המשרד לשוויון חברתי
MINISTRY FOR SOCIAL EQUALITY

The Digital Israel National Initiative:

# The National Digital Program

# of the Government of Israel

June 2017

The Ministry for Social Equality

## Introduction by the Minister of Social Equality, MK Gila Gamliel

The digital revolution has had an enormous impact on innovation, creativity and quality of life throughout the world in recent decades. Innovative technologies have already contributed significantly to Israeli society and its economy, and continue to hold huge potential.

The State of Israel is known as the "Start-up Nation", yet only a small percentage of its population is a partner to this technological world. The aim of the National Digital Israel Initiative within the Ministry for Social Equality is to position Israel among the leading, technologically advanced countries in the world, using digitization to bridge the significant socio-economic gaps among disadvantaged populations, while increasing both national and local government efficiency.

The Digital Israel Initiative is a cornerstone of the Ministry for Social Equality's undertaking to narrow expanding gaps in Israeli society and to create equal opportunities for all citizens. Owing to this initiative and the changes it will engender, every girl and boy in Israel will have the knowledge and digital infrastructures needed to realize his or her full potential, along with broad and equal access to the myriad opportunities offered by the technological world.

We view Digital Israel as a direct investment in human capital, providing real opportunities for mobility in Israeli society, hastening the day when a girl from Dimona or a boy from Rahat will start the next Google or Facebook.

Moreover, with the help of a variety of partners within and outside government, the Digital Israel Initiative will harness Israeli innovation and adopt digital tools to lower the cost of living in Israel. It will do so by, among other things, advancing the housing sector towards the digital age, decreasing high housing prices and developing the digital finance field in order to improve financial services and increase competition.

The National Digital Program presented here represents the policy of the government of Israel to leverage information and communication technologies with the aim of narrowing social disparities, increasing economic prosperity and creating a more efficient and smarter government administration. We thank all those who took part, contributed their experience and energy and helped develop ideas and opinions in formulating this important national program.

Sincerely,

Gila Gamliel

Minister for Social Equality

Introduction by the Director General of the Ministry for Social Equality, Mr. Avi Cohen

The Ministry for Social Equality aspires to a society that is diverse, socially resilient and provides equal opportunity to all citizens and population groups in Israel. Digital tools are some of the most significant instruments for narrowing social gaps and achieving equal opportunity. This is why the activities of the 'Digital Israel' National Initiative in the Ministry for Social Equality make up such a significant share of the Ministry's activities and are one of the primary tools for realizing its vision. Adopting digitization processes in government offices is the key to streamlining government work and increasing its effectiveness, but first and foremost a key to advancing fundamental social goals. Digitization can bring the periphery closer to the center, develop and leverage the industrial and business sectors, and produce a quantum leap in the way public products and services are provided. This is a reality that allows for inclusive and sustained growth, reflected in overall improved quality of life in the country.

As part of the national effort to achieve these important goals, the Ministry for Social Equality, through the 'Digital Israel' National Initiative, acts vigorously to leverage government capabilities, with an emphasis on creating and forging wide ranging and broad cross-government and inter-sector collaborations to achieve the Initiative's success. Alongside the strategic and planning work involved, we also lead cross-government projects and steps that are vital for meeting the goals and objectives we set for ourselves.

We believe and hope that the Israeli government's adoption of the first National Digital Initiative in Israel, while providing tools for it realization, will lead to significant and genuine social change in the everyday life of the citizens and residents of Israel.

Sincerely,

Avi Cohen

Director-General, Ministry for Social Equality

Introduction by Ms. Shai-Lee Spigelman, CEO Digital Israel Bureau

The State of Israel is at an excellent start point for realizing the vision of the digital revolution. This is the result of the historic convergence of the materialization of innovative technologies and the leading international standing of Israel in technological innovation – which earned it the name the Start-up Nation. The next challenges facing the State of Israel are to establish its leading position in the world, accelerate and propel economic growth and ensure that the advantages of technology will permeate all stratums of society, contributing to narrowing social gaps and providing equal opportunity to all members of society. It is the purpose of the 'Digital Israel' National Initiative, advanced by the Digital Israel Bureau, to meet these challenges. To advance the Initiative we formulated the program presented here, together with our various partners in government, business and society-at-large. The program reflects the Israeli government's policy for the digital age, delineating how the various government offices will act to narrow social disparities, accelerate growth, streamline their work and improve government services to the public using digital tools. Furthermore, we at the Digital Israel Bureau in the Ministry for Social Equality, along with our many partners in government offices, will continue to develop areas that cut across ministries, along with the organizational, technological and physical infrastructures needed to ensure the Initiative's success. We will continue to benefit from the assistance of the private sector to encourage the penetration of technology into the public sector and will harness it to cultivate innovation in the economy.

We believe that this program, which will enable the advancement of a large number of important initiatives concurrently and with multi-sector and international cooperation, will create the critical mass needed to produce the digital 'quantum leap' needed to realize the vision underpinning the Digital Israel Initiative.

We thank our partners at the various government offices as well as in academia, the business sector and the public at large, who helped formulate the plan, understood the significant potential embodied in the 'digital revolution' and joined this national undertaking.

Sincerely,

Ms. Shai-Lee Spigelman

CEO Digital Israel

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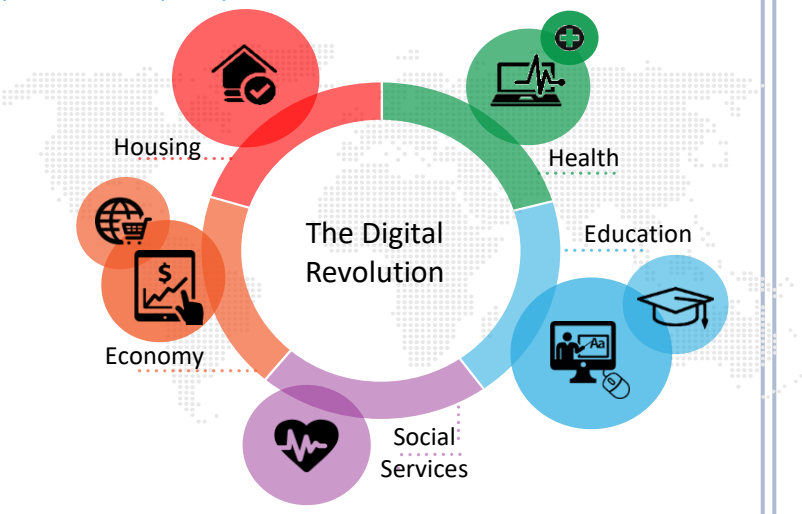
## Executive Summary




The rapid development of Information and Communication Technologies (ICT) in recent decades has had a significant impact on all areas of our life. The "Digital Revolution" (or the "Information Revolution") fosters business innovation, contributes to economic growth, improves quality and ease of life, helps increase government efficiency and upgrade public goods such as housing, health, education, social services and the economy, while narrowing geographic, social and economic gaps in society. Accordingly, various countries such as South Korea, Britain, Estonia, Sweden, Denmark and Norway identified the need to formulate a comprehensive national digital strategy to integrate innovative technologies into all areas of society and the economy. These countries enjoy higher productivity, faster growth and better quality of life for their citizens compared to other countries.

The government of Israel identified the acute need to formulate a comprehensive national digital policy as early as 2013. That year the government adopted a resolution to establish the "Digital Israel National Initiative" – to formulate and implement a national digital policy for using ICT (hereinafter: "the National Initiative"). "Digital Israel" was defined as one of the six strategic issues the State should address by the National Economic Council in its strategic socio-economic assessment that it prepared and presented to the government.

To coordinate and integrate government work in order to advance the National Initiative and its goals, the government also decided to establish the Digital Israel Bureau (hereinafter: "the Bureau") that operates within the Ministry for Social Equality. Among other tasks, the government charged the Bureau with the responsibility for formulating a National Digital Program, while accompanying the development of intra-ministry and inter-ministerial digital programs, as well as programs to promote cross-government steps necessary for realizing the National Initiative.

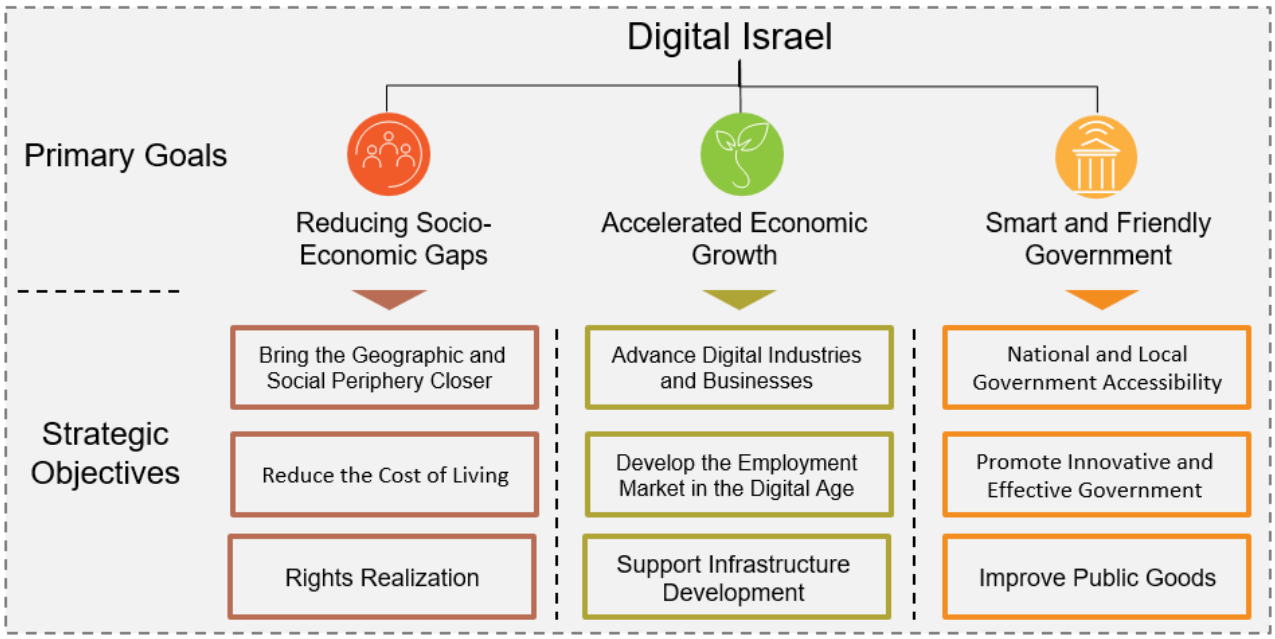
As the "Start-up Nation", Israel is well-positioned to exploit the advantages of the digital revolution. Over the years, it has made intensive use of the advantages of digitization to become a world leader in high-tech, owing in part to the innovativeness of Israeli citizens and their tendency

to rapidly adopt new technologies and services. Now there is a need to invest efforts to sustain and preserve Israel's leading position for the long-term.

Despite Israeli innovation and advanced technologies, it is evident that the advantages and potential offered by the Digital Age have yet to permeate all parts of Israeli society and of the economy. Moreover, what did percolate occurred at different levels of intensity among different population groups. There are significant disparities in Israeli society, and a growing Digital Divide between those parts of society that take advantage of digitization and weakened populations that frequently do not benefit from its fruits. One of the goals set by the Ministry for Social Equality is to address these disparities and to act to narrow gaps between population groups, eliminate the "distance" between periphery and center and advance equal opportunity, using digital tools as the primary means of addressing these disparities.

Developing digital industries in the country can serve as a significant growth engine for Israel, resulting in economic growth, job growth and improved services to the public, while fostering an innovative and advanced ecosystem. There is also significant potential to foster Data Driven Innovation in the public sector and in industry, and to improve digital infrastructures and accessibility of state and local government services to the population at large.

Accordingly, at the basis of the National Initiative is a vision to leverage the opportunity embodied in the digital revolution to narrow social and geographic disparities, achieve accelerated economic growth and promote a friendly Smart Government that is a world leader. The National Digital Program was formulated in light of this vision, and reflects the policy of the government of Israel for the years 2017-2020. To realize the vision of the National Initiative the primary goals and the strategic objectives of the National Digital Program were defined as follows:






To realize the goals and objectives of the National Initiative, a broad scope of activities was defined, encompassing a wide range of field, services and products pertaining to the Israeli government, to the economy and to society. Implementation areas were divided into two groups: core areas and horizontal areas. Most likely, these areas will be updated as the National Initiative advances.


The core areas consist of the main activity spheres in which a significant digital quantum leap can be achieved. They delineate the issues that will drive each specific ministry's formulation of its digital plan for every area, coordinated and integrated by the Bureau.

In contrast, the horizontal areas are mainly inter-ministerial fields that will create the supporting infrastructure and environment for realizing the goals of the National Initiative and for advancing the digital revolution in Israel. Due to their cross-cutting nature, some of these areas will be advanced by the entity responsible for the specific area in cooperation with the Bureau, and others will be led by the Bureau while harnessing government and multi-sector partners to advance initiatives and digital plans in the specific area.

The aim of the National Digital Program presented here is to advance and integrate the activity scope of the National Initiative and its goals, and to serve as a digital compass for all government ministries and offices. The Program constitutes a framework for government activity in implementing the National Initiative, and the ministries and auxiliary units that are partners must act to implement it, whether through the work plans of their ministries or by formulating dedicated digital programs with the help of the Bureau. To help government ministries formulate a digital strategy the National Program is based on several guiding principles: focus on user needs, using an agile approach, managing information resources, digital inclusion and Digital by Default. These principles are compatible with the government ICT strategy as formulated by the Government ICT Authority.

The Program will help build economic growth engines and produce national benefits for the State and for society, and its implementation will enable a significant digital quantum leap that is needed for Israel.

# Part A – Background of the National Digital Initiative

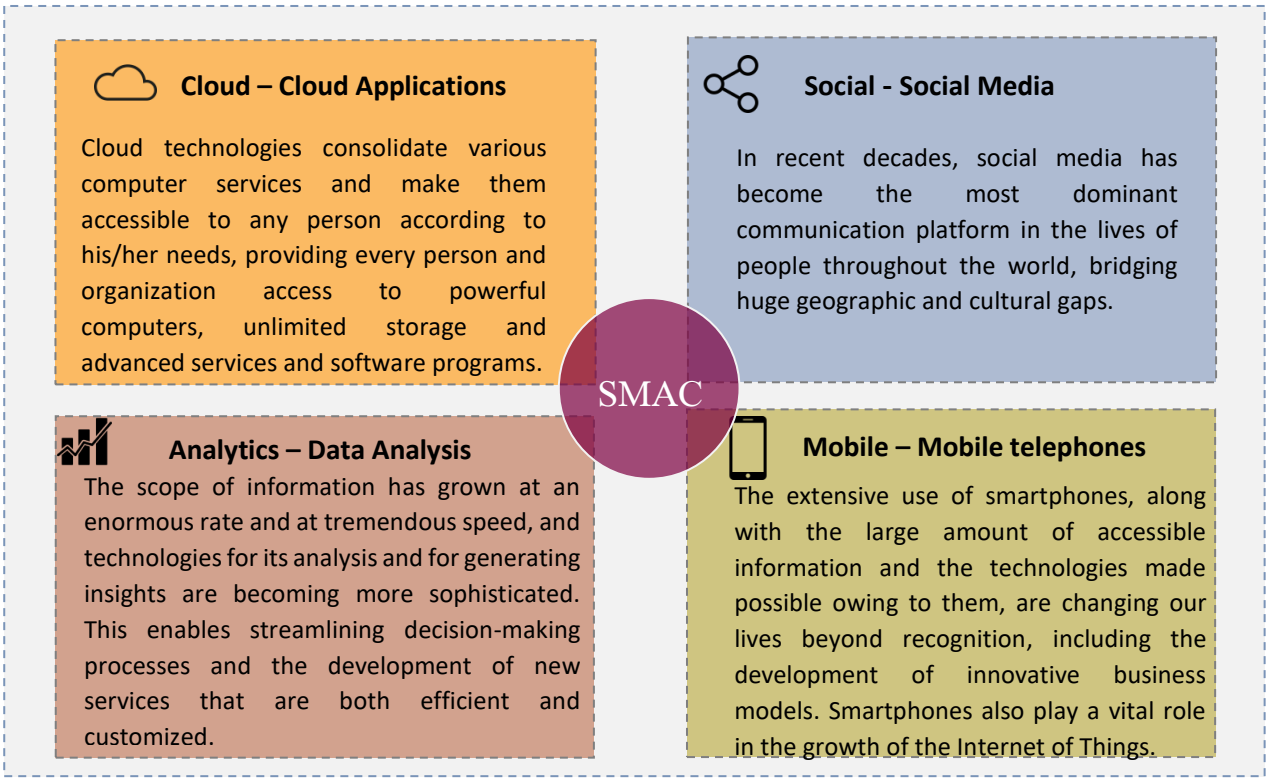
## Chapter 1 – Description of Worldwide Digital Trends

Our world is in the midst of one of the most significant revolutions in human history – "the digital revolution". This revolution is transforming the world as we know it, with an intensity not experienced since the industrial revolution in the 19th century and producing fundamental changes in all areas of modern life – including the economy, society and government[1].

The emergence of the personal computer in the 1980s and the entry of the Internet into our lives in the 1990s, created a new digital world based on information and communication technologies. More than 40% of the world population – about 3.2 billion individuals – currently use the Internet compared to only about 400 million in 2000, and there are more than 7 billion mobile subscribers throughout the world compared to less than 1 billion at the beginning of the millennium[2]. The Internet and mobile now serve as platforms for the development and spread of additional advanced technologies.

The volume of information created on these communication infrastructures is unprecedented, making almost all the knowledge known to man accessible anywhere on the globe: in 2012, it was estimated that an unfathomed amount of information is created every day – 2.5 exabytes - about 2.5 billion gigabytes – and this rate has accelerated significantly since then[3]. Digitization also fosters business innovation and supports economic growth worldwide: the digital economy contributes about 19.2 trillion dollars to the world GDP, more than the GDP of the European Union or the United States, and constitutes 22.5% of world goods. By 2020, the digital economy is expected to grow by approximately 5.5 trillion dollars, and to make up 25% of the world economy[4].

The "digital revolution" transitioned to a new stage in recent years, accelerating economic and social processes. Four digital trends are developing concurrently, creating innovative business models and revolutionary digital work methods and changing the way each and every one of us experiences life. These trends are known as SMAC – Social media, Mobile phones, Analytics and Cloud applications:




Innovative technological trends in fields such as cyber and information security, Fintech, Smart Cities, and health and education in the digital age, are also significant economic growth engines impacting all areas of the citizen's life. Countries that adopted the digital revolution and have taken action to integrate innovative technologies at all levels of society and the economy, among them South Korea, Britain, Estonia, Sweden, Denmark, Norway and others, enjoy higher productivity, accelerated growth and enhanced quality of life for their citizens compared to other countries[5].

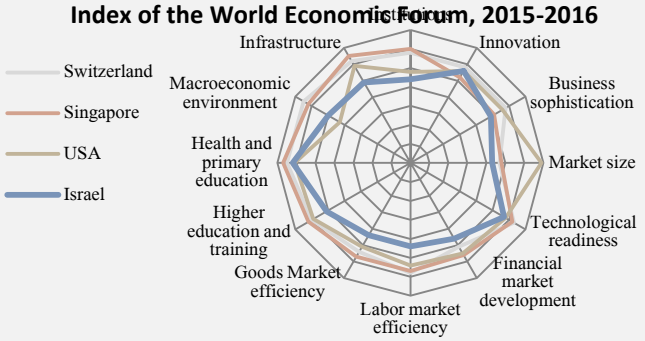
It is a goal of the National Initiative to foster the growth of digital industries in Israel, to support the development of an innovation ecosystem, to improve and integrate the digital revolution in government work and the public domain, and to foster and help citizens and businesses exploit the advantages of ICT technologies and data driven innovation. The underlying

assumption of the National Initiative is that the State of Israel must advance to the forefront of the digital era, vigorously and rapidly, in order to ensure its continued economic prosperity and the welfare of its citizens. It must do so while focusing attention on all population sectors and segments, as part of a comprehensive approach for fostering social cohesion and diversity, empowering the individual and narrowing social, geographic and economic disparities in Israeli society.

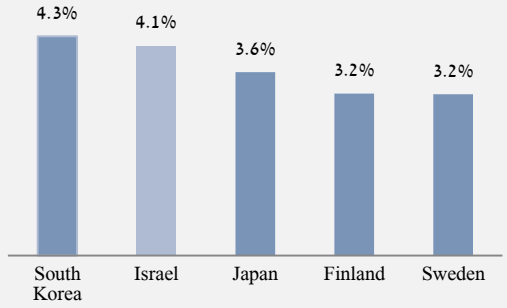
## Chapter 2 – The State of Digitization in Israel

An examination of the state of digitization in Israel reveals a complex picture. On the one hand, Israel is known as the Start-up Nation, with innovative technology ranked among the highest in the world. It is ranked second in the world in gross domestic expenditure on R&D as a percentage of world GDP[6], and the scope of venture capital invested per person in Israel is among the highest in the world - $170 per capita, compared to only $75 in the second-ranking country, the USA[7]. Furthermore, Israel is ranked relatively high compared to other developed countries on the World Economic Forum Global Competitiveness Index with respect to indicators relating to innovation and technological readiness.

**Ranking of Israel on the Global Competitiveness Index of the World Economic Forum, 2015-2016**

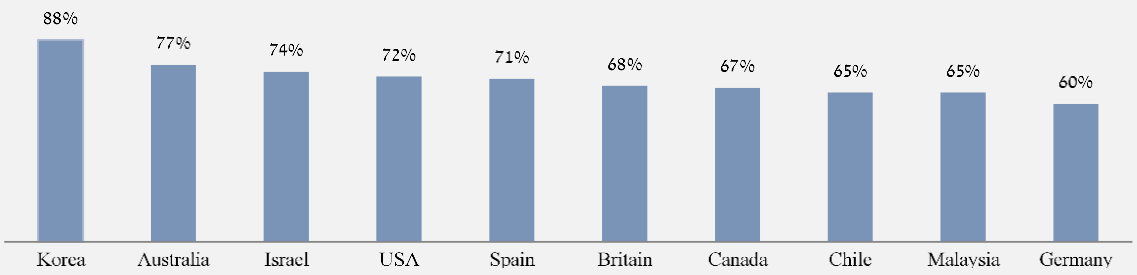



**Gross Domestic Expenditure on R&D as a Percentage of GDP, Five Leading Countries, 2014** [6]




Israeli consumers are perceived as "early adopters" of innovative technologies and services, providing the country with a qualitative basis for the integration of digital services. The high penetration rate of smartphones in Israel is also a significant enabling factor for adopting digital applications.

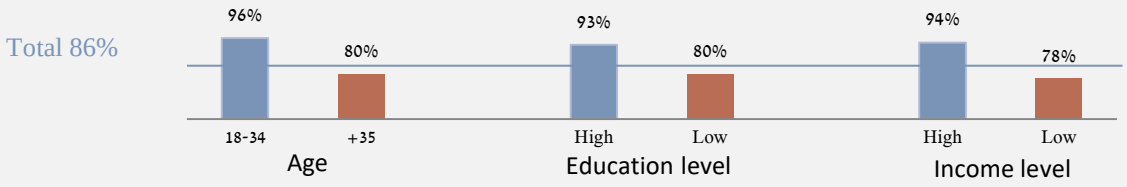
**Smartphone Penetration rate in the population, ten leading countries in the world, 2015** [16]



Despite Israeli innovation and advanced technologies used in the local high-tech industry – the potential and advantages of the digital age have yet to permeate significantly into all economic sectors and population groups.

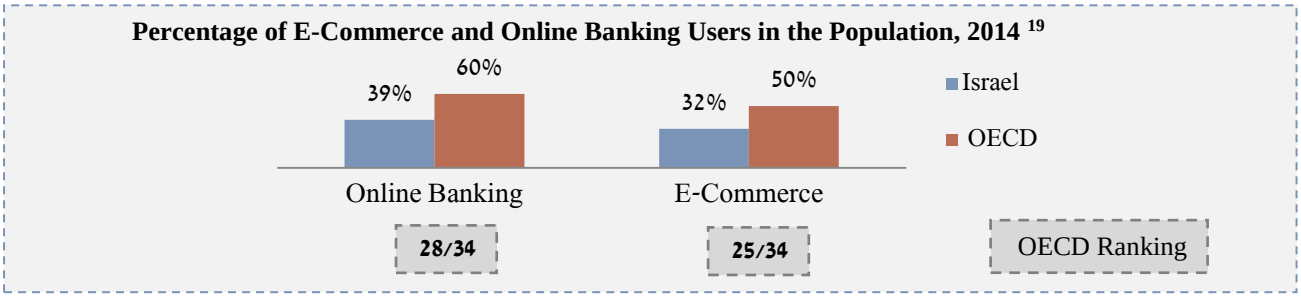
Thus, for example, notwithstanding the extensive communication infrastructures deployed throughout the country, Israel ranks only 24th among OECD countries in broadband penetration, and only 25th in the world in terms of average data transmission rate[8]. Furthermore, there is a significant digital divide in Israel, between the population sectors that take advantage of digitization processes and between those weakened populations who do not. The following table shows that the digital divide corresponds to economic and social gaps in the country, in effect reinforcing high inequality levels.

**Percentage of Internet Users by Population Sectors, 2015** [19]




The table below also shows that despite the extensive access to Internet in Israel, use of applications is among the lowest in western countries – for example, Israel ranks 25th in e-Commerce and 28th in the use of online banking services among the 34 OECD countries.

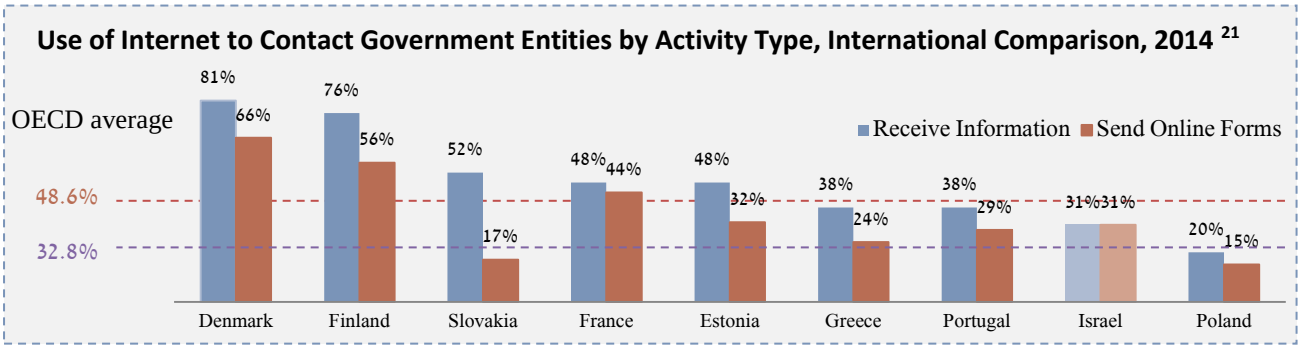
**Percentage of E-Commerce and Online Banking Users in the Population, 2014** [19]




The digital divide and the gap in Internet access and Internet use is, to a large extent, the result of the low level of digital literacy among considerable parts of the population[9]. Thus, for

example, on the OECD Adult Digital Literacy Index, only 27% of the adult population in Israel passed the basic-level of the test. Among the Jewish ultra-orthodox population, the Israeli Arab population and those 55 years of age and older – the rate of those who failed was significantly higher[10].

Furthermore, digital innovation that developed in the business sector has yet to permeate the public sector. While Israel is ranked at the top of indices measuring innovation in high-tech, it ranks lower in the use of infrastructure and technology in the public sector: 13th in the world in providing online government services on the United Nations e-Government Survey[11], and 27th on the OECD index of online public communication with government entities[12].




Despite significant efforts over the past two years, for example the launch of the central government website (Gov.il)[13], and the establishment of a consolidated government website for open job positions in the public sector and tenders (Jobiz), there is considerable additional potential for advancing the use of digital tools in order to provide services to the citizens of Israel. Thus, although innumerable vital and common government services have already been digitized, many services are still not available online[14], and the same holds true for local government services. Only about 31% of the country's population currently submits government forms online[15]. Public goods such as social services, education and health also do not make optimal use of the potential offered by the digital age, and they can be significantly improved by integrating digital tools, significantly bettering the lives of the citizens of Israel.

## Chapter 3 – The Background of the Digital Israel National Initiative

Many countries identified early on the need to set forth a broad national digital policy. Among the OECD countries, 27 had such a policy in 2015, and two additional countries are in the process of formulating a National Digital Program[16]. The national program currently implemented in many countries is not that country's first strategic digital program, but rather a program continuing prior programs published and implemented over the past decade.

Selected Examples

**Leading countries with a National Digital Program**

Netherlands (2011) Ireland (2013) Australia (2011) Britain (2012)

Mexico (2013) Spain (2013) Finland (2011) Belgium (2015)

**Leading countries with a current national digital policy that is a continuing plan**

Germany (2013) Sweden (2011) Denmark (2011) Korea (2013)

Japan (2009) New Zealand (2013) Canada (2014) Estonia (2014)

The need to formulate a digital strategy for Israel was already recognized in 2013, when in May of that year the National Initiative was defined as one of the six strategic issues that should be addressed by the government and was included in the national socio-economic assessment presented by the National Economic Council. This was followed by the approval of Government Resolution No. 1046 to establish the National Initiative that will formulate and implement a national policy for using information and communication technologies[17]. The resolution defined key core areas – education, health, economics, and social affairs and social services, for which ministerial implementation teams would be established. Also defined were horizontal areas such as adapting the government procurement policy and regulation to the digital age.

In October 2014, the Israeli government approved Government Resolution No. 2097 that included a section on the advancement of the "Digital Israel" National Initiative, and specified additional areas such as developing human capital needed to implement the goals of the National Initiative, promoting the deployment cross-government ICT infrastructures and developing e-Gov services for the public[18]. In 2015, as part of government's approval of the national strategic socio-

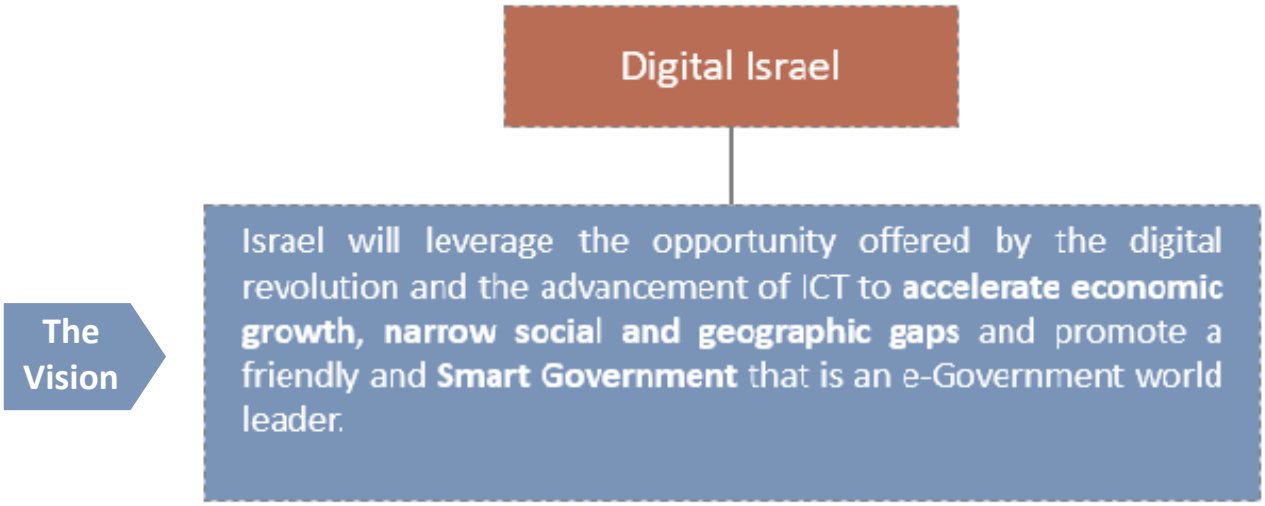
economic assessment for that year that defined the National Initiative as a strategic national issue, the government approved steps to be taken in order to formulate a National Digital Program, alongside developing ministerial and inter-ministerial digital programs as well as programs for advancing cross-government components of the National Initiative [19]. Additional core areas were defined as part of the resolution, such as local government and law, for which ministerial implementation teams would be established.

In the framework of these resolutions, it was decided to establish a central unit to coordinate and integrate the activities of the National Initiative– the Digital Israel Bureau that was established in the Prime Minister's Office and in 2015 came under the responsibility of the Ministry for Social Equality. The Bureau's responsibilities include formulating the National Digital Program; coordinating the work of the designated inter-ministerial steering committee established to advance the National Initiative; accompanying implementation of the National Initiative in the various government ministries while creating collaborations between them; accompanying the implementation teams and helping to formulate ministerial digital programs; building collaborations with the business sector in Israel and the world, and leading a permanent inter-sector discourse between government ministries, the business sector and the third sector – in the aim of solving economic and social problems by using ICT technologies; and developing inter-ministry digital processes and leading their implementation[20].

## The Vision of the Digital Israel Initiative and its Realization

As noted, the approach of the Ministry for Social Equality, which is responsible for the National Initiative, is to leverage the digital potential for the benefits of all the citizens of Israel – socially, economically and educationally. The national digital policy is in alignment with the Ministry's vision – to narrow disparities between populations and geographic regions and to provide equal opportunity, while creating a reality that facilitates social cohesion and a diverse society on the one hand, and empowerment of the individual on the other.

The National Initiative strives to transform Israeli society into a digital, innovative and technologically-leading society, in which every citizen, business and government entity optimally exploits the opportunities offered by information and communication technology.




To advance Israeli society in this direction, the State of Israel must integrate qualities such as innovation, creativity and openness to adopting advanced technologies among all population groups, business sectors and government branches. This is the guiding principle underlying the vision of the National Initiative.

**The Primary Goals of the "Digital Israel" National Initiative**

The primary goals of the National Initiative are directly derived from its vision and are in alignment with the vision of the Ministry for Social Equality. These goals focus on the significant efforts that will be invested as part of the National Initiative on those components that will contribute the most to the well-being of Israel's citizens, and will transform Israel into a digital society. The primary goals are narrowing socio-economic gaps, accelerating economic growth and creating a friendly and smart Government.


The three primary goals reflect the main social and economic areas in which the National Initiative seeks change in order to realize its vision as presented in detail in the following chapters. Several strategic objectives were derived from the primary goals, representing the most vital issues that need to be addressed in order to achieve the National Initiative goals, and on which most of the efforts will focus, as well as the initiatives carried out within its framework.

Transforming Israel into a digital society in which every individual, business and public entity can easily use ICT extensively and benefit from the advantages of digital tools and technological innovation, will help narrow existing disparities in society, enable accelerated economic growth and help establish Israel's competitive advantage.

## National Initiative Guiding Principles

The aim of the National Digital Program is to serve as a compass for the State of Israel with respect to digital transformation processes. The Program is forward-looking, whereby some of the digitization steps will be realized as part of the the National Initiative and some will be advanced independently by various government offices now and in the future.

The National Initiative guiding principles will serve all government ministries and entities when formulating a digital strategy and developing projects for advancing digitization in Israel. Defining the principles according to which government entities will operate will enable synchronization of the various activities in the digitial field, and ensure that Israel realizes the digital transformation according to uniform principles. These principles are also compatible with the government's ICT strategy put forth by the Government ICT Authority that guides the government IT units.

The main principles for the Digital Israel Initiative and for advancing the digitization in Israel:

**Focus on User Needs**

View the citizen as a customer of the government, and design government services accordingly, based on understanding the customers' needs from their perspective. These services will be unified, convenient and independent of the entity providing the service. The various services will be designed while taking advantage of digital capabilities and in an iterative process with the users of the relevant entity, in addition to public involvement, in-depth study of the users, an understanding of the customer's/user's journey and striving for continuous service improvement.

**Agile-based Project Management**

Agile-based project and process management includes conducting pilots, defining minimum viable products, working in stages while performing an iterative process and creating a continual development and improvement cycle. The agile approach supports 'Strategy is Delivery', in other words a "performance" strategy – launching digital services quickly and simply, and make things right later. The transition to an agile approach is intended to avoid a long process of designing systems, where the time between characterization of the system and its actual use can take several years during which customer requirements may change.

Increasing the agility and availability of government services will enable the provision of better and more quality services to citizens and businesses in the country.

**Human Resource Management**

1. Data-driven Decision-making

   Using data in decision-making processes regarding service provision and use will enable the design of quality and optimal digital services based on user needs. Measuring services while receiving real time user feedback will enable identification of problems and points for improvement, and will help design convenient and quality government services.

2. Openness and Transparency ("Open Government")

   Make public information open and transparent so that it is easy to use for the benefit of citizens and business. Promote "open government" while maintaining principles of privacy and data security. Opening and providing public access to databases, studies and data will allow for increased transparency and public trust in the government and will foster the development of business models based on the published data. Moreover, promoting a policy of public engagement and transparent decision-making processes will enable increased civic involvement and heighten public satisfaction.

**Digital Inclusion**

Create conditions that give all citizens equal ability to enjoy the opportunities of digital through services that are accessible to all. To achieve this goal digital services must be simple and intuitive to users so that every citizen can use them easily and succeed in receiving the service on their first try without external help. The emphasis is on narrowing the digital divide in the social and geographical periphery and among the elderly and persons with disabilities.

**Digital by Default**

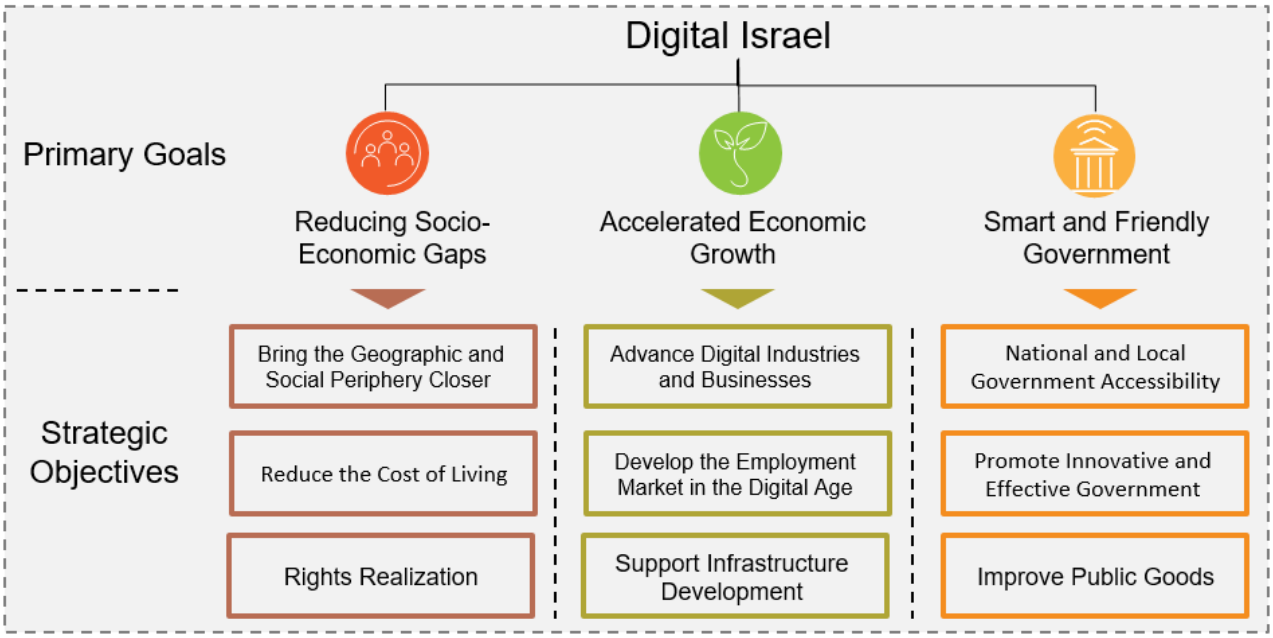
Develop government services as end-to-end digital services that are standard, simple and convenient to use so that every citizen able to do so will prefer to use them. To realize this principle, existing processes for receiving services from the government must be examined and redesigned to provide comprehensive and simple end-to-end digital processs, for both back-office and citizen interface.

# Part B – The National Digital Program

## Introduction – The Structure of the National Digital Program

The National Digital Program reflects the digital policy of the government of Israel for the years 2017-2022.

To achieve the National Initiative's primary goals, three strategic objectives were defined for each primary goal, representing the areas with the greatest impact potential on which the government will focus as part of the Initiative. Furthermore, operating areas were specified for each of the strategic objectives so that achievement of the objectives can be tracked and the various initiatives that will be carried out as part of the National Initiative can be evaluated:




The following chapters describe the background for the choice of each primary goal, the strategic objectives derived from the goal and their focus on specific areas. Also detailed are the main initiatives currently promoted by the government, or that will be promoted in the future.

The Digital Israel Bureau plays a vital role in leading the National Digital Program and in promoting the National Initiative, but is not directly responsible for all initiatives and activities that will be conducted as part of the National Initiative – each of the partners to the Initiative is responsible for realizing the National Initiative in its area. How the Initiative is implemented and the

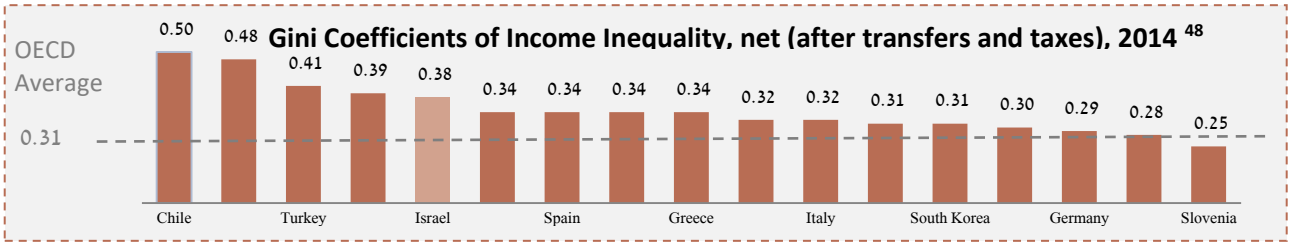
partners to the National Initiative are described in detail in Part C – "The Operating Concept of the Digital Israel Initiative".

The National Digital Program presented here serves as a compass for a digital strategy of the public sector and the government as a whole. The aim is that government ministries and additional entities will promote, on their own initiative, the formulation of a digital strategy for their organization and will take action to carry out a digital transformation in the areas under their responsibility in line with the objectives and principles of the National Initiative.

It should be noted that aside from the significant benefits to be gained from digitization processes, concerns may arise about harming data security and the right to privacy. Therefore, in respect to digitization processes that entail the processing and distribution of personal data that is or can be identifiable, or other types of sensitive data, implementation of the Digital Program will strike a balance between different aims, pursuant to the principles and weighed considerations set forth in government Resolution 1933 adopted August 30, 2016, and in compliance with the law. Furthermore, the National Digital Program will be implemented congruent with the requirements of the laws and regulations regarding accessibility for persons with a disability.

## Chapter 1: Primary Goal – Narrowing Gaps

Expanding economic inequality levels and social disparities have become fixtures of the modern world. The OECD found that the gap between rich and poor is at its highest 30-year level in most member countries[21]. In Israel, social disparities and inequality levels are relatively high, particularly in relation to other developed countries. The inequality level in Israel has increased over the years, and Israel currently ranks 5th in the OECD[22].




The social gaps in Israel are found in both the geographic and social periphery. In the geographic periphery[23] there are less quality employment opportunities and little access to quality public goods and government services. The social periphery in Israel includes weakened populations and excluded sectors, among them groups with low socio-economic status, the elderly, immigrants, the minority sector, the Jewish ultra-orthodox sector and people with disabilities.

The "digital revolution" can help bring the periphery closer to the center. It can assist in providing access to social and public goods from a distance, and thus, to the delivery of equitable and available services to the population in the periphery: through remote learning, for example, new opportunities can be created for pupils throughout the country to study a variety of courses from leading teachers residing in other geographic areas; it also enables harnessing innovation to lower the cost of living, which harms mainly weakened populations. For example, focused digital efforts in the housing market can shorten and streamline the housing production chain in Israel, and also improve access to information needed to formulate an effective policy to reduce housing prices. Combining digitization with the financial system can help lower the cost of financial services and fees, while improving their quality and accessibility. Furthermore, digital tools can be used to bridge information gaps and reduce the bureaucracy entailed in the rights realization process.

Selected Examples

**Digital literacy and the Digital Divide in Programs of Other Countries**

Britain - Government Digital Inclusion Strategy (2014)

The pillar of the British program for "Digital Inclusion" is to impart basic skills for Internet use, to increase motivation for its use and to strengthen trust in the Internet. The main barriers identified for acquiring basic digital competencies among the population at large are access, knowledge and motivation. Also identified were several necessary steps for promoting "digital inclusion", that include advancing programs at the country level, fostering inter-sector collaborations and improving tracking and measurement of digital literacy in the population.

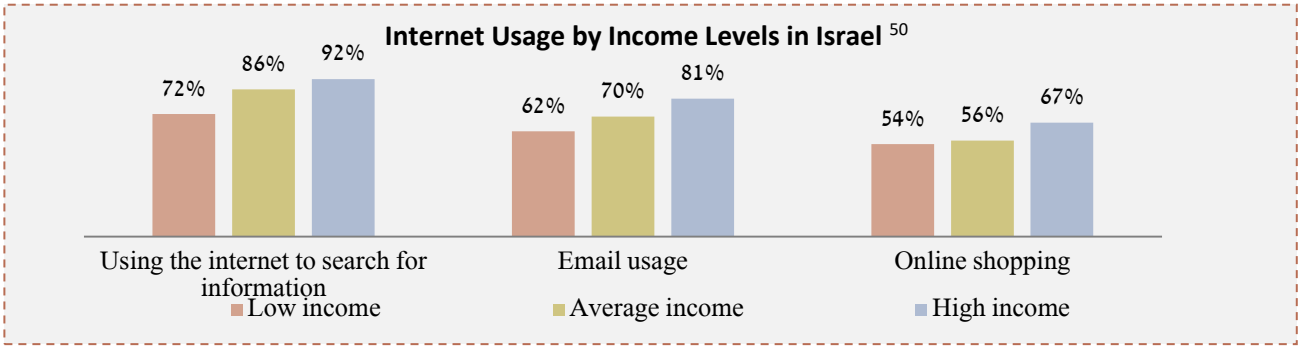
Estonia - Digital Agenda 2020 for Estonia (2014)

One of the key goals of Estonia's national digital program is improving the digital literacy level in the country, focusing on acquisition of basic skills and imparting advanced competencies in order to improve employment status. The Estonian program also stresses access, knowledge and motivation barriers of excluded population groups, and identifies that most of the factors are controlled by government entities through infrastructures, teachers, imparting abilities and strengthening the use of online government services.

**State of Digitization in Israel – the Digital Divide**

There is a significant digital divide in Israel between population groups that use and take advantage of the potential of technology and the digital age, and weakened population groups that do not take part in the process and do not enjoy the fruits of technology and digitization. The "digital divide" refers to differences between individuals, groups, households, organizations and geographic areas - in the level of accessibility to the digital environment (computers, software programs and the Internet) and in their digital literacy level (learning and work competencies and skills in a computerized environment). The digital divide exacerbates socio-economic inequality, since weakened populations have less access to the information and tools needed to advance and develop in the digital age.

As shown in the following diagram, the digital divide, as reflected in basic uses of technological tools, corresponds to economic gaps in the country, in effect reinforcing high inequality levels[24].




Narrowing social gaps entails, among other things, narrowing the digital divide between those living in the periphery and those in the center, between Israeli Arabs and Jews, and between religious and secular populations. The elderly and the disabled also suffer from digital literacy gaps that may impede their ability to benefit from sophisticated services.

**Narrowing Socio-economic Gaps by Digital Means**

To harness the digital revolution to narrow socio-economic gaps in Israel, the National Initiative set three strategic objectives that it will aim to achieve in implementing the National Program:

1. **Bring the Geographic and Social Periphery Closer to the Center**

   Take advantage of the digital revolution to overcome distance, culture and language barriers in the aim of connecting excluded population sectors in Israel to advancement processes in the economy and society. Thus, it will be possible to achieve equal opportunity for the population at large, while providing quality products and services anywhere in the country and to anyone that needs them.

2. **Reduce the Cost of Living and Housing Prices**

   By using digital tools to enable access to information and services, which streamlines processes and fosters competition, it is possible to address the cost of living and lower the cost of a wide range of services. Lowering the cost of living holds the potential to narrow socio-economic gaps in Israel.

3. **Rights Realization**

   Harnessing the information revolution and the advantages of digitization to increase rights realization in Israel will help the segments of society entitled to allowances and benefits, mainly the weakest population groups in society. Through efficient rights realization, the National Initiative will help narrow socio-economic gaps in Israel.

## Strategic Objective 1 – Bring the Geographic and Social Periphery Closer to the Center

Social gaps in Israel create inequality in opportunities for access to public goods and services such as health, education and social welfare. Accordingly, one of the most significant strengths of the digital revolution is the opportunity to overcome distance, ability and cultural barriers, contributing to narrowing gaps between the periphery and the center in order to promote social equality and equal opportunities in Israel.

As part of the National Initiative, special effort will be invested in reducing these barriers. As part of this effort, bringing the geographic periphery closer to the center will be advanced by providing access to public services and goods, and developing employment opportunities in defined areas, with the use of modern digital tools. Bringing the social periphery closer will be achieved by developing relevant digitization skills in the aim of narrowing the digital divide.

Bringing both of these peripheries closer to the center will be carried out while addressing three key areas:

- Improving digital literacy among weakened populations
- Providing access to quality public goods and services by digital means
- Creating jobs and developing businesses in the geographic and social periphery

**Digital Rehabilitation Communities** (headed by the Ministry of Labor, Social Affairs and Social Services)

The pilot is active in four rehabilitation communities throughout the country.

As part of the pilot, participants take part in a digital literacy course, enabling them to enrich their social life, develop independence in access to online services and improve their quality of life. The aim of the project is to strengthen the relationship between therapists and their disabled patients and to expand the service they receive from the social services system by using digital tools.


## What has already been accomplished?

**NetGev – The First Digital District**
(in cooperation with the Interior Ministry)

In cooperation with the Interior Ministry, and as part of a joint effort to advance digitization in local government, the establishment of a unique collaborative framework is planned between the government, 12 Jewish and Arab local government authorities and the private sector, in order to transform the eastern Negev into a leading region in the provision of digital services in health, education and entrepreneurship.

This historic project is part of a government effort to leverage ICT technologies in order to improve services in the periphery, narrow socio-economic gaps between the periphery and the center and to create new and quality employment opportunities. In the next stage, the project will be expanded to the Galilee area.

המשרד לשוויון חברתי
מטה ישראל דיגיטלית

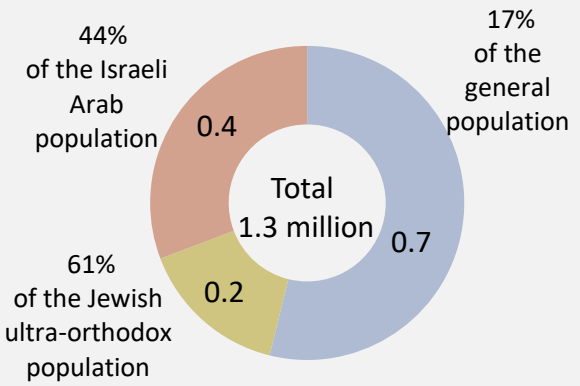
NETGEV

אשכול
נגב מזרחי

## Improve Digital Literacy in the Geographic and Social Periphery

Digital literacy describes the various technical skills for working with computers and using the Internet needed to function in everyday life and in the modern employment market. This literacy is divided into two levels: basic and advanced. Basic digital literacy includes: use of the computer and the Internet, searching for information, finding employment through digital channels, using email and social media, use of government services, self-learning competencies and using office applications. Advanced digital literacy includes competencies such as information processing and research, online consumption and online banking.

**Population segments that do not use the Internet by sectors, ages 20+ years, 2014** [29]

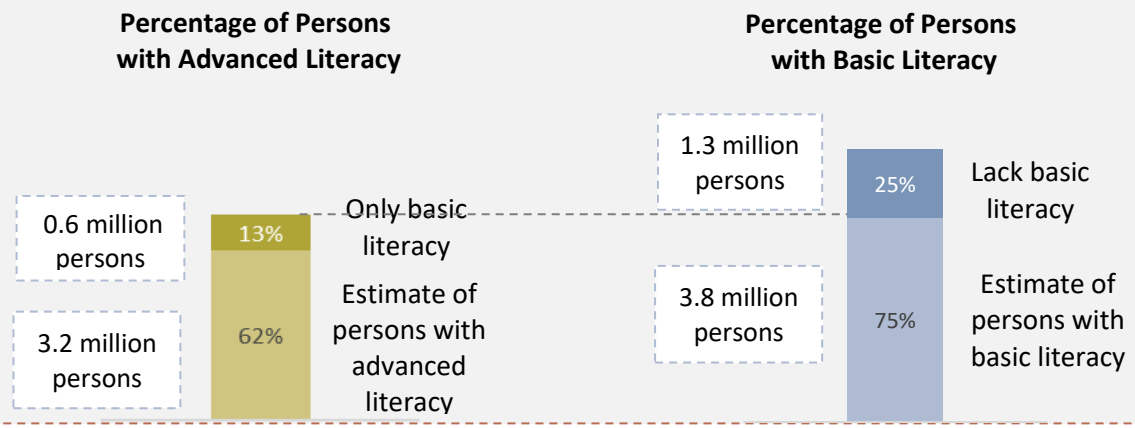



As part of the "digital divide" in Israel, segments of the population from the geographic and social periphery suffer from less access to advanced infrastructures and end-user equipment, and from a lack of digital and technological skills[25].

The half of the population that does not use the Internet at all belongs to the Jewish ultra-orthodox and the Israeli Arab sectors. Additionally, about half the elderly population is not digitally literate[26]. These populations are the focus of the activities of the Ministry for Social Equality. Furthermore, in Israel there is a strong link between lack of digital literacy and certain segments of the population (the Jewish ultra-orthodox and Arab Israeli sectors, those 55+ years of age and those with low incomes)[27]. These groups may find themselves excluded from receiving quality and online government services and from access to information, limiting their engaging with suppliers, service providers and employers, impairing their ability to make informed purchases online and to acquire tools suited for the modern employment market.

Concomitantly, to enable the citizens of Israel to fully benefit from the advantages of digitization, it is necessary to ensure that the population as a whole will be able to acquire advanced literacy skills, among them competencies for conducting research and information processing, online purchases and online banking.

**Percentage Of Persons With Basic And Advanced Digital Literacy In The Adult Population, 2014**[29]




The Digital Israel Bureau, in cooperation with government offices and other entities, is responsible for formulating and leading a strategic national program fully dedicated to advancing digital literacy in Israeli society, with an emphasis on the periphery and weakened populations.

Sample Initiative

**"Digital Communities" -– Narrowing Digital Gaps among Populations in the Social and Geographic Periphery**

As part of the "Digital Communities" project, digital literacy training is planned in various cities and towns, with a variety of programs offered in each locale in the aim of raising awareness and teaching computer and internet use. The programs will be operated concurrently and will be inter-related, harnessing all relevant government and community entities in the locale – local government, non-profit organizations and business entities, and leveraging existing infrastructures in the locale for the benefit of the program.

The programs will be based on leveraging existing infrastructures – study programs, centers with computers, instructors and contact with the local government, while using innovative means such as blended-learning courses on the National Platform for Online Learning.

## Provide Distance Public Goods and Services

Residents of the periphery do not enjoy equal access to quality public goods and services compared to stronger segments of the population in the center of the country. Quality public services and goods such as education, health and social welfare are less accessible the greater the distance from the center of the country. In today's digital world, geographic distance cannot be an

excuse for social inequality. Thus, for example, advanced technology for remote learning can provide relatively weak schools access to the highest quality teachers; remote health services can provide patients access to specialists in a variety of fields and medical examinations and tests close to home, reducing emergency room and hospital overload; and remote social services can bridge distance gaps and facilitate the provision of customized services.

The National Initiative will include initiatives for providing remote public goods and services so that those living in the geographic and social periphery of Israel will enjoy equal access to quality public goods and services.

Sample Initiative

**Telemedicine** (headed by the Ministry of Health)

A national telemedicine infrastructure is planned, providing access to remote quality medical services and medical consultation via video conferencing.

Telemedicine will enable the provision of improved service and shortened appointment waiting times, making quality medicine accessible to the periphery.

Furthermore, in the aim of incentivizing the health funds to provide remote medical services, the Ministry of Health plans to define specific support criteria for these services.

## Develop Employment and Businesses in the Geographic and Social Periphery

There are significant income disparities between the center and periphery in Israel[28], and the high-tech industry is concentrated in very few areas of the country. The absence of quality employment opportunities in the periphery leads to the migration of quality segments of the population to the center. In order to bring Israeli technological growth and innovation to other areas of the country, R&D centers must be established, and incentives offered, to high-tech companies that move to the periphery. Furthermore, industry anchors such as cyber or telemedicine must be created to strengthen and expand academic activity. It is also vital to advance the pursuit of technological professions among pupils and students from the geographical and social periphery, and in doing so to improve their ability to become integrated into the ICT industry and the employment market, and increase the professional labor force in the periphery needed to advance digital businesses and industries. The Council for Higher Education of Israel (CHE) and the Planning

and Budgeting Committee (PBC) within the CHE act within the framework of the multi-year program to promote the technological education programs relevant for the labor market among students, particularly from the periphery.

Digital tools can also be used to promote an even more extensive development policy in the periphery. Thus, for example, use of advanced BI (Business Intelligence) systems and advanced tools for information-based decision-making will enable the efficient and smart development of dedicated industrial zones. Furthermore, SMEs in the periphery can use e-commerce to offer their goods to potential consumers throughout the country and the world, overcoming distance gaps and narrowing opportunity gaps.

Sample Initiative

**Establish Digital Innovation Centers in the Geographic And Social Periphery**

(in cooperation with the Ministry of Science and Technology and Space)

The centers are planned to help develop innovation throughout the country, mainly in cities in the geographic and social periphery, in the aim of narrowing the technological gap and developing the community through technological experiences.

The centers serve as incubators for accelerating local startup companies, as a space for innovation events (e.g. hackathons, meetings and competitions), and as a meeting place for all ages - adolescents, adults and the elderly – where they will be

## Strategic Objective 2 – Lower the Cost of Living and Housing Prices

Cost of living is a term that refers to the average cost of household consumption in a given area that is needed in order to maintain a certain standard of living. As such, it represents the purchasing power value in certain countries (or cities), and has a cardinal impact on the level and quality of life, in this case of the residents of Israel. The cost of living in Israel is high in an international comparison also relative to OECD member countries[29]. The housing crisis in Israel in recent years, which stems from an insufficient supply of apartments and from monetary policy, has resulted in a significant rise in housing and rent prices in relation to the average salary, creating a considerable burden on the cost of living of the citizens of Israel[30]. Furthermore, low competition in the finance market in Israel, in areas such as banking, insurance and credit, has resulted in the high cost of financial services and fees. A high cost of living primarily impacts the middle-class and weakened populations in society, as a higher percentage of their income is spent on necessary expenses in order to maintain a basic standard of living. Therefore, the price of the basket of goods has a significant effect on the quality of life of different population groups, and improving the ability to contend with the cost of living offers strong potential to contribute to narrowing gaps in Israel.

Technology in general and digitization in particular have significant potential to help reduce the cost of living for the residents of Israel. In particular, they can ease the burden on the middle-class and weakened population groups. Digital tools can be used to streamline, simplify and shorten the value chain for producing housing in Israel, which will increase the supply of apartments.

Israeli consumers can be exposed to a variety of tools that can help them make more financially responsible decisions, compare prices and control their expenses. Furthermore, in the digital age it is possible to increase competition and actively lower the cost of many and varied products, as well the cost of their supply. Thus the digital revolution offers an opportunity to reduce the cost of living, and in doing so to narrow socio-economic gaps in Israel.

Reducing the cost of living through digital means will be achieved by addressing the following four major areas:

- Advancing digitization processes in the housing and real estate area
- Developing the financial area in the digital age
- Promoting the transition to digital products that produce economic savings
- Foster informed consumption by digital means

**Digital Books** (in cooperation with the Education Ministry)

The variety of digital books includes hundreds of school books adapted or created for pedagogic needs in the digital age.

The books, in a variety of subjects and for all age groups, can be ordered by schools in the National ICT program, many of them for free.

Thus it is possible to save families in Israel significant expenses on school books every year, and to reduce the cost of living for these families.

מעל 1000 בתי ספר משתמשים בספרים דיגיטליים

What has already been accomplished?

**Digital Land Registry Office**

(in cooperation with the Ministry of Justice)

The Land Registration and Settlement of Rights Department is acting to provide its services online and digitally. For example: registering or cancelling a warning note for an apartment, obtaining a Land Registry Extract and issuance of documents of a shared building.

By expanding the services provided online, it will be possible to shorten waiting and handling times, simplify registration procedures and reduce the burden of bureaucracy in Israel.

**The pilot was launched in Beer Sheba and following its success is now expanding to additional areas.**

## Advance Digitization Processes in the Housing and Real Estate Area

The housing crisis in Israel is at the center of the public agenda, with a significant rise in apartment and rent prices in recent years. One of the main causes is lack of apartments built due to the limited volume of building starts in relation to household growth in Israel. Another factor is the "production chain" housing process in Israel that currently spans 13-15 years, compared to 4-8 years in the western world. This has increased the burden of housing expenses, which make up more than a quarter of average consumption expenditure per household. The rising cost of living impacts primarily weakened population groups and the middle-class, widening disparities in Israel[31].

The digital revolution has the potential to help ease the housing crisis and to increase the effectiveness of implementing government policy in the housing market. Therefore, as part of the National Initiative, and in cooperation with government offices relevant to the housing and real estate area: the Planning Administration in the Ministry of Finance, the Israel Land Authority, the Justice Ministry, Bank of Israel, local government and others – are examining a series of significant digital initiatives expected to advance the housing and real estate field to the digital age and to ease the cost of living in Israel.

To increase the availability of information about the housing market and to provide a trans-national representation for the benefit of decision-makers in the national housing cabinet, a "National Center for Housing Information "("Meimad" in Hebrew) was established, led by the Israel Land Authority. This is a decision support system that can present an up-to-date picture from a range of entities about the inventory of plots available for marketing, as well as the status of planning and development barriers and the multi-year marketing map in Israel. The system is based on a unique data model for presenting and analyzing varied databases of plans and plots that combines Business Intelligence (BI) technologies with geographic mapping (GIS) technologies. The system in turn helps in formulating government policy and in data based decision-making. There is currently a need to expand the system and its scope, since concentrating all reliable information in one place can help track the implementation of government policy and increase cooperation between the different entities in the housing production chain.

Combining focused digital efforts in streamlining the housing production chain can help simplify and shorten planning, licensing and construction processes, which will increase the supply of available apartments in Israel. For example, technological tools can be harnessed to establish umbrella agreements that allow for the planning of entire neighborhoods (in Hebrew known as "roof" agreements, which harness in advance all relevant government offices for available, focused and effective marketing in areas in which there is demand, in collaboration with local governments). The information systems will enable the management of all barriers and development information in a consolidated digital diagram and file shared by all entities. Thus, it is possible to efficiently plan neighborhoods, including residential housing, institutions, infrastructures, public areas and roads, while shortening planning time and reducing bureaucracy.

Furthermore, expanding existing projects such as "E-Licensing" and "E-Planning", that are headed by the Planning Administration and the Government ICT Authority (E-Government Unit); advancing cross-governmental processes, including increased digitization, integrating the use of digital signature and 3D planning, data transfer and increased cooperation between different entities that require approvals, will enable significant shortening of the preliminary processes for construction and will help increasing the housing supply while decreasing the load of planning committees.

Regarding construction, the Ministry of Construction and Housing is heading the "Control Center" system to track construction projects. The system is used for cloud-based project management and enables project managers dispersed throughout the country to view and update information, track schedules and deviations, and identify barriers in promoting projects, all in order to streamline the construction process in Israel. The system also enables BI-based display and oversight for visual presentation by various cross-sections, and is available for decision-makers from a range of entities.

In addition to streamlining processes, efforts can be invested to increase transparency and access to public information about the housing and real estate market, which may help foster informed consumption, make it easier for the public to make information-based decisions and reduce bureaucracy. For example, government databases of the Planning Authority can be opened through Application Programming Interfaces (API) so that private entities can develop applications, and housing and real estate information will be accessible for the benefit of the public.

Sample Initiative

**"E-Licensing"** (headed by the Planning Administration and the Government ICT Authority – the E-Government Unit)

The E-Licensing system, launched by the Planning Authority in the Finance Ministry and the Government ICT Authority (the E-Government unit) is a country-wide online system for submitting building permit requests, aimed at facilitating management of licensing and construction processes in a unified manner throughout the country in order to streamline, improve and shorten licensing and construction procedures in Israel.

The system operates throughout the country, and an interface is being developed with the information systems of the Israel Land Authority, the Israel Mapping Center, government offices and all local governments, in the aim of unifying and systematizing all licensing procedures so they are transparent, efficient and have specified time limits.

## Develop the Financial Area in the Digital Age

Financial institutions – banks, credit card companies and insurance companies – have an impact across the Israeli economy, as every business and every person engages with them on an ongoing and daily basis. The costs of financial products and services have a significant effect on the financial behavior of households and businesses, and on the cost of living in Israel. Therefore, developing the financial area in the digital age can contribute significantly to the ease of doing business in Israel and to increased convenience for citizens who will enjoy quality financial services at lower costs.

**Increasing Competition and Advancing the Establishment of Digital Banks and New Clearing Houses**

A major endeavor in this field will be undertaken by the Banking Supervision Department in the Bank of Israel, and at a later stage will focus on increasing competition in the financial system in Israel by encouraging the entry of digital banks or new clearing houses into the market, evaluating applications that will be submitted to Banking Supervision Department. Thus, it will be possible to establish digital banks, without physical branches and a low-cost structure relative to existing banks, which will offer all of their services remotely. This will also facilitate the receipt of quality banking services in the periphery and will expand the service range in places where the dispersion of competitors is lacking. Establishing digital banks or new clearing houses that can compete with existing banks and clearing houses will enable them in the future to offer online banking services that will be less expensive and competitive, lowering fees charged for financial services in Israel.

**Expand the Use of ICT Tools in the Banking System**

Expanding the use of ICT tools, for both internal activities of financial entities and their interfaces with customers and government offices, will enable financial institutions to streamline their activity, ease the life of all individuals and businesses in Israel and lower the price of financial services. A Bank of Israel study shows that the prices for online services such as a bank transfer, cash deposit, cash withdrawal and check deposit, are cheaper, with fees lower by about 75% on average. Using online channels also provides availability and convenience in receiving most of the services, and these advantages in turn provide customers easier control of their finances[32]. Therefore, the Bank of Israel Supervision Department, along with the Capital Market, Insurance, and Savings Division in the Finance Ministry, will continue to act to remove barriers to the development of

various digital tools that will increase transparency, will advance the integration of digital tools in the activities of financial institutions in the capital market, and will encourage the opening of online channels for providing services and the use of online services by the public. These efforts will include establishing and upgrading online platforms that enable consumers to compare products and services between financial entities (insurance, credit, fees, interest, etc.). This will increase the consumer's ability to negotiate, will increase competition among financial institutions, lower the cost of living and improve service quality, in line with the goals of the National Initiative.

**Designing Tools for Digital Financial Education**

The Bank of Israel and the Capital Market, Insurance, and Savings Division will continue to encourage the financial system to develop and improve the financial and digital literacy of the citizens of Israel, Among other things, this activity will include increasing citizen awareness to becoming informed financial consumers and to their rights in engaging with the financial institutions, so that they will be able to consume quality financial services from any place at any time by digital means. Furthermore, raising the public's financial awareness as well as the use of advanced digital means will heighten the demand for quality, efficient and less expensive services, contributing to increased competition in the financial system. Thus for example, the Bank of Israel launched the "Taking Responsibility for our Money" website which provides adolescents basic financial education, and the Finance Ministry launched the "My Finance" (in Hebrew "My Treasure") website that includes extensive financial information, guides, tools and interactive calculators.

Government entities have taken initial steps to bring the digital age to the financial sector. Thus, for example, the Banking Supervision Department in the Bank of Israel formulated policy in the digital and the information technology fields and has taken action to remove regulatory barriers to enable full digital banking activity. The Capital Market, Insurance, and Savings Division in the Ministry of Finance has also formulated a digital vision that outlines the steps it will take in the coming years to expand the use of digital by institutional entities. These measures are expected to expand in the coming years, as the design of a comprehensive strategic plan is advanced within the framework of the National Initiative which will combine the activities of the relevant entities in Israel in the area of "finance in the digital age".

Sample Initiative

**Increase Competition in the Financial System by Establishing IT Service Bureaus**
(in cooperation with the Finance Ministry, the Bank of Israel and the Bureau)

According to the new policy of the Banking Supervision Department, and its initiative to pass necessary legislative changes, the plan is to permit banks to cooperate between them as well as with non-banking entities in shared pooling of IT resources through IT service bureaus. This will for example foster the establishment of new digital banks or clearing houses, which will increase competition in the banking system and enable customers to receive all services online.

To advance this initiative, the Bureau in collaboration with the Banking Supervision Department will promote support and funding to receive IT services from a service bureau by new digital banks and small banks. The entry of new competitors and the strengthening of existing small and medium-sized banks is expected to help streamline the banking system, improve their service level and lower banking fees to citizens and businesses.

## Advance the Transition to Digital Products that Produce Economic Savings

In the digital era, new technologies are a quality and available substitute for traditional products and services. Also, new digital products (or integration of digital adaptations into existing products) enable improvement of product quality, make them accessible, easy and simple to use, and hold significant potential for considerable time and money savings.

The National Initiative will promote the transition to the use of digital products that lead to financial savings, such as a remote system of free tutoring lessons that can reduce household expenses for private lessons.

These lessons, that are provided through a special website with a simple and convenient user interface, will enable pupils from the periphery to enjoy quality private lessons free of change from teachers located in central Israel. In the next stage, the system is expected to expand to tens of thousands of pupils in the education system. Furthermore, the digital book project will be expanded within the framework of the National Initiative, offering books that are inexpensive and provide a quality substitute for textbooks - a significant expense for families in Israel that currently stands at about 500 NIS per child. Digital books also eliminate the need for pupils to carry heavy books to school[33].

Sample Initiative

**Online English Courses for Students** (led by the Open University)

The online initiative is planned to include packages of digital courses, in line with mandatory English courses for students in higher education institutions, in order to receive an exemption from English courses. The courses will be developed on the national platform for online learning. These online English courses and receiving an exemption will significantly ease the burden on students and enable them to save on expenses.

## Encourage Informed Consumption Using Digital Tools

Increasing transparency about product and service prices, while providing consumers access to information through digital means, fosters competition in the market and enables consumers to control their expenses optimally. Thus, government and private databases can be harnessed to make information about product and service prices accessible by means of dedicated applications and software. In the food product field, for example, there is currently an open government database that displays the price of products sold in the various food chains. Through dedicated services, the public can compare food prices conveniently, and choose the cheapest and most suitable option.

As part of the National Initiative, informed consumption will be promoted and tools for comparing prices in Israel in a variety of areas will be developed. Furthermore, opening government databases of product and service prices will be advanced to enable entrepreneurs from the private and non-profit sectors to develop new comparison products based on these databases. Also, promoting e-commerce will increase public exposure to various products and improve competition, contributing to informed consumption and cost savings.

Sample Initiative

**Competition for Applications to Lower the Cost of Living** (led by the Ministry of Economy and Industry and by the National Authority for Technological Innovation)

The Ministry of Economy and Industry initiated a competition for developing applications that can lower the cost of living, focused on two topics: applications for comparing food prices (based on the database of the price of products sold in food chains), and applications that help informed consumption that will lead to economic savings. The aim of the competition is to increase transparency of information to the public in innovative ways, to foster price comparison and informed consumption, to encourage competition in the market and to lower the cost of living.

## Strategic Objective 3 – Rights Realization

Social equality does not only depend on the mere existence and definition of social and economic rights, but also their realization and granting in practice to those entitled to them[34]. Not enabling people to realize their rights, or infringing on them, prevents equal access to social resources, contributing to expanding gaps in Israeli society.

Many citizens, especially those belonging to weakened groups, are often not even aware of the rights to which they are entitled, or encounter difficulties in receiving them due to bureaucratic barriers. These barriers include multiple entities providing the services, the need to appear before committees, forms that are difficult to understand and fill out (sometimes the forms are not in the person's mother tongue), as well as additional barriers that create frustration and mistrust of the system and of rights realization[35]. Citizens often encounter the need to transfer information and coordinate claiming their rights among many entities, placing a heavy bureaucratic burden on those who are entitled to the rights and hindering the potential to realize them. According to National Insurance Institution estimates, the monetary value of rights that are not realized exceeds 1 billion NIS annually [36].

However, the digital revolution provides an important opportunity for enhancing the utilization of rights. Firstly, it is possible to use digital tools in order to make information about benefits accessible, simple and unified in one place. Secondly, it is possible to use technological tools in order to limit the bureaucracy involved in claiming benefits, to increase inter-ministerial cooperation and to improve citizen services in a way that will increase utilization rights in practice. Additionally, digital tools can improve the practical application of claiming benefits for people with disabilities, such as by using smart houses for senior citizens who live at home alone.

Accordingly, in order to increase rights realization through digital means, two key areas will be addressed:

- Access to information about rights through digital means
- Streamlining rights realization processes through digital means

## What has already been accomplished?

### "First class" – Online Disability Claim
(Led by the National Insurance Institute)

In 2015 the National Insurance Institute (NCI) launched a new service enabling hospitalized patients to check their entitlement for disability allowance through the hospital, and to transfer the claim online to the NCI.

The service reduces bureaucracy for hospitalized patients, saving them the need to submit the claim and to collect all the needed medical records.

**The pilot was launched at two hospitals:**

- Sheba – Tel Hashomer
- Soroka

### "All Your Health" –Health Rights Portal
(Led by the Health Ministry)

The Health Ministry designed a portal that consolidates all the information about patient rights, entitlement to medical services and their cost, and how to realize medical service rights.

The website also enables users to compare rights and health service costs between health funds, and the supplementary insurance they offer.

By offering public access to information about medical rights, rights realization can be increased and gaps in access to quality health can be narrowed.

משרד הבריאות
כל הבריאות - כל מה שצריך לדעתו

## Access to Rights Realization Information through Digital Means

Information about rights is currently dispersed among many suppliers and entities, is not easily accessible and is often outdated. There have been specific initiatives by various entities and ministries to provide access to information about rights, but they do not cover all the information and are not optimally accessible, including their adaptation to persons with a disability. The government must make information about rights accessible in a format that is both simple and available to ensure that they are realized equitably[37]. On this backdrop, digitization can significantly increase public access to information about rights and how to realize them, particularly to those entitled to receive them.

Sample Initiative

**National Rights Engine** (in cooperation with the Senior Citizens Division in the Ministry for Social Equality, the National Insurance Institute, the Ministry of Labor, Social Affairs and Social Services, Health Ministry, Justice Ministry, Commission for Equal Rights of Persons with Disabilities, the Government ICT Authority, and additional government agencies)

The Bureau is advancing a project to establish a national rights engine that will provide access to information about rights and benefits granted to citizens. The project will initially focus on the population of senior citizens, based on the understanding that this population group has difficulty inquiring about and realizing its rights. The Rights Engine will include a website where, after filling out a basic questionnaire, senior citizens, their family and the professionals assisting them will be able to receive customized information about the rights to which the senior citizen may be entitled and to realize these rights. The engine will consolidate information about rights from all government offices granting rights and benefits to citizens.

## Streamline Rights Realization Processes through Digital Means

In most cases realizing rights currently entails a complex bureaucratic procedure involving many entities and government authorities, and requiring an extensive investment of time and resources[38]. Weakened segments of the population, which are entitled to many rights, are also those that encounter the most difficulties when realizing their rights, among them –bureaucratic difficulties, knowledge and language gaps, numerous forms, and committees that require individuals to appear in person. The digital revolution can be harnessed to create a significant

revolution in rights realization – removing bureaucratic barriers and advancing cross-governmental digital processes that will considerably improve the services provided to citizens and increase rights realization by the public at large, and by weakened segments of the population, in particular.

The Bureau is taking action to create a cross-governmental and comprehensive digital solution to streamline rights realization processes, reduce duplications and wasted resources, shorten request processing times and ultimately increase rights realization in Israel. Since rights realization often involves various government agencies (National Insurance Institute, Health Ministry, Ministry of Labor, Social Affairs and Social Services, the Housing Ministry, etc.), data integration is needed in order to design a cross-governmental and efficient solution. Cooperation must therefore be developed between government entities and a concentrated effort must be made in order to improve and streamline the process and reduce the friction between citizens and the various entities throughout the rights realization process. The new rights realization process will be designed from the perspective of placing the "citizen in the center" so that individuals will have to report a change in their condition only once, after which the information will be transferred to all relevant government entities that will update the individual's entitlement and rights accordingly.

The first stage in streamlining rights realization processes includes improvement of the current realization procedure – namely submitting a claim. This procedure must be an online and efficient procedure so that individuals can fill in the claim on their own, or with the help of family or professionals, and claim their rights immediately and through an orderly process, shortening waiting times at National Insurance Institute branches, waiting for letters and requiring citizens to send numerous information details to complete the information needed to process the claim – which can take weeks and sometimes even months. In the advanced project stage – citizens will be able to realize rights through an automatic or semi-automatic process – representing a profound change in cross-government rights realization that can be executed online. Thus, individuals will be granted the rights to which they are entitled without even having to submit a claim, as the government will be proactive in ensuring that citizens receive their entitled rights.

Additionally, by transitioning to online service provision of rights and streamlining rights realization processes, it will be possible to allocate resources to address complex cases and to provide better face-to-face service for those unable to use online tools.

Sample Initiative

**Rights Realization – Persons with a Disability First**

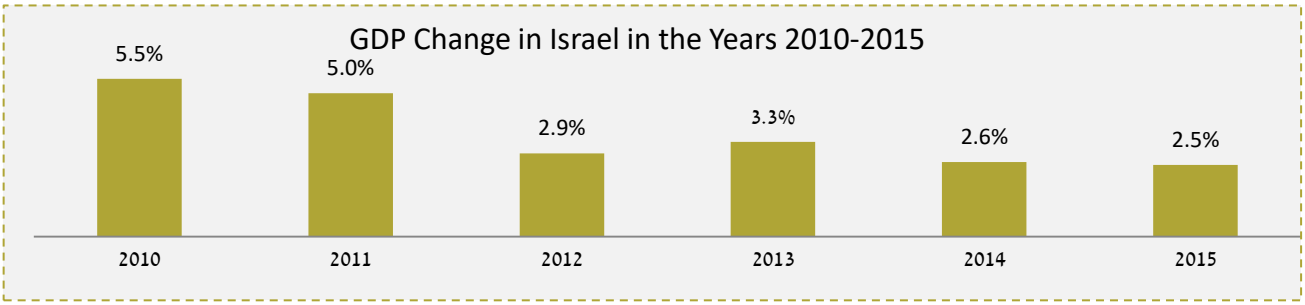
(in cooperation with the National Insurance Institute, Health Ministry, Transportation Ministry, Commission for Equal Rights of Persons with Disabilities, Government ICT Authority and other agencies)

The Bureau is advancing a cross-government project that will combine digital tools in order to improve and streamline rights realization processes for rights for which persons with a disability are entitled. With the aim of increasing rights realization of persons with a disability, the planned project will enable online, efficient and convenient rights realization. The project will be conducted in full cooperation with persons with disabilities in order to actualize the principle of "Nothing about us without us".

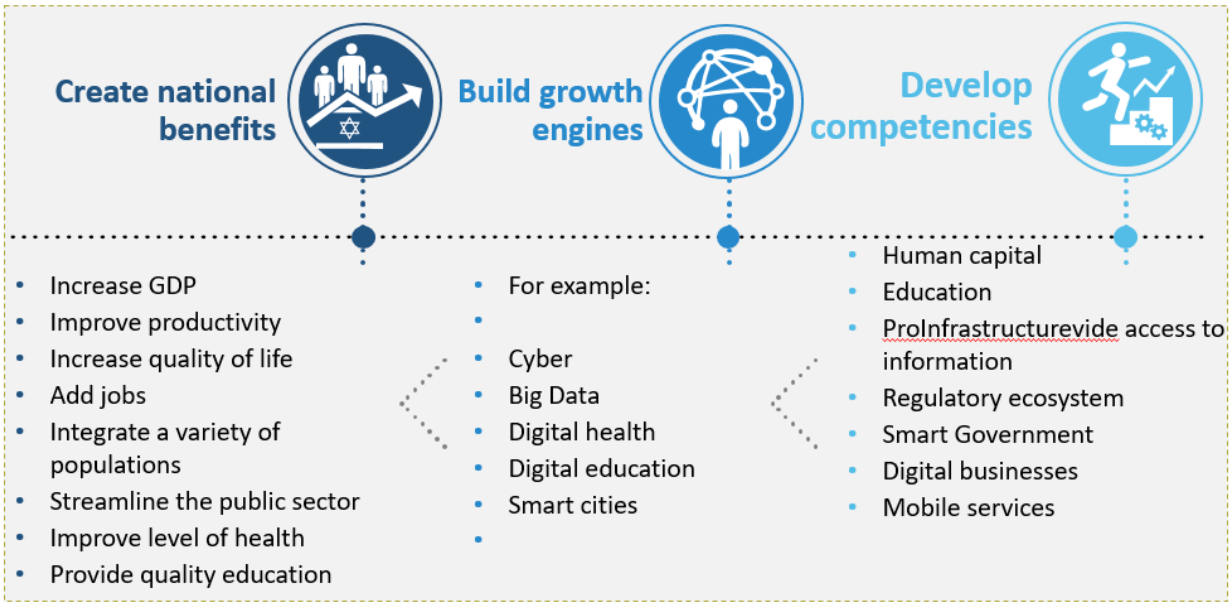
## Chapter 2: Primary Goal – Accelerated Economic Growth

Economic growth is the main economic objective that policy makers currently face. Growth enables the government to "expand the economic pie" and, in doing so, increase the standard of living, create quality and challenging employment opportunities and improve the benefit for all citizens.

The State of Israel is experiencing decelerated growth in recent years – the annual growth rate in the country has decreased from 5.5% in 2010 to only 2.6% in 2016[39], as the Israeli economy confronts a world environment slowly recovering from the 2008 crisis and a global economy that has been on the verge of a recession for several years[40].




On this backdrop, digitization holds great potential to serve as a significant economic growth engine. Average wages of an employee in Israel in ICT sectors is 90% higher than average wages[41]. Furthermore, various studies have found that every 10% increase in broadband penetration rate in developed countries leads to an increase of 0.25%-1.21% in national GDP growth[42]. Moreover, in the digital age, ICT usage is a potentially vital component for the growth of every business and for realizing the potential of every citizen, even those not directly employed in the ICT industry - a necessary foundation for ensuring economic competitiveness and continued economic growth. Therefore, as part of the National Initiative, investment in developing competencies needed to advance digital industries and businesses will be promoted, while also developing national growth engines. Strengthening Israel's standing as an advanced innovative country, a startup ecosystem, will create significant benefits for the economy and for narrowing gaps, improving public goods and increasing opportunities for the public at large.




The challenge facing the State of Israel is to utilize the advantages of digitization to create an innovative, advanced and competitive economy, while utilizing the advantages of ICT to deepen economic growth and its penetration to all economic sectors and the population at large.

International Comparative Review

**Digital Economy in National Digital Programs around the World**

**European Union - Europe 2020 (2010)**

The EU digital agenda is one of the seven flagship initiatives of the multi-year EU strategy, Europe 2020. The agenda seeks to exploit ICT potential to foster innovation and economic growth, by focusing on creating a shared digital market and eliminating barriers and geographic limitations to using e-commerce, increasing trust in internet use and its safety, promoting access to fast internet infrastructures to all populations, investing in R&D in ICT fields and fostering digital.

**Germany - Digital Agenda 2014-2017 (2014)**

Part of the German government's digital policy deals in digital infrastructures as well as the economy and employment in the digital age. The policy underscores, among other things, digitization support to SMEs and various industries, fostering technological entrepreneurship, adapting workplaces and the labor force to the digital world, encouraging the development of communication infrastructures in the private sector and developing e-Health.

**Australia - Advancing Australia as a Digital Economy (2011, 2013)**

Australia's national program seeks to make the country a leading digital economy by advancing eight strategic objectives: online government services, laying a broadband network, Internet usage among businesses and organizations, health, online education, remote work, environment and infrastructures, and advancing outlying areas. The program also deals in seven enabling factors that will support advancement of the strategic objectives: infrastructures, digital skills, identity and reliable/secure online communication, safety and security using the Internet, a supporting environment for the digital industries, cloud services and fostering open information and Big Data

## The State of the Digital Economy in Israel – The Innovation and Leading Technological Standing of the Israeli High-Tech Industry is Not Permeating into Other Parts of the Economy

The state of the digital economy in the State of Israel is complex. On the one hand, Israel leads the world in startup companies per capita engaged in innovation and in the volume of R&D investments in relation to GDP. The high-tech industry in Israel is a growth engine responsible for about 42% of total industrial exports. Israel has advanced communication infrastructures deployed throughout the country and has a mobile penetration rate among the highest in the world[43].

On the other hand, there are considerable gaps between the "start-up nation" as reflected in the flourishing high-tech sectors, and between extensive parts of the economy that do not optimally enjoy the advantages of digitization. Thus, for example, Israel is ranked in the third percentile among the 34 OECD member countries on indices pertaining to the percentage of persons

that purchase online (e-Commerce), the percentage of online banking users and the percentage of persons subscribed to broadband network services[44]. At the same time, the continued development of technological and advanced industries is impeded by a continuing shortage of thousands of skilled workers as reflected in the volume of open positions in ICT fields (in other words, unfilled positions), that surged by about 78% within only three years[45].

**How to Achieve Accelerated Economic Growth through Digital Means**

To leverage digitization to create accelerated economic growth, the National Initiative set three strategic objectives it will act to achieve in implementing the Program:

1. <u>Promote Digital Industries and Business</u>

   Identify and promote areas that constitute points of convergence between the public sector, the domestic market and the data-rich industry; harnessing the relationship between government and the private sector to create national growth engines such as digital health and cyber, urging businesses in Israel to adapt to the digital age while adopting data-driven innovation. This will enable the creation of new jobs, increase demand for skilled workers and improved productivity and competitiveness in the Israeli economy.

2. <u>Develop the Employment Market in the Digital Age</u>

   By adapting the employment market in Israel to the digital age, it will remain competitive, advanced and innovative. The labor force will have more skilled with higher productivity, maximizing its positioning in a world that is becoming more global and competitive.

3. <u>Support the Development of Infrastructures</u>

   To achieve the quantum leap needed in the Israeli economy, a basket of cross-organizational infrastructures must be developed to support the leveraging of the digital revolution. This pertains to both advanced physical communication infrastructures and to "soft" infrastructures such as regulation and secure identification.

## Strategic Objective 1 – Promote Digital Industries and Businesses

The ICT sector is already a growth engine that accounts for 18.5% of the country's goods and services exports[46]. This sector creates quality jobs with high productivity and salaries almost double the average salary in Israel[47], and is a focus of business innovation and creativity. Technological developments in this field should be leveraged in order to develop new advanced industries in Israel in varied fields such as cyber and information security, Fintech and e-Health, that will serve as significant economic growth engines. This will contribute to creating new jobs as well as varied employment opportunities, demand for talented workers and accelerated economic growth.

Furthermore, increased utilization of digital tools in SMEs, and continued development of the ICT-based high-tech industry are vital components of accelerated economic growth.

At the same time, for the high growth and productivity rates characterizing the ICT industry to trickle down to all economic sectors, businesses in all areas, with an emphasis on SMEs, must expand the use of digital tools. Studies about data driven innovation show that the growth potential from the adoption of this innovation by SMEs in Israel can add about 7 billion NIS to the GDP annually, an addition of 2 billion NIS a year to revenues from taxes, while also increasing business productivity by 9%[48].

Businesses in Israel must also expand their online activity in order to improve their competitive level, develop potential new markets and create new growth opportunities.

The National Initiative will act to capitalize on the advantages of ICT to increase innovation, competitiveness and growth in all economic sectors, by addressing three key areas:

- Developing digital-based industries
- Turning businesses into digital businesses
- Increasing digital presence and encouraging use of e-commerce platforms

**Innovation Communities in the Health Field**
(led by the Ministry of Economy and Industry in cooperation with the Health Ministry )

In cooperation with the Israel Innovation Institute, cross-sector communities were established in the field of health, in order to create collaborations and a joint language among entities in industry, the public sector, entrepreneurs and policy makers.

The joint gatherings and relationships forged in the innovation communities develop innovation competencies and technological skills among those involved in the health industry, and create an eco-system fostering the development of an e-health industry as a national growth engine.

What has already been accomplished?

**Promote e-Commerce among SMEs**
(led by the Ministry of Economy and Industry)

The Ministry of Economy and Industry is responsible for granting assistance packages to hundreds of SMEs in the north, around the Gaza Strip, and in the Galilee and the Golan Heights in order to support them in building an online business.

The assistance packages include subsidized training granted by the Small and Medium Enterprises Agency in the Labor and Economy Ministry and grants of 16,000 NIS per business to establish a digital marketing system that includes a virtual store, online payment clearing and delivery.

## Develop Digital-Based Industries

The State of Israel, the "Start-up Nation", promotes innovation, entrepreneurship and technological trends. The innovation industry in Israel has experienced decelerated growth in recent years, while other countries experienced significant growth. To preserve Israel's lead, the National Initiative will support the development of digital-based industries that serve as a growth engine for the Israeli economy and improve numerous areas of life.

In recent years the Israeli government undertook an extensive inter-sector endeavor to create an eco-system to support the cyber industry. This undertaking included a series of steps to establish Israel as a "cyber superpower", among them investment in education, establishing research centers in universities and utilizing the experienced gained by professionals who served in the IDF intelligence and technology units, to grow this industry.

Similarly, great potential exists to create new national growth engines based on additional digital industries, for example, developing Fintech in Israel. This industry, which develops advanced digital solutions for the financial services field, is flourishing in recent years[49]. Regulatory involvement in this area, as well as an active domestic market and the unique advantages of the local ICT industry, can be leveraged with an emphasis on its existing expertise in fields relevant to the Fintech industry, such as cyber, Big Data, and the entrepreneurial and innovation culture that characterizes Israel – in order to transform Israel into a world leader in this field, to create new employment opportunities and to accelerate economic growth.

Thus, as part of the National Initiative, and in collaboration with the government, the private sector, academia, local government and the employment market, measures will be advanced that require inter-sector coordination in order to develop new national growth engines, by creating an ecosystem that supports additional digital industries such as health, finance, smart cities and IOT. These measures will include establishing national infrastructures and an enabling regulatory infrastructure - in the aim of positioning Israel as a global level "beta site" for innovative technologies, and as a world leader in additional ICT industry fields. These steps are expected to create jobs with high added value and accelerated economic growth.

Sample Initiative

**Develop an e-Health industry and Establish it as a National Growth Engine**
(in cooperation with the Prime Minister's Office, the Health Ministry, Labor and Economy Ministry, Finance Ministry, Innovation Authority and the Council for Higher Education of Israel (CHE) and the Planning and Budgeting Committee within the CHE)

As part of the National Initiative, and headed by the Prime Minister's Office, the Health Ministry and the Bureau for the development of the digital health industry (e-Health), an extensive government effort began to establish this industry as a national growth engine and transform Israel into a world leader in the field. The Big Data in Health project, based on the comprehensive databases that exist in Israel, is the basis for the initiative, harnessing all potential partners to the undertaking, including the private sector, academia, government hospitals and health funds. An analysis conducted by the Initiative Bureau showed that developing the e-Health industry in Israel has huge potential to increase the product base by about 10 billion NIS annually.

## Making Business Digital

The field of data-driven innovation, which deals with producing innovative products from data, has gained momentum the world over and has been shown to have significant value for economic growth, since the more companies make data-based decisions, the more successful they are. Furthermore, use of the Internet and digital tools saves businesses money, time and resources. The potential to expand the use of ICT tools is particularly high among SMEs, as these tools give them operations and management capabilities that in the past were only available to large businesses. SMEs make up more than 99% of the business in Israel and create most new jobs in the economy[50]. The National Initiative will advance projects to raise awareness among business owners about the advantages of ICT tools, will offer dedicated training and will encourage and enable the provision of grants, incentives and financing solutions, so they can use data driven innovation and equip themselves with technological infrastructures.

Making business digital includes several components, from using computers and basic applications for business management (e.g. word processing, accounting software, etc.); through using the Internet to communicate with customers, suppliers and service providers, and to search for relevant and professional information; to adopting advanced-level digital solutions such as customer relationship management (CRM) systems, enterprise resource planning (ERP) systems and e-invoices.

Sample Initiative

**ICT training and Financing ICT Tools for SMEs**
(led by the Ministry of Economy and Industry)

In the coming years grants will be offered to SMEs in order to help them procure digital solutions to improve and streamline their business. Courses will be developed and integrated in training business owners to use basic and advanced ICT tools, as well as advanced uses of data.

## Increase Digital Presence and Advance the Use of e-Commerce Platforms

E-Commerce enables businesses in the geographic periphery to reach customers throughout the country, and opens all businesses in Israel to the global market – creating unprecedented growth opportunities for these businesses. Businesses that were limited to the local market, mainly SMEs

that have limited marketing and distribution resources, can now reach a wide audience owing to their increased presence on the Internet and the penetration of e-Commerce.

As part of the National Initiative, a series of initiatives will be advanced to encourage businesses to build and operate a website or a profile on social media as marketing tools and as a way to maintain contact with customers. It will also incentivize businesses to sell their products online. This will be achieved by helping businesses establish an e-Commerce platform and develop the necessary accompanying operations capabilities (such as payment clearing and delivery).

Sample Initiative

**Expand the Program to Promote e-Commerce among SMEs**
(led by the Ministry of Economy and Industry)

As part of the program, which operates under the Small and Medium Enterprises Agency in the Ministry of Economy and Industry, and in cooperation with the Bureau, subsidized training courses and monetary grants, in the amount of 16,000 NIS per business, were provided up to now, to establish an e-commerce system that includes an online store, a delivery system and a payment clearing system.

The program will be expanded, in the coming years, to include thousands of SMEs, mainly in national priority areas and in the periphery.

## Strategic Objective 2 – Develop the Employment Market in the Digital Age

The modern employment market in the digital age faces significant challenges owing to decreased employment security, increasingly intensive competition for jobs, and accelerated technological developments changing the structure of the economy and as a result the nature of the demand for workers. Therefore, adapting the Israeli employment market to these challenges is of great importance and will have a fundamental impact on the local labor force. Comprehensive and optimal development of the employment market in Israel, and its ability to adapt to the rapid development processes it faces, will ensure a competitive, skilled and high quality labor force in Israel, and will be able to respond to a wide range of employment opportunities.

Adapting the employment market in Israel to these challenges has to do with both improved worker skills and expanding employment opportunities. Skills required of workers in the digital age include familiarity with basic computer applications (e.g. using Microsoft Office and searching the Internet), alongside training professional workers in IT fields (programming, managing information systems and IT applications) and in digital fields (user experience designers, product managers and product specification writers, data analysts, social media specialists, etc.). Increasingly, more training courses for these positions can be conducted using online learning tools and digital platforms. Furthermore, bridging distance, time and access barriers, made possible using modern digital tools, will support expanding professional opportunities to workers in Israel. Thus, for example, use of digital tools for remote working will enable persons to work from home at hours convenient to them, opening positions previously closed to them.

Development of the employment market in the digital age will be carried out by addressing four key areas:

- Adapting digital skills in the education system, academia and the labor force to the modern employment market
- Increasing the use of online occupational training
- Expanding employment options in the digital age by removing distance barriers
- Qualify professional workers in digital and ICT fields

**Programming and Robotics in the Curriculum**

As of the 2016 school year, hundreds of 4th grade pupils participated in Education Ministry programming and robotics classes as part of a program that will accompany them up to the 9th grade.

In the 2017 school year, pupils beginning 4th grade joined the program that was expanded to about 300 additional schools.

What has already been accomplished?


**Establish an Ed.il Community**

Led by the Ministry of Economy and Industry, and in cooperation with the Education Ministry, an inter-sector digital innovation community was established in the educational field.

The community conducts gatherings, hackathons and competitions in the education field with the participation of teachers, parents, pupils, educators and Ed-Tech.


## Adapt Digital Skills in the Education System, Academia and the Labor Force to the Employment Market

The trends in the modern employment market require the development of innovative competencies in the labor force. Due to the extensive use of ICT technologies in the business world, workers that do not have the necessary skills will have difficulty advancing and developing in the employment market. Moreover, workers with digital competencies enjoy broad occupational flexibility, can more easily withstand crises in the employment market and have higher productivity.

The National Initiative places emphasis on developing digital literacy suitable for the employment market. It also recognizes the need for far-reaching improvement of abilities to use computer applications such as Office applications (word processing, presentations, electronic sheets, etc.) among all workers and, for developing their ability to work in an ICT-based environment: search for information on the Internet, communicate online (email, calendar) and use

mobile applications. The Initiative will also focus on developing the ability workers to work with information systems and advanced computer applications.

In light of the fact that the education system is responsible for training the future labor force for the Israeli economy, it is also necessary to advance the integration of suitable contents into the school curriculum. Class lessons will include acquaintance with computer applications, smart Internet use and dedicated programs to learn programming. Thus, pupils in Israel will be suitably trained to adapt to the modern employment market so they can enter the market optimally "ready" and prepared.

Sample Initiative

**Adapting School Curriculums to Required Skills in the Employment Market**
(led by the Education Ministry)

A comprehensive initiative is planned in the coming years to adapt the school curriculum to the digital age. ICT tools will be integrated across subjects and dedicated lesson plans will be developed to train pupils in digital skills needed for the employment market, for example, smart use of the Internet and use of basic and advanced computer applications.

## Increased Use of Online Occupational Training Programs

Occupational training programs, similar to academic studies, play an important role in developing the economy and the labor market. In institutions of higher learning, future workers acquire the skills and basic competencies that will serve them throughout their career. However, owing to rapid technological developments characterizing the digital age, skills acquired at the beginning of the career quickly become outdated. Therefore, all workers should be encouraged to adopt the lifelong learning principle according to which workers must continue to learn, improve their professional competencies and enrich their professional knowledge throughout their career. Professional training programs must also be improved to ensure the professional level of the Israeli labor force is ranked alongside other developed countries.

By converting training programs and courses into digital and online courses it will be possible to improve their quality, reduce their cost for employers and participants and expand access to populations that do not currently participate in training courses, academic studies or professional

courses. This will also produce highly valuable data about the state of the economy and the skills of Israeli workers, which can then be used to measure these parameters more efficiently and accurately.

The State already offers occupational training programs for defined population groups such as those seeking employment or SME owners, enabling their participants to learn a new profession or develop their professional skills. Private companies also conduct online training for their employees in order to refresh their professional knowledge and familiarize them with new work methods and technologies.

Sample Initiative

**The National Digital Learning Project - Campus**

An open digital platform was launched offering courses in a wide range of subjects. The project focuses on four types of learner groups in Israel, and is comprised of four components accordingly:

1. The academic component intended for students and candidates for higher education, in cooperation with the Council for Higher Education of Israel (CHE) and the Planning and Budgeting Committee (PBC) within the CHE.
2. A component for promoting life and employment competencies among weakened populations in Israel, in cooperation with the Ministry of Economy and Industry, the Labor, Social Affairs and Social Services Ministry, and the Employment Service.
3. A component for advancing learning processes among high school pupils, in cooperation with the Education Ministry.
4. A component for advancing occupational training processes of Civil Service employees.

The following courses are under development in the initial stage: business English for the Jewish ultra-orthodox sector (in cooperation with the Labor, Social Affairs and Social Services Ministry); Hebrew for minority sectors (in cooperation with the Economic Development Authority and the Education Ministry); and“ Employment Preparation for Senior Citizens – Experience Needed” (in cooperation with the Ministry for Social Equality).

## Expand Employment Possibilities in the Digital Age by Removing Distance Barriers

Modern information and communication technologies enable us to stay connected from any place and at any time. This offers the potential to create new opportunities in the employment market that can increase output and improve productivity while driving economic growth.

The teleworking model enables populations that could not have worked in certain organizations to find employment and work at times convenient for them by working from home (e.g. workers from the Jewish ultra-orthodox population who for modesty reasons would normally refrain from working in certain companies, or single mothers that must leave work relatively early in order to care for their children). The teleworking model enables innovative employment arrangements that create new employment opportunities in the market.

Integration of teleworking arrangements offers extensive economic advantages at the country level – less people that must drive to work is expected to reduce traffic, air pollution and the need to build new roads. It can also contribute to increased economic efficiency, promoting economic growth.

Based on the potential of using digital tools, the National Initiative will examine possible solutions to expand the employment market in Israel and to reduce distance barriers that hinder the ability to take advantage of employment opportunities. Particular attention will be given to examining possibilities for promoting teleworking models in the private and public sectors by creating standardization for teleworking arrangements in Israel; providing tools and incentives to organizations that integrate teleworking models into their work culture; and facilitating the development of databases of telework positions as a platform for population groups that can benefit from this work arrangement[51]. This in turn will enable expanded integration into the labor force of population groups currently unable to fully realize their employment potential.

Sample Initiative

**Distance Employment Centers in the Eastern Negev** (in cooperation with the Eastern Negev Regional Cluster)

As part of the activities of the Eastern Negev Cluster, in the framework of the National Initiative, remote employment centers have been established in eastern Negev local governments. Remote courses in employment areas have been conducted, and workstations with sharing tools are available so that employees from the Negev can work with employers located in central Israel.

These employment centers give those residing in the Eastern Negev cluster technological and professional tools to overcome geographic distances and disparities and to promote employment diversity, underscoring quality employment for residents of the eastern Negev.

## Training Professional Workers in the Digital and ICT Fields

As described above, the high-tech industry, and within it the ICT industry, are an economic engine for economic growth, however their growth has decelerated due to a growing shortage of skilled workers in this field. The modern digital age has created new positions of digital experts who are responsible for analyzing the large amounts of data created through innovative digital technologies, for developing user interfaces and for converting content into convenient and interactive digital formats. Consequently, there is a clear need and strong potential for increasing the number of qualified workers in digital and technological professions. A similar objective can be found in the digital strategy programs of leading countries that place an emphasis on strengthening and fostering academic studies and research in ICT and digital fields as a means of expanding the number of future workers in this industry[52].

This is also the case in Israel, as the National Initiative will underscore the development of a population of workers with professional skills in the ICT field (programmers, engineers, information system experts, etc.) and the digital field (user experience and interface [UX/UI] designers and specification writers, product managers and specification writers, data analysts, social media specialists etc.) and on increasing their share in the labor force in Israel[53]. To this end, as part of the National Initiative, the Education Ministry and the Council for Higher Education of Israel (CHE) and the Planning and Budgeting Committee (PBC) within the CHE will act to increase the number of pupils studying STEM subjects (sciences, technology, engineering and mathematics), as the basis for

expanding the pool of potential students in these fields needed for the ICT industry. The CHE Planning and Budgeting Committee will also continue its efforts to increase the number of students in these fields, with an emphasis on universities, according to government Resolution No. 2292 adopted on January 15, 2017, regarding the national program for increasing skilled workers for the high-tech industry.

Sample Initiative

**Program for Strengthening Study Tracks in High-Tech Fields** (in cooperation with the CHE/PBC)

A designated program for increasing the number of students studying subjects needed in the economy, with an emphasis on high tech subjects such as electrical engineering and electronics, computers, information systems and computer science.

The PBC formulated a program that includes a financial incentive for universities to increase the share of students accepted to BA studies in high tech fields and reducing the dropout rate. This is accompanied by significant hiring of leading academic faculty in the relevant fields and investment in physical infrastructures to accommodate the increased number of students in these fields and ensure excellence in teaching and research.

## Strategic Objective 3 – Support Infrastructure Development

A necessary condition for a flourishing digital society is the development of robust infrastructures, both physical communication infrastructures and supporting process infrastructures ("soft infrastructures"). As noted, regarding physical infrastructures there is room for improving the current level of communication infrastructures in Israel. Israel is ranked only 24th among the 34 OECD member states in broadband penetration, and only 25th in the world in terms of average transmission rate[54]. Therefore, in order to optimally exploit the advantages of ICT, the State of Israel must support the development of cable and mobile communication infrastructures that will underpin technological developments and modern digital applications.

Alongside the physical component, "soft" infrastructures must be developed to create favorable conditions for extensive growth of digital activity in the Israeli economy and the government. Adapting regulation, primarily the process of removing regulatory barriers, is a key condition in driving business entrepreneurship and developing an advanced technological and digital environment. Also, a safe and reliable internet arena where the rights, privacy and personal information of all users are maintained will encourage individuals and businesses to expand their online activity and is therefore vital for realizing the potential offered by ICT. Furthermore, freedom of expression and free access to information, which are vitally important for the social resilience of the State of Israel and its democratic nature, must be ensured.

The National Initiative also addresses the infrastructures necessary for advancing the digital revolution, focusing on two key areas:

- Developing physical infrastructures
- Promoting an enabling digital activity ecosystem

Sample Initiative

**Advance 4 and 4.5 Generation Mobile** (led by the Communications Ministry)

Mobile communication operators are already in the midst of laying advanced technological infrastructures that enable increased mobile internet data transmission speed, improved service quality, and solutions to large capacity needs. The Communications Ministry is examining reductions in frequency fees and is taking steps, among other things, to clear the frequencies in the "first giga" and to formulate policy regarding E-Band microwave frequencies.

## Develop Communication Infrastructures

Advanced physical communication infrastructures are the backbone of the "digital revolution". They enable transmission and storage of information so that it is accessible to everyone, and supports the development of innovative communication methods between people. Furthermore, extensive access to broadband infrastructures enables businesses to fully utilize various ICT applications, facilitates the development of businesses throughout the country and improves their productivity and ability to compete. A reliable, quality and widely dispersed infrastructure also supports expanded use of the Internet and additional ICT tools by citizens, expanding the potential for adopting innovative business and government services and promoting their development.

Physical communication infrastructures in Israel – mobile and mobile broadband - are widely deployed throughout the country and provide access to rapid Internet communication virtually everywhere. However, it is important to encourage deployment of optical fiber infrastructures, considered to be the next generation of broadband that enable ultra-fast Internet communication speeds[55].

Under its definition as a "cross-government field" that is headed by the Ministry of Communication, the Ministry is taking action to create a regulatory framework that will support and incentivize communication companies to increase the scope of investments in fixed-line and mobile communication infrastructures. The aim is to ensure that the companies are at the forefront of technology and can provide reliable broad communication service coverage with high transmission speeds. Furthermore, the Communications Ministry heads an effort to formulate a comprehensive policy that will enable quick and extensive adoption of the next generation of mobile communication technologies ("cellular"). This will ensure that communication infrastructures in Israel meet current and future user demands, and help create optimal conditions to support economic, social and personal growth.

Sample Initiative

**Encourage Deployment of Ultra-Fast Broadband Infrastructures in Israel**
(headed by the Communications Ministry)

The State of Israel, headed by the Communications Ministry, is advancing the deployment of ultra-fast broadband infrastructures, among other things, by offering incentives for deploying networks, such as the FTTH-based optical fiber network, which enable tremendous symmetrical Internet speed of up to 1 Gbps – more than 90 times the average Internet speed in Israel.

## Promote an Enabling Digital Activity Environment

Alongside development of physical infrastructures, the importance of establishing a "soft" support infrastructure must be realized in order to maintain an enabling digital activity environment. This infrastructure refers to the appropriate legal and regulatory environment, to the degree of freedom and security in using the Internet freely and to protecting the ownership rights, privacy and security of various entities (users, content suppliers, etc.) with presence on digital platforms.

Free flow of information between government offices, and between them and the public, is a necessary condition for ensuring innovation, the supply of quality services to citizens and streamlining government work. This refers to all information except for types of sensitive information that call for special treatment as specified in laws, including personal data mentioned above. Therefore, the Government ICT Authority will advance formulation of government policy that will ensure the free flow of public information - of course making sure to protect the privacy of citizens' personal information. Second, the adoption of accepted international principles regarding public information held by government agencies will be promoted, among them: (1) government data must be machine readable; (2) government data will be accessible and available in an open format and license; and (3) providing formal authorization to government agencies to contract with non-government organizations[56] in the aim of leveraging accessible government data for innovation opportunities in the public and private sectors. As the basis for these actions, an organizational culture that views data as a strategic asset and acts to enhance and manage it as such will be

fostered. Alongside the activities of the National Initiative, the National Cyber Bureau heads efforts to strengthen the national cybernetic space and improve its ability to deal with cyber threats.

## Adapting Regulation

The Bureau is also taking steps to implement the section in government Resolution No. 1046 regarding the adaption of the legal infrastructure to the digital age. This will be carried out by the "Law and Technology" team established by a representative of the Chief Legal Counsel in order to adapt the legal infrastructure to the digital age[57]. Legislation must be adapted as a necessary condition for encouraging innovation and creating public value based on databases, and with respect to international aspects that require easing conditions for doing business in Israel[58].

To this end, a process for mapping out the main laws and regulations which hamper the integration of ICT into government has been undertaken. Legislation that must be reviewed, for example, includes evidence law, particularly the demand to provide original documents.

Concurrently, "the National Policy for Secure Identification" was formulated by an inter-ministerial team headed by the individual in charge of biometric applications in the National Cyber Bureau, to enable implementation of digital measures regarding the interface between individuals and government offices. Technological infrastructures will also be developed by the Government ICT Authority, for secure sharing of personal data between government offices that will enable individuals to identify themselves conveniently, securely and in a unified manner, as much as possible, when interfacing with government offices without endangering the required protection level, and will support the expansion of online government services offered to the public[59].

The series of steps to promote an enabling digital activity environment touch upon the digital life of every citizen, and must therefore be advanced in cooperation with the public and with its support. Thus, this process will be carried out together with the public in defining the goals, characterizing the course of action and determining the means. These measures will create an activity environment that increases public trust in government, enables and promotes innovative digital activity in the country in general and in government in particular, and contributes to accelerated economic growth.

Sample Initiative

**A Government Team to Adapt the Legislative Infrastructure to the Digital Age – "Law and Technology Team"**

The team, headed by a representative of the Chief Legal Counsel to the Government, will lead a comprehensive cross-government undertaking to examine adaptation of the legal infrastructure to the digital age in order to facilitate advancement of the National Initiative. The team's work can help create a government environment that promotes the development and adoption of innovative digital solutions in the government and in Israel at large.

## Chapter 3: Primary Goal – Friendly and Smart Government

Life nowadays includes numerous interface points between individuals and the state, with interaction taking place throughout the life cycle. As such, the State and local government have a vital impact on the standard of living and quality of life of their citizens, through the provision of public goods and improved interface between their institutions and the citizens that engage with them.

Recognizing this potential, the National Initiative set a goal: to act to improve public goods, to promote an advanced, accessible and convenient interface between individuals and government offices, and to reduce the bureaucracy entailed in this interface. Harnessing the "digital revolution" can help make government smart and friendly. For example, introducing digital tools into education, health and social service areas will improve their quality and advance their adaptation to changing needs and priorities in the current digital age; transforming government services into online services focused on the consumer at the center concept will help improve service to individuals and enable access of state and local government services to larger parts of the population, particularly weaker population groups; developing options to execute procedures with government agencies online, and providing access to business information will reduce the burden of bureaucracy and make it much easier to do business in Israel[60].


Using digital tools to streamline processes in the public sector will enable the government to reduce the bureaucratic burden, create significant budget saving sources and turn decision-making processes into information-based processes. This requires a cross-government process to recruit and develop quality human capital in the public sector.

Finally, use of digital means will enable the establishment of "open government", which will facilitate increased public involvement in government work, thus helping to strengthen democracy.

The effort to advance "open government" is led by the government ICT Authority, which acts to build a direct relationship between citizens and the government, and to increase citizens' ability to make an impact. Involving the public in decision-making processes will strengthen its sense of commitment, belonging and connection to government policy. In leading countries, such actions were found to significantly increase civic satisfaction with the public sector, and these measures are therefore at the core of the strategic digitization programs of many countries[61].

The State of Israel's strategic plan in the e-Government area was formulated by the Government ICT Authority. The plan stresses advancing the "Digital First" area in the public sector, providing quality service to citizens, transitioning to "open government", integrating the concept of "information as an asset" into the public sector and strengthening governance. The plan also outlines several courses of action to support the realization of government policy, among them expanding shared services between government agencies, strengthening cyber protection and cultivating digital leadership and excellence[62].

Selected Examples

**National e-Government programs**

Britain - Digital by Default (2012)

The strategic plan stresses making services digital by a transition to services that are available, direct, convenient and online so that all those who can use them will choose to do so as the "default". Thus for example, a government portal was built (Gov.uk) that consolidates all government services under one address.

Denmark - Digital Welfare (2013)

Denmark identified the digital field at an early stage, such that the first strategic program was already formulated in the beginning of the millennium, and a new program is developed since then every few years. Accordingly, the challenges Denmark faces require different goals when formulating a national strategic program.

*Digital Welfare*, the current program, focuses on harnessing digital to advance the social welfare field in Denmark. The program aims to accelerate the use of ICT tools with the goal of improving service to the public, particularly in health, care for the elderly, social services and education.

**The State of Digitization of Government in Israel – Digital Delay Alongside Efforts for Change**

In an international comparison, the state of digital government in Israel is unsatisfa

While about 400 digital services are accessible to the public from start to finish, there is room to expand the offering of online government services and to increase their use by the public, while accelerating the adoption rate of digital tools in government offices and continuing the effort to simplify the bureaucratic labyrinth.

Steps were taken in recent years to make government smarter and friendlier. As part of the National Initiative, the ICT Authority is taking action to make government services accessible through the transition to the new Gov.il website that aggregates government services in one website. Efforts are also being invested to pool government resources and to improve technological infrastructures used by the government (for example, transition to a consolidated government cloud). Furthermore, all government offices are currently required to offer citizens an online communication channel as an alternative to the fax[63].

**The Means to Turn Government into Smart and Friendly**

To advance the transition to smart and friendly government, three objectives will be advanced as part of the National Initiative:

1. Accessibility of State and Local Government

   Adopt the digital revolution to create an efficient, accessible and friendly interface between citizens and state and local government offices, in the aim of reducing the bureaucratic burden placed on citizens and businesses in Israel, in order to increase their involvement and engagement in government decision-making processes.

2. Innovative and Effective Government

   Exploit information and communication technologies to streamline and improve internal government work processes, alongside particular attention to developing and adapting human capital in the public sector to the digital age.

3. Improve Public Goods and Services

   Use advanced digital tools to improve education, health, social welfare and additional public goods and services. Directing the digital revolution toward this objective will ensure the citizens of Israel are offered a wide range of options, improving the social and economic net and raising the standard of living in the country.

## Strategic Objective 1 – Accessibility of State and Local Government

Efficient and quality government and municipal services to citizens and businesses, and open and available government, are not only enabling factors for growth and improved quality of life, but can also help strengthen democracy in Israel. Services provided to the public and the public's engagement with its elected officials impact the daily life of residents, the ability to do business and the degree of involvement in decision-making processes.

Harnessing the digital revolution can create significant positive change in these areas as its achievements go hand in hand, among them – free flow of information (subject to limitations of the law regarding types of sensitive information as detailed above), advanced technological solutions, a focus on user experience and an online space that enables improved communication capabilities. Online services also produce huge cost savings in the public sector – the British government found that the cost of online services in government offices is 20 times lower than the cost of telephone services and 50 times lower than services provided in person.

Accordingly, steps to make government accessible and to reduce bureaucracy will be carried out while addressing five main areas:

- Improving government services to citizens and reducing the bureaucracy
- Digitization of local government
- Advancing "Smart Cities"
- Open government
- Increasing ease of doing business

## What has already been accomplished?

### Joining the International Open Government Partnership (led by the Government ICT Authority)

The Partnership was launched in 2011 and currently includes more than 70 participating countries and civil society organizations. It aims to promote the four principles of open government: transparency, accountability, public participation and technology and innovation.

The government ICT Authority heads the government's efforts in this area, integrates the action plans with the participation of additional government units (the Freedom of Information Unit in the Justice Ministry, the Government and Society Division in the Prime Minister's Office and the Israel Knesset), and heads Israel's communications with the international partners.

**Israel Joined the Partnership in 2012**

**2 activity plans have been submitted**

### Gov.il Website

(led by the Government ICT Authority)

As part of the National Initiative, and in cooperation with government ministries, the government ICT Authority uploaded the new consolidated website Gov.il, using the open code of the British Gov.uk website. The website was established in the aim of giving the public access, to all government information and services, online, simply and rapidly, from the perspective of the service recipient.

The information from all government offices is presented through one innovative and accessible interface adapted to mobile devices, and the presentation of the most common services was rewritten in line with the website style.

**15 ministries and authorities were added to the new website**

## Improving Government Services to Citizens and Reducing the Bureaucracy

The enormous influence of the government on the life of its citizens is reflected not only in public goods but also in the services it provides. These services affect each and every one of us and require continuing communication and a close interface with the government. Innovation in the information age has not yet permeated the government and the public sector in Israel, that are perceived as heavy-handed and outdated, and interfacing with them is sometimes cumbersome and involves bureaucracy in order to receive information and services.

As part of the National Initiative, the Government ICT Authority and ministries, in cooperation with the Bureau, are advancing measures to transform government services into digital and high-quality while creating the necessary supporting infrastructures[64]. The government will act to adopt the "Citizen in the Center" principle that will place increased importance on the needs of citizens and their satisfaction, and will contribute to improved, personally customized, convenient and simple services. To achieve this, the government will provide its services through the new Gov.il website that was designed with an emphasis on quality and reliable service. Government services will be viewed from the perspective of the citizen or the business receiving the service, rather than from the perspective of the office providing the service, in the aim of simplifying the interactions with the various government offices.

To improve service to citizens receiving government services, along with maintaining information privacy and security, an integral identification platform (Single Sign On - SSO) will be advanced. This will enable convenient, unified and protected identification in engaging with online government services and is necessary in order to remove barriers that currently limit the development of this field. The identification method will be determined while balancing the clear need to improve service with the ability to optimally protect information and systems. To the extent possible, identification will unified throughout the systems.

Designing a unified and secure government identification platform that will protect the information transmitted through it will eliminate citizens' needs to remember dozens of passwords for the variety of existing government services. A smart ID card will also be advanced that will serve as the primary means of identification for citizens when using online government services.

Moreover, a quantum leap in the level of services will be achieved through a perceptual change, namely regarding citizens as customers whose satisfaction from the service they receive is

Sample Initiative

**Eliminating the "Fax Age"** (headed by the ICT Authority)

Government Resolution no. 2008 requires every government entity to provide citizens with a digital tool, including email, for transmitting inquiries and documents as an alternative to the fax machine. The decision to add more digital tools as a means of communication, in addition to the fax, is in line with efforts to improve government service to citizens and reduce bureaucracy.

## Digitization of Local Government and Advancing "Smart Cities"

Integrating digitization into local government activity falls under the broad definition of "Smart Cities" and encapsulates the extensive potential to improve citizens' quality of life. The Smart Cities field encompasses a host of issues, among them:

| | | |
|---|---|---|
| Smart Mobility<br>Varied Means of Mobility<br>Clean Transportation<br>Integrating Tech in Transportation | Smart Lifestyle<br>Health<br>Defense<br>Culture and Happiness | Smart Economy<br>Domestic and International Relations<br>Economic Productivity<br>Opportunities |
| Smart Government<br>Infrastructures<br>Online Services<br>Open and Available Government | Smart Society<br>Educationa<br>Creativity<br>Egalitarian Society | Smart Environment<br>Smart Buildings<br>Resource Management<br>Urban Planning |

As the Smart Cities field touches upon a wide range of areas, a huge number of Smart City projects worldwide are advancing initiatives pertaining to sustainability, service provision, opening data to the public, IoT and Big Data, just to mention a few.

For example, the Internet of Things field, with the use of sensors, enables the production and smart management of information, for decision-making and to improve services to residents and businesses. This can result in improved quality and execution of municipal services such as garbage collection, watering and lighting, while reducing costs and resource consumption.

The digital revolution underway in Israel in recent years in all areas of life has also reached local government. Information and computing systems are the strategic infrastructure of local

government and they must enable accessible and efficient service to residents, local government management, transparency, and improved decision-making. Numerous changes in many areas have taken place in recent years, both technological and organizational, however, alongside the host of developments and improvements, many challenges remain.

Local government in Israel faces many problems, among them the absence of a single public entity responsible for digitization, multiple entities involved in decision-making in their activity areas, and difficulty setting a uniform and binding policy. There is also great disparity between the 257 local government authorities, and while the digitization level in strong local governments is high, in many it is low – 22 of them do not even have a website. Therefore, digitization of local government and online access to their services holds considerable potential that will translate into improved quality of life for their residents.

The Bureau will be the expert entity and the leading government entity in the Smart City field, serving as a source of information, experience and guidance for local governments and relevant entities, while providing tools for formulating a digital strategy in this field, developing necessary infrastructures and advancing projects according to the needs of the specific local municipality.

As part of the National Initiative, three main components will be promoted in order to advance local government in Israel into the digital age, in cooperation with local government, the Interior Ministry and additional entities:

**The first component pertains to creating an infrastructure of digital human capital in local government in Israel**. To this end, two key training programs were established in the aim of exposing participants to the advantages and opportunities in the transition to the digital age, providing knowledge and tools for carrying out the transition, accelerating the design of a digital strategy for the specific local government, and initiating and carrying out digital projects by the program participants. Through the program, it will also be possible to build a network of digital change leaders for continued shared learning and for creating collaborations for continued development of the field in every local government.

The first program is the “Digital Leaders” program, intended for management level employees in local government, as well as for outstanding senior employees from central government and the third sector who interact extensively with local government. These individuals

seek to make an impact and create a change in their areas of responsibility, and the program will give them tools for executing the digital transformation in their local government.

The second program is “Digital Accelerators”, for middle management in local government. The program aims to develop a learning, understanding and implementation based approach through which each of the participants can return to their local government and accelerate and implement the digital change.

Besides these two training programs, further avenues will be considered in the future to expand digital human capital, for example by encouraging the introduction of digital and technology personnel into local government and expanding the role of the IT manager in local government.

**The second component is accessibility of horizontal municipal digital platform solutions to local governments in Israel**. The aim of this component is to provide a uniform minimal foundation that will enable the local government to improve and provide residents and businesses operating in the local government access to services, with an emphasis on local governments that are unable to establish or purchase the necessary systems.

In this framework, the Bureau will act to provide funding solutions that include basic systems for service provision, for example: a website, a municipal application, online forms, a Facebook page and public information sharing systems. The Bureau will also act to advance integration and implementation of advanced systems such as CRM (Customer Relationship Management) and GIS (display layers of geographic information). It will also act to provide consulting and integration services to local government for characterizing the necessary adaptations in line with the needs of the specific local government.

**The third component will include promoting advanced digital projects in local government to help them progress towards achieving the goal of a Smart City**. In this component, digital solutions suited for the needs of a specific local government will be implemented, underscoring projects that leverage the opportunities of the digital age for advancing the strategic goals of each and every local government.

This will include advancing innovative projects in Regional Clusters as “Digital Clusters” (a Regional Cluster is a corporation whose aim is to promote regional collaboration among neighboring local governments in the periphery). These projects will be based on the digital strategy program that will be formulated by every cluster. The projects will be selected according to the regional

orientation in the Regional Cluster's areas of focus, for example – transportation, garbage collection, tourism and employment. The benefit of focusing on the cluster as a unit is the ability to take advantage of economies of scale and collaboration, and to concentrate on the periphery in Israel. To date, in order to formulate a digital strategy and implement innovative digital projects, the five clusters in Israel have been budgeted in the amount of three million NIS per cluster.

Besides these three components aimed at advancing the digital transformation in local government, the National Initiative will support the development of IoT and Smart Cities, while promoting Israel as a beta site of municipal innovation. Steps will be taken to create an ecosystem for Smart Cities, among them establishing innovation centers and conducting Hackathons to address challenges facing local government.

Owing to the combination of the readiness of technological infrastructures and a series of government resolutions, an opportunity has emerged for a significant digital transformation in local government as part of the National Initiative. This transformation will include promoting innovation, accessibility to and streamlining public services, sharing government and municipal information and knowledge, increasing economic efficiency, providing distance social services, and accessibility of digitization to peripheral populations. The Bureau is currently in the process of formulating a strategic digital program for digitization of local government that will encompass the activities of the central government, local government and additional organizations.

Sample Initiative

**Beer Sheba - Digital City**
(in cooperation with the Beer Sheba municipality)

This initiative serves as a national pilot for a digital cities model. The project will advance a variety of innovative pilots in education, social services and health. It will be conducted in cooperation with the public as part of the decision-making process, while encouraging the use of open information to improve public goods and services.

## Open Government

The digital revolution and technological development, particularly the excellent platform provided by the internet, offer a unique opportunity for communication between numerous entities and for increased transparency and accessibility. The infrastructure for innovative democracy is based on the principles of the open government concept – transparency and reportability, participation of the public, accountability and integrating innovative technologies into the interface between government and citizens. These principles are promoted, among other things, by the international Open Government Partnership, an initiative headed by governments and civic society social organizations in more than70 countries, among them Israel, which joined the Partnership in 2012[65].

The values underlying the open government principle go hand in hand with the achievements of the digital revolution – free flow of information and information sharing (subject to legal limitations regarding types of sensitive information); reducing distance, time and language barriers; and adoption of advanced technologies. Adopting the Open Government principle creates opportunities to advance data driven innovation that views the government as a supplier of information, and to promote public access to government databases with economic and social utilities. By opening government databases, the enormous amount of information collected by the government becomes an economic asset, the basis for developing innovative services that provide value to the citizens and to the economy[66]. Thus, for example, in 2012, the Transportation Ministry developed the Public Transportation Database that contains all the timetables and routes of public transportation operators and collects travel data from buses. This quickly led to myriad applications based on the information that provide public transportation passengers quality and up-to-date information about travel times.

According to government resolutions to promote an open government policy[67], and the government resolution to adopt a policy of public access to government databases[68], the Government ICT Authority is acting to promote initiatives in line with the principles of the Open Government Partnership. Thus, use of digital means will be expanded in the aim of increasing government transparency, government ministries will act to enable public access to government databases and initiatives will be advanced to increase public involvement in decision-making processes. Furthermore, the Government ICT Authority is formulating a government open code

policy, in coordination with the Accountant General Division and in cooperation with government ministries. The government will also act to open and make accessible the necessary infrastructures to ensure the success of these steps, for example portals for displaying up-to-date and reliable government information and public engagement platforms.

Sample Initiative

**Data.gov.il** (headed by the Government ICT Authority)

This website, that displays reliable and authorized government information for use by the general public, is a renewed version of the original website that was established following a decision of a Minister's Committee in 2010. The information provides access to government databases in an open code portal, which gives users a free hand to develop applications and systems (API).

The extent to which it is difficult to do business has a significant effect on the incentive to establish and manage a business and on the ability to attract foreign businesses to Israel, and as such is directly related to employment, productivity and growth. Israel is ranked 52 out of 190 on the World Bank Ease of Doing Business Index, alongside countries such as Moldova and Turkey[69].

The government has already taken action to address this situation, following the government resolution to encourage new business[70] aimed at helping new businesses establish sustainable operations, increase their survival rate and expand employment. This resolution, alongside prior programs addressing this issue, aims to simplify processes for opening a business, to advance supporting regulation, to reduce the bureaucratic burden and to make engagement with the public sector more efficient, quick and convenient. These steps are in line with the possibilities created by the digital revolution. Thus, through using digital tools it is possible, among other things, to accelerate processes for opening a business, to create a friendly and available interface with various government offices and to make information needed for doing business accessible.

An interface between the government and the business sector (G2B) is currently under development, headed by the Government ICT Authority. The first project launched was an interface between the banks and the Registrar of Pledges in the Ministry of Justice. The G2B interface is a network that enables a secure dedicated connection between government ministries and the business sector (banks, credit companies, investment houses, etc.), using standards accepted by all entities involved subject to regulation. This will also allow for the provision of additional services,

perhaps not offered yet. The degree of difficulty entailed in opening and managing a business on the World Bank Doing Business Index is based on many factors pertaining to tax payments, international trade, contract enforcement and bankruptcy[71]. Future measures as part of the Initiative will focus on advancing these areas in an attempt to ease doing business, for example by offering online services for registering a business or paying taxes.

## Strategic Objective 2 – Innovative and Effective Government

As part of the National Initiative, the government has set a goal to advance governance in Israel, so it is a pioneer in innovative technology regarding the operation of the government itself (procurement and contracting with suppliers, communication between government offices, etc.) and with respect to its place in the entrepreneurship ecosystem. The aim is that the government of Israel will foster the development of innovative technological solutions, will take an active role in their implementation as beta sites (an "experimental arena" for new tools in the digital and technological world), and in effect lead the innovation industry along with the private sector.

In the context of government work, the digital revolution symbolizes innovation, accessibility and efficiency. Making government innovative and effective means using advanced technological applications to streamline internal government work, alongside the development of advanced digital tools for supporting information-based decision making processes and fostering information sharing in government.

These elements must be supported by high-level digital and technological capabilities of human capital which make up government in Israel. Accordingly, the way information is used, the digital literacy level of workers and the variety of the human capital in the public sector, underscoring integration of digital and ICT experts, are at the core of the efforts to advance innovation and to encourage efficiency in the operation of government in Israel.

Therefore, the steps to make the government innovative and effective will address four key areas:

- Increasing digitization in internal government work
- Promoting information-based policy and cross-governmental information sharing
- Developing the digital competencies of human capital in government
- Expanding innovation and entrepreneurship in government

**Launch a Fund to Promote Innovation in the Public Sector** (in cooperation with the Government ICT Authority and the Innovation Authority)

A program promoting digital innovation, that awards grants to entrepreneurs from the local high-tech industry who offer a response to public sector challenges and needs by developing innovative technologies. The program awards R&D grants (up to four million NIS per project) and post-R&D grants (up to 300,000 NIS per project) to Israeli companies and entrepreneurs who provide a response to challenges in a range of social areas.

What has already been accomplished?

**The Government of Israel Joined the D5 Forum** (headed by the Prime Minister's office)

Israel joined the forum of leading digital countries in 2014 alongside Britain, South Korea, Estonia and New Zealand.

The forum was established with the aim of promoting a digital policy in the member countries, user-oriented services, open standards, open code, open markets, open government, connectivity, fostering programming studies in the education system, digital literacy and a commitment to information sharing.

## Increase Digitization in Internal Government Work

Streamlining work within the government is a significant step in making government innovative and effective. Similar to business entities, the public sector must also adapt to the modern environment. The government has already recognized the potential of increasing government efficiency in a specific government resolution on the issue [72].

Digitization of government work has a fundamental impact on its ability to increase its efficiency. By integrating digital tools, it is possible to exploit economies of scale of the public sector for the benefit of integrated procurement processes and to adopt new technologies that are translated into decreased development and maintenance costs, reduced duplication in ongoing work, and standardization of products and processes. Increased use of electronic forms and digital signatures will also lead to more streamlined work and budget savings.

The varied initiatives undertaken to promote this issue will center on two main areas – the first will center on government procurement, its streamlining and digitization; and the second will focus on developing components, applications, platforms and shared technological infrastructures for cross-government use in ongoing work.

Sample Initiative

**Reform in Government Procurement** (led by the government Procurement Administration) Government technological procurement processes currently take a long time, are inflexible and do not foster use of innovative technologies or offers by SMEs.

As part of the government procurement reform, a "marketplace platform" will be developed for innovative technologies. The platform will aggregate a large number of advanced digital products and services and will enable government offices to use the platform to meet their digital procurement needs. All government technological procurement will be concentrated in one place, while upgrading the technological capabilities of government offices and increasing the efficiency, transparency and flexibility of the procurement process.

## Information-Based Policy and Cross-Government Information Sharing

The digital age provides information collection and analysis capabilities not available in the past, as a result of the enormous amont of information accumlated daily, alongside the development of tools for informed analysis of Big Data and the ability to draw effective conclusions from the analysis. Informed use of the enormous amounts of data that are available, and will be available in the future, in the hands of the public sector, offers a unique opportunity for a quantum leap in how government work is managed and its decision making processes.

This calls for a conceptual change that views mangement of government data as a premier strategic asset, based on the understanding that "knowledge management" is an outlook that combines organizational culture, business processes and supporting infrastructures for informed exploitation of knowledge held by government and for the purpose of creating and collecting new knowledge. Information management as an asset does not differ from the management of other assets, and it is therefore necessary to map resources and develop capabilities for their asset exploitation and of course asset protection. To this end, a new position will be advanced in

government that will act in cooperation with all government entities to manage government data optimally and effectively and produce tangible value. The responsibilities of the new position will include creating a (government) strategy, formulating policy and standards for quality information management, identifying and overseeing information-based government initiatives and projects and measuring the effectiveness of these projects. The individual filling this position will also be responsible for the management and professional guidance of information professionals in governement – among them data scientists, data analysis, managers of research databases and information reliability and validation.

In supporting the management of government data, the Government ICT Authority will act in cooperation with the National Bureau to provide tools for collecting, managing, identifying, analyzing and sharing government data. Among other things, the Government ICT Authority will act to develop infrastructures for transmitting data between government offices; to support formulation of a government cyber protection approach in coordination with the government Cyber Protection Unit; to integrate information systems for use of the government offices that will enable easy identifcation, retrieval and sharing of document and decisions; to encourage the use of BI tools in government decision making processes; and to integrate additional advanced means. Ultimately, we expect to see the government in Israel base its decisions more fully on informed data analyses that will enable, and even stem from, cross-government data sharing and learning. Concurrently, enhanced use of information systems and expanded information sharing between government entities will enable more efficient exploitation of existing synergies in the work of government offices, and will even create opportunities for developing new synergies. Consequently, this policy will lead to significant streamlining of government work and to improved government service provided to citizens.

Another issue that will be advanced according to government Resolution No. 1933 of August 30, 2017, and led by the Government ICT Authority, is the implementation of the "Tell Us Once" policy for receiving information from the public. The aim of the resolution is to improve government service to the public and to reduce the bureaucratic burden it encounters, by eliminating the need to receive information and documents from citizens when they are already known to another government entity. To achieve this, a secure infrastructure will be established for sharing verified personal information between the various government agencies.

Taking into consideration all of the above, the steps that will be promoted by the government will be carried out at several levels – encouraging information-based policy so that decision-making processes will be backed by data; adopting digital tools, means and systems for collecting, managing, identifying, analyzing and sharing data, including BI systems; view government data as a paramount strategic asset and its management as such. This will enable government to harness the digital revolution to implement changes in the work of the public sector, and to establish and develop necessary infrastructures that enable sharing in the work of different government offices.

Sample Initiative

**Shared Technology Platforms** (headed by the Government ICT Authority)

The purpose of this project is to increase cross-government data sharing by integrating shared infrastructures such as an electronic "safe" to protect information transmitted, an internal government network, B2G communication between government and businesses and a future government cloud. Taken together this will enable government to consolidate data resources in a central location and will produce resource savings. These infrastructures will not only advance the process of digital transformation in government offices, but will also allow for advancing future information-sharing measures.

## Develop the Digital Competencies of Human Capital in Government

The digital revolution is creating significant changes in every area, and requires workers, in both the business and public sectors, to adapt in order to remain competitive and relevant in a changing world. However, the current digital literacy level in the public sector is relatively low compared to the economy in general (and particularly in comparison to the advanced high-tech industry), and a quantum leap in the level of digital literacy in this sector is genuinely needed. Thus for example, there is no organized training program for developing digital competencies, and no definition or thorough tracking of the digital literacy level of government employees. Since satisfactory digital literacy level of government employees is an enabling factor for the integration of future digitization processes in the public sector, it is necessary to invest in the government's human capital to ensure it has the competencies necessary for working in a digital environment. Thus, all employees in the public sector must be trained to a sufficient digital literacy level, for

example using a computer, email, and communicating with citizens, as well as more advanced capabilities such as building a presentation and analyzing data in a computerized environment.

Following the numerous changes created by the digital revolution, among them digital interfaces and converting content to digital format, a need has arisen for new positions and capabilities that must be integrated into government work – for example digital product managers, data analysts, data scientists, social media experts, digital content experts and product specification professionals. This reflects a growing focus on managing areas such as user experience and data analysis. Thus, as part of the National Initiative and in cooperation with the Government ICT Authority, steps will be taken to recruit and train workers from these fields from the public sector in general and from government ministries in particular.

Furthermore, the Government ICT Authority in cooperation with the National College in the Civil Service Commission, is advancing a training program for managers of government IT Divisions. The program aims to shape the role perception of computing unit managers in order to advance these units to the digital age. The program will focus on providing tools and developing approaches in the areas of computing and senior management.

Another direction involving human capital in government pertains to senior level employees in the public sector. As those responsible for implementing policy, leading processes and setting norms in government agencies, the attention level of these employees to digital, and their motivation to drive digital transformation in government agencies, has a vital effect on realizing the goals of the National Initiative. Therefore, as part of the Initiative, digital leaders will be trained in all government ministries, in effect placing senior change agents in every ministry who will advance digital change processes and lead the implementation of the National Initiative in their responsibility areas.

Sample Initiative

**Training Digital Leaders in Local Government** (in cooperation with the Interior Ministry)
The aim of the program is to create a network of outstanding change leaders from local government that seek to create change in the areas under their responsibility by means of digital innovation. As part of the project, teams of digital leaders from various local governments will receive tools and acquire skills to help them advance innovation in their local government. A network for cooperation between the digital leaders will be established between local governments and sectors.

## Innovation and Entrepreneurship in Government

Entrepreneurship in the public sector is part of the conceptual change on the path to innovation in this sector. By advancing this field the government should, and is capable of, attracting other sectors in Israel, while strengthening Israel's position as the Start-up Nation.

Encouraging intra-government entrepreneurship is a multi-faceted endeavor. Thus for example, many internal processes can be accelerated and complex technological problems in government work can be solved with the assistance of entrepreneurs and technology companies, and by harnessing the innovation, creativity, capabilities and the knowledge found in the private sector ("challenge tenders"). Another way to promote entrepreneurship in the public sector is to encourage employees. The employees naturally have in-depth acquaintance with intra-organizational processes in their ministry that can be used to drive change from the bottom up. Therefore, action should be taken to encourage employees in the public sector to activate such processes – which will also be possible thanks to increased digital literacy, and digital and technology competencies among the employees. Finally, to foster implementation of innovative solutions in the public sector, it can serve as a beta site for initial initiatives and ideas (pilots), regardless of whether they were initiated by sector employees or by other sectors, and in doing so becoming trailblazers and leaders, and even doing so efficiently in budget terms.

Fostering innovation and entrepreneurship in government will be carried out by creating a supporting regulatory and logistical infrastructure for adopting ideas and initiatives at their early stages. The National Initiative will also encourage inclusion of the private and third sectors in finding advanced technological solutions for public sector problems. Thus it will be possible to develop creative and advanced goods, processes and solutions that will be incorporated into government work and into the public sector at large.

Sample Initiative

**Innovation Development Services**

In the aim of increasing digitization in government work and exposing government offices to leading business and third sector entities in the digital innovation field, government ministries will be encouraged to engage with innovation centers. These centers will help them collaborate with private companies and start-ups to map and analyze the problems facing the government office and to formulate technology-based solutions. The centers will operate similar to accelerators and hubs common in the high-tech industry.

## Strategic Objective 3 – Improve Public Goods

As noted, the quality of public goods has a fundamental impact on the standard of living of the citizens of Israel. Goods such as health, social services, education and transportation shape the environment in which we live and must therefore be adapted to the digital age.

Digitization offers huge potential to improve these goods, mainly by harnessing technology, developing advanced data analysis capabilities and using modern digital communication tools. Adapting public goods in this manner, with the assistance of the developed innovation industry in Israel, can increase the quality of service the government of Israel provides its citizens.

Harnessing the digital revolution to improve public goods in Israel will be carried out while addressing four key areas:

- Improving education by digital means
- Improving health by digital means
- Improving social welfare by digital means
- Improve additional goods by digital means

**"Available Emergency Room" Project**
(led by the Health Ministry)

The project, headed by the Health Ministry, aims to shorten waiting times, handle bottlenecks and improve patient experience in emergency medicine departments and emergency rooms.

The project also includes an application that provides real-time information about waiting times and services provided at each emergency medicine center. Control and oversight tools are also integrated to support decision-making and policy making processes.

What has already been accomplished?


**Digital Client File**
(led by the Ministry of Labor, Social Affairs and Social Services)

Establish a client file management system in the social services system, from the referral stage to building a treatment program. In the first stage, headed by the Ministry of Labor, Social Affairs and Social Services, the system supports the management of inquiries of clients served by local social services department. The system helps social service workers offer suitable treatment, and interfaces with relevant databases in the Social Affairs Ministry. In later stages, the system will interface with databases in other areas in order to offer optimal treatment.

במהלך שנת 2016
תושלם הטמעת שלב א'
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## Improve Education by Digital Means

Providing quality education is one of the areas with the most profound impact on our life. The education system is responsible for shaping the values, beliefs and abilities of its graduates, and accordingly for their ability to integrate into society. It is also charged with equipping its graduates with suitable tools to contend with modern employment challenges. In a world undergoing a digital revolution and experiencing rapid technological changes, adapting the education system to the digital age is critical. We can learn about the centrality of digital education from the agenda of policy makers throughout the world and in leading countries, particularly the fact that it is a permanent component in numerous strategic digital programs[73].

To improve education by digital means the system as a whole must be addressed – from the learning content, learning mode and use of end user equipment, through the teachers' role in the classroom and their integration into the digital environment, to the ability to manage the system. The Education Ministry is currently formulating a strategic digital program that will include initiatives with respect to the following components:

- Improve the quality of learning and teaching so that graduates of the education system will be equipped with tools suitable for the digital age, while focusing, among other things, on the development of digital learning environments, digital contents, sharing contents and programs between teachers and teachers' professional development.
- Promote management competencies in the education system, at the school and system level, including the development of management platforms and integrating the use of information systems, along with increased engagement with the public, and budget and operating transparency.
- Promote innovation in the education field while harnessing all system entities – pupils, teachers and educators, and involving the local startup arena in the aim of creating a discourse and opportunities for technological development.

Another central program is the CHE and PBC multi-year program that focuses, among other things, on innovation in teaching and improving teaching quality. As part of the program, support grants are offered to produce online courses that will provide access to accumulated knowledge in the higher education system to students in Israel and around the world. Also, innovation laboratories will be established for student entrepreneurs to enhance the learning experience on campus. Support will be provided for developing and implementing innovative teaching methods using digital means and advanced technology.

In addition to these components, emphasis will be given to supporting policy and regulation and to cross-government infrastructures - enabling factors for future steps.

Sample Initiative

**"Flipped Class" Model** (in cooperation with the Education Ministry)

This initiative is included in efforts to develop digital learning environments for classroom and distance learning in the aim of adapting the classroom to the digital age. Thus the teacher's role changes from frontal transmission of the study material to guiding and helping self-study, while pupils shift from studying with the entire class to working in small groups, with the blackboard replaced by digital end devices.

## Improve Health by Digital Means

Digital has an enormous potential to increase efficiency, improve quality and accelerate innovation in the health system. Accordingly, digitization of health services is included in most OECD country strategic programs, and the European Commission even published a specific program addressing this field[74].

The health system in Israel is currently characterized by polarization between excellence on medical condition indices to a shortage of medical personnel and infrastructures, which make it difficult for the system to meet the challenges of medical care and service to the public. Thus, concurrent with high life expectancy and a low infant mortality rate, the number of beds and nurses in Israel is low compared to OECD countries[75], and health is increasingly viewed as more of a consumer product than in the past – resulting in a bureaucracy and an interaction with service recipients that do not meet customer expectations.

The Health Ministry, in cooperation with the Bureau, formulated a strategic program to advance digital health which centers on directing the changes in health services to advancing the public health system while preserving its basic values and leveraging its strengths. The program aims to achieve a quantum leap in the health system in Israel, which will enable it to be sustainable, advanced, innovative and continuously improving. It will do so by optimally leveraging the ICT at its disposal in order to improve the health of the population at large.

The program is based on advancing steps in several parallel digital tracks, leading to the implementation and integration of five key changes in the health system: (1) place the patient in the center and direct the system to serve the patient's needs, with tools that increase patient involvement in managing their health; (2) advance the development and adaptation of tools for individually-customized treatment; (3) shift the focus from treating disease to preventive medicine;

(4) increase operating and managerial effectiveness in the health system; (5) improve and streamline communication between the Health Ministry and entities that receive its services.

To support and enable implementation of these digital changes, the Health Ministry is advancing the development of technological infrastructures for an information and communication-based environment, and taking action to adapt the organizational and process infrastructures in the health system to the digital age. Concurrently, the Ministry is developing and strengthening mechanisms for systematically advancing innovation and collaboration in the health system and in the Ministry, and leading a policy to narrow digital gaps among health organizations. These steps will establish the necessary infrastructures for improving the health system in Israel with digital tools.

The Health Ministry is currently taking action to implement the strategic program and to develop additional components of the program.

Sample Initiative

**"Eitan Project"** (led the Health Ministry)

Establish a secure national platform for sharing medical data between treatment entities in health organizations and creating a treatment continuum for the patient in the transition between organizations, and particularly between the community and hospitalization.

The platform capabilities include the ability to convert medical coding in order to enable standardization and machine readability of the information at end points, and overcoming the various data coding languages in health organizations to enable presentation of information to the treating entity in a smart format, highlighting new and relevant information and preventing information overload.

In the future it will be possible to connect infrastructure decision-support applications to "Eitan", enabling the treating entity to use data accessible in "Eitan" to develop smart algorithms.

Thus, information sharing will help maintain a treatment continuum and provide the correct and precise treatment to the patient. It will also enable translating medical information into insights, preventing medical errors, improving the decision-making process and serving as the basis for medicine adapted to the patients' needs.

## Improve Social Services by Digital Means

Social services are responsible for identifying, preventing, treating, protecting and rehabilitating populations who need their help, and therefore have a vast impact on life in the country. The social services system in Israel faces several problems, reflected among other things in high poverty and inequality rates alongside low government spending on social services compared to OECD countries[76]. Demographic processes and difficulty overseeing and integrating policy present additional challenges. This highlights the importance of implementing digital means that can provide tools to address these difficulties and in effect to advance the system as a whole.

In the aim of promoting digital social services, the Labor, Social Affairs and Social Services Ministry, along with the Bureau, has taken action to formulate a strategic digital program. The initiatives advanced as part of the program will concentrate efforts through four content worlds:

- Promote self-service social services in the aim of providing citizens access to information, increasing use of the information, expanding the number of users and decreasing the load on the system so it can focus where it is most needed.
- Create a distance service in the aim of eliminating distance barriers and narrowing social and geographic gaps.
- Integrate digital tools to be used by treatment professionals to enable efficient action and quality personally customized service.
- Streamline and develop management processes for managers at various levels in the aim of enhancing their ability to set policy, oversee activities in the field, conduct measurement and assessment and synchronize between various entities.

Initiatives will also be carried out in cross-government areas that are necessary for digitization processes such as digital literacy and digital infrastructures.

Sample Initiative

**Distance Social Services** (in cooperation with the Ministry of Labor, Social Affairs and social services)

As part of the project, technological tools will be integrated to provide remote social services to targeted populations. For example, integration of tools that will enable the elderly to connect to day centers from a distance so they can receive better social services and remain connected to a support community.

These tools will help social services clients receive accessible quality services, and will eliminate distance and movement barriers, narrowing social and geographic gaps.

## Improve Additional Public Goods and Services by Digital Means

Improving public goods does not only pertain to education, health and welfare, and there is potential in other areas in which the government operates. Digital tools will help adapt every field to today's dynamic environment, improving its quality and accessibility. Initiatives in such areas will be advanced at later stages, in line with additional needs that will arise in the future and new objectives that will be defined accordingly.

# Part C – The Operating Concept of the Digital Israel Initiative

The National Initiative acts to realize national policy in utilizing information and communication technologies, as defined by the government. In order to formulate and implement the national policy it was decided to establish a cross-government steering committee headed by the Minister for Social Equality, MK Gila Gamliel, with the participation of relevant entities. The committee was charged with setting national policy and with approving the multi-year digital program and the associated annual work plans[77]. The government also appointed a ministerial committee for the Initiative charged with advancing the National Initiative and overseeing its progress[78].

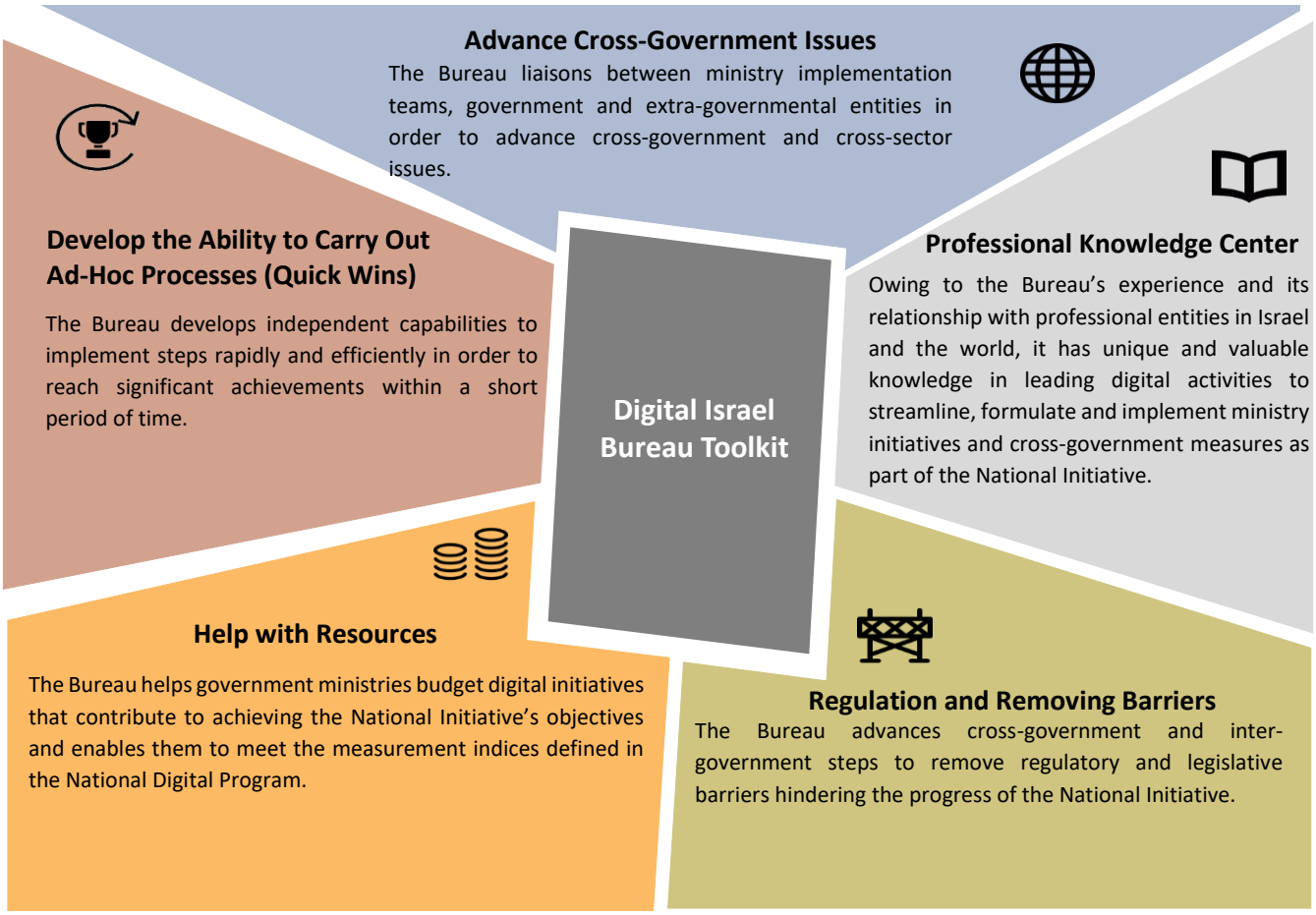
The Ministry for Social Equality, through the Bureau, is responsible for formulating the National Digital Program in cooperation with the Government ICT Authority, government ministries and relevant entities. The National Digital Program outlines the activities of the partners to the National Initiative, but is also intended to serve as a digital compass for the government as a whole in the digital transformation process. The program constitutes a framework for government activity in implementing the National Initiative, and the ministries and auxiliary units that are partners to the Initiative must implement the Initiative, whether through the work plans of their offices or by formulating dedicated ministry digital programs with the assistance of the Bureau. The Bureau's roles, as defined by the government, also include coordinating the professional work of the cross-government steering committee, accompanying and coordinating implementation of the National Initiative in government offices while creating collaborations between them, developing cross-government digital processes and leading their implementation, creating collaborations with the private sector in Israel, and around the world, and leading a continuing inter-sector discourse between government offices, and between the business and third sectors[79]. The Bureau acts in close cooperation with the Government ICT Authority, which is responsible for strengthening the government's ICT capabilities, while serving as a knowledge and professional advisory center in the ICT field for the government, and acting to foster technological innovation in government offices and their units. The ICT Authority provides advanced technologies for improving government service to the public, reducing the bureaucratic burden and advancing an open government policy[80].

By virtue of its role, the Bureau takes part in formulating and implementing many of the initiatives advanced within the National Initiative framework, whether as an entity leading complex cross-government and inter-ministerial measures, or in a coordinating, integrating and advisory

capacity for government offices in promoting the core areas of the national digital policy under their responsibility. The Bureau operates together with many partners in Israel and the world, from the government, municipal, private, academic and third sectors, and the public at large.

### The Digital Israel Bureau Toolkit

To carry out its responsibilities and advance the implementation of the national digital policy, the Bureau has an extensive toolbox at its disposal, that includes:



## Chapter 1 -The Digital Israel Initiative Operating Model and Scope

The activity scope included in the National Initiative is broad and encompasses a wide range of areas at two levels, core areas and horizontal areas:


Besides the areas included in the activity scope and advanced in the framework of the National Initiative, the purpose of the National Digital Program is to serve as a digital compass for all ministries and auxiliary units, including those that do not utilize the assistance of the Bureau. The aim of the Program is to help and direct all entities in formulating a digital strategy and to advance digital projects. Therefore, these entities will act in accordance with the guiding principles of the National Initiative and the principles for formulating ministry digital strategies. Accordingly, the activity scope of the National Initiative is expected to be updated when additional activity areas will be defined as the Initiative progresses.

### Core Areas

Core areas are specific fields in which it is possible to achieve a very significant quantum leap by harnessing the digital revolution and by developing and providing innovative, quality and efficient public goods. In the first stage, and by virtue of Government Resolution No. 1046, it was decided to establish implementation teams in the Ministries of Education, Health, Social Affairs and Social Services and Economy and Industry (including SMEs)[81]. The Local Government Administration in the

Ministry of Interior, as well as the Justice Ministry, the Tax Authority and the National Insurance Institute were added at a later date[82].

### Schooling and Education

Integrating technology in the educational field, as well as in the vocational and technological training field, will bring about a quantum leap in their quality, while streamlining the system, adapting its contents to the 21st century and equipping its graduates with competencies needed in the modern age. This area will be advanced by the Ministry of Education and the CHE and PBC as well as by the Ministry of Labor, Social Affairs and Social Services, in coordination with the Bureau, and is detailed under the strategic objectives: "Bringing the Geographic and Social Periphery Closer to the Center" and "Improving Public Goods".

### Labor and Social Services

Digital tools have the potential to streamline the social services area in Israel, while reducing the bureaucratic burden and increasing right realization. This will improve the lives of all citizens, with an emphasis on weakened populations. Various digital tools enable diverse audiences to expand their employment options, by improving employee competencies and ridging distance, time and information access barriers. This area will be advanced in cooperation with the Bureau, by the Ministry of Labor, Social Affairs and Social Services, the National Insurance Institute, local government and additional entities. This area is detailed under the strategic objectives: "Bringing the Geographic and Social Periphery Closer to the Center", "Rights Realization", "Developing the Employment Market in the Digital Age" and "Improving Public Goods".

### Health

ICT tools can improve the quality of health service in Israel, increase efficiency and accelerate innovation in the health system, thus improving quality of life and saving costs. This area will be advanced by the Ministry of Health in cooperation with the Bureau and with the assistance of the health system, and is detailed under the following strategic objectives: "Improving Public Goods" and "Bringing the Geographic and Social Periphery Closer to the Center".

### Justice

Digital transformation in the activities of the Ministry of Justice will enable the streamlining and shortening of service processes provided by the Ministry, will help reduce the bureaucracy and allow for the provision of improved service quality to citizens and businesses in Israel. In doing so it will be possible to ease doing business in Israel, to advance the rule of law and human rights and to maintaining the public interest, and finally to increase public trust in the justice system and in the government. This area will be advanced in cooperation with the Ministry of Justice and is detailed under the strategic objective: "Accessibility of Government and Local Government".

### Housing and Real Estate

Information and communication technology can help ease the housing crisis and improve the implementation of government policy in the housing market. Combining focused digital efforts in the housing area may shorten planning and licensing processes, which will lead to increased supply of apartments in Israel. This will improve access to information for effective policymaking and will help lower housing prices. This area is detailed under the strategic objective: "Reduce Cost of Living and Housing Prices".

### Economy and Finance

Digitization has enormous potential as a growth engine for the economy by expanding the use of ICT tools in business, advancing digital based industries and developing digital competencies in the workforce. Furthermore, expanding use of technology in the financial system, promoting digital tools to improve accessibility and streamlining the interface with financial institutions, along with increased transparency and competition in this area will enable the provision of online, inexpensive and competitive services. This area is detailed under the "Primary Goal – Accelerate Economic Growth", and under the strategic objective: "Reduce Cost of Living and Housing Prices".

### Local Government and Smart Cities

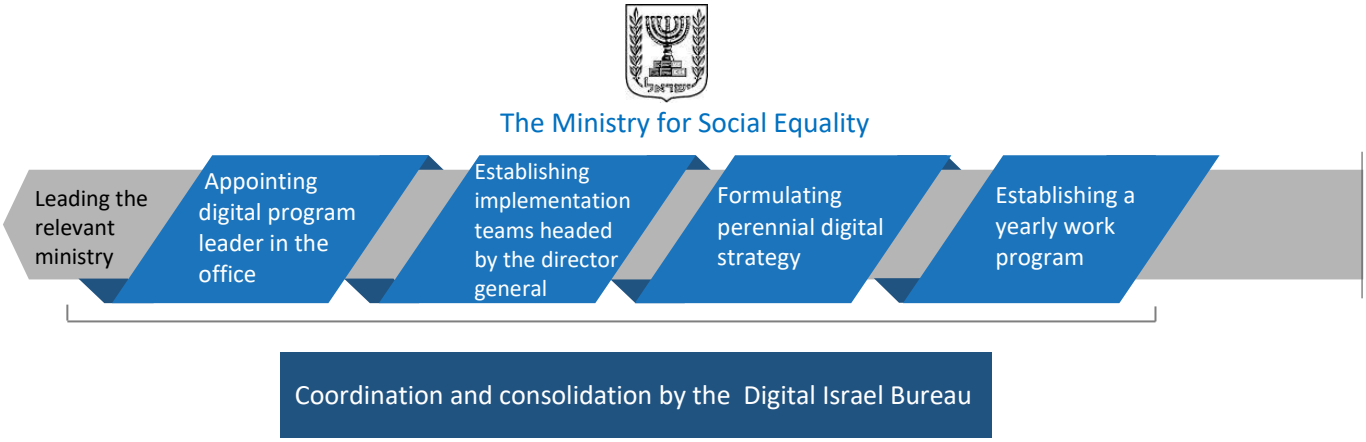
Information and communication technologies enable the streamlining of the work of local government, improving its interface with the public and developing smart, efficient and cost-saving public goods while integrating tools from the Internet of Things. The Smart Cities area will be advanced in cooperation with the Ministry of Interior, the Center for Local Government and other relevant entities. This area is detailed in length under the strategic objective: "Accessibility of Government and Local Government".

### E-Gov

Expanding the use of Information and communication technologies in the public sector holds huge potential for making government innovative, smart and friendly to citizens, while reducing bureaucracy, improving public goods and services, increasing budget savings and improving the lives of all citizens in the country. This area will be advanced by the Government ICT Authority and the various government ministries in cooperation with the Bureau, and is detailed in length under the "Primary Goal – Friendly and Smart Government".

### The Operating Approach in the Core Areas

Advancing the core areas is based on the activities of the implementation teams established in the relevant government ministries for each area. The teams are responsible for formulating a ministerial strategic digital program according to the guiding principles set out in the National Digital Program. The teams are also charged with accompanying and integrating the program into the ministry's annual work plans. The teams are appointed by the Director General of the relevant ministry and their activity is consolidated by the "digital program leader" who is responsible for heading the team's activity and integrating the ministry's digital projects. The "digital program leader" works directly with the ministry director general or deputy director general, as well as with representatives of the ICT Authority when necessary. The Bureau accompanies the teams on an ongoing basis and assists in coordinating and integrating their work and in carrying out the ministry's digital programs, using the toolkit at its disposal.




The digital programs of the various ministries will be designed according to the guiding principles of the National Initiative and based on a structured planning methodology that includes analysis of the current situation in the ministry, involving relevant stakeholders and the public, conducting an international comparative study in selected areas in order to identify successful case studies (best practices), and initial planning of the steps to be taken based on identified needs and gaps. The projects will be defined and prioritized in congruence with the primary goals and strategic objectives of the National Program.

## Horizontal Areas

Within the framework of the said government resolution, and as part of the definition of areas to be addressed by the National Initiative, it was decided to advance areas that cut across this National Initiative. These are mainly cross-government areas that will create the infrastructure and the supporting environment for realizing the goals of the National Initiative and promoting the digital revolution in Israel[83].

### Human Capital

Human capital with high digital skills and an innovative character is the vital factor for success in integrating the “digital revolution”. As part of the National Initiative, skills and ICT competencies needed in the digital age in the public and private sector will be developed. This area is detailed under the strategic objective: "Developing the Employment Market in the Digital Age and Innovative and Effective Government".

### Regulation

Regulation that is not up-to-date or not adapted to the digital world and to current rapid technological changes may obstruct or delay the beginning of the "digital revolution" in government, society and the economy. Creating a supporting regulatory ecosystem will be advanced under the National Initiative, to enable innovative digital activity contending with the challenges and opportunities posed by the digital age. This area is detailed extensively under the strategic objective: "Support Infrastructure Development".

### Procurement

To enable the integration of innovative technologies in government work, procurement mechanisms must be adapted to encourage innovation, efficiency and use of advanced ICT tools by the ministries. This area is detailed extensively under the strategic objective: "Innovative and Effective Government".

### Rights Realization

A comprehensive cross-governmental measure to simplify and ease realization processes of social and economic rights by creating cross-governmental information sharing mechanisms and unified online platforms. This area is detailed extensively under the strategic objective: "Rights Realization".

### Technological Infrastructures

Optimal use of the most innovative information and communication technologies in the hands of all citizens and entities in the country requires extensive deployment of advanced and rapid communication infrastructures, while increasing fixed-line and cellular speed throughout the country. This area is detailed under the strategic objective: "Support Infrastructure Development and Accessibility of Government and Local Government".

### Digital literacy

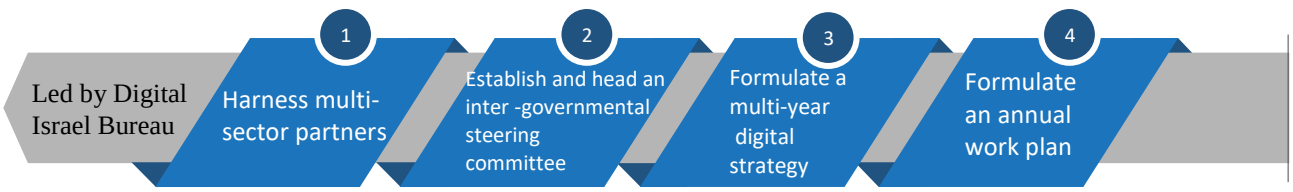
Digital infrastructure in itself is insufficient for the success of the "digital revolution". The aim must be to integrate the entire population of the country, with an emphasis on weakened segments of the populations. At present, 25% of the population in Israel does not use the internet.

The more advanced the digital services and capabilities, the more this population group lags behind, while social and economic disparities grow. In the framework of the National Initiative, several programs will be offered to impart “digital reading and writing” abilities to weakened population groups in Israel. This area is detailed extensively under the strategic objective: "Bringing the Geographic and Social Periphery Closer to the Center".

**The Operating Approach in the Cross-Government Areas**

To advance these areas, cross-government projects requiring in-depth change are needed, that in most cases are not under the responsibility of a single ministry, but rather include a wide range of relevant partners. Each of these areas will be individually addressed in the National Initiative, as part of a dedicated strategic program, a government committee or government taskforces, that will enable execution of programs or projects in these areas. The Bureau will lead these areas in cooperation with all relevant entities within and without the government – in the aim of advancing the required infrastructure for the National Initiative [84]. Thus, for example, the procurement area is advanced through a committee headed by the General Accountant in the Finance Ministry who is responsible for adapting procurement to the digital age, with assistance of the Bureau, the Government ICT Authority and the Ministry of Economy and Industry. The purpose of the committee is to promote a cross-government solution to enable adaptation of the government procurement policy, so that government offices can purchase innovative solutions and goods, and formulate solutions adapted to the National Initiative[85].

For the cross-government areas or inter-government projects headed by the Bureau, it is developing a digital strategy by harnessing government and multi-sector partners (sometimes with the assistance of the inter-government steering committee), and providing assistance in developing annual work plans to advance the initiatives.

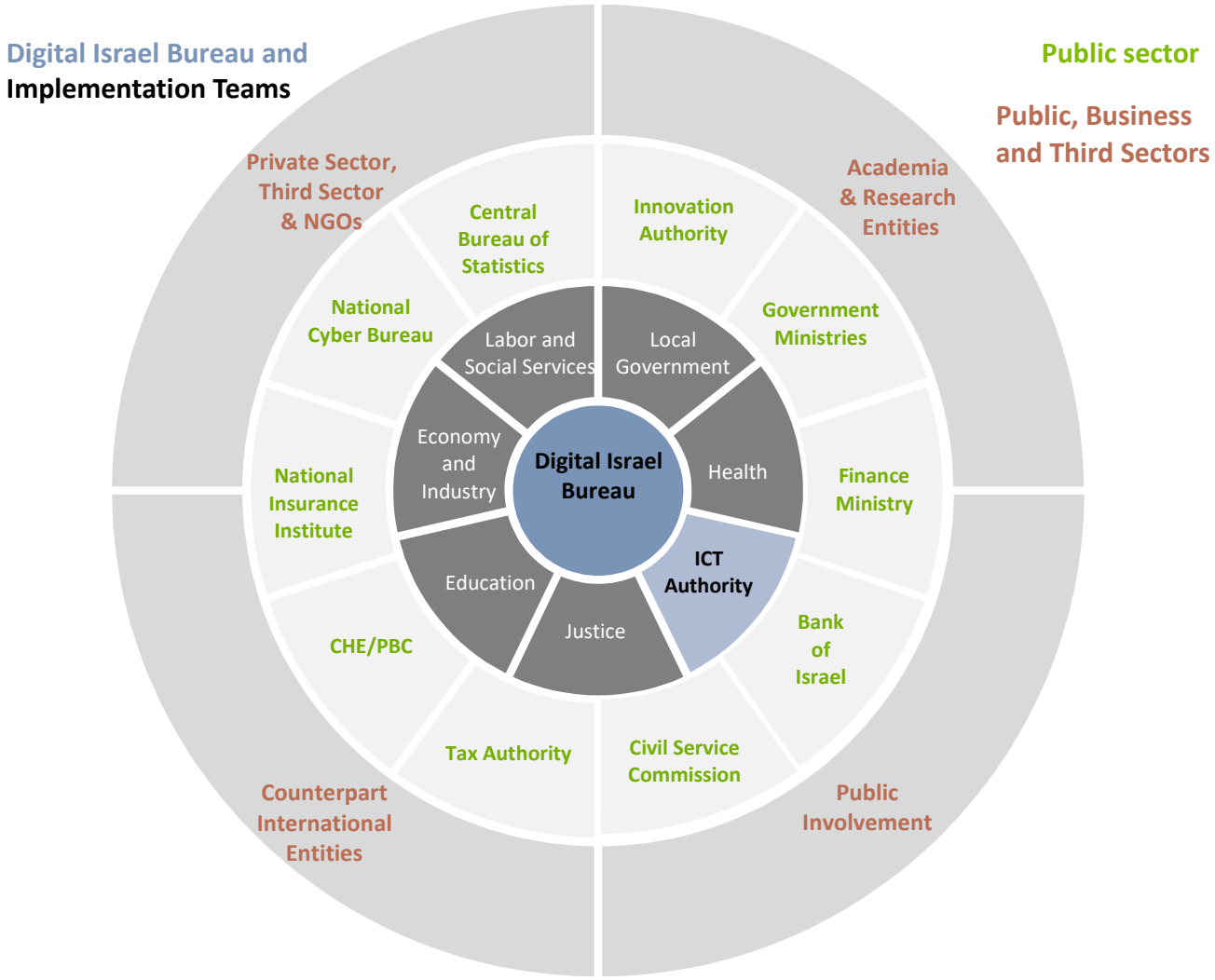


Additional significant projects are relevant to several government offices and involve several "key actors". For effective cooperation, a leading and integrating entity is needed that will be responsible for optimal coordination and synchronization - the Bureau fills this role for these projects. Thus for example, an open digital platform, "Campus", was developed for digital studies and training in a variety of subjects. This project, and the courses it offers, are designed through cross-government and cross-sector cooperation, for example in cooperation with the Education Ministry, the CHE/Israel Council for Higher Education, Science Ministry, Justice Ministry, Economy and Industry Ministry, the Labor, Social Affairs and Social Services Ministry, the IDF and the Civil Service Commission, with the Bureau serving as the initiator and project leader. Additional cross-government projects headed by the Bureau are the rights realization project and the project for advancing digital literacy.

Furthermore, complex projects that involve converting inter-government processes into digital format are conducted by professional cross-government digital "transformation" teams headed by the Bureau in cooperation with the ICT Authority. The "transformation" teams are responsible for generating in-depth change in bureaucratic processes at the basis of cross-government services, and transforming them into user-friendly digital services according to the principles of the National Initiative.

## Chapter 2 – Digital Israel Initiative Partners

For the optimal realization of the National Initiative vision and goals, the Bureau receives assistance from partners in various ministries, entities and sectors:




The Bureau's main partner in carrying out the National Initiative is the Government ICT Authority. Alongside the Authority, the circle of key partners refers to the implementation teams responsible for work in the core areas in the various government ministries and in local government. The latter is a significant partner for implementing the Program in local government. The wider circle includes various entities in the public sector that are vital for the National Initiative's progress and its realization, each in its field and responsibility areas. The next partner circle includes entities and groups that the Bureau acts to harness as partners for the various National Initiative projects. Thus, a suitable eco-system can be developed for the National

Initiative through academia, research entities, the private sector, the third sector and NGOs. Furthermore, the public is a natural partner for the advancement of the National Initiative. As a direct continuation to the open government policy and to service improvement, it is critically important to involve the public in National Initiative decision-making processes, in designing the various measures and in providing feedback. Finally, cooperation with counterpart international entities will help the Bureau learn from the knowledge and experience of leading countries and accelerate the progress of the National Initiative. An example of such cooperation can be seen in Israel's joining the forum of leading digital governments (D5), through which the government received assistance in formulating a secure and smart identification policy.

## Chapter 3 – Measuring the Initiative and the National Digital Index

Regular and consistent measurement of the progress of the National Initiative and the National Digital Program is a vital factor for their success. Measurement will fundamentally improve the government's knowledge regarding the status of the various issues addressed by the National Initiative. With measurement it is possible to identify at every point in time the State's rate of progress towards realizing the vision of the Initiative and the strategic objectives of the National Program. Measurement will also help guide government policy measures to the most critical regions.

The Bureau in cooperation with the Government ICT Authority is currently examining the design of a National Digital Index. The index will reflect the status of the State of Israel in this area and will enable identification of gaps and examination of the effectiveness of government policy implemented. The index will also provide a broad and comprehensive picture of the state of digitization in the State of Israel.

To track the progress of the National Digital Program indices will be defined for the primary goals of the National Initiative. Ongoing tracking of the indices, and directing policy measures accordingly, will enable realization of the strategic objectives and assessment of the various initiatives carried out within the Program framework. As we see it, combined improvement on all the above indices will lead to the achievement of the strategic objectives, and as a result – to realization of the Program's primary goals. Furthermore, improvement on the various indices included in the National Digital Index will enable the State of Israel to improve its ranking on various international indexes, and will support the design and formulation of optimal government policy for realizing the vision of the National Initiative. As noted, the various indices will be consolidated into a numeric index for measuring the progress of Israel in the digital area over time.

The National Digital Index is currently in the planning stages in cooperation with the Central Bureau of Statistics and additional entities from the public and private sectors. It should be noted that since digital measurement is continuously being refined, the measurement area will be reviewed throughout the National Digital Program implementation period, and should there be indexes that more accurately reflect the progress of the National Initiative, they will be integrated into the National Digital Index.

# Appendix A – Writing the National Digital Program

The National Digital Program of the government of Israel was formulated by the Bureau based on the primary goals and the strategic objectives of the National Initiative, as defined in government resolution no. 1046[86]. Furthermore, the National Program also addresses the work of the Government ICT Authority, and therefore includes relevant activities relating to the Authority's strategic plan. The formulation process also included consultation with government offices and all relevant partners to the Initiative from the private and third sectors, with the involvement of the public on material issues.

The Plan's conceptual framework and its structure were based on a comprehensive international comparison of national digitization programs in a variety of countries, alongside a review of specific programs on digital issues (for example, digital literacy). The aim of the international review was to identify successful and relevant case studies (best practices), among them the national programs of Britain, Estonia, Sweden, Denmark, Germany, USA, the Philippines and Australia. As noted, main emphases were derived from the review that are particularly relevant to Israel's National Initiative, among them emphases addressing the strategic objectives themselves (for example, the means for developing the employment market in the digital age, or improving digital literacy among disenfranchised populations) and mapping key international indexes. Special attention was given to Britain's Digital by Default program from which main principles were taken, as well as initiatives such as the digital leaders program and the open code of the consolidated Gov.uk website. This learning and cooperation assisted in designing the National Initiative policy and its activities, and are beneficial in implementing lessons and insights from parallel activities abroad. The Bureau was also assisted by information about digital policy from the D5 forum of the five leading digital governments (Britain, South Korea, New Zealand, Estonia and Israel), which Israel joined in 2014.

The Plan was formulated and written with the assistance of the strategic consulting company TASC Consulting & Capital. TASC helped in conducting a comprehensive international comparative study, conducting interviews and discussions with relevant entities, analyzing OECD indices and studies on the topic, formulating the strategic objectives and writing the Program.

Due to the dynamic nature of the digital field and the rapid and frequent development of technologies and new trends, the National Digital Program will be updated continuously and

adapted to the renewed reality. Furthermore, the Plan will develop as the National Initiative progresses, in light of the activity areas that will be added in the future, and following formulation of the ministerial digital programs.

# Endnotes

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[8] *Akamai's State of the Internet Report*, 2015 ;OECD, *Digital Economy Outlook*, 2015. The average data transmission rate in Israel is 11.2 megabytes per second.
[9] Digital literacy represents a set of skills required for using computers, technologies and applications in the digital age.
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[11] *United Nations e-government survey* 2014
[12] OECD, *Government at a Glance*, 2015.
[13] Government Resolution No. 2097 of October 10, 2014, *Expand the Government's ICT activity areas, foster innovation in the public sector and advance the Digital Israel Initiative*.
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[50] Ministry of Economy and Industry – The Small and Medium Business Agency, *Periodic Report – State of Small and Medium Businesses in Israel 2013-2014,* September 2014.
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[52] Prominent examples of digital programs that include the objective of expanding the number of workers in the ICT fields: Estonia, Sweden and the Philippines.
[53] According to the OECD definition for ICT specialists – workers who have the ability to develop, operate and maintain ICT systems, and for whom ICT tools constitute the main part of their job. OECD, *Information Technology Outlook*, 2004.
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[56] This refers to individuals, non-governmental organizations, universities, public and private companies, etc.
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[84] Including for example, laying optical fiber cables and advancing the unified identification area in Israel.
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