and information supply; f) Advisory activities, use of advisory services g) Introduction of quality, environment and other management systems and standards to the cluster management; h) Education and training related to projects; i) Standard certification system and trademarks **Joint cluster investment**: a) Procurement of assets, related manufacturing licence, manufacturing know-how; b) information technology development, joint IT platform, online presence, e-commerce and other e-services.

Operational tasks	**Responsible**	**Scheduling**
1. Elaboration of the development concept of the ICT clusters 2.	MND Deputy Secretary of State for Infocommunication	2015 Q1
3. Design and launch of support scheme	MND Deputy Secretary of State for Infocommunication, MNEEDIOP MA	2016 Q1

Estimated costs	EDIOP 3. priority: HUF 2 bn (non-reimbursable subsidy) EDIOP 8 financial instruments : HUF 2 bn
Expected result	Owing to the development of the clusters, ICT enterprises will be able to take part in EU public procurement procedures more effectively, they will find it easier to become suppliers, to attend international exhibitions and to acquire new markets. The participating enterprises obtain competitive advantages with which they can improve the efficiency of their activities and dynamise the development of their enterprises. As a result of the developments the competitiveness of the co-operating ICT companies on the internal and external markets and the sale of their products and services will increase.
Monitoring/indicators	Output indicators: Number of experts taking part in the cluster manager training Number of enterprises taking part in clusters, supply chains and co-operation of companies. Result indicators: Number of innovative ICT developments marketed through subsidised clusters or incorporated into the state sector. Increase in the ratio of internationally competitive digital solutions.
Other remarks	

HORIZONTAL FACTORS - SECURITY

B/E1/A1

Horizontal factors **B – Security**	**Set of instruments** E1 - Maximum protection of networks, IT infrastructure and applications serving the internal systems and external services of public administration	**Related actions (code number)** B/E1/A2
	Measure/action **A1 - Complex security surveillance over all subsystems of central and regional administration**	

Objective of the measure	The security supervision of the electronic information systems of Hungarian public administration had been rendered into the competence of the operator, the data processor or the data owner, in an ad hoc manner. The expectations were not regulated, and therefore electronic information security could not be put in place or controlled either. Consequently, a system of organisations and tools must be put in place specifying the tasks clearly, in a controllable way, based on sufficient authorisation.
Related strategic objectives	National Cyber Security Strategy (Government Resolution No. 1139/2013. (III. 21.))
Content of the measure	The Government approved Hungary's National Cyber Security Strategy (Government Resolution No. 1139/2013. (III. 21.)) Act L of 2013 on the Electronic Information Security of State and Local Government Agencies was drafted and approved based on that strategy (hereinafter: IS Act) followed by Government Decree No. 301/2013. (VII. 29.) on the tasks and competence of the National Electronic Information Security Authority and the Information Security Supervision, as well as the procedures of the National Security Supervision as an authority, and Government Decree No. 233/2013. (VI. 30.) on the tasks and competence of the Government event management centre of electronic information systems, the sectorial event management centres and the event management centre of the crucial systems and facilities (hereinafter referred to as: GOVCERT Decree). Thus the information security organisations were established and the competence, tasks, procedures and sanctions were specified. The 77/2013 (XII.19.) MND decree was enacted about the technological safety, safe information systems, products and the requirements of the safety class, safety level classification which is based on the Act about the electronic safety security of state and municipal offices (L. Act 2013)

Operational tasks	**Responsible**	**Scheduling**
1. Review of the IS Act and related legal documents defined in the proposal for the IS Act, analysis of the experiences and correction of the legal documents.	PMO MI, MND Deputy Secretary of State for Infocommunication, MD	Start of the review 2014 Q3 Evaluation of data: 2014 Q4 Introduction of measures 2015 Q2

2. Analysis of the implementation of the IS Act and related legal materials in terms of the budget. The financial impact study may be conducted only when the respective agencies (subjects of the IS Act) have competed: a. the classification of the their systems into security categories b. the classification of their organisations by security level c. or if they do not achieve levels applicable to them, their actions plans. Based on the action plan they must move up by one category or by one level every two years until they reach the required security category and level.	MI, MND Deputy Secretary of State for Infocommunication	Request for data: 2015 Q2Evaluation, analysis: 2015 Q3Elaboration of budget requirements: 2015 Q4Restructuring within the budget: 2015 Q1 (for extraordinary expenses) Proposal for the allocation of coverage in the 2016 budget
3. Adjustment in the headcount figure of NEIA. The NEIA started its operation with a staff of only 15 employees instead of the thirty employees deemed necessary for financial reasons. Until the classifications indicated above take place, the control opportunities of NEIA will remain limited, but the statutory tasks will have to be performed after the categorisation has been completed.	MI	Review: 2015 Q1

Estimated costs	Not known (the statement of costs is part of the measure)
Expected result	Improvement of the electronic information security of Hungarian public administration which is based on voluntary compliance with the law according to clear and obvious criteria communicated to the parties concerned, and as a result of the dual role of the authority (support e.g. with position statements, information and classic regulatory control, calling to account and sanctioning tasks)
Monitoring/indicators	Output indicator: Preparation of the legal documents, surveys and proposals within the deadline. Result indicator: Number of reviewed legislation items
Other remarks	The actual availability of the funds is not a requirement for the responsible individuals, because it exceeds their competence.

B/E1/A2

Horizontal components **B - Security**	**Set of instruments** E1 - Maximum protection of networks, IT infrastructure and applications serving the internal systems and external services of public administration **Measure/action** **A2 - Preparation of a network and service security manual and methodology guideline and organisation of training for all experts engaged in public administration IT**	**Related actions (code number)** B/E1/A1 B/E1/A3 B/E1/A4

Objective of the measure	Support and increase of the quality of the professional activities of the IT security officers and collaborators, defined in the IS Act, increasing the awareness of users.
Related strategic objectives	Relevant actions of the Digital Agenda (Actions 28, 29) PSDOP governmental IT
Content of the measure	In the electronic information security processes man is the 'weakest link'. That weakness must be eliminated, as it in itself is a major step towards security. Sufficient internal security supervision must be achieved over all electronic information systems in public administration, in line with the IS Act and the security awareness must reach the maximum. The measure covers the following: Integration of educational obligation into the law User training Training of the security staff Issue of guidelines

Operational tasks	**Responsible**	**Scheduling**
1. The organisations affected according to the IS Act must report their IT security officers to NEIA.	Organisations falling within the scope of the IS Act	The deadline for implementation is 60 days from the entry into force of the decree on notification.
2. Elaboration and launch of new IT security development schemes	PMO, MI, MND Deputy Secretary of State for Infocommunication, PMO PSDOP MA	2015 Q2
3. Organisation of the training of the IT security staff, start of the training	NCU, MPAJ	2015 Q3
4. Revision of the training material prepared within the framework of the SROP project by taking into account the related remarks (training material for users and system administrators)	Project	2015 Q3

Estimated costs	under planning

	For measures B/E1/A2-A4, total: HUF 5.226 bn PSDOP: HUF 4.5 bn CCHOP priority 9: HUF 726 mn
Expected result	Increased level of electronic information security in Hungarian public administration; fall in outside attacks and risks establishment of responsibilities.
Monitoring/indicators	Output indicators: Number of trained individuals 100% processing of the received issues Result indicator: Ratio of central organs with properly trained IT security officers (target value: 100%)
Other remarks	

B/E1/A3

Horizontal components B – Security	Set of instruments E1 - Maximum protection of networks, IT infrastructure and applications serving the internal systems and external services of public administration Measure/action **A3- Introduction of IT security solutions and instruments operating according to high-quality standard regulations in public administration, with special regard to the spread of cloud-based solutions**	Related actions (code number) B/E1/A1 B/E1/A2 B/E1/A4

Objective of the measure	To increase the security of separate applications (systems) of public administrative agencies and elimination of separation, consolidated centralised operation
Related strategic objectives	Relevant actions of the Digital Agenda (Actions 28, 29) PSDOP
Content of the measure	After legislative activity, the centralisation of electronic security activity, operation and service with a view to reduce dangers and expenses, in relation to the following governmental key IT developments: • Introduction of the government cloud application • Construction of a central government computer room • Local government ASP project

Operational tasks	Responsible	Scheduling
1. Promulgation, consistent application and accountability pursuant to the decree laying down the requirements for the technology security required in Articles 6 and 7 of the IS Act on secure information, devices and products, and the requirements of the classification into security categories and classification of organisations by security level.	MI, NEIA, legal subjects	Legislation: 2015 Q1
2. The government cloud project has been launched. Tasks a. development of the cloud structure The establishment of security requirements is one of the core components of the cloud structure. One of the basic principles of electronic information security is that all requirements are defined by the highest security category. That assumes that the cloud service will fulfil rather high level requirements. With that it will replace the introduction of inefficient, and often pointless (or inadequate) local protection measures.	MI, NISZ Zrt.	Final deadline2016 Q4, any further schedule falls within the competence of the project

b. definition of services As it is an SLA-based service, both the basic and supplementary services will need to be defined exactly c. legislation on the utilisation As a practical solution the legal regulations should make obligatory the utilisation of the system by public administration and should define the exceptions.		
3. The preparations for the government computer room project have started. Tasks: d. government decision on implementation The government decision is manifested in the form of a government resolution. The conclusion of further required agreements is a consequence of that. e. establishment of the project organisation f. conclusion of the required contracts g. planning h. implementation Both planning and implementation must aim at the highest level security criteria i. equipment The building itself is not enough, it must also be equipped with the required information devices.	MI, NISZ Zrt.	Final deadline2016 Q4, any further schedule falls within the competence of the project
4. The ASP project (application supplied to local government) has been launched. Tasks j. pilot Compliance with the security requirements is also a basic requirement for the ASP. The total requirements are defined by the highest security category here as well. That assumes that the ASP service will fulfil rather high level requirements. The ASP will not only replace inefficient, and often pointless (or inadequate) local protection measures, but will also significantly reduce the costs of operation. k. establishment of the legislative background As a practical solution the legal regulations should make obligatory the utilisation of the system by local governments and should define the exceptions. l. go live date First with 40 selected institutions. 5. Elaboration and launch of new IT security development schemes	MI, NISZ PMO, MI, PSDOP MA	Deadline for going live: 2015 Q2 PMO2015 Q2
Estimated costs	under planning	

	For measures E1/A2-A4, total: HUF 4.646 bn PSDOP: HUF 4 bn CCHOP priority 9: HUF 646 m
Expected result	Increased level of electronic information security in Hungarian public administration; fall in outside attacks and risks
Monitoring/indicators	Output indicator: Assessment of savings (it may elaborated only after the go live date). Number of user organisations. Result indicator: The level of the complete adoption of SLA based operation in Hungarian public administration
Other remarks	

B/E1/A4

Horizontal components **B - Security**	**Set of instruments** E1 - Maximum protection of networks, IT infrastructure and applications serving the internal systems and external services of public administration **Measure/action** **A4 -Complex SLA-based operation of the IT systems in public administration with availability reflecting the requirements of the particular system/application and guaranteed security parameters**	**Related actions (code number)** B/E1/A1 B/E1/A2 B/E1/A3

Objective of the measure	Enforcement of security criteria defined for the service levels of centralised services.
Related strategic objectives	Relevant actions of the Digital Agenda (Actions 28, 29) PSDOP governmental IT
Content of the measure	Concentration of electronic information security activities, operation and service in order to mitigate risks and reduce expenses The contents of the measure are based on the measures in the B/E1/A3 government cloud and ASP project

Operational tasks	**Responsible**	**Scheduling**
1. Definition of the basic requirements for the centralised service providers and users.	MI, NISZ Zrt.	Following the implementation of the measures under B/E1/A3
2. Enforcement of the basic requirements in the service agreements	MI, NISZ Zrt.	Following the implementation of the measures under B/E1/A3
3. Definition of the supplementary and value added services	MI, NISZ Zrt.	Following the implementation of the measures under B/E1/A3
4. Elaboration and launching of new IT security development schemes	PMO, MI, PMO PSDOP MA, NISZ Zrt.	2015 Q2

Estimated costs	under planning Total of measures E1/A2-A4: HUF 4.646 bn PSDOP: HUF 4 bn CCHOP priority 9: HUF 646 mn
Expected result	Increased level of electronic information security in Hungarian public administration; fall in outside attacks and risks
Monitoring/indicators	Output indicator: Number of user organisations Result indicator:

	The level of the complete adoption of SLA based operation in Hungarian public administration
Other remarks	

B/E2/A1

Horizontal component **B – Security**	**Set of instruments** E2 – The management of fears related to the use of electronic services by providing factual information on genuine risks and their management	**Related actions (code number)**
	Measure/action **A1 – A comprehensive national information programme on genuine security risks and ways of reducing them, primarily for parents of children aged 6-14 and teachers active in public education**	

Objective of the measure	Encouraging conscious media use and an efficient fight against illegal and harmful contents for the protection of children.		
Related strategic objectives	Relevant actions of the Digital Agenda (Actions 36, 40)		
Content of the measure	being worked out		
Operational tasks		**Responsible**	**Scheduling**
1. being worked out		MHR NMIA	2015 Q3
Estimated costs	under planning		
Expected result			
Monitoring/indicators			
Other remarks			

B/E2/A2

Horizontal component **B – Security**	**Set of instruments** E2 – The management of fears related to the use of electronic services by providing factual information on genuine risks and their management	**Related actions (code number)**
	Measure/action **A2 – Incorporating defence against cyber crime in postgraduate teacher training and school curricula**	

Objective of the measure	Incorporating conscious media use in the curriculum of postgraduate teacher training programmes and in school curricula, familiarization basic concepts. (Security versus freedom, computer and internet crimes, fraud, abuse, copyright infringement, torrent sites, digital privacy)
Related strategic objectives	Relevant actions of the Digital Agenda (Actions 36, 40)
Content of the measure	Developing a training programme for teachers to participate in order to increase their digital competences. One module of the programme acquaints the participants with - risks associated with children's internet usage (viewing harmful contents, data manipulation, cyber bullying, illegal activities, etc.), - filtering software which provide protection against harmful contents, modern teaching methods to directly increase conscious usage of internet among students and indirectly among theirs parents too

Operational tasks	**Responsible**	**Scheduling**
1. being worked out	MHR, NMIA	2015 Q3

Estimated costs	under planning
Planned result	Teachers take part in training programmes to increase theirs digital awareness, with particular regard about the risks associated with internet usage. Teachers learn special methods to be more successful in the development of digital awareness and internet usage among students.
Monitoring/indicators	Output indicator: Number of participants in teacher training Result indicator: Increase of digital awareness of students
Other remarks	

B/E3/A1

Horizontal components **B – Security**	**Set of instruments** E3 -Establishment of hotlines and a national assistance service in order to combat cybercrime and to protect children	**Related actions (code number)**
	Measure/action **A1 –Establishing the legislative background of fast response against cybercrime (crime against children, digital piracy, data and information theft)**	

Objective of the measure	Improving cooperation between the organs participating in the cooperation.
Related strategic objectives	Relevant actions of the Digital Agenda (Actions 31, 32, 36, 40)
Content of the measure	During the measure it is necessary to review the current legal background that controls efficient functioning of the authority against cybercrime, with particular regard to the relevant legislation of criminal law and to the juridical materials which regulate prevention, detection and removal of illegal content, etc. After the review, if it is necessary, the modification of legislation in force or the new regulation must be implemented to increase the efficiency of joint official action and cooperation.

Operational tasks	**Responsible**	**Scheduling**
1. Review of current legal background that controls efficient functioning of the authority against cybercrime, development of individual proposals. The review should cover all the competent organizations.	MPAJ, MI, NMIA, General Prosecutor Office, National Police Headquarters, NTCA	2015 Q2
2. Implementing the consultative forum based on the results of individual revisions and recommendations, furthermore jointly developing the proposals about legislative modifications and new regulations within the framework of the forum.	MPAJ, MI, NMIA, General Prosecutor Office, National Police Headquarters, NTCA	2015 Q3
3. Final review of new regulations and jointly developed modification proposals about the legislation against cybercrime, which controls the the efficient functioning of the authority, thereafter the filing of documents.	MPAJ, MI, NMIA, General Prosecutor Office, National Police Headquarters, NTCA	2015 Q4
4. Legislation against cybercrime, which controls the efficient functioning of the authority, should include the following:	MPAJ, MI, NMIA, General Prosecutor Office,	2015 Q4

- designation of the investigating authorities - the precise description about the competences of investigating authorities - the from and manner of cooperation with non-authoritative organizations and service providers (e.g. internet service providers) - the operating mechanism of the information system (prevention, detection, notification and alarm)	National Police Headquarters, NTCA	
Estimated costs	under planning	
Expected result	Creating legislation against cybercrime to facilitate the efficient functioning of the authority, modify outdated legal regulations and creating legal regulations which adjust to social and technical development. Inform citizens on an appropriate level and reduce latency of cybercrime, increase the number of notifications and develop positive cooperation between competent authorities	
Monitoring/indicators	Output indicator: Create legislation against cybercrime to facilitate the efficient functioning of the authority. Result indicator: The rate of growth in the number of notifications and alerts, increase in the efficiency of detection.	
Other remarks		

B/E3/A2

Horizontal components **B – Security**	**Set of instruments** E3 -Establishment of hotlines and a national assistance service in order to combat cybercrime and to protect children **Measure/action** **A3 - Strengthening the Hungarian component of the fast response European network against cyber attacks (CERT)**	**Related actions (code number)**

Objective of the measure	Creating further sectorial CERTs (e.g. serving scientific institutions), CERT accreditation of the Government Event Management Centre (GovCERT) and the LRLIBEK, which supports critical infrastructures.
Related strategic objectives	Achievement of the goals laid down in Government Resolution No. 1139/2013. (III. 21.) on Hungary's National Cyber Security Strategy. Implementation of the 2008/114/EC Council Directive of 8 December 2008 on the identification and designation of the European critical infrastructures and the evaluation of the need to improve their protection. European Digital Agenda Preparations • for the proposed EP/Council directive on the measures for a standard high level of network and information security throughout the European Union, • for the 2012/2096 (INI) resolution on cyber security and protection adopted by the European Parliament on 22 November 2012, • for the shared communication of the European Commission and the main representative of the common foreign and security policy of the European Union, issued under the title of 'Cyber Security Strategy of the European Union: an open, secure and reliable cyberspace' on 7 February 2013
Content of the measure	Implementing the required measures through the Hungarian CERT structure to protect the entire Hungarian cyberspace (see operational tasks).

Operational tasks	**Responsible**	**Scheduling**
4. Accreditation of the GovCERT and LRLIBEK CERT	Supervisory agencies	Cannot be scheduled, depends on the decision of the CERT community
5. Designation of the agency creating and sponsoring the civil CERT.	Government decision	Not known
6. Establishment of the civil CERTs, which protects the uncovered sectors, institutions and all residents	No agency has been appointed	Not known
7. Establishment of types of co-operation between CERTs with the involvement of NEIA, the National	Agencies concerned	Not known

Security Supervision and the Cyber Security Council		
Estimated costs	HUF 120 mn based on the 2013 data + annual operating expenses	
Expected result	Protection of Hungary and all Hungarian institutions and the population against attacks from cyberspace.	
Monitoring/indicators	Establishment of civil CERT. Result indicator: Number of external attacks averted by CERT (target value: 100%)	
Other remarks		

PARTNERSHIP

Public discussion of the document took place electronically between 19 November and 2 December 2014, in which all relevant profession and civil organization explained the opinion about the document. The following organizations have provided comments of the strategy:

Organization name	Status of organization (public, market, civil)	Comment a written remark and/or suggestion (yes, no)	Their remarks and suggestions have introduced (yes, partly yes, no)
National Council for Telecommunications and Informatics (NHIT)	Public	Yes	Partly yes
EuroCloud Hungary Organization	Civil	Yes	Partly yes
Informatika a Társadalomért Egyesület	Civil	Yes	Partly yes
Informatikai Vállalkozások Szövetsége	Civil	Yes	Partly yes
Neumann János Számítógép-tudományi Társaság	Civil	Yes	Partly yes
Hírközlési Informatikai Tudományos Egyesület	Civil	Yes	Partly yes
Hírközlési Érdekegyeztető Tanács	Civil	Yes	Partly yes
Informatika-Számítástechnika Tanárok Egyesülete	Civil	Yes	Partly yes
Alliance of Libraries and Information Institutes	Civil	Yes	Partly yes
Hungarian Cable Communications Association	Civil	Yes	Partly yes
Hungarian Chamber of Commerce and Industry	Civil	Yes	Partly yes
Vodafone Zrt.	Market	Yes	Partly yes
Invitel Zrt.	Market	Yes	Partly yes
National Széchenyi Library	Public	No	No
Forum for Hungarian Information Society	Civil	No	No
Magyary Zoltán E-közigazgatástudományi Egyesület	Civil	No	No
Szövetség az elektronikus kereskedelemért	Civil	No	No
Hálózati Tudás Terjesztéséért Programiroda	Civil	No	No

List of abbreviations

English abbreviation	Organization	Hungarian abbreviation	Szervezet
MND	Ministry of National Development	NFM	Nemzeti Fejlesztési Minisztérium
MND Deputy Secretary of State for Infocommunication	Ministry of National Development Deputy Secretary of State for Infocommunication	NFM Infokommunikációért Felelős Helyettes Államtitkárság	Nemzeti Fejlesztési Minisztérium Infokommunikációért Felelős Helyettes Államtitkárság
PMO	Prime Minister's Office	ME	Miniszterelnökség
MI	Ministry of Interior	BM	Belügyminisztérium
MNE	Ministry for National Economy	NGM	Nemzetgazdasági Minisztérium
PMO PSDOP MA	Prime Minister's Office Public Service Development Operational Program Managing Authority	ME KÖFOP IH	Miniszterelnökség Közszolgáltatás Fejlesztési Operatív Program Irányító Hatósága
GITDA	Governmental Information-Technology Development Agency	KIFÜ	Kormányzati Informatikai Fejlesztési Ügynökség
NMIA	National Media and Infocommunications Authority	NMHH	Nemzeti Média- és Hírközlési Hatóság
MNE EDIOP MA	Ministry for National Economy Economic Developmnet and Innovation Operational Program Managing Authority	NGM GINOP IH	Nemzetgazdasági Minisztérium Gazdaságfejlesztési és Innovációs Operatív Program Irányító Hatósága
MNE EOP MA	Ministry for National Economy Economic Development Operational Program	NGM GOP IH	Nemzetgazdasági Minisztérium Gazdaságfejlesztési Operatív Program Irányító Hatósága
MHR	Ministry of Human Capacities Helath	EMMI	Emberi Erőforrások Minisztériuma
NIIFI	National Information Infratructure Development Institute	NIIFI	Nemzeti Információs Infrastruktúra Fejlesztési Intézet
NISZ Zrt.	National Infocommunications Service Company	NISZ	Nemzeti Infokommunikációs Szolgáltató Zrt.
Pro-M Ltd.	Professional Mobile Radio Ltd.	PRO-M (Pro-M Zrt.)	Professzionális Mobilrádió Zrt.
MNE SSVTLM	Secretary of State for Vocational Training and the Labour Market	NGM FÁT	Nemzetgazdasági Minisztérium Fogyasztóvédelemért Felelős Államtitkárság
COAEPS	Central Office for Administrative and Electronic Public Services	KEK KH	Közigazgatási és Elektronikus Közszolgáltatások Központi Hivatal
HCIC	Hungarian Chamber of Commerce	MKIK	Magyar Kereskedelmi és Iparkamara
NUPS	National University	NKE	Nemzeti Közszolgálati