



Trends in tech MSMEs and startup support



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Acknowledgements

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- The Ministry of Posts, Telecommunications and Information Technology of *Bangladesh*
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About this analysis

This research has been written collaboratively, relying on web-based information available on the official websites of ICT Ministries. Moreover, the research was limited to the Ministries that play a role as focal point within ITU. Therefore, a lack of activity recorded in this research should by no means be an indication that the Member States governments are not implementing tech MSMEs and startup support activities. In addition, there were cases where more than one ICT Ministry exists as well as cases where all government services were compiled into one website. Lastly the Ministries included in the research vary broadly in terms of nature and mandates. Hence, a linear comparison, such as the one implemented in this mapping, are not sufficient to infer conclusive impact.

Further information about ITU's activities in support of tech MSMEs and startups is available at www.itu.int/entrepreneurship



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Micro, Small and Medium Enterprises (MSMEs) play a key role in our society. These organizations create jobs, contribute to global GDP and, most importantly, they are fundamental in driving innovation. This is particularly the case of MSMEs focused on providing products and services through the use of Information and communication technologies (ICTs), also known as “tech MSMEs”. The rise of new technologies has created a momentum for tech MSMEs, which have become important actors at local, national, and global level.



As Secretary General of ITU, I put special consideration on this important subset of the private sector, in particular when engaging with emerging economies, where MSMEs constitute an important element of the entrepreneurial ecosystem and foster economic and social development.

In this context, I am pleased to present this report, which highlights a selection of experiences from ITU Member States who are already actively supporting tech MSMEs through the interventions of the ICT ministries. The report allows us to identify current trends in this domain and learn from the efforts that are already taking place throughout our large and diverse Membership. From Colombia to Malaysia, from Estonia to Bangladesh, our team has found diversity in approaches that highlight the will of decision makers to support entrepreneurs and tech MSMEs throughout the world.

It is my hope that this report will encourage more of these initiatives, as well as strengthen the collaboration between ITU Members to replicate these successful projects and initiatives throughout different countries. Our aim with this research is to make this information available to all and offer guidelines to those eager to engage in this new domain. This effort complements the ongoing work to transition the platform provided by ITU Telecom World to gradually become one of the key global platforms to support tech MSMEs, as well as the actions taken by governments to support entrepreneurial ecosystems.

I want to thank all the administrations that were involved in the preparation of this report for their work and support. I also want to invite the ITU membership at large to keep up with these initiatives and increase our support for tech MSMEs around the world.

Our aim is to continue working together to connect the world and create a dynamic ecosystems that leads to increased innovation, more job opportunities and an improved quality of life through the use of ICTs.

A handwritten signature in blue ink, consisting of the Chinese characters 赵厚麟 (Zhao Houlin).

Houlin Zhao
Secretary-General
ITU

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The importance of tech MSMEs and startups

Micro, Small and Medium Enterprises (MSMEs)¹ are a major engine of economic growth and job creation. MSMEs make up more than 95% of all businesses worldwide and two thirds of all formal jobs. Evidence also suggests that these MSMEs account for 60-70% of gross domestic product (GDP) globally². Most importantly, MSMEs often represent a potential path out of poverty for many developing countries.

The last few decades have seen an explosion in the Information and Communication Technologies (ICT) sector which has transformed many economies on a global scale. The drivers of economic growth have become more information-intensive and less dependent on natural resources, with ICTs virtually affecting every aspect of all economic activity. However, 3.9 billion people remain without access to the internet and its benefits. Acknowledging the unique opportunity provided by ICTs, the UN Sustainable Development Goals (SDGs) have included achieving universal affordable access to the internet as part of its targets³ as a way to encourage governments, companies, local and international organizations, and members of civil society to continue working to get more people online.

Affordable access to high-quality ICTs has become a key priority for policy-makers and businesses. As a result, many governments are streamlining their ICT-sector policies through the implementation of digital agendas and both national and regional broadband plans (NBPs). An example is the Digital Agenda for Europe, which aims to boost Europe's economy by delivering sustainable economic and social benefits from a digital single market by 2020⁴. Another example is Colombia's *Vive Digital* Plan which aims to give the country a technological leap by providing massive access to the internet for Colombians and by promoting the development of the national digital ecosystem⁵. Overall 151 countries have adopted a NBP, with 38 countries without such a plan⁶. These and many other national strategies not only aim to expand broadband coverage, but also to build healthy and dynamic digital ecosystems that enhance the creation and development of local tech MSMEs and startups⁷.

In particular, there is growing consensus that tech MSMEs and startups⁸ have a significant impact on economic growth, employment figures and investment opportunities. Most importantly, they are often the source of innovative ICT-enabled solutions that make a long-lasting impact on global, regional and national economies.

¹ The European Union has defined these as firms that have between 1-249 employees and that are not subsidiaries of other companies.

² *Small and Medium-Sized Enterprises and Decent and Productive Employment Creation*. http://www.ilo.org/wcmsp5/groups/public/---ed_norm/---relconf/documents/meetingdocument/wcms_358294.pdf, ILO, 2015

³ Sustainable Development Goals at <https://sustainabledevelopment.un.org/post2015/transformingourworld> Goal 9c: "Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020 "

⁴ *Digital Agenda for Europe*, European Commission https://europa.eu/european-union/file/1497/download_en?token=Kzfsz-CR

⁵ <http://www.mintic.gov.co/portal/vivedigital/612/w3-channel.html>

⁶ "The State of Broadband 2016: Broadband Catalyzing Sustainable Development". Broadband Commission for Sustainable Development. Further information available at <http://www.broadbandcommission.org/publications/Pages/SOB-2016.aspx>

⁷ A startup is a micro to small enterprise that has between 1-9 employees that is still searching for a sustainable and repeatable business model.

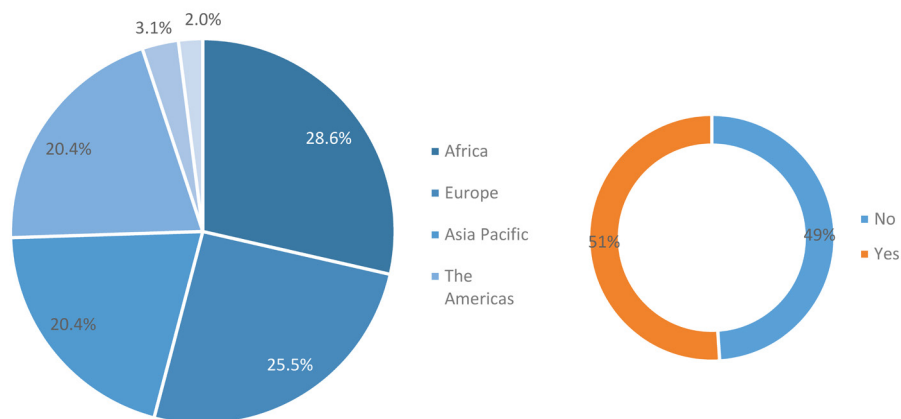
⁸ Enterprises that are in the ICT sector or ICT-enabled (ICT is a critical part of their business model) are collectively referred to as "tech" in this paper.

Mapping the efforts from ICT Ministries to support tech MSMEs and startups

As part of its efforts to enhance the use of ICTs to promote innovation and support entrepreneurship, ITU conducted an analysis of the role that national ICT Ministries⁹ play in support of tech MSMEs and startup ecosystems. The analysis consisted of a mapping of activities implemented or supported by these organizations specifically aimed at strengthening entrepreneurial ecosystems. The goal of the research was to acquire a better understanding of how ICT Ministries are currently engaging with the local tech MSMEs and startup community, how they promote and support tech MSME development, the tools that have been used, and to identify which countries are the most engaged in these type of programmes and gather information on the type of activities being undertaken.

In this context, ITU analyzed a total of 98 ICT Ministries out of 193 Member States. The Member States selected for the analysis were identified based on the information available and a balanced regional distribution (see Figure a). The analysis indicated that more than 50 of these ITU Member States (51%) presented at least one activity in support of tech MSMEs and startups¹⁰, with 18 of these countries (36% of the sample) indicating an active or very active involvement in this domain (See Figure 3).

Figure 1 (left): Regional distribution of countries analyzed, Figure 2 (right): Ministries with activities to support tech MSMEs and startups



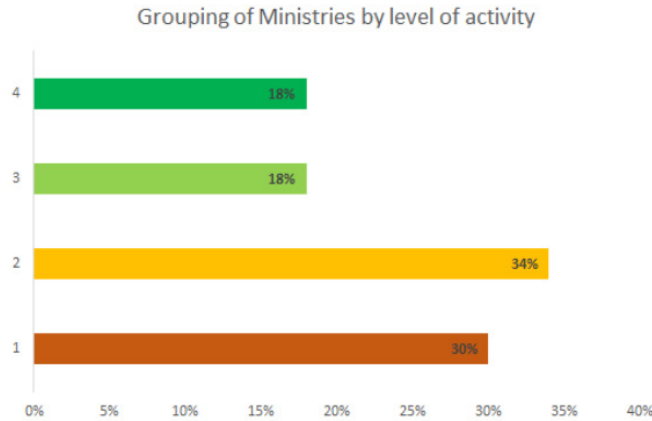
Source: ITU, based on desktop research

With regards to trends by region, the analysis suggests that the African and Asian Pacific regions display the largest number of ICT Ministries implementing tech MSMEs and startup development activities. However, when considering the level of involvement, the Asian Pacific region takes the lead with 59% of participating countries in the region featuring a high or medium-high level of involvement. Europe (45%) and The Americas (30%) follow closely.

⁹ For this analysis, ICT Ministries are defined as the ministries designated by each administration as the lead focal point assigned to represent the administration in ITU's activities.

¹⁰ Initiatives to enhance e-commerce of SMEs were not included in this analysis.

Figure 3: Grouping of ministries by level of activities



Source: ITU, based on desktop research.

Note: The grouping of ministries by level of activity was conducted based on qualitative indicators, which included number of projects, variety of activities and timeline of implementation, among other criteria

Regarding the type of activities being carried out to support tech MSMEs and startups, the research identified seven categories (See Figure 4) with policy adaptation¹¹, organizing events and workshops, and producing research/gathering statistics being the three most common activities implemented by ICT Ministries. When analyzing regional trends, the African ICT Ministries take the lead in supporting acceleration and incubation programs followed by the Asian Pacific region Ministries. On the other hand, the ICT Ministries from Asia Pacific and Europe spearhead grants and funding initiatives for tech SMEs and startups (See Figure 5).

¹¹ Policy adaptation to enhance tech MSME and startup development can include among others: Tax incentives for private sector operators to provide lower connectivity costs for small businesses; subsidies of connectivity costs for small businesses; subsidies of equipment costs for small businesses; procurement rules for state telecoms contracts with percentage dedicated for small, local firms; promotion of open source to help overcome high licensing costs for small firms; facilitation of small business participation in industry standardization processes.

Figure 4- Categories of initiatives to support MSMEs and Startup Development

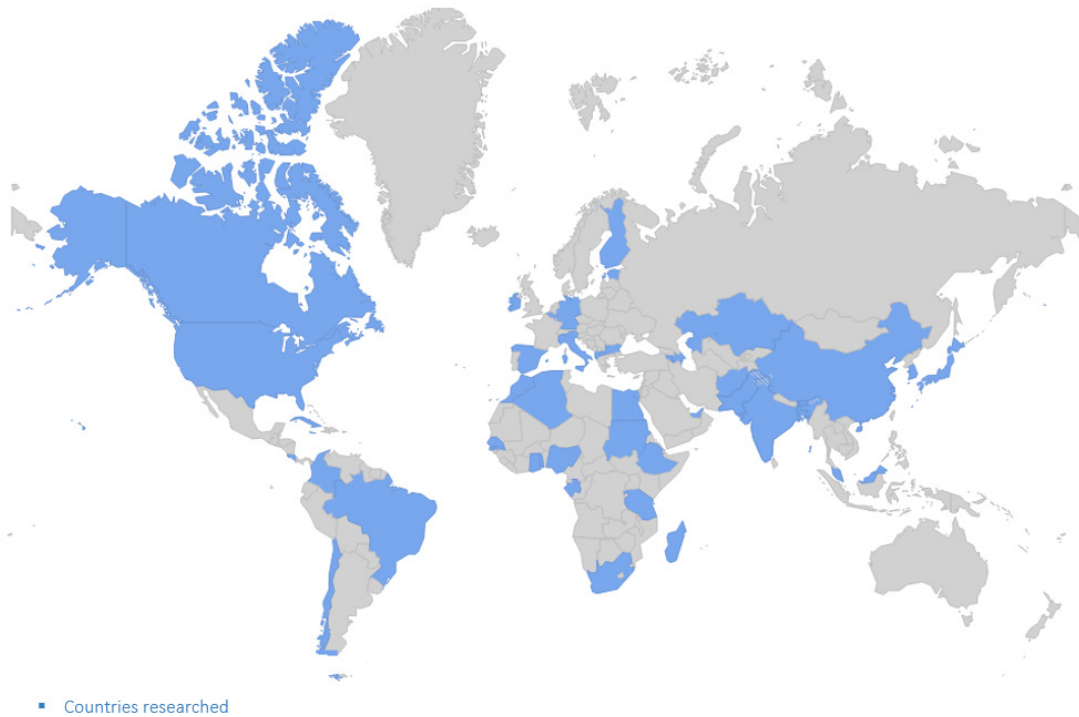
- Support through acceleration or incubation programs
- Provision of Grants and Funding to MSMEs
- Organization of training or mentoring sessions or advisory services for MSMEs and startups
- Development of sector statistics and research
- Organization of events or workshops for MSMEs and startups
- Establishment or support to Tech Parks
- Policy adaptation to enhance tech MSMEs and startup development

Source: ITU, based on desktop research

A sample of interventions by category

Categories of initiatives	Country
Grants & Funding	<p>Malaysia - TECHNOLOGY INNOVATION FOR GLOBALISATION FUND (TIG)</p> <p>TIG aims at assisting local MSC Malaysia Status Companies to accelerate the development and commercialisation of innovative, market driven, product, solutions and services for the global market. It supports all technology areas but funding preference is given to proposed projects related to specific technology areas such as Big Data Analytics, IoT, Cloud, eCommerce, security, games, 3D Printing, Mobile Technology/Computing or combinations of two or more of the said technology areas.</p>
Organization of training or mentoring sessions or advisory services for SMEs and startups	<p>Costa Rica - PRACTICAL TRAINING PROGRAMME IN MARKET-ORIENTED INNOVATION</p> <p>Launched in collaboration with the University of Leipzig, Germany and the National Technical University (UTN), this programme aims to train “innovation managers” in the academic, public and private sectors. The programme seeks to contribute to the creation of innovative projects within each participant’s area of work.</p>
Development of sector statistics and research	<p>Rwanda - ICT BUSINESS INVESTMENT READINESS INDEX</p> <p>This is a competitiveness index project that looks at the investment readiness of the indigenous companies. With this project, the government aims to have 50 stock market list-able companies, 100 indigenous companies with market capitalization of USD 100 Million, USD 10 Million new annual local investments and 10,000 advanced technology jobs.</p>
Organization of events or workshops for SMEs and startups	<p>Colombia - COLOMBIA EN LÍNEA (COLOMBIA ONLINE)</p> <p>A national competition that awards the best digital initiatives designed in the country. The awards given include recognition of the best: social inclusion content, productive leisure content, content for tech SMEs, online game, children content, mobile application, information security solution, educational content, e-government initiative and government content.</p>

Categories of initiatives	Country
Establishment or support to Tech Parks	<p>Ethiopia - ETHIOICT-VILLAGE</p> <p>EthioICT-Village was opened in 2015 and provides infrastructure and support services for businesses in the ICT sector. It aims to attract foreign investments offering a world class business environment along with a conducive policy and regulatory regime, state-of-the-art infrastructure and a value proposition geared towards positioning Ethiopia as the preferred IT hub of Africa. The programme also strives to create employment and career opportunities for Ethiopian citizens.</p>
Policy adaptation to enhance tech SME and startup development	<p>Italy – ITALIAN STARTUP ACT</p> <p>The “Italian Startup Act” is a comprehensive legislative package that has drastically changed the legal environment in which Italian innovative enterprises operate. Technologically-intensive, unlisted new limited liability companies fulfilling specific legal requirements can benefit from a vast array of legal facilitations, which cover every phase of the life-cycle of the company. The Act allows innovative startups to benefit from reduction of costs and fees, using equity crowdfunding portals, and generous tax breaks for investors.</p>
Grants & Funding	<p>Malaysia - TECHNOLOGY INNOVATION FOR GLOBALISATION FUND (TIG)</p> <p>TIG aims at assisting local MSC Malaysia Status Companies to accelerate the development and commercialisation of innovative, market driven, product, solutions and services for the global market. It supports all technology areas but funding preference is given to proposed projects related to specific technology areas such as Big Data Analytics, IoT, Cloud, eCommerce, security, games, 3D Printing, Mobile Technology/Computing or combinations of two or more of the said technology areas.</p>



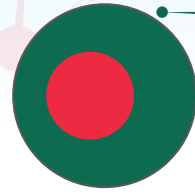
Blue: Countries for which the analysis identified initiatives in support of tech SMEs and startups

Final Considerations

The preliminary findings of the mapping highlight that approximately half of the ICT Ministries analyzed supports tech MSMEs and startup ecosystems. The interventions undertaken by these administrations include interventions such as supporting acceleration programmes, providing grants, undertaking policy interventions, and many other initiatives.

However, the mapping also highlights strong differences between countries with regards to the level of involvement in this domain. This could partially be explained by factors such as the heterogeneity of the sample, the different national and regional contexts or the wide differences between the scope, mandate and responsibilities of each of the Ministries analyzed. Furthermore, there is an overall lack of information regarding the impact of these initiatives and how many of them were completed by other branches of the administration.

To advance on the understanding related to these issues, the following section of this paper presents a series of country profiles that showcase more in-depth information about each of the experiences mapped in the analysis. Each of the profiles presented has been produced based on the information available on the public websites of the respective administrations and validated by the designated focal points. These profiles will help other administrations to design future interventions in support of tech MSMEs and startups by improving access to available information.



BANGLADESH



KEY ENTREPRENEURSHIP STATISTICS (GEDI INDEX)

Regional Ranking: 21/21 (2016)

Opportunity Startup: 46% (2006),
regional average – 46%

Opportunity perception: 43%
(2016), regional average – 37%

Ministry Overview

Name: The Ministry of Posts, Telecommunications and Information Technology (Posts and Telecommunications Division and ICT Division)

Website: <http://ptd.gov.bd/>; <http://ictd.gov.bd/>

Mission: To support attainment of overall socio economic development of the country by establishing universal access to Telecommunications and ICT services through Infrastructure Development, Utilization of resources, Human resource Development, Preparing ecosystem for e-services and e-commerce development and awareness building¹.

Objectives:

- Regulating policies and implement them to establish strong telecommunications, ICT and postal infrastructure
- Create a competitive environment through maintaining level playing field amongst the service providers and attracting FDIs.
- Regulating broadband policies and programs and promoting Broadband ecosystem
- Promoting national policy issues relating to the digital and information economy
- Implementing Telecom and ICT initiatives and maintaining cooperation with other countries and international organizations
- Increase and improve the presence of e-government, e-health, e-education and e-commerce.
- Promoting local assembly/manufacture of Telecommunications and ICT devices and accessories.
- Establish tech parks, ICT incubators, and improve the current infrastructures in the ICT sector to increase competitiveness of local companies and attract foreign investments.

¹ <http://ictd.gov.bd/main/vms>
GEDI Index: www.thegedi.org/countries/bangladesh

As part of the government's Vision 2021 plan, the Digital Bangladesh initiative not only looks to transform the country into a modern, knowledge-based society by 2021, but also establish Bangladesh as the world's next ICT destination. The Function of the Ministry of Posts, Telecommunications and Information Technology (MoPTIT) is executed by two divisions. Posts and Telecommunications Division (PTD) and ICT Division (ICTD) under MoPTIT have been employed their highest efforts for ensuring the necessary infrastructure and deliver pro-people services to bring the 'Digital Bangladesh' into reality. Posts and Telecommunications Division is responsible for creating and maintaining necessary infrastructure and harmonic environment in the field of Posts and Telecommunications. At the same time the division is responsible to run various Public Sector Undertakings in its functional area. Besides, the Government has opened up the telecom and postal services for Private sectors as well. Proper regulation of the market and maintaining the level playing field is under the purview of this Division. The policy and initiatives of the division triggered potential native entrepreneurs to grow. The present market condition in telecommunication and ICT generating a large number of employments and the scope is expanding gradually. Information and Communication Technology Division is relentlessly working to implement different development projects and programs for creating job opportunity for

IT skilled people, building capacity in ICT sector, setting up ICT-infrastructure, expanding connectivity, developing ICT industry with innovative services and spreading ICT education throughout the country.

Present Telecommunication and ICT Access Status:

With 162 million people, Bangladesh is the world's ninth-largest telecom market. At present 130 million subscribers are using telephone service. And most of that happened only within the last seven years. The telecom penetration rate of the country is more than 82% which was around 35% in 2008. Furthermore Bangladesh has observed a massive boost in the data communication service. The internet penetration reached to near 40% (6.3 million subscriptions) from 1% within last 7 years. Within last 3 years, the smart phone penetration has increased to 22%. More than 15% of the population is using mobile broadband services through 3G/4G Services. The 2G services are available over the 99% geographic area of the country and 3G services are available in more than 65% of the geographic area.

Programs and initiatives in tech MSMEs and startup development

Current projects¹²

Program	Description	Results
Optical Fiber installation up-to the rural area of the country (Posts and Tele-communications Division)	<p>To support the tech SME development in the country it is very necessary to create a strong Broadband network throughout the country and ensure universal access to it. The term 'access' includes availability, affordability and capacity to use.</p> <p>The administrative geographic of the country is divided into 8 Divisions, 64 Districts, 488 Upazila (Sub-Districts) and 4,553 Unions.</p> <p>Under the Projects of establishing Optical fiber network up-to the Upazila and Union level, already 1000+ Union and 450+ Upazila is under optical fiber networks. So far more than 20,000 km optical fiber has been deployed.</p>	<p>All the Government offices up-to Upazila and Union Levels where optical fiber is present are connected with high-speed broadband services. They are providing various e-services. Schools and private organizations including households are being connected with the optical fiber based networks.</p> <p>District, Upazila and Union Digital Centers are providing various e-services to the common people. Moreover, the centers are acting as training hub for local entrepreneurs.</p>

¹² <http://ictd.gov.bd/project/current>

Program	Description	Results
Increase the capacity of International Connectivity (Posts and Telecommunications Division)	Strong international connectivity is a key factor for the ICT based industries to grow. Apart from present Submarine Cable (SEA-ME-WE-4) and seven International Terrestrial Cable connectivity, Bangladesh has been participated in the SEA-ME-WE-5 consortium to ensure the reliability of international connectivity and to meet the increasing demand for data communication. The new cable will add additional 1.5 Tbps capacity.	Initiatives for the Call Center, Business Process Outsourcing (BPO), Cloud based services are increasing in the country. To meet the exponentially increasing demand of the International Bandwidth, it is required to increase the International Connectivity. Moreover, there are opportunities to provide ICT based services to the neighboring land locked countries. At present international Bandwidth consumption of Bangladesh is around 300 Gbps which was only 7.5 Gbps in 2008. Bangladesh is now providing IP transit to the certain portion of India and process is running for providing IP transit to the land locked countries like Nepal and Bhutan.
Launching Bangladesh's own Communication Satellite in the orbit (Posts and Telecommunications Division)	To cover the population in the costal, hilly and riverine hard to reach areas with telecommunication and ICT services, Bangladesh is launching its own communication satellite. The satellite will also help Bangladesh for Digital Broadcasting and Disaster recovery. For the purpose, 119.1° E geostationary orbit has been taken lease for 45 years. Already contract has been awarded for satellite construction. The satellite is scheduled to launch by December 2017.	Population in the costal, hilly and riverine hard to reach areas will be able to access various e-services. They will have access to the knowledge economy. Furthermore, the Digital Broadcasting will create new entrepreneurs to provide innovative services.
Converting rural 8,500 Post Offices into Post e-centers (Posts and Telecommunications Division)	The Post Offices has their networks throughout the country including the rural areas. Government intends to convert 8,500 of them in Post e-centers to provide various e-services, e-Government services, ICT training, ICT entrepreneurship development and ICT literacy for rural people especially for women. The post e-centers are equipped with Server, Switch, Laptop/Desktop, Internet connection, Printer, Scanner, Web cam, Photo printer, Mobile Phone, Generator/Solar Panel and necessary furnitures.	So far 6,200 Post e-Centers have been established. Everyday local people are getting various e-services, e-Government services from the post e-centres. A total of 8,887 local entrepreneurs got training from the e-centers and almost 50% of them are women. The present rate of ICT training is about 2,000 of which about 800 are women.

Program	Description	Results
Connecting Start Ups Bangladesh (ICT Division)	<p>The Government of Bangladesh was encouraged to initiate a Startup Support activity with the objectives of developing an ecosystem to nurture startups, connecting VCs/investors to potential startups, becoming a global leader in product innovation and contributing to Vision 2021 by spurring the potential of 1000 startups- resulting in employment and economic growth.</p>	<p>Top 50 Start-up's will be selected from each round, top 10 start-up will be allocated free space at Janata Tower Software Technology Park with the provision of free training and mentoring.</p> <p>Top 10 start-up from 1st round have been selected and placed at Janata Tower Software Technology Park. This initiative will contribute significantly for achieving the targets of 2 million employment generation and 5 billion USD export for IT/ITES. In addition, to finance StartUp companies and individuals, Bangladesh Computer Council invited applications from Startup Companies & individuals who have ideas that can be graduated to Entrepreneurship. 9 companies & individuals has been selected. 9 (Nine) million taka was allocated among the 9 Startup companies & individuals.</p>
Connecting Start Ups Bangladesh (ICT Division)	<p>The Government of Bangladesh was encouraged to initiate a Startup Support activity with the objectives of developing a supportive ecosystem to nurture startups, connecting VCs/investors to potential startups, becoming a global leader in product innovation and contributing to Vision 2021 by spurring the potential of 1000 startups- resulting in employment and economic growth.</p>	<p>Top 50 Start-up's will be selected from each round, top 10 start-up will be allocated free space at Janata Tower Software Technology Park with the provision of free training and mentoring.</p> <p>Top 10 start-up from 1st round have been selected and placed at Janata Tower Software Technology Park. This initiative will contribute significantly for achieving the targets of 2 million employment generation and 5 billion USD export for IT/ITES. In addition, to finance StartUp companies and individuals, Bangladesh Computer Council invited applications from Startup Companies & individuals who have ideas that can be graduated to Entrepreneurship. 9 companies & individuals has been selected. 9 (Nine) million taka was allocated among the 9 Startup companies & individuals.</p>
Leveraging Information and Communications Technologies (ICT) for Growth, Employment and Governance (ICT Division)	<p>Developing the ICT sector in order to increase employment, exports, facilities and services. The overall improvement of the ICT sector will also involve a development of an e-governance strategy which will help with the implementation and monitoring of the whole project.</p>	<p>Already 3855 people have completed the training. Among them 1054 have been placed in local IT/ITES industry. Another 7430 people are currently under training. Further 10000 will be trained on online outsourcing. A total of 44000 people will be trained under this project.</p>

Program	Description	Results
<p>Support to Development of Kaliakoir Hi-Tech Park Project (ICT Division)</p>	<p>To fasten up the economic development of the country, Bangladesh Hi-Tech Park Authority (BHPTA) was established in 2010. Bangladesh Hi-Tech Park Authority (BHPTA) is responsible for the establishment and expansion along with management, operation and development of Hi-Tech Parks within the country. Kaliakoir Hi-Tech Park, Jessore Software Technology (IT) Park, Sylhet Hi-Tech Park, Mohakhali IT Village, Janata Tower Software Technology Park are important and priority projects which would be the milestone for development of IT sector as well as industrialization of Bangladesh. Kaliakoir Hi-Tech Park is the first ever Hi-Tech Park in Bangladesh, located at Kaliakoirupazilla in Gazipur district. It is situated only 40 km.</p>	<p>Bangladesh Hi-Tech Park Authority is implementing the project “Support to Development of Kaliakoir (& Other Hi-Tech Park) Project” financed by World Bank under Private Sector Development Support Project (PSDSP). The main three component of the project is Physical Infrastructure, Human Resources Development and Capacity Building of IT/ITES sector.</p> <p>The basic off-site infrastructure under the project such as internal road, Sewerage line with Sewerage Treatment Plant, Street lighting, Boundary Wall, Service Building, Water Supply System with a reservoir are going to be completed by December 2016. Besides these construction of MTB (1-5 floor) in Jessore software technology park and Land development in Sylhet Hi-Tech Park has been completed under this project.</p> <p>To ensure quality HR Installation of specialized Lab in Jahangir Nagar University, Dhaka university, BUET and Shahjalal University in Sylhet have already been completed.</p> <p>The project has taken four important programmes for HRD such as (a) Employment Incentive Programme, (b) Mid level training programme (c) Skill Enhancement Programme and (d) Company Certification Program under Human resource Development. Under the Skill Enhancement and mid level training program about 6,000 IT personnel have been trained up.</p> <p>The basic off-site infrastructure works such as construction of Street Light, construction of internal road and land development in Rajshahi including a IT incubator cum Training Centre in Rajshahi, Kulna and Chittagong under the additional funding will be established under the additional financing by 2019.</p>

Program	Description	Results
Jessore Software Technology Park Project (ICT Division)	To fasten up the economic development of the country, Bangladesh Hi-Tech Park Authority (BHTPA) was established in 2010. Bangladesh Hi-Tech Park Authority (BHTPA) is responsible for the establishment and expansion along with management, operation and development of Hi-Tech Parks within the country. Kaliakoir Hi-Tech Park, Jessore Software Technology (IT) Park, Sylhet Hi-Tech Park, Mohakhali IT Village, Janata Tower Software Technology Park are important and priority projects which would be the milestone for development of IT sector as well as industrialization of Bangladesh.	Basic infrastructure will be ready by May, 2017. Up to 4th stor of MT Building is ready for IT/ITES industry. 12 IT companies are allocated space. 10,000 IT professionals can work here.
Learning and Earning Development Project (ICT Division)	Providing training on self-employment and out-sourcing.	Basic and Advance Outsourcing Training will be provided to 35,000 persons. Outsourcing training will be provided to the 1920 journalists,.
National IV Tier Data Centre (ICT Division)	The country set up a high-powered data center.	Site survey, soil test. Land levelling completed started piling 100rk.414 piles completed out of total 728. Piling design completed.

Completed projects

Program	Description	Results
Capacity Building on ITEE Management Project (ICT Division)	Training for IT professionals and students to gain international recognized certificates and acquire knowledge and skills for the ITEE (Information Technology Engineers Examination).	Provided orientation session to the 3828 candidates during the project period (January 2013-June2016). 6 (Six) ITEE examination were held during the project and total 221 candidates passed the ITEE examination.



COLOMBIA



MinTIC
Ministerio de Tecnologías
de la Información y las Comunicaciones

KEY ENTREPRENEURSHIP STATISTICS (GEDI INDEX)

Regional Ranking: 3/24 (2016)

Risk Acceptance: 23% (2016)
regional average – 32%

Opportunity Startup: 65%
regional average – 40%

Opportunity perception: 100% (2016)
regional average – 51%

Ministry Overview

Name: Ministry of Information Technologies and Communications (MINTIC)

Website: <http://www.mintic.gov.co/>

Mission: MINTIC promotes access, effective use and massive ownership of ICTs through policies and programs to improve the quality of life of every Colombian and an increase of the country's sustainable development.¹

Objectives²:

- Design, develop, promote and adopt policies, plans, programs and projects in the ICT sector, in order to contribute to the economic, social and political development of the nation and raise the well-being of all Colombians.
- Promote the use and ownership of ICTs among citizens, businesses, government and other national bodies to support the social, economic and political development of the nation.
- Promote the development and strengthening of the ICT sector, as well as research and innovation, seeking competition and technological progress in accordance with national and international environment.
- Define policies and implement management, planning and administration of the radio spectrum, postal and related services.

¹ MINTIC website: <http://www.mintic.gov.co/portal/604/w3-propertyvalue-540.html>

² MINTIC website: <http://www.mintic.gov.co/portal/604/w3-propertyvalue-540.html>
GEDI Index: <https://thegedi.org/countries/colombia>

As Colombia's main ICT regulator, the Ministry of Information Technologies and Communications (MINTIC) manages and regulates the radio spectrum and develops and implements Colombia's ICT-related regulation. Moreover, the Ministry has taken on a very active role in designing and promoting programs aimed at ensuring that all citizens have access to ICTs and at contributing to the development of the national digital ecosystem. As a result, Colombia has become a key player in the region in ICT entrepreneurship. MINTIC is highly involved in promoting the development and strengthening of the ICT sector and, therefore, implements several programs and initiatives designed to create opportunities for local ICT businesses, boost research and innovation, and maintain ICT statistics¹³.

Programs and initiatives in tech MSMEs and startup development

The Ministry has set a plan in motion named "*Vive Digital*"¹⁴, which aims to give the country a technological leap by providing massive access to the Internet for Colombians and by promoting the development of the national digital ecosystem. The first version of the Plan was implemented between 2010 and 2014 and, given its great success¹⁵, the Colombian government decided to launch the second installment to be implemented between 2014 and 2018. The plan includes the following ICT SME and startup-related activities:

¹³ MINTIC website: <http://colombiatic.mintic.gov.co/602/w3-channel.html>

¹⁴ MINTIC website: <http://www.mintic.gov.co/portal/vivedigital/612/w3-propertyvalue-634.html>

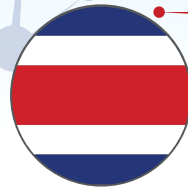
¹⁵ MINTIC website: http://www.mintic.gov.co/portal/vivedigital/612/articles-1510_recurso_1.pdf

Program	Description	Results
Apps.co¹	A MINTIC initiative executed through its “Vive Digital” plan that promotes and enhances ICT-based business creation with a special focus on the development of mobile applications, software and content. The program creates public-private financial leverage mechanisms for ICT-based businesses that generate applications and content. Businesses go through 4 phases: 1) Acceleration, 2) Bootcamp, 3) Consolidation, 4) Ideation, Prototype and Validation.	Until 2014, the program has resulted in the largest Latin American network of digital entrepreneurs with over 62,000 people turning their ideas into ICT-based businesses. Also, 2,000 applications have been developed. Some examples of startups include: Las partes, Tappsi (similar to Uber), Parkiando, Ukanbook, and Egocity.
Strengthening of the IT/SW and BPO industry²	A MINTIC initiative executed through its “Vive Digital” plan, which aims to contribute to the conversion of the ICT sector into a competitive sector, through the implementation of different lines of action: Promotion and institutional strengthening of actors in the IT/SW and BPO industry; Capacity building for IT/SW and BPO industry actors; and Support in legal, technical, economic, educational and communication aspects for the development of the sector.	By May of 2013, 680 people were trained. In addition, by 2014, sales from the IT sector had doubled from USD 2.6 billion to USD 5.9 billion.
National ViveLab Network	Laboratories where app developers and digital content creators can train and generate new businesses.	17 have been created throughout the country with an investment of USD 11 million
Promotion of the Digital Content Industry³	A MINTIC initiative executed through its “Vive Digital” plan that seeks to strengthen the sector that generates digital knowledge and new ideas through technology. The program provides specialized capacity building; organization of dissemination events for the digital content sector; support for the development of digital content; and strengthening of business skills and internationalization of the sector.	Over 30,000 Colombians benefited from this program by May of 2013. This program trained 1,344 people in design, content innovation and digital applications, business models, web development, 2D animation, videogames, coding, and new technologies. ⁴
Talento Digital (Digital Talent)⁵	A MINTIC initiative executed through its “Vive Digital” plan. It seeks to strengthen the IT sector through the development of strategic actions. The program aims to: develop government capacities for ICT management; generate competencies and skills in the IT & BPO industry; promote the creation of technical and technological programs in ICT; promote the creation of ICT PhD studies and capacity building of public employees on e-government.	14,000 people benefited from “Talento Digital” Fund. By 2014, 5,675 people had received scholarships to pursue ICT-related careers.
MiPyme Vive Digital (MSME Vive Digital)⁶	An initiative promoted through “Vive Digital” plan in collaboration with the Ministry of Finance and Public Credit, this program seeks to strengthen the productive capacity of the country by using technology as the main driver of integration, thus contributing directly to increase the productivity and competitiveness of local businesses.	By 2015, 74% of MSMEs in Colombia were connected to the Internet in comparison to the 7% that were connected in 2010 when the program began. 41% of these businesses were using social networks. ⁷ By 2014, 24,000 business had also been benefited with USD 80m in grants.

Program	Description	Results
Colombia en línea (Colombia online) ⁸	A national competition lead by MINTIC which awards the best digital initiatives designed in the country. Given awards awarded organizations in the following areas: social inclusion content, productive leisure content, content for SMEs, online game, children content, mobile application, information security solution, educational content, e-government initiative and government content.	The Award has been carried out since 2009, with many SMEs leading the presentation of proposals and receiving awards for content generation.
IT Mark certification ⁹	MINTIC promotes the IT Mark certification in technical and business methods by supporting SMEs in the ICT sector to improve their processes.	In May of 2014, 50 ICT-based companies had received the IT Mark certification with the support of MINTIC, which provided an investment of over USD 220k (690 million Colombian pesos)

Notes:

- 1 MINTIC website: <http://www.mintic.gov.co/portal/vivedigital/612/w3-propertyvalue-575.html>
- 2 MINTIC website: <http://www.mintic.gov.co/portal/vivedigital/612/w3-propertyvalue-659.html>
- 3 MINTIC website: <http://www.mintic.gov.co/portal/vivedigital/612/w3-propertyvalue-661.html>
- 4 MINTIC website: <http://www.mintic.gov.co/portal/604/w3-article-15906.html>
- 5 MINTIC website: <http://www.mintic.gov.co/portal/vivedigital/612/w3-propertyvalue-581.html>
- 6 MINTIC website: <http://www.mintic.gov.co/portal/vivedigital/612/w3-propertyvalue-660.html>
- 7 MINTIC website: <http://www.mintic.gov.co/portal/604/w3-article-11147.html>
- 8 MINTIC website: <http://www.mintic.gov.co/portal/604/w3-article-7317.html>
- 9 MINTIC website: <http://www.mintic.gov.co/portal/604/w3-article-6140.html>



COSTA RICA



KEY ENTREPRENEURSHIP STATISTICS (GEDI INDEX)

Regional Ranking: 6/24 (2016)

Risk Acceptance: 48% (2016)
regional average – 32%

Opportunity Startup: 45%
(2006), regional average – 40%

Opportunity perception: 47% (2016)
regional average – 51%

Ministry Overview¹

Name: Ministry of Science, Technology and Telecommunications (MICITT)

Website: www.micitt.go.cr

Mission: Formulate public policy on science, technology and telecommunications that allows the country to optimize knowledge and innovation, in order to prioritize and lead industry initiatives to competitiveness, well-being and prosperity.

Objectives:

- Strengthen national capacities in science, technology and innovation through the increased investment in R&D, integrating the efforts of the private, public and academic sectors, for the transition to a knowledge-based economy.
- Promote the generation of high-quality human resources in the scientific and technological areas through the articulation of the supply and demand of professionals, providing scholarships and early vocational guidance programmes to meet the needs of the productive sectors.
- Promote science, technology and innovation, through different dissemination strategies for greater citizen ownership.
- Make telecommunications a driving force for human development of all Costa Ricans, through the development, implementation and monitoring of public policies in telecommunications.

¹ Ministry's website: http://www.micitt.go.cr/index.php?option=com_content&view=featured&Itemid=669

Program	Description
Fondo PROPYME¹ - [PRO SME Fund]	The Pro-SME Fund has the objective to fund activities aimed at promoting and improving the management skills and competitiveness of SMEs in Costa Rica, through technologic and innovation development. The fund targets SMEs and associations of SMEs. The initiative is being carried out in collaboration with CONICIT (National Council for Scientific and Technological Research).
Fondo de Incentivos	The Incentive Fund provides financial content to plans, programs and projects developed under the fulfillment of the objectives and scientific and technological policies proposed in the instruments of institutional planning.

Program	Description
Programa de Innovación y Capital Humano para la Competitividad (PINN)² – [Innovation and Human Capital Programme for Competitiveness]	As part of a US \$ 35 million loan from IDB, the Ministry allocates US\$ 10 million to stimulate innovation in business and encourage the creation of technology-based companies, including addressing the development of entrepreneurial skills, which will be awarded with financial incentives for businesses to access services that will improve their production practices, corporate governance or compliance with international standards by obtaining certification and accreditation; promoting innovation projects and technology transfer for companies to develop new products or technological services, in partnership with both public and private technology centres; promoting new technology-based ventures with incentive mechanisms for seed capital, technical assistance and support of new technology-based companies. The programme aims to benefit 205 local companies.
Firma Digital³ [Digital signature]	<p>The National Digital Certification System is regulated by MICITT. The government introduced the legal tool in 2005 in order to increase security in transactions and generate savings in transaction costs, time and transportation. The programme brings about dynamism for business procedures benefiting SMEs as well.</p> <p>Until April of 2016, 187, 417 digital certifications were generated which entails that approximately 90,000 people can now make transactions using their digital signatures⁴.</p>
Innovación.cr⁵	Innovación.cr is the innovation national portal of Costa Rica, which aims to articulate the entire National Innovation System, offering innovators and entrepreneurs content and relevant information to promote an innovation and entrepreneurship culture in Costa Rica. The portal is an initiative from MICITT and the system is formed by several organizations, companies, research centres and national authorities.
Programa de Formación Práctica en Innovación Orientada al Mercado⁶ [Practical Training Programme in market-oriented innovation]	Launched in collaboration with the University of Leipzig, Germany and the National Technical University (UTN), this programme aims to train “innovation managers” in the academic, public and private sectors. The programme seeks to contribute to the creation of innovative projects within each participant’s area of work.
Política Nacional de Emprendimiento⁷ [National Entrepreneurship Policy]	With this tool, Costa Rica aims to address institutional weaknesses and to ensure that the country has solid tools to support the development of entrepreneurs to strengthen the consolidation process of SMEs with high level of innovation and competitiveness in both the local and international markets. In addition, it aims to promote entrepreneurial values and attitudes in both the public private sectors in the country. This tool is a joint effort of the government, led by the Ministry of Economics, Industry and Trade, and supported by MICITT among others.
Open Future Costa Rica⁸	MICITT is one of the main supports of the Open Future initiative alongside the Ministry of Economics, Industry and Trade (MEIC) and Telefonica Movistar. It is a platform open to all Costa Ricans that offers physical ‘crowd-working’ space (CREATEC) to strengthen innovation, entrepreneurship and employment. In this space, entrepreneurs can share ideas, best practices and train in entrepreneurial processes such as business plan development, sales and marketing strategies and building customers’ portfolios.
INNOLAB	An initiative of MICITT, which aims to create a public space of interaction and exposition of products and projects in order to strengthen Entrepreneurship. The programme works closely with universities and research centres to leverage the unique advantages of each in driving projects of technology-based innovation

Program	Description
Centros Comunitarios Inteligentes (CECI)⁹ [Smart Community Centres]	An initiative of MICITT, the CECIs are located in different areas of the country and offer a lab equipped with computers available for all Costa Ricans. The programme seeks to technologically empower communities through access to knowledge, information and creativity. The services are particularly offered to SMEs in order to foster innovation and entrepreneurial skills.
Innovacion Joven	An initiative of MICITT, which aims to create a space for young people with a vocation in science and technology for acquire more technical knowledge through practical training in digital laboratory 3D, allowing them to prototype development of further exploration through innovation projects. The program works closely with external partners to leverage the unique advantages of each in innovation projects developed by young
Huella PYME	A MICITT initiative, which aims to support SMEs to develop innovation projects that boost productivity Huella PYME looking for: <ul style="list-style-type: none"> • To encourage companies to invest more in the country processes R & D + I (research, development and innovation) with clear objectives of internationalization and innovation to be more competitive and reach new markets, directly or indirectly. • To encourage SMEs to take part in chains that lead them to participate in global value chains seeking a component of innovation. • To promote SMEs in the country to develop innovation projects and to achieve the opening of new global markets. • Build a network of innovation managers to drive innovation in institutions and companies, becoming agents of change to achieve a national culture of innovation. • Making SMEs generate a culture of innovation and strengthening its innovation management system to be able to generate innovative projects that achieve growth of your company and generate high impact on the national economy.

Notes:

- 1 Ministry's website: http://www.micitt.go.cr/index.php?option=com_content&view=article&id=570&Itemid=1475
- 2 Ministry's website: http://www.micitt.go.cr/index.php?option=com_content&view=article&id=6216&Itemid=1553
- 3 <http://www.firmadigital.go.cr/info.html>
- 4 http://www.elfinancierocr.com/pymes/firma_digital-pymes-emprededores-beneficios-tramites-digital-Banco_Central_0_741525851.html
- 5 <http://www.innovacion.cr/>
- 6 Ministry's website: http://www.micit.go.cr/index.php?option=com_content&view=article&id=6151&Itemid=1531
- 7 <http://www.innovacion.cr/iniciativas>
- 8 <https://costarica.openfuture.org>
- 9 <http://www.ceci.go.cr/>

As Costa Rica's main ICT regulator, the Ministry of Science, Technology and Telecommunications (MICITT) manages and regulates radio, television, telephone and data transmission spectrums as well as promotes the development of human capital, innovation and R&D¹⁶. A safe financial and political landscape, favourable tax incentives and high quality human talent have contributed to Costa Rica becoming the "Silicon Valley" of Latin America, placing the country as the 4th largest technology

¹⁶ Ministry's website: http://www.micitt.go.cr/index.php?option=com_content&view=featured&Itemid=669

exporting country in the world in 2010 in the World Bank's World Development Indicators¹⁷ and attracting investment from global companies such as Intel, IBM, Amazon, Acer, Microsoft, Motorola, Lucent Technologies, Cisco Systems, Unisys, Oracle, BasF, 3M and 3Comm. In addition, the government has taken on a very active role in designing and promoting programmes aimed at creating opportunities for ICT local businesses. An estimated 900 companies (95% of which are SMEs)¹⁸ manufacture hardware and do software development in areas related to technical support, digital animation and engineering and ERP among others¹⁹.

Programmes and initiatives in tech MSMEs and start-up development

The Ministry is divided into the two Vice-Ministries which oversee different areas. The Vice-Ministry of Telecommunications proposes telecommunications public policy through a digital agenda; manages the use of the radio-electrical spectrum and the policies for the transition into digital television; coordinates the preparation of the National Plan for the development of the telecommunications sector; and develops indicators and statistics. The Science and Technology Vice-Ministry promotes science and technological vocations, as well as research in these areas, the use of digital technologies and innovation applications in different processes in the academic, public and private sectors.

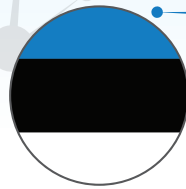
Costa Rica has placed the ICT sector as a fundamental axis of its National Development Plan (2015-2018)²⁰ and has made significant efforts to articulate and connect resources and industry stakeholders in order to maximize entrepreneurial and innovation opportunities in the sector through its Science and Technology for innovation system (SCTI).

¹⁷ <http://reports.weforum.org/wp-content/pdf/gitr-2011/03-part-2/2.1-costa-ricas.pdf>

¹⁸ <http://www.elannetwork.org/content/2016-costa-rica-event>

¹⁹ https://www.enterprisecanadanetwork.ca/_uploads/resources/Information-and-Communication-Technologies-ICT-Sector-Profile-Costa-Rica.pdf

²⁰ https://documentos.mideplan.go.cr/alfresco/d/d/workspace/SpacesStore/bd3c5fd6-d24e-4e53-976a-2e07aa1bff0b/5.13_Sector_Ciencia_Tecnologia_PND_2015-2018.pdf?quest=true



ESTONIA



REPUBLIC OF ESTONIA
MINISTRY OF ECONOMIC AFFAIRS
AND COMMUNICATIONS

KEY ENTREPRENEURSHIP STATISTICS (GEDI INDEX)

Regional Ranking: 14/41 (2016)

Risk Acceptance: 49% (2016)
regional average – 48%

Opportunity Startup: 60% (2016)
regional average – 55%

Opportunity perception: 40% (2016)
regional average – 42%

Ministry Overview

Name: Ministry of Economic Affairs and Communications (MEAC)

Website: <https://www.mkm.ee/en>

Mission: *"We are committed promoters of economic development."*

Objectives: The objective of the Ministry is to create conditions for the growth of the competitiveness of the Estonian economy and its balanced and vital development through drafting and implementing Estonian economic policies and evaluating their outcomes.

The main strategic objectives of the Ministry include:

- A country that encourages entrepreneurship and innovation and legal environment that will ensure the market participants, at uniform grounds, with products and services, which meet their requirements.
- Innovative Estonian enterprises that are competitive at international level.
- Effective, safe, secure and environmentally friendly transport system that meets the mobility requirements of people and goods.
- Information society development.
- Steady and stable energy supply with the minimum burden on environment and with a justified price.¹

¹ <https://www.mkm.ee/en/ministry-contact/introduction-ministry>

The information society policy of Estonia is shaped and coordinated by the Ministry of Economic Affairs and Communications, which develops national development plans in the spheres of energy, economic development, transport and ICT. It ensures the coordination with various transnational development plans, organizes funding, and implements performance evaluation of such plans. The ICT sector has become a leading industry in Estonia, significantly contributing to the growth of productivity, with ICT products and services constituting 20% of total exports. Estonia has become a place for developing, testing and bringing to market innovative digital solutions with International development centers, foreign start-up companies, professionals and researchers from all over the creating new smart solutions in the fields of health care, industry, energy and education²¹.

Programs and initiatives in tech MSME and startup development

In November 2013, the Estonian Government approved the Digital Agenda 2020 for Estonia²², which aims at creating an environment that facilitates the use of ICT and the development of smart solutions in Estonia in general. In particular, four goals have been set to support the development of Estonian information society: ICT infrastructure that supports economic growth, the development of the state and welfare of the population; larger number of jobs with higher added value, improved international competitiveness and higher quality of life; smarter governance; and enhanced awareness of Estonia as an e-state over the world. More than EUR 200 million have been allocated for the implementation of the digital agenda between 2014 and 2020, which consists of both EU funds and contributions

²¹ https://e-estonia.com/wp-content/uploads/2014/04/Digital-Agenda-2020_Estonia_ENG.pdf

²² https://e-estonia.com/wp-content/uploads/2014/04/Digital-Agenda-2020_Estonia_ENG.pdf

from the Estonian government. In addition, The Ministry of Economic Affairs and Communications, with its partners, developed the "Estonian Entrepreneurship Growth Strategy 2014–2020", which is used as the basis to devise the activities for the upcoming European Union financing period. The strategy indicated that information and communication technology, health technology and services, as well as the more effective use of resources, are the areas with the greatest growth potential for the Estonian economy²³.

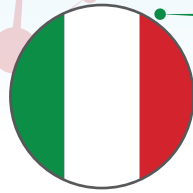
Program	Description	Results to date
The Tallinn Science Park Technopol	Established in 2003 by the Government of Estonia, Tallinn University of Technology, and the city of Tallinn, the Tallinn Science Park Foundation is a science and business campus which aims to advance technology-based entrepreneurship in Estonia, bring scientists and entrepreneurs together and provide services and environment for the realization of breakthrough business ideas[i]. Tehnopol is focused on three areas: ICT, greentech and health tech. The science park runs incubation programme for technology startups, gives grants for building the first prototype through Prototron fund and provides export services for growth companies. Tehnopol is also running two clusters: Connected Health Cluster and Smart City Cluster.	Over 200 technology companies operating in the Tehnopol campus. 140 successful startups have grown out from the incubation programme. 120 growth companies sell on 60 different foreign markets. Tehnopol campus hosts big companies like Skype, Teligent, Cambrex, Cybernetica, etc. The incubation programme success stories include: Defendec, Toggl, Modesat, Cognuse, FlyDog, etc.
EstFund¹	The European Investment Fund (EIF), KredEx and the Estonian Ministry of Economic Affairs and Communications (MoE) signed a Funding Agreement to establish EstFund, a EUR 60 million risk capital fund-of-funds investing in several risk capital funds which will then invest primarily in Estonian enterprises. This initiative targets small and early stage investments for high-growth Estonian SMEs, operating in a complementary way to the already existing successful Baltic Innovation Fund initiative that targets larger and later stage deals. The EstFund finances SMEs via three selected risk capital funds: <ul style="list-style-type: none"> • EUR 30m Venture Capital Fund • EUR 15m Expansion Capital Fund • EUR 15m Business Angels Co-Investment Fund. 	On the 29th of June, The European Investment Fund announced the competition to find fund managers for the sub-funds created under the fund of funds of private and public capital. Documents to participate in the competition were submitted until 29 August. The results of the competition will be revealed by the end of 2016. Additional information about the competition can be found at www.eif.org/what_we_do/resources/estfund/

²³ <https://www.mkm.ee/en/objectives-activities/economic-development>

Program	Description	Results to date
Technological development Centers	<p>As part of the Estonian Entrepreneurship Growth Strategy 2014-2020, the Entrepreneurship and Innovation Division of the Ministry of Economic Affairs and Communications is supporting the establishing technological development centers. These are centers for entrepreneurs to develop new products and services where new products, services and technologies are created in cooperation with competence centers, entrepreneurs and universities. The aim of the support measure of technological development centers is to promote research and development (hereinafter R&D), development of technology and activities of innovation, and improve their availability. The budget for the measure is 40 million euros (European Regional Development Fund)².</p>	<p>6 technological development centers have been financed:</p> <ul style="list-style-type: none"> • Center of Food and Fermentation Technologies, • The Competence Centre on Health Technologies, • Competence Centre ELIKO, • Bio-Competence Centre of Healthy Dairy Products LLC, • Software Technology and Applications Competence Centre, • Innovative Manufacturing Engineering Systems Competence Centre
Measure of creative industries	<p>As part of the Estonian Entrepreneurship Growth Strategy 2014-2020, the Ministry of Culture³ with the Ministry of Economic Affairs and Communications are supporting the development of creative industries through a budget of 20 million euros (European Regional Development Fund). The aim of the initiative is to increase the competitiveness of enterprises in this sector and export volumes, and connecting the potential of creative industries with the rest of the economy. In implementation of the measure attention is paid to raising awareness, activities aimed at building knowledge and skills (incl. trainings) are carried out, incubation concerning creative sectors and sectoral development activities (e.g. product development, globalization, marketing) are supported, the capacity of regional and sectoral development centers of creative industries to provide services that help improve competitiveness of SMEs is increased. The initiative is implemented in collaboration with.</p>	<p>From the second half of 2015 companies in the creative industry sector can use a new export grants measure for creative industries development.</p> <p>As of 2016 companies of creative industry and other sectors can submit applications for implementing creative industries cooperation projects. There have been application rounds for the measure of supporting creative industries development centers and for developing creative industries' infrastructural and technological capacity.</p> <p>The measure for cooperation projects for creative industries is open for applications.</p>

Program	Description	Results to date
Start-up Estonia	<p>With a budget of 7 million euros (European Regional Development Fund), start-up Estonia is a program for developing an ecosystem of start-ups aimed at increasing the potential for entrepreneurship in people so that start-ups would be established, and their team, product, customer and business model developed as a whole. The program contributes to developing a financing model for start-ups that would help them become successful. The initial Start-up Estonia (SuE) program was launched by the Ministry of Economic Affairs and Communications in 2011. From 2014 the program is being implemented by Estonian Development Fund who carries out a pilot project to implement the program for 2014-2020.</p> <p>In the summer of 2015 the new "Start-up Estonia" program was confirmed which lasts until the end of 2023. The aim of the program is similar to the previous- improve the business environment for start-ups and increase the development of innovative products and services that have great export potential and high added-value⁴.</p>	<p>In 2011-2013 three business accelerators were financed through Enterprise Estonia, a startup conference was held, trips to Silicon Valley were organized and several mentors were brought to Estonia.</p>
KredEx	<p>KredEx is a financing institution helping Estonian enterprises develop quicker and expand more safely to foreign markets, offering loans, venture capital, credit insurance and guarantees with state guarantee. KredEx fund was founded in year 2001 by the Ministry of Economic Affairs and Communications with a purpose to improve financing possibilities of enterprises, manage credit risks connected with export, enable people to build or renovate their home and develop energy-efficient way of thinking⁵. KredEx issues start-up loans for starting enterprises and those having operated for up to three years for financing of investments and operating capital⁶.</p>	<p>For enterprises KredEx offers start-up loans, loan guarantees, technology loans, capital loans, export loans and credit insurance. For private persons KredEx offers housing loan guarantees. Its portfolio at this moment also includes services concerning reconstruction and apartment building and energy efficiency.</p> <p>http://kredex.ee/en/</p>
Space Technologies Program	<p>Estonia began cooperating with the European Space Agency (ESA) in 2007. On 27 September 2010 Estonia entered into a five-year European Cooperating State agreement with ESA (PECS agreement) and joined the PECS program. Dealing with space technologies allows Estonian enterprises to participate in high-tech development work and thus not merely be a user of technology and services but also their developer and exporter in the future. Ground-based applications of space technologies help to improve the quality of services and cost-effectiveness of public sector and make our country more innovative. This initiative is developed in cooperation with the European Space Agency and Enterprise Estonia⁷.</p>	<p>24 projects funded from the program</p>

Program	Description	Results to date
<p>Notes:</p> <ol style="list-style-type: none"><li data-bbox="293 327 1018 353">1 https://www.mkm.ee/en/news/eif-and-kredex-launch-eur-60m-estfund<li data-bbox="293 369 1238 427">2 https://www.mkm.ee/en/objectives-activities/economic-development-and-entrepreneurship/innovation#technological-development-centres1<li data-bbox="293 443 820 470">3 http://www.kul.ee/en/activities/creative-industries<li data-bbox="293 486 1238 544">4 https://www.mkm.ee/en/objectives-activities/economic-development-and-entrepreneurship/innovation#start-up-estonia8<li data-bbox="293 560 836 586">5 http://www.kredex.ee/en/kredex/sihtasutus-kredex/<li data-bbox="293 602 959 629">6 http://www.kredex.ee/en/enterprise/laen-ja-kaendus/stardilaen/<li data-bbox="293 645 1238 703">7 https://www.mkm.ee/en/objectives-activities/economic-development-and-entrepreneurship/innovation#introducing-space-technologies11		



ITALY



*Ministero
dello Sviluppo Economico*

KEY ENTREPRENEURSHIP STATISTICS (GEDI INDEX)

Regional Ranking: 29/40 (2016)

Product Innovation: 84% (2016)
regional average – 58%

Risk Capital: 61%
regional average – 59%

Opportunity Startup: 56% (2016)
Regional average – 51%

Ministry Overview

Name: Ministry of Economic Development – Communication Department

Website: www.mise.gov.it

Mission: The Ministry is the regulatory authority for industrial politics, politics for internationalization and energy and telecommunications. In particular, the Ministry is the promoting body for fair competition and entrepreneurship, R&D, industrial and technological innovation for small and medium businesses.¹

Objectives:²

- In 2012, the Ministry defined and introduced a new ordinance for “innovative startups” (*startup innovative*) in order to promote and facilitate the creation of new SMEs, including the ICT sector.
- ICT SMEs benefit from a simplified administrative system, fiscal incentives, and specific regulations in case of failure (“Italian Startup Act”). The policy framework has been received well by the international community: it is ranked second in the 2016 Startup Manifesto Policy Tracker,³ which measures the correspondence of national legislations for innovative companies to the best practices set into the 2013 “Startup Manifesto”,⁴ promoted by the European Commission. A more accurate description of some of its core measures is presented below.
- The Ministry offers support to ICT SMEs that wish to access the international market. A whole network of international commercial partners and investors are provided as well as promotion tools and business support when needed.

¹ Ministry Website: <http://www.mise.gov.it/index.php/it/ministero>

² Ministry Website <http://www.mise.gov.it/index.php/it/ministero>

³ 2016 Startup Manifesto Policy Tracker <http://www.europeandigitalforum.eu/index.php/component/attachments/attachments?id=311&task=view>

⁴ Startup Manifesto: http://ec.europa.eu/newsroom/dae/document.cfm?action=display&doc_id=2658

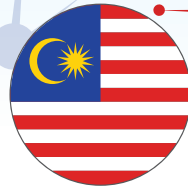
Within its mandate, the Ministry has acknowledged the importance of supporting and promoting tech startups to foster innovation and economic development.

Programs and initiatives in tech MSMEs and startup development

Program	Description	Results to date
Italian Startup Act¹	<p>The “Italian Startup Act” is a comprehensive legislative package that has drastically changed the legal environment in which Italian innovative enterprises operate. Technologically-intensive, unlisted new limited liability companies fulfilling specific legal requirements (set into art. 25.2 of Decree-law 179/2012) can benefit from a vast array of legal facilitations, which cover every phase of the life-cycle of the company.</p> <p>In the early stage, innovative startups:</p> <ul style="list-style-type: none"> • Can be incorporated online by using a digital, standardized model, with a massive reduction of transaction costs • Are exempted from many duties and fees • Enjoy a flexible corporate structure and labor law – e.g. they can use stock options and work-for-equity schemes • are given more time to recover from early losses. <p>In the growth stage, innovative startups:</p> <ul style="list-style-type: none"> • can make use of equity crowdfunding portals (Italy was the first country in the world to enact specific legislation for this instrument); • are more attractive for investors, owing to a 19% tax break for individuals (and a 20% deduction for companies) investing up to EUR 500,000 in innovative startups; • have easier access to credit finance, thanks to a fast-track public guarantee on bank loans for a maximum of 80% of the sum borrowed, up to a cap of EUR 2.5M. • receive a targeted support to internationalization from the Italian Trade Agency. <p>Lastly, innovative startups can “fail fast”: they are exempted from the standard procedure for liquidation, in order to reduce to bare minimum financial and reputational costs and to enable a quick restart for the entrepreneurs.</p>	<p>6,362 innovative startups registered on 3 October 2016 (download list), 0.4% of all Italian limited companies.</p> <p>A majority of them are located in the North of the country: 1,382 are in Lombardy (21.7% of all startups). The highest presence of innovative startups per capita is registered in Trentino-Alto Adige (1.05 every 100 limited companies).</p> <p>Innovative startups employ 32,087 people (June 2016) and their gross value of production amounts to EUR 585,211,807.</p>
Online incorporation with digital signature²	<p>Since 20 July 2016, innovative startups can be incorporated as limited liability companies (s.r.l.) by using an online procedure with sharply reduced intermediation costs.</p> <p>The articles of association and the deed of incorporation are compiled with digital signature by the applicant by using a standard model, in order to be both customizable and compliant with legal standards.</p> <p>The dedicated portal is hosted by the website of the Registry of Companies, administered by the Italian Chambers of Commerce: http://startup.registroimpresa.it/atst/home?0. InfoCamere, the IT company of the Chambers of Commerce, set up the website and has the main responsibility for its management.</p> <p>The Chambers of Commerce also carry out a provisional online customer service, which entrepreneurs can resort to while using the new procedure.</p>	<p>Early results: 34 new companies incorporated with the new procedure between 20 June and 30 September 2016.</p>

Program	Description	Results to date
Italia Startup Visa³	<p>The Italia Startup Visa program introduces a new, simplified path to obtain a self-employment visa for non-EU entrepreneurs who plan to set up an “innovative startup” company in Italy.</p> <p>Potential startup entrepreneurs can get the authorization to collect a self-employment visa – usually a lengthy procedure that must take place at the Chambers of Commerce on the Italian territory – through an <i>online, fast-track</i> channel (the applicant gets a final reply in less than 30 days), and with <i>no application costs</i>.</p> <p>The requirements are a business plan proposal fitting the requirements that qualify “innovative startups” according to the Italian law, and financial resources amounting to no less than EUR 50,000 . The proposal is evaluated by the “Italia Startup Visa Committee”, composed of six members: five executives of representative bodies of the Italian startup ecosystem (university incubators, venture capitalist, business angels, science and technology parks, technological transfer centres), and the Director General of DG Industrial Policy as chairman.</p>	<p>132 applications received on 31 August 2016, from 28 different countries (94 accepted). A majority of applications (70) were received in the first 8 months of 2016.</p> <p>7 new companies have already been founded; 7 more have recorded the entry of an ISV holder as a business partner; several other visa holders are in the process of incorporating a new innovative company.</p>
Access to Fondo di Garanzia per le PMI (Public Guarantee Fund for SMEs)⁴	<p>Innovative startups have a fast-track, simplified and free-of-charge access for innovative startups to Fondo di Garanzia per le Piccole e Medie Imprese, a Government Fund that supports access to credit through guarantees on bank loans. The guarantees cover 80% of the loans, up to a maximum of EUR 2.5 million.</p>	<p>On 30 September 2016, 1,268 innovative startups have activated the procedure to get a guarantee on their bank loans, for 1,987 operations overall. Of these, 1,413 were successful, for a total sum guaranteed of EUR 292.358.000.</p>
Innovative SMEs⁵	<p>With Decree-law 3/2015, several legal facilitations aimed at innovative startups were extended to a broader typology of companies with innovative characters that are not necessarily new or containing hi-tech characters. For instance, former innovative startups now older than 5 years can keep some of the previous benefits by transitioning to the innovative SME status.</p> <p>Registered innovative SMEs are exempted from many duties and fees and enjoy a flexible corporate structure and labor law. Since 2016, they can also collect capital through equity crowdfunding, and access the Public Guarantee Fund for SMEs in a similar way to innovative startups.</p>	
Smart&Start^{6,7}	<p>Smart&Start is a project backed by the Ministry of Economic Development to foster and support innovative startups, including those operating in the ICT sector. Smart&Start offers financial support to ICT SMEs that are innovation champions. The aim behind this project is to stimulate a new entrepreneurial category in the digital economy, to boost scientific and technological research, prevent brain drain and encourage those who went abroad to repatriate.</p>	<p>The project was launched in 2014, and focused solely in the southern Italian regions. During that year it financially supported 442 enterprises with a total investments equaling EUR 75 million. Beginning in 2015, startups from all over the country are able to apply to the program.</p>

Program	Description	Results to date
Notes:		
1 Ministry Website, Executive Summary in English (updated on 2 May 2016) http://www.mise.gov.it/images/stories/documenti/Executive_Summary_Italy_Startup_Act_02_05_2016.pdf		
2 InfoCamere, Guide to Incorporation: http://startup.registroimprese.it/atst/help/Guida_Costituzione_Startup_ModelloTipizzato.pdf		
3 Institutional Website: http://italiastartupvisa.mise.gov.it/		
4 Ministry's Guide: http://www.mise.gov.it/images/stories/documenti/Guida_Fondo_Centrale_di_Garanzia_startup.pdf		
5 Ministry Website, Executive Summary in English (updated on 26 May 2016): http://www.mise.gov.it/images/stories/documenti/Executive_summary_policy_on_innovative_SMEs%2026_05_2016.pdf		
6 Smart&Start: http://www.smartstart.invitalia.it/site/smart/home.html		
7 Government Office: http://www.sviluppoeconomico.gov.it/index.php/it/incentivi/impresa/smart-start		



MALAYSIA



KEY ENTREPRENEURSHIP STATISTICS (GEDI INDEX)

Regional Ranking: 8/21 (2016)

Risk Acceptance: 57% (2016)
regional average – 34%

Opportunity Startup: 80% (2016)
regional average – 48%

Opportunity perception: 63% (2016)
regional average – 37%

Ministry Overview¹

Name: Ministry of Communications and Multimedia (KKMM)

Website: <http://www.kkmm.gov.my/>

Mission:

- Connecting people
- Powering the Digital Economy
- Building Information Society; and
- Strengthening the Creative Industries

Objective:

Providing an inclusive communication infrastructure, building the digital economy, strengthening the creative industries and expanding and deepening the presentation and dissemination of information.

¹ http://www.kkmm.gov.my/index.php?option=com_content&view=article&id=9751:&catid=102:&Itemid=212&lang=en

The Malaysian ICT industry and the nation as a whole are determined to meet the 2020 deadline for attaining developed nation status. Therefore, the government has put ICTs at the very center of the national agenda through a strategic plan called Vision 2020. From its inclusion as a strategy towards establishing an industrial-based economy followed by a knowledge-based economy, ICT has become the strategic enabler and the chief driver of the Government's Economic Transformation Programs for the nation. The Malaysian government is encouraging and nurturing the creative digital industries which are expected to generate a GNI of RM51.5 billion (over EUR 11 billion) in 2020 and has therefore set up grants worth over RM700 million (151 million euros) to support local entrepreneurs through different government agencies²⁴

Programmes and initiatives in ICT MSME and start-up development

The Ministry of Communications and Multimedia, through its Departments and Commissions is highly engaged in supporting the local tech SME and start-up ecosystem. In particular, the Malaysian Communications and Multimedia Commission is committed to promoting access to communications and multimedia services; ensuring consumers enjoy choice and a satisfactory level of services at affordable prices; providing transparent regulatory processes to facilitate fair competition and efficiency in the industry; ensuring best use of spectrum and number resources; and consulting regularly with consumers and service providers and facilitating industry collaboration²⁵.

Malaysia Digital Economy Corporation (MDEC) was incorporated to strategically advise the Malaysian government on legislation, policies and standards for ICT and multimedia operations as well as to oversee the development and to nurture the growth of Malaysian ICT tech Companies. MDEC have also been entrusted to develop, coordinate and promote Malaysia's digital economy, information and communications technology (ICT) industry and the extensive use of ICT in Malaysia.

²⁴ <http://www.kkmm.gov.my/pdf/Ucapan2015/150827-THE%20LAUNCH%20OF%20KL%20CONVERGE!%202015.pdf>
Gedi index: www.thegedi.org/countries/malaysia

²⁵ <http://www.mcmc.gov.my/About-Us/Vision-Mission.aspx>

To spearhead the nation’s digital economy development, MDEC is mandated to focus its effort on the following four (4) key pillars:

- Attracting investors, globalising local tech champions
- Catalysing industry-driven digital ecosystem
- Building critical enablers of the digital economy
- Driving inclusive adaption of technology

To succeed on these fronts, MDEC thus works towards a mandate of inclusive adoption that encourages Malaysians to embrace technology in their day-to-day lives to improve their socio-economic wellbeing.

Program	Description	Results to date
Technology Innovation for Globalisation Fund (TIG)¹	TIG is aimed at assisting local tech Companies to accelerate the development and commercialisation of innovative, market driven, product / solutions / services for global market. TIG grants up to 50% of the approved total project cost or up to a ceiling of RM 800k (over EUR 170,000) per project whichever is lower; out of which, cost of product development phase can range from 30%-70% and the remaining balance is for the cost of commercialisation phase. Each project is funded for up to 1 year 6 months only (4 months to 1 Year of Product Development phase and up to 6 months of Commercialisation phase). TIG is based on competitive bidding fund. Fund is awarded to the best bidder(s). It supports all technology areas but funding preference is given to proposed projects related to these technology areas such as Big Data Analytics, IoT, Cloud, eCommerce, Security, Games, 3D Printing, Mobile Technology/Computing or combinations of two or more of the said technology areas.	Progress to-date since the launch of the fund in 2013: <ul style="list-style-type: none"> • Eight (8) innovative products/solutions have been successfully commercialised by eight (8) grantees; Fusionex is one the eight (8) grantees. • Ten (10) innovative products/solutions have been developed and in the commercialisation phase by ten (10) grantees; • 10 newly awarded grantees are in early stages of project commencement

Program	Description	Results to date
<p>Malaysian Animation Creative Content Centre (MAC3)</p>	<p>The MAC3 funds three key areas for 4 types of projects (animation, digital film with VFX components, digital game, beyond entertainment), where financial assistance is required to ensure a project gets off the ground:</p> <ol style="list-style-type: none"> 1) <u>Development Fund</u>: it focuses on the development stage of a project. This stage involves idea generation, production design, market research, and market analysis. 2) <u>Production Fund</u>: it focuses on the production stage of the project. This stage involves idea generation, production design, market research, and market analysis. 3) <u>Co-production Fund</u>: it is designed to provide financial assistance to a project within the Eligible Project Categories, to be co-produced by a Malaysian company with one or more foreign company/ies. 	<p>Since the inception of MAC3 Funds in 2013, 69 projects has been funded and 1,317 jobs has been created for Malaysians. Among the funded projects that has been aired on local and international broadcasters are Ejen Ali by Wau Animation Studio Sdn Bhd, Origanimals by Giggle Garage Sdn Bhd and Pumpkin Report by Young Jump Animation Sdn Bhd</p>

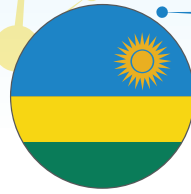
Program	Description	Results to date
MSC Malaysia Status²	<p>MSC Malaysia status is a recognition by the Government of Malaysia for ICT and ICT-facilitated businesses that develop or use technology to produce and enhance their products, services as well as process development and it is awarded to both local and foreign companies.</p> <p>The status also marks as world-class services and achievement and your getaway to a host of privileges granted by the Government of Malaysia for business entities. This status is awarded to the following technology clusters that will shape Malaysia's IT landscape:</p> <ol style="list-style-type: none"> 1) Information Technology 2) Creative, Content and Technologies 3) Global Business Services 4) Institutes of Higher Learning and Incubators 5) Startups 	<p>As of 31 December 2015, 3,881 tech companies have been approved of which 25% are foreign-owned companies.</p> <p>MDEC recorded a steady growth in performance in 2015, amidst global economic challenges. MDEC witnessed increase in investor confidence in Malaysia, with new investment recorded at RM19.8 billion for 2015, of which 83% are from Foreign Direct Investments (FDI). MDEC will continue to attract more foreign direct investments into the country through the incentives, as well as a robust technology ecosystem.</p> <p>MDEC witnessed 18 per cent increase in export sales across the board. The landscape of tech companies has shown significant uptake in new innovation areas with 3x growth especially eCommerce, IoT, Cloud & Data Centre and Big Data Analytics.</p> <p>Since its inception, MSC Malaysia has established a strong ICT base to spur the nations' economy and achieved the following:</p> <ul style="list-style-type: none"> • RM340 billion investment • RM338 billion in revenue • RM113 billion in exports; and • 161,822 in employment <p>In 2016, MDEC will strengthen industrial development, as well as refocus on the digital transformation programme by strengthening the industrial development, bolstering the tech companies' global footprints, making Malaysia a regional hub for gaming, as well as a global hub for cloud and content services. New sources of growth to spur the industry are expected to be developed, specifically focusing on big data analytics, e-commerce and "internet of things" (the network of physical objects or "things" embedded with electronics, software, sensors and connectivity to provide greater value and service by exchanging data with the manufacturer, operator and/or other connected devices).</p>

Program	Description	Results to date
Bill of Guarantees³	<p>The Bill of Guarantees (BoGs) are a set of incentives, rights, and privileges that reflect the Government's intention to provide an environment that is conducive to the development of the status entities, and subsequently, of a digital economy. Among the tiered benefits of the BoGs, beneficiaries are exempt from local ownership requirements, are entitled to 100% tax exemption through pioneer status for up to ten years or an investment tax allowance for up to five years and no duties on the importation of multimedia equipment. The BoGs are available for:</p> <ol style="list-style-type: none"> 1) Companies by technology focus, inclusive of InfoTech, Global Business Services and Creative Content & Technology 2) Institutes of Higher Learning 3) Incubators: incubates involved in ICT and ICT facilitated businesses 4) Startups 	
Cybercities & Cybercentres	<p>With access to world-class infrastructure, Cybercities & Cybercentres are the designated MSC Malaysia area that offers conducive business environment to ICT and ICT-enabled businesses. Cybercities & Cybercentres are a physical location that offers a robust ecosystem that aims to attract global investors and foster the growth of local companies and start-ups. As at 1 Oct 2016, there are 44 Cybercities & Cybercentres located throughout the country. Some of these include: Cyberjaya, Putrajaya, Technology Park Malaysia (TPM), Kuala Lumpur City Centre (KLCC), Kuala Lumpur Tower (KL Tower), KL Sentral, TM Cybercentre Complex, Mid Valley City, Bangsar South City, GTower, The Intermark, Wisma Hamzah Kwong Hing, Puchong Financial and Corporate Centre (PFCC), Menara Worldwide, Menara Binjai, Menara Maybank, UOA Damansara, Cap Square Tower, Hub Sentul Park, Menara LGB, , Kulim High Tech Park (KHTP), etc.</p>	<p>As at 1 October 2016, there are 44 Cybercities & Cybercentres throughout Malaysia, housing more than 1,700 ICT companies.</p>

Program	Description	Results to date
Global Acceleration and Innovation Network (GAIN)⁴	<p>The Global Acceleration and Innovation Network (GAIN) is a globalisation platform designed to catalyse local tech companies that have the potential to become global tech icons. With this, MDEC hopes to see an increase in the footprint of Malaysia's tech companies in the global arena, while fuelling the vision of a developed digital economy. GAIN supports tech companies through market access, risk capital, tech refresh and leadership capabilities.</p> <p>GAIN also helps local tech companies connect to relevant foreign companies that are interested to work with them, effectively expediting the process of breaking into new markets via visibility platforms driven by MDEC.</p>	<p>Launched in 2015, the initial traction for GAIN include amongst others:-</p> <ol style="list-style-type: none"> 1) GAIN companies breaking into new markets in US, Europe and Asia. 2) Increased growth of exports by at least 15% 3) GAIN companies getting world-class recognition such as EY Global Entrepreneurship awards, Gartner Magic Quadrant, Frost & Sullivan GIL etc.
CIMB Bank-MDEC Innochallenge	<p>The Innochallenge competition is an ideation challenge under the collaboration of CIMB Bank and MDEC to support the growth of local tech/SME companies by providing a rewarding platform for them to compete with one another. The competition also served as a showcase of talent and capabilities of the developers to industry players. The challenge was divided into 3 categories: "Fintech solution", "Social & Lifestyle" and "Gamification". The top innovative ideas were set to receive RM45, 000 (close to EUR 10,000) in cash prizes⁵.</p> <p>InnoChallenge is an incubation program aimed at ideation and conceptualisation of new Fintech solutions. It was launched in May 2015 and drew encouraging participation nationwide. Both CIMB Bank and MDEC mentored participants with the aim of fostering entrepreneurship and creating new Fintech ventures.</p>	<p>In August of 2015, the top innovative ideas received RM45, 000 (close to EUR 10,000) in cash prizes. The Grand prize winner received RM25, 000 (almost EUR 5,500).</p>

Notes:

- 1 <http://www.mdec.my/grants-and-funding/tig>
- 2 <http://www.mdec.my/mscapplication/>
- 3 <http://www.mdec.my/msc-malaysia/bill-of-guarantees>
- 4 <http://www.mdec.my/msc-malaysia/gain>
- 5 <http://www.mdec.my/news/cimb-mdec-innochallenge>



RWANDA



KEY ENTREPRENEURSHIP STATISTICS (GEDI INDEX)

Regional Ranking: 12/29 (2016)

Risk Acceptance: 19% (2016)
regional average – 18%

Opportunity Startup: 43% (2016)
regional average – 29%

Opportunity perception: 22% (2016)
regional average – 34%

Ministry Overview

Name: Ministry of Youth and ICT (MYICT)

Website: <http://www.myict.gov.rw/home/>

Mission: *“To address national priorities for economic growth and poverty reduction through the development and coordination of national policies and programs related to youth empowerment as well as Information & Communication Technology policies and programs.”*

Objectives: Through youth economic empowerment, MYICT aims to accelerate socio-economic development, improving productivity of the private sector and developing the growth of ICT. Additionally, MYICT seeks to foster ICT development and diffusion in the Rwandan Society and Economy.

The youth and ICT policies of Rwanda is shaped and coordinated by the Ministry of Youth and ICT (MYICT), which has the mandate to elaborate national development plans in ICT and Youth sphere. It ensures the co-ordination with various transnational development plans, organizes funding, and implements performance evaluation of such plans. The Global Information Technology Report (GITR) 2015 has ranked Rwanda first globally in Government Success in ICT promotion to drive social and economic transformation. According to the report of 15 April in Geneva, which was compiled by World Economic Forum (WEF), Rwanda scored 6.2 points out of 7²⁶. The report presents the evaluated key factors, policies and institutions that enable countries to leverage ICTs for increased competitiveness and well-being. Internet penetration rate is 78%^{ix} and mobile phone penetration rate is 33.5%^{ix}. In 2000, the government of Rwanda established the Vision 2020 as an economic blueprint to achieve a knowledge-based economy and become a middle-income country by the year 2020^x.

Along with Vision 2020, the national information and communications Infrastructure plans (NICI I-III, 2000 – 2015) were initiated to guide the ICT4D programs as ICT was acknowledged as a key driver of the envisaged economic growth, and later on the Smart Rwanda 2020 Master Plan (SRMP). The first Economic Development and Poverty Reduction Strategy EDPRS I (2007- 2012) and the EDPRS II (2013 -2018), were also developed and implemented to streamline initiatives linked to the objectives and goals outlined in Vision 2020²⁷.

Programs and Initiatives in ICT Entrepreneurship and Business Development

The MYICT has a specific ICT Department, which is the policy-making entity and leading the ICT sector development. This department closely works with the Rwanda Utility and Regulatory Authority (RURA) that regulates the sector, and the IT department of the Rwanda Development Board (RDB) that implements ICT programs implementation and coordinates investment promotion in ICT sector. Under the Smart Rwanda Master Plan, Rwanda aims at becoming the regional ICT hub through digital transformation of key sectors of the economy, promotion of ICT Innovations, as well as Research and Development in specific areas including Internet of Things, Big Data, Cyber-security, Robotics and Digital Lifestyle, as well as Creative Industries and Multimedia; creating opportunities to foster ICT industries for exports in applications development, e-services, e-commerce, fin-tech and more others. To ensure the growth of the technology sector, Rwanda has developed a platform under Kigali Innovation City (KIC) an ecosystem for innovation as a flagship project, a dynamic ecosystem of ICT

²⁶ http://www.myict.gov.rw/press-room/latest-news/latest-news/?tx_ttnews%5Btt_news%5D=239&cHash=47af226db-998c56aa2e58192baa0976c

²⁷ http://www.myict.gov.rw/fileadmin/Documents/Strategy/SMART_RWANDA_MASTER_PLAN_FINAL.pdf

clusters, where global and ICT companies will innovate and deliver service and products for global markets. Among the anchor tenants of the KIC are the Carnegie Mellon University, African Institute of Mathematical Sciences, and Ericsson among others and are envisaged to create a multiplier effect that will cause massive development. In addition the Rwanda Innovation fund was also established with the target there is target to have 100 home grown companies with a market capitalization of at least 50 million dollars each by 2030²⁸.

Program	Description	Results
Rwanda Innovation Fund for 100 startups	<p>As part of SMART Rwanda Master Plan and within the Focus Area “Accelerating development of Kigali-centered ICT innovation hubs”, MYICT in collaboration with the Rwanda Development Board are dedicating USD250 M (PPP) for an Innovation Fund to benefit 100 startups¹.</p> <p>The project involves the structuring and establishment of a US\$100 million venture capital investment vehicle (Rwanda Innovation Fund, the “Fund”) that will invest in early growth innovative technology enabled ventures in Rwanda and the rest of the East Africa Community (EAC), while developing its venture capital market and innovation economy. The project also includes a US\$10 million Technical Assistance (TA) Pool program, which will help provide business development support to investee companies of the Fund, and build innovation and entrepreneurial ecosystem capacity in the country</p>	The fund to be launched early 2017
BPO	As part of SMART Rwanda Master Plan and within the Focus Area “Accelerating development of Kigali-centered ICT innovation hubs”, MYICT in collaboration with the Rwanda Development Board are dedicating USD5M for the development of BPOs ² .	BPO Framework and Policy is being developed
National Innovation Framework	As part of the SMART Rwanda Master Plan and under the “Private Sector Development” programs the government aims to generate US\$100 million in new venture funds to support tech entrepreneurs with the goal of cultivating New Local ICT Enterprises ³ .	The project will carry out a comprehensive Country Review at the national level. This review is aimed at strengthening ICT centric national innovation ecosystem by engaging in a grassroots needs analysis with key ecosystem stakeholders

²⁸ http://www.myict.gov.rw/fileadmin/Documents/Strategy/SMART_RWANDA_MASTER_PLAN_FINAL.pdf

Program	Description	Results
YouthConnekt Mobile Apps 4 Human Development Challenge⁴	Supported by UNDP and Motorola and implemented by MYICT through YouthConnekt Hangout, the challenge encourages youth participation in innovation and apps development and promotee job creation and youth empowerment through mobile technologies. YouthConnekt Hangout is a platform launched by Myict in collaboration with UNDP African Digital Media Academy (ADMA), Tigo Rwanda, ZilencioCreativo and HeHe Ltd to connect Rwandan youth to resources and opportunities for employment and business development.	The four winning ICT projects in 2014, selected among 115 applications, shared US\$25,000. The top winner, a representative of Line Apps Ltd., was awarded US\$10,000 for their project Line Money Application, a smart phone app enabling people to easily transfer cash, or selling and buying CashPower (electricity) among other services
Investment in R&D of local innovations	By leveraging existing eco-system of innovations, talents, home-grown solutions, investments and a huge potential of the younger generation, Rwanda is prioritizing to make necessary investment in research and development of the local innovations to build creative industries. In the area of Internet of Things (IoT) Rwanda is also investing in R&D to leverage potential of connected objects and data for the development of home-grown solutions leading to social-economic transformation, accuracy and efficiency ^{5, 6, 7} .	Center of excellence in ICT Center of excellence in IoT Center of excellence in Big Data analytics Africa Mathematical Institute of Science
kLab	kLab (knowledge Lab) is a unique, open co-creation and technology hub in Kigali. Launched in 2012, the growing <i>kLab</i> community is supported by experienced mentors who provide both technical and business assistance to the members and help to facilitate and support the development of innovative ICT solutions by nurturing a vivid community of entrepreneurs.	kLab has proven its capacity to advance the technology innovation eco-system in Rwanda from 12 promising Rwandan Startups that graduated out of kLab in four years, and has target to graduate 10 more by the end of 2016
Face the Gorilla	One of the most lively & interactive sessions in past summits, a session in the Transform Africa Summit where young entrepreneurs from Smart Africa member states present to a panel of international investors and other financiers seeking investment, partnership and mentorship in their ICT business.	Last year 2015, Five innovators from different countries, (3 Rwandans, one Tanzanian and one Kenyan) presented their ideas and three of them got funds.

Program	Description	Results
FabLab	<p>Fablab Kigali will be a space for members to turn innovative ideas into products specifically in the hardware and electronics domain. As a result it is expected that the space will be providing a platform for capacity building and integration of hardware skills with software knowledge and quickly bringing Rwandan innovators closer to the Internet of Things era.</p> <p>The Fablab Kigali objectives:</p> <ul style="list-style-type: none"> • To Provide shared workspace and tools for schools, TVETs & individuals to work and develop ideas into products in a wide range of domains, • To develop Skills in technology education through events & workshops, • To facilitate translation of innovative concepts into marketable products, • To enhance number of professional design experts in Rwanda with world class hands on experience and access to tools, and • To increase research and improve designs of African centric hardware tools 	<p>Around 25 tenants are working from the Fablab</p>
100Startup	<p>An incubation hub to serve as the next level after innovation level and business ideation.</p>	<p>The project is at construction level</p>
K-Initiative	<p>Over a five-year period, the Initiative aims to provide 1,000 young Rwandans with training opportunities up to master's degree in Japan, as well as internship and partnership opportunities to entrepreneurs with Japanese companies.</p>	<p>12 Young Rwandans were trained and 57 started their own companies</p> <p>3 Rwandan companies started partnerships with Japanese companies</p>
Miss Geek	<p>An initiative aiming at improving the number of women in ICT sector and changing many young girls mind that ICT is a man's field. Organize the Miss Geek Rwanda Competition, which brings together girls in high schools to compete based on their innovative ideas as well as their ability to develop technology or business idea. This also allow them to open their minds to various career paths that they can find in STEM fields and contribute to discussions on how girls can access technology. The Ministry of Youth and ICT supports this initiative and continues to urge all stakeholders to spread the opportunities of women in ICT. Rwandan girls are called to take up studies and careers in ICT as these offer opportunities for them to enhance their skills and face unemployment challenges in the country</p>	<p>Since 2014, 15 young girls have been awarded under Miss Geek Competition</p>

Program	Description	Results
42Kura	<p>42kura is designed to help local ICT companies go far beyond their starting point. Our main objectives are:</p> <ul style="list-style-type: none"> • To initiate an international incubation program for local Rwandan startups in Kigali. • To create the best environment of creation in a designated co-working space for ICT ventures. • To incubate 3-5 companies in each incubator's round. • The entrepreneurs will validate their idea with actual users/customers and find "Product Market Fit". • The entrepreneurs will build a product that their users love. • The entrepreneurs will create partnerships in Rwanda and Israel. • The entrepreneurs will and get exposure in new markets. • The "Rwandan ICT Opportunity "scene will get exposure in Israel. • To contribute to the local tech ecosystem by providing content to innovators and creators in Kigali, and not just to the members of the program. 	5 companies were selected and started being incubated
Hehe Labs	<p>Hehe started in 2011 as a mobile applications developer company. It extended into incubator for mobile applications developer in 2014. They train students in mobile applications development through its 6 labs across the country and high schools partnership.</p>	They have a fellowship program which serves to train young students from high school with programming skills. So far 150 students have graduated where 13 of them have become entrepreneurs.
Impact Hubs	<p>It is an open space for innovators with different innovative programs such as innovation lab, business incubator, inspirations and worldwide collaboration opportunities to grow impact</p>	Empowering and inspiring young innovators.

Notes:

1 http://www.myict.gov.rw/fileadmin/Documents/Strategy/SMART_RWANDA_MASTER_PLAN_FINAL.pdf p.53

2 http://www.myict.gov.rw/fileadmin/Documents/Strategy/SMART_RWANDA_MASTER_PLAN_FINAL.pdf p.53

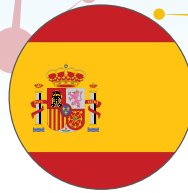
3 http://www.myict.gov.rw/fileadmin/Documents/Strategy/SMART_Rwanda_Master_Plan_v2.5.pdf p.39

4 <http://www.rw.one.un.org/press-center/success-story/youthconnekt-hangout-officially-launched>

5 http://www.myict.gov.rw/fileadmin/Documents/Strategy/SMART_RWANDA_MASTER_PLAN_FINAL.pdf

6 http://www.myict.gov.rw/fileadmin/Documents/ICT_Sector_Profile_2015/ICT_Sector_Profile_2015.pdf

7 http://www.rdb.rw/uploads/tx_sbdownloader/Vision_2020_Booklet.pdf



SPAIN



KEY ENTREPRENEURSHIP STATISTICS (GEDI INDEX)

Regional Ranking: 20/41 (2016)

Risk Acceptance: 64% (2016)
regional average – 48%

Opportunity Startup: 46% (2006)
regional average – 55%

Opportunity perception: 37% (2016)
regional average – 42%

Ministry Overview

Name: Ministry of Industry, Energy and Tourism (MINETUR)

Website: www.minetur.gob.es

Mission: The Ministry of Industry, Energy and Tourism is in charge of the proposal and implementation of government policy on energy, industrial development, tourism, telecommunications and information society¹.

Objectives²:

- Design a rigorous methodology of identification and removal of the inefficiencies and obstacles that limit economic activity in the short term.
- Provide a continuous and medium-term focused performance aimed at promoting competitiveness of productive activities, through strong support for innovation, incorporation of advanced technologies and intense use of information society resources.
- Provide greater flexibility and efficiency in the development and coordination of tourism policy as a key to improving our country's image, as well as increased efficiency in the development of public policies on industry, energy and mines and telecommunications and information society.
- Facilitate and promote fluid communication with businesses and sector stakeholders, with a special focus on the implementation of policy aimed at supporting SMEs, in order to encourage and promote entrepreneurial activity and the improvement of competitiveness.

¹ <http://www.minetur.gob.es/EN-US/ORGANIZACION/Paginas/Organizacion.aspx>

² <http://www.boe.es/buscar/act.php?id=BOE-A-2012-2080>

The ICT market in Spain has experienced one of the highest growths in Europe in the last decade. This industry was worth roughly EUR 90 billion in 2014. This volume represented a 4.4% of the national GDP. The ICT industry accounts almost 30,000 companies that create more than 425,000 direct jobs in Spain²⁹. The Ministry of Industry, Energy and Tourism (MINETUR), not only regulates telecommunications in the country but has a key role in promoting a strong ICT entrepreneurial ecosystem and implementing multiple programs and initiatives aimed at creating opportunities for local ICT businesses.

Programs and initiatives in tech MSMEs and startup development

In February of 2013, the Ministries Council approved the Digital Agenda for Spain as a national strategy to develop the digital economy and society in the country. The strategy is led jointly by the Ministry of Industry, Energy and Tourism and the Ministry of Finance and Public Administration. One of the six broad objectives of the strategy is to develop the digital economy for the growth, competitiveness and internationalization of Spanish businesses and many of the programs and initiatives carried out by the Ministry to promote SMEs and startups are framed within this agenda.

²⁹ <http://www.investinspain.org/invest/en/sectors/ict/overview/index.html>
Gedi Index: www.thegedi.org/countries/Spain

The Ministry of Industry, Energy and Tourism has a General Secretariat of Industry for SMEs which encompasses a Sub Secretariat for Strategic Programs, a Sub Secretariat for SME Institutional Environment and Innovation Programs and a Sub Secretariat for SME support³⁰. In addition, the Ministry has a General Secretariat for Telecommunications and Information Society which includes a Sub Secretariat for the Coordination and Implementation of program, separate Sub Secretariats for the Information Society Promotion, Services and Content and a General Division for Telecommunications and Information Technologies³¹. Among the functions of the Secretariat of Telecommunications and Information Technologies there is the promotion and assistance for the internationalization of ICT, information society, content and audio visual businesses; the design, implementation and follow-up of programs aimed to promote the supply of new technologies, services, applications and contents in the ICT sector; the design and management of programs aimed to support the creation and development of businesses in the ICT and digital content businesses and the design of conditions that favor the establishment of ICT businesses in Spain³².

³⁰ http://www.minetur.gob.es/es-ES/Organizacion/Organigrama/Paginas/Organigrama_IndustriayPYME.aspx

³¹ http://www.minetur.gob.es/es-ES/Organizacion/Organigrama/Paginas/Organigrama_Teleco.aspx

³² <http://www.boe.es/buscar/act.php?id=BOE-A-2012-2080>

Program	Description	Results
<p>Plan to drive the digital economy and digital contents</p>	<p>As a part of the Digital Agenda of Spain, this plan aims to develop the digital economy through activities that promote entrepreneurship in the ICT sector, facilitate the growth and internationalization of local businesses and attract multinational investment to Spain. The plan includes Talent Initiatives aimed at increasing the skills of the sector; Financing Initiatives which include fiscal incentives for the videogame and animation industry, collective microfinancing, investment in sector businesses and promotion of digital content consumption; and Industry Initiatives including promotion for sector cooperation, simplification of fiscal deduction procedures and the creation of platforms to incentivize digital transaction models¹.</p> <p>The Plan also includes the modification of regulation regarding intellectual property, which aims to protect local businesses and optimize the creation of digital content. In addition, the plan promotes an open and re-usable government information policy.</p>	<p>Several projects have been delivered so far:</p> <p>Scholarships for training programs in Digital Economy were awarded. The total allocated budget consisted in 500.000€ for the first edition of the program and 900.000€ for the second one.</p> <p>Through the “Excellence Visa Program” (Act 14/2013, September 27) 5580 residence visas and authorizations have been granted to foreigners who are highly qualified professionals.</p> <p>The CIOFD (Innovation Committee for Digital Training Programs) was inaugurated. In September 2015, the Committee approved the White Book for the development of higher education degrees in the context of the digital economy.</p> <p>Pilot projects related to animation and videogames were included in the category of technological innovation.</p> <p>A study on crowdfunding in Spain and the critical aspects for its development was published². Research included 10 national crowdfunding platforms and 5 foreigner ones. All typologies (equity, loans, rewards, donations) were covered.</p> <p>The Act for the Promotion of Business Funding³ was approved building on the conclusions of the crowdfunding research.</p> <p>Organization of the International Open Data Conference Organization (IODC 2016)⁴, and the “Aporta 2016” meeting, among other events.</p> <p>Organization of the “Aporta” meeting 2015 on public data in the digital society⁵ and “Aporta” 2014⁶.</p> <p>Launch of CPP Forum on access to public information.</p> <p>Participation in the project “Aporta” with 2 initiatives: Psi-Share 2.0⁷ and Open Data Monitor⁸.</p>

Program	Description	Results
<p>Plan for the internationalization of technology-based businesses</p>	<p>As a part of the Digital Agenda of Spain, the plan aims to help technology-based companies to embark on the road of internationalization, providing the conditions and support necessary to continue on this path with greater guarantees of success and facilitate foreign direct investment in the ICT sector.</p>	<p>Spain Tech Center in San Francisco: Permanent center for supporting the establishment of Spanish startups in Silicon Valley.</p> <p>Support to Spanish ICT companies participating at the Mobile World Congress (MWC) in Barcelona⁹. Set up of Spanish Pavilion (650 square meters), with 60 Spanish ICT companies. In this context, the Ministry of Tourism (MINETUR) held bilateral meetings with USA, European Commission and European, Asian and Latin American countries. Active participation at the 4YFN event, with an emphasis on entrepreneurship and cybersecurity activities.</p> <p>SETSI Institutional missions to Colombia, China, Korea and Japan. Reception of foreign delegations as a means to promote the international expansion of Spanish companies.</p> <p>Institutional presence on activities related to smart cities and cybersecurity.</p> <p>Collaboration with ICEX and “Invest in Spain” to support internationalization projects and engage with foreign investors interested in the Spanish Market.</p> <p>Spanish Business Climate Report from the perspective of the foreign investor focused on telecommunications and ICT sector (Available in 2016).</p>
<p>Plan for the development and innovation of the ICT Sector</p>	<p>The plan is a collaboration Agreement with the Ministry of Economy and Competitiveness to foster Research, Development and Innovation (RDI) initiatives in the ICT sector.</p> <p>As a plan within the Digital Agenda of Spain, the plan aims to improve the competitiveness of the ICT sector including the strengthening of SMEs’ innovation capacities through direct financing of R&D projects; as well as increasing the participation of Spanish businesses in international markets¹⁰.</p>	<p>1.200 million euros for subsidies and loans have been disbursed within the ICT sector, benefiting 700 projects and 750 companies. SME’s represented 82% of beneficiaries in 2013, 72% in 2014 and 71% in 2015.</p> <p>100% of calls for submissions were launched. 73% of projects were approved. 72% of targeted entities have benefitted from the funds. Subsidies represent 50.7% and loans 32.3% of the total funds disbursed.</p> <p>A new evaluation system for applications was developed, improving the transparency in the selection process.</p>

Program	Description	Results
<p>Red.es</p>	<p>Red.es is the public corporate entity attached to the Ministry of Industry, Energy and Tourism (MINETUR) which is responsible for promoting the development of the Information Society in Spain. Red.es is helping to increase the productivity and competitiveness of companies and helping them take steps towards internationalization. The organization is also making significant contributions to the field of digital content, calling on it to become a source of jobs and wealth creation¹¹. Red.es also supports Ontsi, a program that monitors and analyzes the development of the telecommunications sector and the Information Society and produces indicators, studies and key information services relating to the ICT industry in Spain.</p> <p>Red.es organizes the International Forum of Digital Contents (FICOD) and leads programs such as the Internationalization of technology-based companies, Entrepreneurs On-line and Digital Professionals.</p>	<p>20 calls for applications for projects in 8 sectors with over 4,000 beneficiaries.</p> <p>5 International Forums of Digital Contents held since 2007.</p>

Program	Description	Results
Emprendedores en red - Entrepreneurs Online	<p>Implemented by Red.es, and with the support of the MINETUR, the Entrepreneurs Online program aims to foster the creation and growth of technology-based businesses in Spain. The initiative includes a number of grants¹².</p> <p>This Project supports initiatives that promote technological entrepreneurship in the context of the digital economy. It Works through subsidies to private and public entities that run tech-related accelerators or incubators. Startups are eligible for financial assistance, especially for training, consulting and management expenditures.</p> <p>Financial support is given to higher education institutions for the establishment of scholarship funds. Scholarship recipients are students enrolled in training programs related to the digital economy and technological entrepreneurship.</p> <p>FICOD (International Forum on Digital Contents) is an event where Spanish Startups have a notable presence. The event includes an entrepreneurship competition and an investment forum.</p>	

Notes:

- 1 <http://www.agendadigital.gob.es/planes-actuaciones/Paginas/plan-impulso-contenidos-digitales.aspx>
- 2 <http://www.agendadigital.gob.es/agenda-digital/noticias/Documents/noticia030315.pdf>
- 3 http://www.boe.es/diario_boe/txt.php?id=BOE-A-2015-4677
- 4 <http://datos.gob.es/content/llamada-participacion-4a-conferencia-internacional-de-datos-abiertos?q=taxonomy/term/84091>
- 5 <http://datos.gob.es/content/encuentro-aporta-2015-dato-publico-una-sociedad-digital>
- 6 <http://datos.gob.es/content/encuentro-aporta-2014-presentaciones-materiales-audiovisuales-del-evento>
- 7 <https://www.w3.org/2013/share-psi/>
- 8 <http://project.opendatamonitor.eu/project/>
- 9 <https://www.mobileworldcongress.com/>
- 10 <http://www.agendadigital.gob.es/planes-actuaciones/Paginas/plan-sector-tic.aspx>
- 11 <http://www.red.es/redes/en/actuaciones.html>
- 12 <http://www.red.es/redes/>

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