WSIS STOCKTAKING REPORT IN ASIA AND PACIFIC

2014 – 2016

DRAFT VERSION

Contents

WSIS Prize Winner

Champion Project

WSIS Prize Winner

Champion Project

Introduction

On the occasion of the World Telecommunication Development Conference (WTDC) 2017, special edition of the WSIS Stocktaking Report for the ITU Region Commonwealth of Independent States (CIS) for the period 2014-2016 was produced as the information document for the Regional Preparatory Meeting taking place 9-11 November 2016 in the Kyrgyz Republic.

The World Summit on the Information Society (WSIS), which was held in Geneva in 2003 and in Tunis in 2005, drew up an action plan to bridge the digital divide and build an inclusive, people-oriented information society. World leaders committed themselves to regularly review and follow up progress in implementing the action lines outlined in the WSIS Outcomes.

The United Nations Economic and Social Council (ECOSOC) resolution 2015/26 "Assessment of the progress made in the implementation of - and follow up to the outcomes of the World Summit on the Information Society" , that reiterates the importance of sharing best practices at the global level, and, while recognizing excellence in the implementation of the projects and initiatives that further the goals of the World Summit, encourages all stakeholders to nominate their projects for the annual WSIS Prizes, as an integral part of the WSIS Stocktaking process, while noting the report on the WSIS success stories.

The outcome document of the UNGA High-level Meeting on the overall review of the implementation of the outcomes of WSIS recognized the importance of reporting and sharing of best practices for the implementation of WSIS outcomes by all stakeholders beyond 2015, recognizing the WSIS Forum as a key platform for doing it. In this context the WSIS Stocktaking process plays a strategic role in supporting WSIS Forum in its endeavor.

Moreover the WSIS Overall Review called for close alignment between the WSIS process and the 2030 Agenda for Sustainable Development, highlighting the cross-cutting contribution of ICTs to the Sustainable Development Goals. In this context also the WSIS Stocktaking evolves into the unique global process for collection of information on actions carried out in context of WSIS, while underlining their contribution to the implementation of the 2030 Agenda for Sustainable Development.

In the period 2014-2016, WSIS Stocktaking Reports have reviewed 62 ICT-related projects and activities carried out by international organizations, governments, the private sector, civil society and other stakeholders in CIS region, with those in 2016 highlighting the efforts deployed by stakeholders involved in implementation of the SDGs. WSIS Stocktaking reports are based on the multistakeholder approach, including input from stakeholders from all over the world responding to ITU's official call for stocktaking updates and new entries. The inputs from WSIS action line facilitators and co-facilitators also contribute to the reports.

Among the 62 projects listed in this Report, most of them were also nominated for the WSIS Prizes contests in the period 2014-2016, while some of them (highlighted in the green boxes) were awarded with the WSIS Prize Winner or WSIS Prize Champion recognition. WSIS Prize is a unique global recognition for excellence in the implementation of WSIS outcomes. The contest is open to all WSIS stakeholders.

WSIS Prize Winner

Champion Project

The WSIS Stocktaking community comprises of more than 200.000 stakeholders who are eager to contribute to the WSIS Process year after year. By identifying trends in implementing WSIS Outcomes, the WSIS Stocktaking Process makes a significant contribution towards building an inclusive Information Society.

The principal role of the WSIS Stocktaking exercise is to leverage the activities of stakeholders working on the implementation of WSIS outcomes and share knowledge and experience of projects by replicating successful models designed to achieve SDGs.

The WSIS action lines break down into 18 categories:

1) The role of governments and all stakeholders in the promotion of ICTs for development
2) Information and communication infrastructure
3) Access to knowledge and information
4) Capacity building
5) Building confidence and security in the use of ICTs
6) Enabling environment
7) E-government
8) E-business
9) E-learning
10) E-health
11) E-employment
12) E-environment
13) E-agriculture
14) E-science
15) Cultural diversity and identity, linguistic diversity and local content
16) Media
17) Ethical dimension of the information society
18) International and regional cooperation

WSIS Prize Winner

Champion Project

17 Sustainable development goals (SDGs):

Goal 1. End poverty in all its forms everywhere

Goal 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture

Goal 3. Ensure healthy lives and promote well-being for all at all ages

Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

Goal 5. Achieve gender equality and empower all women and girls

Goal 6. Ensure availability and sustainable management of water and sanitation for all

Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for all

Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

Goal 10. Reduce inequality within and among countries

Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable

Goal 12. Ensure sustainable consumption and production patterns

Goal 13. Take urgent action to combat climate change and its impacts

Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development

Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

Goal 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

Goal 17. Strengthen the means of implementation and revitalize the global partnership for sustainable development

We take this opportunity to extend sincere gratitude to all of the stakeholders from the CIS region who have been engaged in the WSIS Process, sharing their national advances on implementation of the WSIS outcomes since 2004. We would also like to invite all ITU Member States and Sector Members of the CIS region to continue engaging with the WSIS Stocktaking process by submitting projects relevant to WSIS Action Lines and the newly established SDGs, promote the WSIS Stocktaking process within their communities, and follow new developments of the WSIS Prizes 2017 contest.

WSIS Prize Winner

Champion Project

The role of ITU in WSIS implementation

It is important to stress here that ITU has been contributing enormously to WSIS implementation and follow-up from 2005 to the present. The tasks carried out by ITU at the operational and policy level cover all mandates assigned to it relating to the WSIS process, in particular:

- in its capacity as lead facilitator in coordinating the multistakeholder implementation of the Geneva Plan of Action (§ 109 of TAIS) and primary organizer and host of the annual event in May, the WSIS Forum;
- as facilitator for Action Lines C2 (Information and communication infrastructure) and C5 (Building confidence and security in the use of ICTs), as well as C6 (Enabling environment);
- as co-facilitator for Action Lines C1, C3, C4, C7 and C11
- as partner in Action Lines C8 and C9;
- as rotating chair and vice-chair of the United Nations Group on the Information Society (UNGIS) (§ 103 of TAIS);
- as lead partner on Measuring ICT for Development (§ 114 of TAIS);
- as facilitator of the WSIS Stocktaking process (§ 120 of TAIS);
- as organizer of World Telecommunication and Information Society Day (§ 121 of TAIS);
- as lead of the Connect the World Initiative (§ 98 of TAIS).

Countries in Asia and Pacific Region

- Afghanistan
- Australia
- Bangladesh
- Bhutan
- Brunei
- Myanmar (Burma)
- Cambodia
- China
- Fiji
- India
- Indonesia
- Iran
- Japan
- North Korea
- South Korea
- Laos
- Malaysia
- Kiribati
- Maldives
- Marshall Islands
- FS Micronesia
- Mongolia
- Nauru
- Nepal
- New Zealand
- Pakistan
- Palau
- Papua New Guinea
- Philippines
- Samoa
- Singapore
- Solomon Islands

WSIS Prize Winner

Champion Project

- Sri Lanka
- Thailand
- Tonga
- Tuvalu
- Vanuatu
- Vietnam

ITU contribution to the implementation of the WSIS outcomes: 2014

As at July 2014, over 6 000 updated entries had been registered in the WSIS Stocktaking Database, reflecting innovative activities including projects, programmes, WSIS thematic meetings, conferences, publications, training initiatives, guidelines and toolkits. Entries may contain information on more than one project.

The sixth edition of the WSIS Stocktaking Report was officially released during the WSIS+10 High-level Event in June 2014. The 2014 report reflects more than 500 WSIS-related activities submitted to the WSIS Stocktaking process for the period May 2013 - April 2014, each highlighting the efforts deployed by stakeholders involved in implementing the WSIS goals.

In 2014, the WSIS Stocktaking Platform encompassed 33 000 stakeholders representing governments, the private sector, international organizations, civil society and others, and continued to constitute a major ICT for development (ICT4D) online platform.

One innovative component was the "World Café", which provided an opportunity to promote the winning projects of the WSIS Project Prizes 2014 contest at the international level, share best practices and discuss the purpose and impact of the projects recognized for their excellence in the implementation of WSIS outcomes. Stakeholders highly appreciated the contest's multistakeholder approach and highlighted the importance of continuing the platform as a mechanism for granting recognition to stakeholders for their efforts to implement WSIS outcomes.

ITU contribution to the implementation of the WSIS outcomes: 2015

In 2015, the WSIS Stocktaking Platform has seen the biggest increase in new entries, including the number of stakeholders registered, reaching a total of more than 100 000 stakeholders representing governments, the private sector, international organizations, civil society and others. This has strengthened its position as the major ICT for development (ICT4D) online platform. As at April 2015, over 7 000 updated entries are registered in the WSIS Stocktaking Database, reflecting all manner of innovative WSIS-related activities.

The seventh edition of the WSIS Stocktaking Report will be officially released during the WSIS Forum 2015 (25 to 29 May 2015, in Geneva, Switzerland). It should reflect the more than 1 000 WSIS-related activities that were submitted to the WSIS Stocktaking process for the period April 2014 - March 2015.

In addition, more than 300 international projects have been competing in the prestigious WSIS Project Prizes contest and are also to be included in the 2015 Stocktaking report. This marks an increase of 114 per cent in project nominations since 2014. The WSIS Project Prizes contest is part of the WSIS Stocktaking Process, and is a unique way of recognizing excellence in the implementation of WSIS outcomes.

WSIS Prize Winner

Champion Project

More than half of the projects submitted this year were government initiatives, while 12 per cent originated from civil society, 11 per cent from the business sector, 10 per cent from international organizations, and another 12 per cent from other, mainly academic, entities. As regards geographic distribution, 31 per cent of the projects in 2015 were submitted by Arab States, 18 per cent were from Europe, 16 per cent each from the Asia-Pacific Region and the Americas, 12 per cent from Africa, and 4 per cent from the CIS, while 3 per cent came from international organizations and international NGOs.

The WSIS multistakeholder community was invited to participate and cast its vote for one project in each of 18 categories. The deadline for votes was 1 May 2015. The list of the 18 most appreciated/voted projects was identified and winning projects were announced officially to the public during the prize ceremony held during the WSIS Forum 2015. The success stories showcased examples of projects on the implementation of WSIS outcomes, emphasizing the achievements of stakeholders working towards achievement of WSIS goals, transferring experience and knowledge at the global level, and spreading and fostering WSIS values.

ITU contribution to the implementation of the WSIS outcomes: 2016

As at April 2016, almost 8 000 updated entries are registered in the WSIS Stocktaking Database, reflecting all manner of innovative WSIS-related activities.

The eighth edition of the WSIS Stocktaking Report and the fifth edition of Success Stories 2016 will be officially released during the WSIS Forum 2016 (2 to 6 May 2016, in Geneva, Switzerland). It should reflect activities which were submitted to the WSIS Stocktaking process for the period March 2015 - March 2016.

While last year's contest was already a record-breaker in terms of the number of projects submitted, the WSIS Prizes 2016 contest has hit a new high with a 15 per cent increase in submissions. Following a comprehensive review of the projects submitted, the ITU Expert Group nominated more than 300 projects and posted them online for public appreciation. The 311 nominated projects break down into 179 projects from the government sector, 41 from the business sector, 31 from civil society, 14 from international organizations and 46 from other entities (mostly academic). As regards regional distribution, 86 projects are from the Arab region, 73 from the Asia and Pacific region, 53 from the Americas region, 36 from the Europe region, 31 from the CIS region and 27 from the Africa region, while five nominated projects come from international organizations.

The members of the WSIS multistakeholder community were invited to participate and cast their votes for one project in each of 18 categories. The deadline for voting was 10 March 2016. The list of the 18 most appreciated/voted projects will be identified and winning projects will be announced officially to the public during the prize ceremony to be held during the WSIS Forum 2015. The success stories will showcase examples of projects for implementation of WSIS outcomes, emphasizing the achievements of stakeholders working towards the achievement of WSIS goals and SDGs, transferring experience and knowledge at the global level, and spreading and fostering WSIS values. Besides the 18 winners, an innovation in this year's WSIS Prizes contest is the WSIS Prize Champions category, which recognizes those contenders having emerged from the online voting phase with at least 245 000 votes from the WSIS community. Their projects are among those having received the highest number of votes and having gained the best reviews by the

WSIS Prize Winner

Champion Project

members of the Expert Group. Among the five projects selected in each of the 18 categories, one will be the Winner and the runners-up will be WSIS Prize Champions.

WSIS Prize Winner

Champion Project

C1. The role of public governance authorities and all stakeholders in the promotion of ICTs for development

In **Bangladesh**, the MCQ Everyday organization adopted the Convention for the pacific plantation of national revolution in online activities, which have begun to work in 2014 by launching the *Start up educational website* project. Established by the founder. The project promotes national cooperation and achieves peace and security (**SDGs 11** and **16**).

The *Rural Visual Journalism Network* gives voice to the unheard in rural **Bangladesh**. Using iPod Touch and smartphone technology, correspondents in rural Bangladesh identify stories of importance to the rural community. Through impactful storytelling and online distribution networks and by linking with mainstream media, the project provides a platform for rural voices. Issues cover gender, the environment, health and education, and highlight role models in rural Bangladesh who have found innovative solutions to local problems (**SDGs 3, 4, 5** and **15**).

The Government of **Indonesia**, particularly the Ministry of Communication and Information Technology (MCIT), is carrying out *the Empowering Society towards ICT Uptake* project in the interests not only of expanding the means for obtaining access to information through ICT infrastructure development but also, and more importantly, of empowering end users through the acquisition of ICT and Internet literacy (**SDG 10**). ICT end-user empowerment, mainly in remote and rural areas, aims to provide such users with the soft skills they need in order to gain the information that will empower their lives, whether in their educational, agricultural or business activities. MCIT is thus engaged in the ICT empowerment of society through the following programmes:

1. CAP and M-CAP
2. Capacity building through training/workshop events
3. Indonesia ICT Volunteers
4. ICT Village Festival
5. ICT Festival for the People
6. Kartini Next Generation Award.

WSIS Prize Winner

Champion Project

The *Nusantara Internet Exchange (NIX*) programme is intended to provide affordable, safe, high-speed and excellent Internet access at the national and regional levels in Indonesia. The programme addresses various concerns regarding Internet access, performs many functions and has a vast scope in addition to being a data centre.

MCIT is engaged in various ICT development efforts aimed at establishing a progressive, modern and prosperous information society. One of the focuses of those efforts is on infrastructure construction throughout Indonesia, followed by human empowerment through the use of ICTs and public provision of positive information of benefit to people's livelihoods. Moreover, widespread democratization entails the government's fulfilment of society's right to know, thereby increasing its moral obligation to provide various types of information. To meet this obligation, MCIT has since 2009 has been regularly holding *Pekan Informasi Nasional (PIN)* or *National Information Week*, which also serves to educate and enable the public in the use of ICT in public areas.

Indonesia's *Ministerial Decree on ICT Number 23 of 2013* regulates domain name management. Registration is managed by a multistakeholder community in order to ensure the fair and equitable management of the domain name system (DNS), thus contributing to SDG 16 on the promotion of an inclusive society for sustainable development.

The Government of Indonesia adopted *Law Number 11 of 2008 concerning Electronic Information and Transactions* as it totally supports the development of information technology through the infrastructure of law and its regulation. Guidelines are implemented in order to provide security and prevent misuse of ITs vis-à-vis the religious and social-cultural values of Indonesian society, thus promoting equality and open access to information and knowledge for its population (SDGs 10 and 16).

Indonesia has formulated the *Indonesian Broadband Plan (IBP)*, a plan to create a better foundation for the Indonesian broadband ecosystem by 2019. By harnessing the full potential of broadband, the Plan envisages the integration of national logistics and transportation systems. It also aims to accelerate the development of broadband infrastructure, digital literacy, as well as a competitive regulatory framework and funding while also accelerating development of a digital services platform.

IBP 2014-2019 is promulgated under Presidential Decree Number 96 of 2014 and included in the National Long-Term Development Plan 2005-2025. It aims to guide the development of a comprehensive and integrated broadband network in Indonesia for the next five years. It highlights the level of ICT prioritization and presence of a digital government strategy, contributing to certain SDGs on the promotion of sustainable industrialization and sustainable use of ecosystems (SDGs 9 and 15).

The *National Procurement Portal of* Indonesia *(INAPROC)* is a web-based application system that provides various facilities as well as information related to the procurement process for goods/services in all government offices. The system has been developed to improve the efficiency and effectiveness of the procurement process. Through e-Procurement, suppliers may access certain information including the latest news on procurement updates, information, policy and blacklisted suppliers or vendors. Suppliers may sign up and register online to be a registered vendor and offer their goods and services for the available tenders.

The successful implementation of e-Procurement in Indonesia has become the example of how ICT can support transparency in pursuing good governance, thus contributing to SDG 16, target 16.6 – development of effective and transparent institutions at all levels.

Indonesia hosted the *8th Internet Governance Forum 2013* in Bali, with the theme "Building Bridges: Enhancing Multi-Stakeholder Cooperation for Growth and Sustainable Development". This conference addressed the issue of Internet governance and the global architecture of cyberspace. The multistakeholder nature of the Bali conference brought together government, the business sector and civil society.

The conference thus contributed to SDG 16 and 17 by providing an open access to information, protecting fundamental freedoms and revitalizing partnership within the country.

In the Islamic Republic of Iran, the Information Technology Organization (ITO) launched the *Design and Implementation of ICT Measurement* system. Policy-makers have recognized the importance of measuring and monitoring ICTs, and have foreseen a specific article in the fifth Socio-Economic and Cultural Development Plan of Iran (2011-2015) that instructs the ICT ministry to complete the development of a system for ICT measurement in the country by the end of second year of the plan. According to the plan, the ICT ministry is responsible for measuring, monitoring and providing analytical reports and feedback for the decision-makers. The ICT ministry charged one of its subsidiaries, the Iran Information Technology Organization (ITO), with developing the country's ICT measurement system. ITO performed this assignment during the fourth development plan and, based on its previous experience, acts as national coordinator for ICT measurement in Iran, a task it has taken up with the help of Information Technology Research Centre of Tarbiat Moddares University, the Iran University of Science and Technology and the Parvaresh Dadeha data-processing company. This initiative is a working example of cooperation among government, academic and research bodies and the private sector in Iran for achieving the country's goals and objectives. ITO is ready to pass on this experience and related best practices to the member countries in the region (SDGs 16, and 17).

In the Islamic Republic of Iran, policy-makers have recognized the importance of *measuring and monitoring ICTs*. There is now a law on the design and implementation of an ICT measurement system for the Islamic Republic of Iran as well as a formal provision in the Fifth Development Plan. The system has been designed by the Information and Technology Organization (ITO) as a national coordinator in the Islamic Republic of Iran based on previous experience in this domain in recent years. It is a valuable tool at the disposal of the country's policy-makers for monitoring progress towards national and international ICT goals and objectives (SDG 10).

In Malaysia, the *Dividend and honorarium online application* by the Co-operative Commission of Malaysia (SKM) has introduced this project in order to fulfil the promise made in the Government Transformation Plan, especially the One Malaysia, People First and Performance Now Concept. The Audit Division of SKM has taken the initiative to develop a system that can satisfy the need of Co-operators in Malaysia to obtain faster approval of dividend and honoraria payments in accordance with the requirements of Section 57 of the Co-operative Societies Act 1993 and SKM Directive 1/2011 (SDGs 10, 16, and 17). The system design has involved collaboration with the SKM Information Management Division. The system will enable Co-operators to secure more rapid approval for dividend and honorarium payouts, reduce costs and facilitate

WSIS Prize Winner

Champion Project

paperless working, and can be used anywhere subject to availability of an Internet connection. The Online Application System, known as SKM OnLine, enables customers (Co-operators) to make an online application to SKM.[1]

The *Graduate Studies Management System (GSMS)*, designed by the School of Graduate Studies (SPS) uses technology to manage postgraduate students at the Institute of Malaysian Higher Education, Universiti Teknologi Malaysia (UTM). The purpose of GSMS is to manage the wide range of processes – recruitment, academic research, scholarships, examinations and administration modules – which seek to turn out prominent postgraduates. With the number of postgraduate students having exceeded 13 000 in 2013, it is crucial for SPS to monitor their performance through a systematic and efficient administration process. The primary objective of GSMS is to effectively overcome the inconvenience of the previous manual system with its excessive use of human resources, overtime claims and printing costs. In helping to meet Malaysia's higher education requirements, GSMS is playing a vital role in strengthening the provision of higher education[2] (SDG 10).

Malaysia launched two initiatives aimed at promoting ICTs for development.

The *eBorneo Knowledge Fair (eBKF)* is a bi-annual community-based unconference held in the central Borneo highlands of Sarawak. It showcases the local use of ICTs for sustainable development in isolated rural indigenous communities, as well as identifying new research into uses of ICTs that communities will welcome. It is organized in conjunction with the local community, bringing together researchers, practitioners, government officials and policy-makers with the resident indigenous peoples, in both Malaysia and neighbouring Indonesia.

The conference reflects a considerable number of SDGs by fighting against poverty and hunger, ensuring access to affordable, reliable and modern energy for all, promoting economic growth, employment and decent work for all, reducing inequality within and among countries, etc.

[1] *Project nominated for a WSIS Project Prize 2015*
[2] *Project nominated for a WSIS Project Prize 2015*

WSIS Prize Winner

Champion Project

On 1 January 2008, the Co-operative Development Department of **Malaysia** was transformed to become the Co-operative Commission of Malaysia (SKM). The aim of the Commission is to promote a financially sound, progressive and resilient cooperative sector. All clients are registered in cooperative societies in Malaysia. The *"Perakaunan Sistem Konsep Mudah" (p-SKM)* is a free accounting software that was designed on the basis of the Microsoft Excel platform for the cooperator and Commission staff services. P-SKM's relevance lies in supporting the Commission's objectives, fulfilling the targets of the Malaysian Government and improving the welfare of the people.

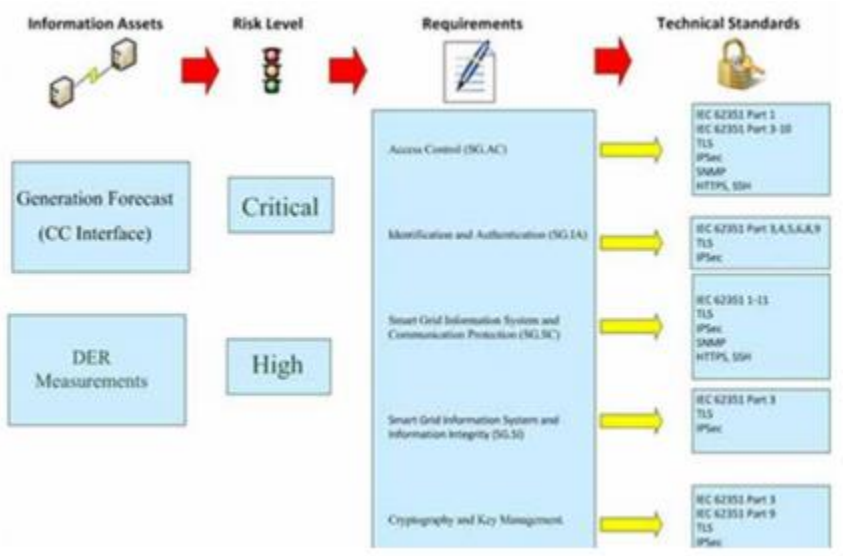
The programme is thus in line with several SDGs as it seeks to end poverty and hunger in all its forms, ensure healthy lives and promote well-being for all, promote inclusive and sustainable economic growth, employment and decent work for all and reduce inequality within and among countries (**SDGs 1, 2, 3, 8** and **10**).

In **Nepal**, an interesting private-sector initiative is *Fight Violence against Women (FightVAW).* This ICT-based initiative provides the victims of violence against women (VAW) with an alternative means of reporting their case by telephone, SMS or online (**SDGs 3, 5, 10, and 16**). It uses an integrated case management system to assist victims of VAW and organizations engaged in reducing its impact in Nepalese society. FightVAW brings together government stakeholders, donor agencies, development partners and social organizations, using ICT to address the VAW that continues to threaten the attainment of MDG-3. All of the aforementioned are engaged in a collaborative effort to mainstream the project to government in the interests of ensuring a sustainable approach to addressing VAW.[3]

[3] *Project nominated for a WSIS Project Prize 2015*

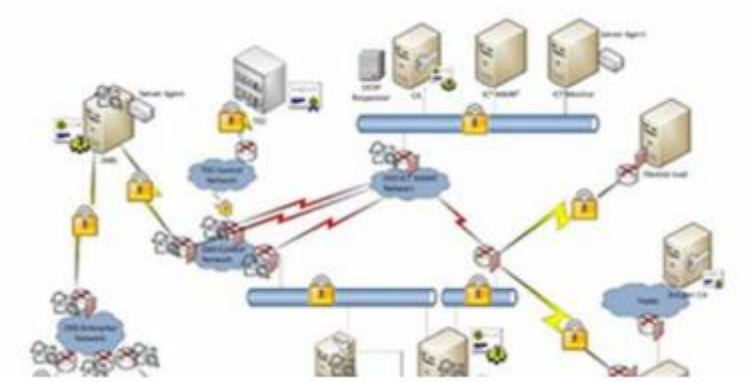
WSIS Prize Winner

Champion Project



For the ICT in parliaments subcategory, three projects from the Ministry of Information Technology of Pakistan were conceived specifically for this aim.

The *E-Office application* suite has been successfully implemented across federal ministries/divisions to automate core business processes through the Internal Communication, HR, Budgeting/Finance, Project Management, Document/File Management and Collaboration modules (SDGs 16 and 17). The Ministry of IT's National Information Technology Board (NITB) has rolled out the software at 11 offices including the Prime Minister's Office, National Assembly Secretariat, Finance Division, Cabinet Division and Ministry of Science & Technology. E-Office is strictly in accordance with Federal Government rules of business, under which government operations are being brought into line with international e-government standards designed to improve efficiency and transparency and promote an increasingly paperless environment.



Through the *Automation of Prime Minister Secretariat Phase-II* project, the Ministry of IT has provided the Prime Minister's Secretariat with ICT infrastructure to improve internal communications and file tracking. The project aims to automate all business processes executed by the various sections/wings of the secretariat (SDG 17). All the systems were made functional in early 2006. The Prime Minister's Office website (www.pmo.gov.pk) is available. Fully functional software modules include a Grievance Management System, Fund Management System, Case Management System and Visitor Management

WSIS Prize Winner

Champion Project

System. Remaining project items have been procured and delivered. The project has been extended up to June 2015 for further enhancements.

The NITB has developed the Government of Pakistan Web Portal (www.pakistan.gov.pk), which acts as a gateway for Pakistan. It provides information about the government, links to federal ministries/divisions/departments, relevant forms, links to other websites and contact details for offices and officials (SDGs 16 and 17). A revamped portal has been launched with additional features including Feedback Process, Report Bad Link, Rating of the quality/accuracy/validity of content, and Request for new content. It has resulted in a number of benefits such as the dissemination of information to citizens.

In Singapore, the SGD 10 million (USD 8 million) *Digital Inclusion (DI) Fund* was set up to provide financial assistance to low-income individuals/households to help bridge the digital divide (SDGs 1 and 10). The DI Fund supports two main programmes, namely Home Access and Social Innovation. The objective of the Home Access programme is to provide low-income households with access to the Internet. This includes the provision of basic computing devices and Internet connectivity in the home. The objective of Social Innovation is to encourage voluntary welfare organizations in the social service sector to adopt IT solutions which will help them to extend assistance and services to their beneficiaries and serve them better.

In Thailand, *Fable* is a software application that manages the national broadband development project to support Thailand's Digital Economy Initiative, comprising five areas of focus: hard infrastructure, soft infrastructure, service infrastructure, digital economy promotion and digital society (SDG 16). The Thai Government can exploit information provided by Fable to plan investments for developing and promoting the digital economy, especially in the area of hard infrastructure. Usage and available capacity can be analysed in order to identify return on investment and ensure quality of service and maintenance for sustainable growth. Fable enhances the transparency, accountability and efficiency of the Thai government by broadening network access, reducing costs and avoiding duplication of investment.[4]

[4] *Project nominated for a WSIS Project Prize 2015*

WSIS Prize Winner

Champion Project

WSIS Prize Winner

Champion Project

C2. Information and communication infrastructure

In **Bangladesh,** the Ministry of Posts, Telecommunications and Information Technology is promoting the *expansion and use of ICT in society through creating and developing ICT infrastructure for connecting the citizen for getting better access to information and services* (**SDGs 9 and 11**). The division in question is working relentlessly to develop the ICT sector by setting up infrastructure and providing training for capacity building and human resource development.

In **Bhutan,** the *National Broadband Master Plan* project was initiated to create the nationwide broadband infrastructure needed to promote ICT access within the country and for international connectivity, contributing to **SDGs 9 and 11**. The project aims to establish a high-speed fibre-optic network covering 20 districts and 201 *geogs*[5] (four are off-grid and will be served through appropriate radio technology), using the Bhutan Power Corporation transmission network. As a result, all 20 district headquarters and some 170 geogs are now connected by optical fibre. Moreover, infrastructure has been set up for the second international gateway, to create the required redundancy and ensure an uninterrupted communication link.

Also in **Bhutan,** as part of the government's *common minimum programme* aimed at social and economic empowerment of the people, the Ministry of Information and Communications has worked diligently with the two service providers to ensure universal connectivity through mobile services (**SDGs 9, and 11**). Funding has been provided as a government subsidy to the two operators through the Universal Service Obligation fund. As a result, mobile services are now available in all 20 districts and in 205 *geogs*. By December 2013, they will be accessible in all villages throughout the country, except in a few shadow areas.

In **Indonesia**, the Ministry of Communication and Information Technology is continuously developing ICT infrastructure through the following programmes (**SDG 9**):

- Indonesia Broadband Plan
- Regulations supporting ICT infrastructure development
- Universal Service Obligation Programmes

Public Protection and Disaster Relief Programme.

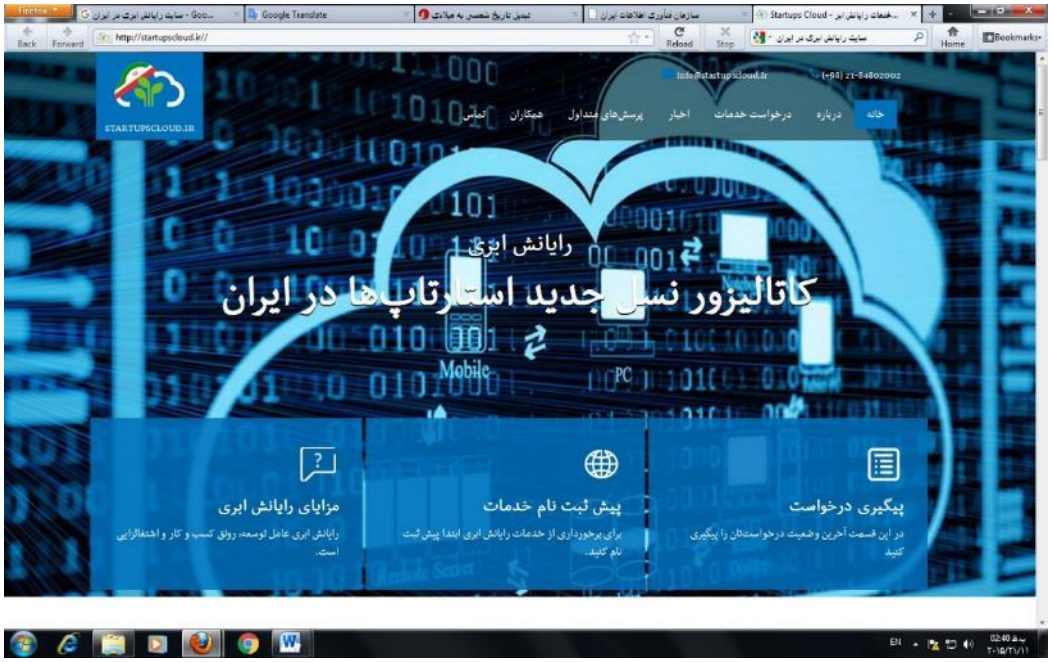
The Information Technology Organization of the **Islamic Republic of Iran** initiated the *Cloud Computing for Start-ups* project, the main objective of which is to bring infrastructure-as-a-service (IaaS) infrastructure design into Iranian data centres. It is an appropriate solution for facilitating and meeting the requirements of start-ups and providing the computing infrastructure they need as a service on a cloud-based platform. A package of such services and resources for a limited period (e.g. one year), free of charge, is available to start-ups. This service, tailored to the needs of the user, provides constant and ubiquitous access to intranet and Internet resources.

[5] A *geog* is a Bhutanese administrative unit comprising a group of villages, equivalent to a subdistrict.

WSIS Prize Winner

Champion Project

The project helps start-ups to focus on their creative ideas and provides a database, thereby promoting sustained economic growth of the country (SDG 8).



In Japan, the Ministry of Internal Affairs and Communications (MIC) has launched the *Far Remote Island MCT* project**.** The project is intended to provide connectivity to Mejit Island (300 to 400 inhabitants), a far remote component of the Marshall Islands, consisting of five islands and 29 atolls (SDGs 9 and 11). Before the project, the island was only connected by HF radio. A VSAT antenna installed on Mejit is to be linked with the capital, Majuro, via the NSS-9 C-band satellite with a demand assigned multiple access (DAMA) system to provide the islanders with voice/data services, including GSM mobile, e-administration, e-healthcare, e-education and e-business. The project is supported by an Asia-Pacific Telecommunity grant, the Government of the Marshall Islands, the Mejit local government and the Marshall Islands National Telecommunication Authority (MINTA).

In Japan, Shiojiri City constructed its own communication infrastructure using optical fibre and ad-hoc wireless networks in addition to the fixed and mobile networks provided by incumbent operators such as NTT, NTT DoCoMo, KDDI and Softbank (SDGs 1, 8, 9, and 11). The platform on these networks can provide ICT services within the city, such as healthcare, social welfare, disaster mitigation, tracking of children and elderly people using wireless tags, weather observation, etc. The data collected through the municipal infocommunication networks are saved at the centre for analysis and displayed by location, time and event. *Shiojiri Incubation Plaza (SIP)*, accommodated in an independent building, is the centre for IT ventures and entrepreneurs in the city. Shiojiri continues to make strides towards the smart city by promoting capacity building for data analysts and data scientists to ensure that the big data collected through the networks are fully utilized.[6]

[6] *Project nominated for a WSIS Project Prize 2015*

WSIS Prize Winner

Champion Project

In the Republic of Korea, the *TEIN4 programme* contributed to the Millennium Development Goals (now SDG SDGs 9) by establishing dedicated high-capacity Internet links between research and education organizations in the Asia-Pacific region and Europe, enabling and promoting collaborative research on applications of broad societal benefit.[7]

In Malaysia, *Smart community* is a vital building block of a smart nation vision. As Malaysia pursues its transformation into a smart digital nation, its rural communities need to be empowered through proper exposure to knowledge and by being equipped with adequate ICT facilities. This is one of the main objectives under the Smart Digital Nation vision, which is now spearheaded by Malaysian Communications and Multimedia Malaysia (MCMC). The idea behind Smart Community is about using technology to improve the way of life. MCMC has kicked off a Smart Community initiative in Kemaman, in the state of Terengganu, to expose the local community to technology and to ways in which it can address everyday problems and thereby improve living standards.

The Kemaman Smart Community project relates to several key SDGs, such as promotion of inclusive and sustainable economic growth, employment and decent work for all, reduction of inequality within and among countries and ensuring sustainable consumption and production patterns (SDGs 8, 10 and 12).

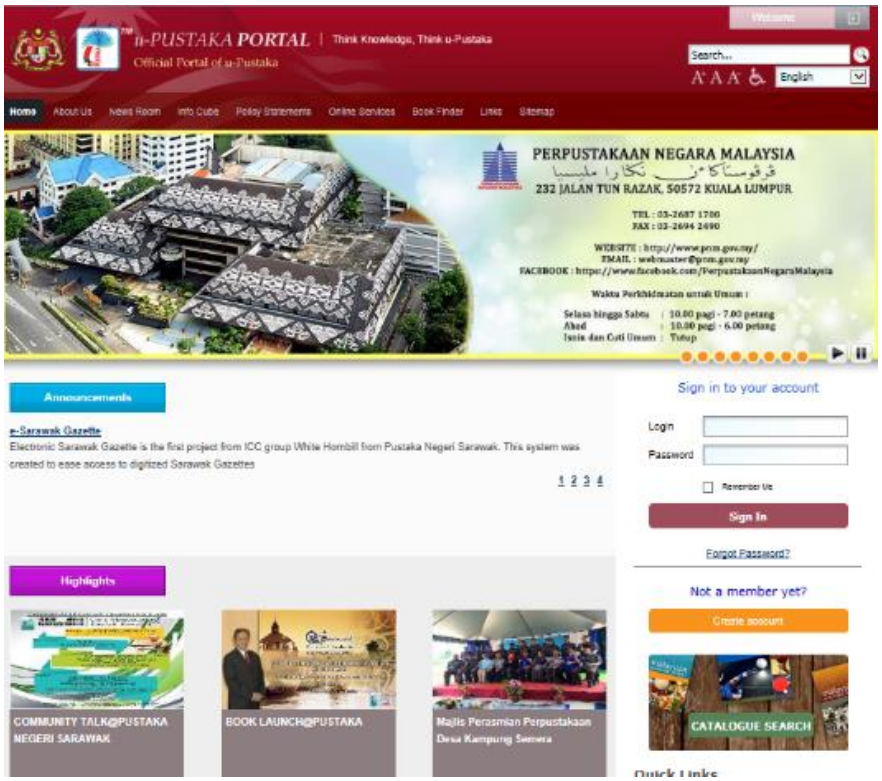
Another project proposed by MCMC is called *Empowering Digital Inclusion Towards Reaching the Connected Communities Through u-Pustaka* Knowledge Services. More than 12 000 libraries in Malaysia provide information and knowledge services for millions of citizens thanks to the quantum leap enabled by various technologies supported by broadband infrastructure. The availability of such services has led to the effort being made to develop the *u-Pustaka* ecosystem in order to transform public service delivery for the benefit of citizens requiring information and knowledge, irrespective of location or time of day. The development of *u-Pustaka* is further encouraged by the existence of the government's "No wrong door policy", which creates a high level of expectation of excellent government services to be delivered to the public by all government servants. The expectations and needs of citizens with respect to information in today's world, which requires rapid decision-making, especially by people on the move, have transformed the public library into the main enabler for achieving this task.

The *u-Pustaka* project relates to SDG 4 – inclusive and equitable quality education and promoting lifelong learning opportunities for all.

[7] *Project nominated for a WSIS Project Prize 2015*

WSIS Prize Winner

Champion Project



In Pakistan, the National University of Sciences and Technology (NUST) created the *Smart Meter Data Collection* project, the aim of which is to enable the collection of data from all smart meters within a community and transfer them to a central facility for billing and other services. The underlying idea of capturing the data and transmitting it over a wireless channel makes use of a specific wireless technique known as cooperative communications, which is low-overhead and can be implemented using low-cost radio sets. This would alleviate the problem of electricity theft and enable online smart decisions by both the end user and the utility company to adjust their respective loads.

The Smart Meter Data Collection project is conducive to the building of resilient infrastructure, sustainable industrialization, the fostering of innovation and the development of inclusive, safe, resilient and sustainable cities (SDGs 9 and 11).

In Singapore, *Wireless@SG* is a wireless broadband programme that aims to extend broadband access beyond homes, schools and offices to public places (SDGs 1, 9, and 11). Users can enjoy free – both indoor and outdoor – seamless wireless broadband access with speeds of up to 2 Mbps in public areas. This allows users to access media-rich and interactive websites as well as use bandwidth-intensive applications such as video streaming. This wireless broadband network targets users who are on the move - people who require wireless broadband access while away from their homes, schools and offices. Once connected, users will be able to access all Internet-based services, such as online gaming, web surfing, instant messaging, VoIP and e-mail.

The *Next Generation Nationwide Broadband Network (Next Gen NBN*) is the wired network of the Next Generation National Infocomm Infrastructure (Next Gen NII), which seeks to transform Singapore into an intelligent nation and global city, powered by infocomm (SDGs 9 and 11). Singapore has been working over

WSIS Prize Winner

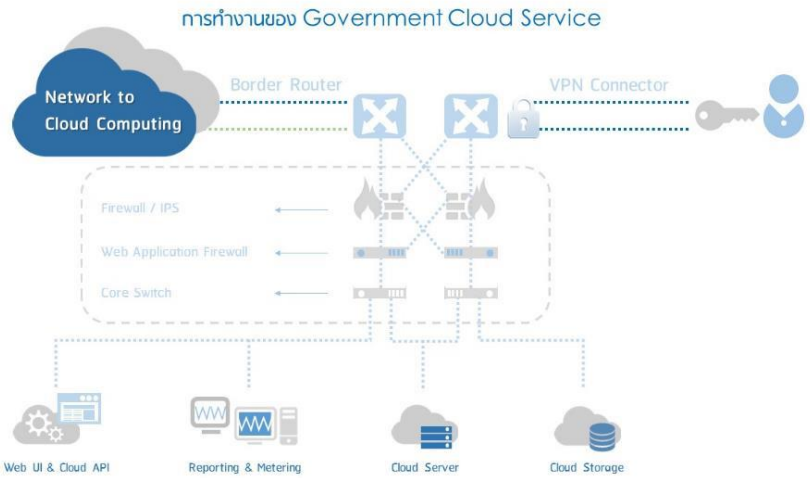
Champion Project

the last ten years to bring broadband to all homes, schools and institutions. The NGNBN, capable of supporting speeds of up to 1 Gbps and beyond, has been deployed. Today, more than 95 per cent of households in Singapore can access fibre-to-the-home, which currently provides ultra-high speed broadband access of up to 1 Gbps.

Launched by **Sri Lanka**, where the *Internet connectivity in* **Myanmar** project is concerned, well-designed and well-executed sector reforms connected millions of the hitherto unconnected at an unprecedented rate. As a result, Myanmar advanced eight positions in the International Telecommunication Union's ICT Development Index, overtaking both Pakistan and Bangladesh in the Asia-Pacific region. Although significant progress was made in terms of the number of mobile connections, the main drivers of better performance on the composite index were Internet-related. Clear and well-implemented policies helped to create the conditions for Myanmarese to benefit from the potential of the Internet.

Meeting a considerable number of SDGs in different domains (**SDGs 1, 2, 3, 4, 8, 9, 10, 11, 16** and **17**), the reforms are both sustainable and replicable.

In **Thailand,** the Electronic Government Agency (EGA) created the *Government Cloud Computing* project to operate as its cloud computing service, focusing on resource management, cost efficiency and convenient access to virtual systems, namely software-as-a-service (SaaS), platform-as-a-service (PaaS) and infrastructure-as-a-service (IaaS). Launched on 1 May 2012, the system was serving 203 government organizations as at 30 September 2014, covering 58 systems such as rice mortgage information tracking and integration, management of the women's development fund, and the strategic water resource management plan. The implementation of Government Cloud Computing will enable government agencies to optimize available resources and achieve high efficiency. By consolidating all services into a one-stop service, redundancy will be eliminated while access to information and services as well as information security is enhanced. The fact that users can work on cloud computing-based systems as if they were based on their organization's own network enables the organization to make savings in the areas of network and system management. The main objective of this project is to eliminate budget redundancy while increasing return on investment and optimizing shared IT resources, thereby contributing to the building of resilient infrastructure, promotion of sustainable industrialization and fostering of innovation (**SDG 9**).



WSIS Prize Winner

Champion Project

C3. Access to information and knowledge

In **Bangladesh**, the *National Portal* is a government-wide initiative comprising over 25 000 websites designed to reach the entire citizenry, especially the information have-nots (**SDG 4**). The portal has grown to generate an average of one million hits per day. Its single architecture, coupled with its look and feel and use of the vernacular make information provision by government officials extraordinarily simple and seamless, lowering the technology bar. A crowdsourcing approach was employed to equip 70 000 government officials to populate and update the content. The massive portal deployment was supplemented by establishing over 5 000 ICT access centres across the country and formulating/reforming the necessary policies.[8]

Agriculture extension services in Bangladesh are highly dependent on extension agents and entail many challenges, such as access to poor farmers. Cellular telephony is a rapidly expanding means of communication in **Bangladesh** that already accounts for over 120 million subscribers. *Krishi Call Centre (Agriculture Call Centre*) is a public-private initiative, based on the toll-free short number 16123, for the provision of easy, rapid, real-time and low-cost extension services to all farmers, particularly smallholders and the marginalized (**SDGs 1, 4, and 10**). By December 2014, it had received 64 000 calls at the rate of 3000 calls per month, it being clear from the rapidly increasing uptake that farmers are satisfied with the services provided.[9]

The Bangladesh NGOs Network for Radio and Communication (BNNRC) is engaged in a project entitled *Pioneering, Connecting & Empowering Voices for Change*, which aims to strengthen the capacity of community radio in Bangladesh (**SDGs 8, 16, and 17**). Community radio is a new concept which needs support to unlock its full potential. The key areas of focus of the project activities are: quality of content (programme) production; facilitation of dialogue between communities and local and national government; and awareness-raising regarding the right to information. The time-frame is February 2013 to May 2015. The project is being implemented by BNNRC in collaboration with Free Press Unlimited (a Netherlands-based international organization). The European Union is providing financial assistance to the project.[10]

In **Bhutan,** the *Community Centres* (CCs) project was implemented in order to ensure the accessibility of information and electronic services anytime, anywhere (**SDGs 1 and 4**). The community centres in the "*geogs*" (administrative units) have been identified as potential hubs where the community can have access to information and government services. The Ministry of Information and Communications has been mandated to establish one CC in every *geog*, making a total of 205 CCs in the country, with the objectives of improving the living conditions of the poor and promoting greater integration of isolated communities through easy access to government and business services, including postal and other general public services. The project was started in mid-2009. Currently, 182 CCs have been established and the remaining

[8] *Project nominated for a WSIS Project Prize 2015*
[9] *Project nominated for a WSIS Project Prize 2015*
[10] *Project nominated for a WSIS Project Prize 2015*

WSIS Prize Winner

Champion Project

23 CCs will be completed within one or two years. Of the 183 CCs that have been established, 130 are connected with broadband Internet. [11]

In China, the Institute of Geographical Sciences and Natural Resources Research, Chinese Academy of Sciences, is managing the *Global Change Research Data Publishing and Repository* based on the Digital Object Identifier System (DOI) standard (SDGs 4, 8, and 9). The methodology of metadata -raw data - linked together made the datasets informative, reliable, replicable and re-useable. A total of 36 peer-reviewed global change datasets have been put online with DOI: 10.3974/. All of the datasets are full and open to all, subject to citation. Quarterly data publishing will keep the published data up to date. The data have been highly acknowledged by both scientists and decision-makers. United Nations Secretary-General Ban Ki-moon highly praised the GlobeLand30 dataset, a published dataset donated to the United Nations.[12]

The *Sugarcane Breeding Institute (SBI)* in India is running the *CaneInfo...all about Sugarcane* website (available at www.caneinfo.nic.in). This is an interactive, free-to-access, database-driven and user-centred website developed using a systematic approach by SBI, under the Indian Council of Agricultural Research, with a mission to provide a platform on which sugarcane growers, cane development personnel, scientists and students can share sugarcane-related information and knowledge (SDGs 12 and 15). It is a pioneering initiative for any public-funded sugarcane research institution in India. CaneInfo's vision is to enhance and sustain the 100-year old SBI's position as a premier knowledge provider furnishing research-based, reliable and real-time information to stakeholders in sugarcane agriculture.[13]

One of today's main issues is energy sustainability, and all countries are familiar with the problem of inadequate energy data at the government and public levels. In Indonesia, the *Dala2 Project* aims to resolve this issue by collecting, managing and disseminating energy sustainability data across the nation, as a public information service to citizens (SDGs 7, 10, and 11). The goals are to enhance awareness of energy sustainability, own the data and thereby manage the nation better.[14]

The Government of Indonesia created the *Cultural Digital Library* website to access publications of the 32 local cultural libraries which include all museums and technical and operational units under the advisory of

[11] *Project nominated for a WSIS Project Prize 2014*
[12] *Project nominated for a WSIS Project Prize 2015*
[13] *Project nominated for a WSIS Project Prize 2015*
[14] *Project nominated for a WSIS Project Prize 2015*

WSIS Prize Winner

Champion Project

the Directorate General of Culture. The public can access books, newsletters, reports and articles on Indonesian culture.

The website thus relates to the development and equality of the public, providing it with free access to information and ensuring learning opportunities, promoting economic growth and contributing to cities' sustainability (SDGs 3, 4, 8, 10 and 11).

In the Republic of Korea, the National Information Society Agency (NIA) has formulated the *Information Access Centre* (IAC) concept. The agency is eager to provide greater opportunities for access to information and knowledge in developing countries (SDGs 4 and 10). Since 2002, a total of 34 IACs have been set up. From children to older people, anyone wishing to access and use ICTs can visit an IAC and obtain training without charge or at an affordable cost. NIA plans to create 60 more IACs in developing countries.

In the Republic of Korea, *Information Access Centers*, overseen by the Ministry of Science, ICT & Future Planning (MSIP) and implemented by the National Information Society Agency (NIA), offer an infrastructure with better access and opportunities for IT use by the general public in the partner countries (SDG 16), thereby contributing to enhancement of the information-based environment.[15]

In Malaysia, the Malaysian Communications and Multimedia Commission (MCMC) introduced the *u-Pustaka* library system. Ubiquitous availability of knowledge is crucial to a nation's development, and the role of the *ubiquitous library* in the context of development, national unity and global competitiveness is vital for any nation (SDGs 4, 8, 10, and 11). The u-Pustaka project is a major advance for research and scholarship and will allow unparalleled access to vast collections for anyone, anytime, anywhere. The programme is an innovation that reflects a collaborative synergy between government agencies and private-sector organizations to provide u-Pustaka infrastructure and services.

In Malaysia, the Malaysian Communications and Multimedia Commission is managing the *My u-Pustaka* mobile application project, which is catching the attention of the Malaysian information industry by demonstrating how the provision of ubiquitous services through the use of mobile technology could meaningfully contribute to an inclusive information society. Instantaneous access to information and knowledge through smartphones and tablets helps people to take rapid decisions, and can support Malaysia in the creation of an inclusive knowledge society by 2020 (SDGs 4 and 8). It is also another step in the enhancement of the quality of work and life in this broadband era through the leveraging of innovative services.[16]

The mountainous terrain of Nepal constitutes a challenge to those seeking to ensure increasing access to health information for pregnant women and the mothers of infants and babies. The *Amakomaya* initiative has developed and implemented unique android apps for pregnant women and health workers to access need-based health information and issue auto-reminders for visits to the antenatal clinic (SDGs 3, 4, 5, and 8). The local community has embraced the programme and is helping to extend the application's outreach, from which over 1 000 pregnant women have thus far benefited. Although the country now has up to 70

[15] *Project nominated for a WSIS Project Prize 2015*
[16] *Project nominated for a WSIS Project Prize 2015*

WSIS Prize Winner

Champion Project

per cent mobile coverage, Internet connectivity and the price of bandwidth constitute a major challenge for this application.[17]

In **Pakistan,** the National Information Technology Board's project named *Online Tracking System for Cargo Handling, Freight Wagons and Locomotives* enables the Pakistan Railways to efficiently manage its cargo handling operation, amounting to some 26 000 freight wagons and 100 locomotives (**SDGs 8 and 9**). The online tracking application and web portal are in use at the Divisional Superintendent Pakistan Railway Office in Lahore. The system includes a main control room and seven subcontrol rooms. The network and power infrastructure installation has been completed at all nine locations of the Pakistan Railways. The SMS gateway application has also been successfully demonstrated for real-time tracking of locomotives. The project has been extended up to June 2015.

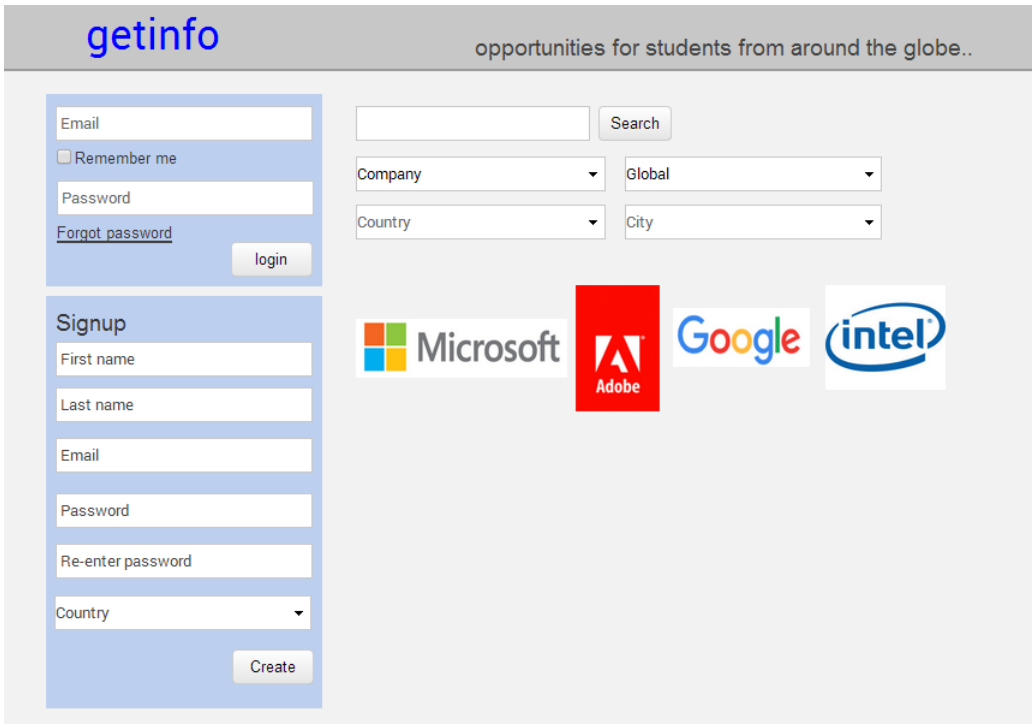
In **Pakistan**, the NED University of Engineering and Technology created the *Getinfo* programme, a website which informs users, mainly students, about the opportunities offered by various organizations worldwide, for instance scholarships, internships, sponsorships, jobs, competitions, free certified courses, etc. These are opportunities that enable students to enhance their academic learning, so an up-to-date website providing all such information is a valuable asset. Getinfo opens the way for students to prove themselves ahead of a valuable career.

With its links to the global community, the project fosters access to inclusive and equitable quality education and sustainable economic growth, reduces inequality within the country and revitalizes the global partnership for sustainable development (**SDGs 4, 8, 10** and **17**).

[17] *Project nominated for a WSIS Project Prize 2015*

WSIS Prize Winner

Champion Project


getinfo
opportunities for students from around the globe..
Email
Remember me
Password
Forgot password
login
Signup
First name
Last name
Email
Password
Re-enter password
Country
Create
Search
Company
Global
Country
City
Microsoft
Adobe
Google
intel

C4. Capacity building

In **Bangladesh**, the Ministry of Education, in partnership with private and global actors, has launched the *ICT for Education at Secondary and Higher-Secondary Level* project (**SDGs 4 and 17**). The objectives of the project are: (a) to familiarize all secondary and higher-secondary students with ICT tools; (b) to provide them with modern education in order to increase their employment prospects; (c) to make classrooms more interactive; and, most importantly, (d) to narrow the digital divide between rural and urban students.

The *Interactive Teachers' Portal* is a smart supplement to **Bangladesh**'s ailing teacher training system, which serves 900,000 teachers with modern learning facilities for 1 500 (**SDGs 1 and 8**). Additionally, costly face-to-face training is often too much for these teachers to bear. The teachers' portal, a collaborative, co-creative and problem-solving platform for continuing professional development, has fast became a popular way for teachers to create and share digital content in all subject areas. As membership exceeds 50 000 and is growing, the portal is already the largest local repository of educational content. An off-line annual conference started recently has also sowed the seed of a vibrant community of learners.[18]

Bangladesh initiated two projects aimed at providing a quality education for its population while at the same time promoting economic growth, employment and decent work within the country.

The Bangladesh Reform Initiative for Development, Governance and Empowerment Foundation (BRIDGE) inaugurated the *IT for Differently Able* project, supported by the United States Department of State under the initiative known as the Alumni Engagement Initiative Fund (AEIF) in 2013. The BRIDGE team currently comprises five people for Friday and Saturday classes, five advisers in the committee, four trainers and one interpreter.

The main objectives of the project are to:

- empower people with disabilities, who are now seen as being differently able
- follow the inclusive policy of promoting sign-language users and persons with physical disabilities
- enrich their capabilities through IT, e-graphics, Internet marketing and WordPress
- enhance their ability to communicate in English
- help them to become self-employed
- organize social connectivity and networking.

[18] *Project nominated for a WSIS Project Prize 2015*

WSIS Prize Winner

Champion Project

These goals coincide with the established SDGs as they foster inclusive and equitable quality education, lifelong learning opportunities for all, sustainable economic growth, achievement of gender equality, empowerment of all women and girls and the reduction of inequality within and among countries (SDGs 4, 5, 8 and 10).

In Bangladesh, youth unemployment stemming from illiteracy and a lack of ICT knowledge represents a major problem. Since its formation in 1985, the National Federation of Youth Organizations in Bangladesh (NFYOB) has pioneered a number of social movements including Youth Employment, Poverty Eradication, Mass Education, Environment Protection, Child Rights, Human Rights, Drug Abuse Prevention, Treatment, Motivation and Rehabilitation Programmes, Promotion and Construction of a Sustainable Culture of Peace and Nonviolence. The *ICT for Youth Development* project is necessary for the development of young people in the project area. NFYOB has organized many seminars and workshops for young people for the purpose of educating and informing the participants in numerous areas of concern.

The project ties in with the SDGs relating to the ending of poverty, the ensuring of equitable quality education, access to affordable, reliable, sustainable and modern energy, and the promotion of economic growth and employment (SDGs 1, 4, 7 and 8).

At the request of the National Bureau of Statistics (NBS) of China, the United Nations Conference on Trade and Development (UNCTAD) organized a *training workshop on ICT and e-commerce statistics* from 25 to 27 June 2013 in Beijing (SDG 4). The workshop was based on the UNCTAD course on information economy statistics, and included a session on the global context for measuring the information economy and links to policy-making. A total of 13 South-east Asian and 58 Chinese statisticians benefited from the training.[19]

In Fiji, the Government launched its ambitious *Government Community Telecentres (GTCs)* programme at the end of 2011 to ensure no Fijian is left behind in the digital age. The GCT programme has been one of the proudest accomplishments of the Bainimarama Government. This was an initiative to connect the unconnected and to bring ICTs into the lives of communities that had been deprived of access to ICT services either through being socioeconomically disadvantaged or through living in areas to which services do not reach (SDGs 1, 4, and 16). Over 100 000 Fijians in 25 locations across Fiji have received services since the programme was launched in 2011.[20]

The *CaféMóvel* project from India uses mobile technology (SMS and interactive voice response) to create a platform through which not only are researchers able to keep in touch with coffee growers and provide them with real-time assistance in solving various problems they face during the coffee growing season, but also the growers themselves are able to share knowledge with each other and maintain links with other growers, input providers and buyers, so that the entire coffee value chain benefits from the enhanced exchange of information and communication (SDGs 1, 2, and 12).

In India, the *Sakhi Samaveshan Project* pursues financial inclusion through the empowerment of women, enrolling ordinary self-help group (SHG) members as business correspondents. Narmada Jhabua Gramin Bank, in cooperation with the GIZ-NABARD (Gesellschaft für Internationale Zusammenarbeit – National Bank for Agriculture and Rural Development) Rural Financial Institutions Programme, has launched in four

[19] UNCTAD contribution

[20] *Project nominated for a WSIS Project Prize 2015*

WSIS Prize Winner

Champion Project

districts of Madhya Pradesh, covering 240 villages with a combined population of 300 000, through 41 Bank Sakhis. The objective is to "leverage on the existing SHG ecosystem for building a sustainable customer service point network to offer formal banking/financial services in un/under-banked villages". The project utilizes the strengths of SHG networks, their wide membership base and the entrepreneurial interest of SHG members in order to work as business correspondents offering doorstep financial and banking services. It has succeeded in breaking down social barriers, and women who previously never stepped out of their house to participate in banking activities and earn are now driving this innovative project. Male clients who used to hesitate to approach SHG members (Bank Sakhis) to engage in banking transactions now do so freely. Bank Sakhis say that their social status has been enhanced and that they take great pride in being able to offer banking services to their fellow villagers.

In achieving these objectives, the Sakhi Samaveshan Project relates to gender equality and the empowerment of women and girls (SDG 5).

In Indonesia, *Indonesian ICTs Volunteers* was established to empower the community through the knowledge and skills needed to utilize ICTs to improve people's livelihoods and enhance national competitiveness, through socialization, education and ICT training by excellent and skilful volunteers (SDGs 1 and 4). The programme highlighted several ways in which to move towards the information society, including through the enhancement of community participation and ownership towards sustainability of the organization and its efforts to strengthen the community's ICT capabilities. Its relevance under Action Line C4 makes it worthwhile to pursue. It is a proven programme that provides solutions for bridging the digital divide in Indonesia.

Relawan TIK Kota Bogor (RTIK Bogor), also known as Bogor ICT Volunteer, is a non-governmental organization which came into being on 30 May 2014. A number of people in this not-for-profit organization had already been running the programme since May 2012, in collaboration with the local government in Bogor, Indonesia. The main purposes of RTIK Bogor are to disseminate information on safe use of the Internet (SDGs 4, 16, and 17); educate teachers and students on the use of ICTs in the learning process at

school; and extend the local government network infrastructure (wireless LAN) to schools, as well as to public areas in the form of public Internet access.[21]

In Indonesia, the goal of the *Indonesia ICT Volunteer (IICTV*) programme is to empower Indonesian communities towards the country's information society through the provision of ICT knowledge and skills. The programme works to improve community livelihoods and enhance national competitiveness through socialization, education and ICT training by excellent and skillful volunteers (SDGs 4, 5, 10 and 16). To achieve the goals of Indonesia's information society, IICTV conducted four main programmes, namely:

1) Community education and development in the ICT sector
2) Community advocacy on ICT technology and infrastructure development
3) Application development and content
4) Creating partnership and public relations.

These programmes were designed to be executed up to 2019 in all of Indonesia's 34 provinces, and to be replicated in almost 50 per cent of the country's regencies and cities. The added value of the project lies in the fact that IICTV is a community-based organization which increases community participation and ownership sustainability. The organization's membership is open to high school and college students, employees and ICT experts who voluntarily participate in this activity. The project focuses on efforts to bridge the digital divide in Indonesia so that ICTs can bring benefit to the community. It is widely recognized that ICT implementation has to be accompanied by appropriate capacity building within the community so that people appreciate the benefits of ICTs and are able to make active use of them to improve their quality of life.

In the Islamic Republic of Iran, the *THINGcubator* is an incubator that supports a network of industry partners, technology entrepreneurs, business advisers and financial investors. The incubation model includes hands-on support in developing and growing Iranian business across functions, from general management to sales and marketing and technology. Access to office space and related services is also

[21] *Project nominated for a WSIS Project Prize 2015*

WSIS Prize Winner

Champion Project

provided. The THINGcubator, based on a self-sustaining model, helps to accelerate the pace of innovation by strengthening the path for entrepreneurs, providing support for entrepreneurial communities and helping to grow the worldwide entrepreneurial ecosystem.

In this spirit, the project responds to a number of SDGs as it builds resilient infrastructure, ensures sustainable consumption and production patterns, promotes sustainable industrialization as well as economic growth and employment, and revitalizes the global partnership for sustainable development (SDGs 7, 8, 9, 11, 12 and 17).

Japanese Funds-in-Trust for the Capacity-building of Human Resources was created in order to contribute, through the United Nations Educational, Scientific and Cultural Organization (UNESCO), to capacity building of human resources in developing countries as a part of the Government of Japan's official development assistance (ODA). The scope of the project includes capacity building in the use of ICTs in education, information literacy, open access to scientific information, etc, (SDGs 4, 16, and 17).

Two projects from Malaysia offer new ICTs for specific categories of people.

The *Jayonik RapidBus Simulator System (JRSS)* is a bus training simulator developed by Jayonik and RapidBus with the aim of training highly skilled bus captains for its driver training programme, which teaches bus drivers how to take care of passengers with disabilities and react to "injected" situations that cannot be simulated in the real world. In its memory are 700 km of virtual Kuala Lumpur and Penang city routes, on which real-life training would be hugely costly. The simulator auto-generates a graph of the driver's behaviour so that it can be evaluated with respect to eco-driving, thereby enhancing driver quality and hence ensuring a good service to the public, while at the same time promoting energy conservation.

These goals match with SDGs 3, 4, 5, 8, 11 and 17 by ensuring healthy lives, quality education, the promotion of inclusive and sustainable economic growth, etc.

WSIS Prize Winner

Champion Project

The Multimedia University initiated the *Converged Telecommunications Policy and Regulations (CTPR) Master Class* that is designed to offer mid- to senior-level executives in national regulatory agencies, relevant government ministries, telecommunication service providers, broadcasters, and equipment manufacturers/vendors in the Asia Pacific Region a holistic and up-to-date world view on all matters related to the converged telecommunications space. The *CTPR Master Class* achieves:

- exposure to latest global thinking on converged policy and regulatory matters and the way forward in support of capacity building
- a better understanding of related global laws and regulations
- a Holistic understanding of key issues to enable participants to engage in multi-stakeholder and multi-disciplinary discourse, policy-shaping and decision making in the telecommunications space.

In this way, the CTPR Master Class encompasses learning and educational issues (SDG 4).

In the Philippines, *Free Basic Digital Literacy Training (FBDLT)* is a training activity conducted free of charge by the Malvar Community eCenter (CeC). Four stationary CeCs and one mobile CeC contain 39 desktop and 13 laptop computers. With the goal of making a difference in the lives of constituents, free training is provided in word processing, spreadsheets, multimedia, Internet browsing, use of social media and e-mail. The clients of *FBDLT* are housewives, retirees, senior citizens, young people not attending school, children with special needs, volunteers, municipal and barangay officials and employees, tricycle drivers, elementary and secondary school pupils and students.

The initiative fulfils such SDGs as fighting against poverty, achievement of gender equality and promotion of sustainable economic growth of the country (SDGs 1, 5 and 8).

In Singapore, the government is working with leading providers of *Massive Open Online Courses (MOOCs)* to offer easily-accessible, high-quality training in data sciences and analytics, drawing on the Coursera MOOC platform's data sciences specialization provided by Johns Hopkins University (SDG 4). The pilot aims to train 200 Singaporeans in data sciences and analytics and demonstrate that MOOCs is a viable means of skills upgrading for both businesses and individual citizens. The government will work with key local entities

WSIS Prize Winner

Champion Project

from the IT, government, university and research sectors to drive support and provide participants for the online course, which comprises ten modules.

Mae Hong Son IT Valley project was started under Princess Maha Chakri Sirindhorn's initiative to promote education in rural area of Thailand (SDGs 1, 4, and 12). Mae Hong Son is situated along the Thailand–Myanmar border in the northern part of Thailand. The population consists of more than ten different tribes of diverse cultures. However, through IT, the people in Mae Hong Son can put their creative gifts to better use. Through the effective participation of local governments and all stakeholders in the area, the project aims to achieve three goals: promoting education, promoting employment, and promoting networking for local people, through the use of IT.

In Thailand, the Department of International Trade Promotion (DITP) launched the *Smart Online SMEs (S.O.S.)* programme, operated by Thaitrade.com, in an effort to reduce the gap between the country's rich and poor. Following the realization that the provision of an e-marketplace, Thaitrade.com, did not fully address the problem due to a lack of understanding of the importance of online trading and of the ability to use the corresponding online tools, a series of knowledge-sharing sessions and inspiration-building campaigns were conducted in five provinces. During the period 2010–2015, the programme was delivered to over 4 000 people, of whom some 2 700 from rural areas.

The programme ties in with numerous SDGs by addressing poverty issues, educational and economic growth, inequality within the country, etc. (SDGs 1, 4, 8, 9, 10 and 17).

WSIS Prize Winner

Champion Project

WSIS Prize Winner

Champion Project

C5. Building confidence and security in the use of ICTs

With the aim of making all non-governmental organizations (NGOs) digitally literate, the Digital Empowerment Foundation (DEF), in **India**, embarked upon the *eNGO Program* to help grass-roots NGOs, which dedicate themselves to improving our world, through the Internet. In 2011, DEF, in collaboration with the Public Interest Registry (PIR), the non-profit organization responsible for global management of the ".org" top-level domain, launched the PIReNGO programme (pirengo.org) as a flagship initiative to create a network of legally validated online NGOs/CSOs (civil society organizations) with IT training and capacities in India, South Asia and Africa. As at November 2015, this initiative has reached out to 6 000 NGOs/CSOs in India and South Asia. For the next phase of development under the eNGO Program, DEF has undertaken, together with PIR, to bring all the not-for-profit organizations across India and South Asia under the new top-level domain ".ngo" – which is specifically intended for genuine, validated NGOs – in the interests of fostering transparency and governance in the social sector.

With its focus on international implementation, the project meets **SDGs 1, 4, 8, 9, 11, 16** and **17** as it addresses such issues as quality education, economic growth, safety of cities and global partnership.

The Ministry of Communication and Information Technology of Indonesia has established in **Indonesia** the *Computer Security Incident Response Team – Internet Infrastructure/Coordination Center (ID-*

WSIS Prize Winner

Champion Project

SIRTII/GovCSIRT) under Regulation No. 26/PER.M.KOMINFO/05/2007 of the Minister of Communication and Information Technology concerning the security of telecommunication network utilization (SDGs 11, 16, and 17). The government incident response team aims to monitor and handle computer security incidents and emergency response in the area of information security.

Also in Indonesia, the *KAMI index* is an application that is used as a tool to analyse and evaluate the level of readiness and maturity of information security implementation in an organization, based on the criteria specified in SNI ISO/IEC 27001:2009 (SDGs 4 and 11). The index, which is based on Ministerial Circular Letter 05/SE/M.KOMINFO/07/2011 regarding the implementation of information security governance for public service operators, functions as an indicator of the implementation of information security at national level.

With respect to the interests of cybersecurity and cyber resilience, in 2014 the Government of Indonesia established the *Desk Ketahanan dan Keamanan Informasi Cyber Nasional (DK2ICN) (National Desk on Cyber Resilience and Information Security)* project, which includes the representation of ICT multistakeholders. Among other duties, DK2ICN was mandated to effect coordination, collaboration, synchronization, harmonization and control cooperation between institutions of all stakeholders, including government, academia, civil society and business and industry at national, regional and global level. DK2ICN will shortly become the Indonesia National Cyber Agency.

The project contains resources for the implementation of certain SDGs, namely SDGs 3, 8, 16 and 17, promoting well-being for all and sustainable economic growth, and building inclusive institutions at all levels and global partnership for sustainable development.

In Japan, the Ministry of Internal Affairs and Communications (MIC), as the ministry in charge of infocommunications, which is one of the critical infrastructures, is actively promoting measures for information security in order to establish an environment for people to use infocommunication networks with ease (SDGs 4 and 8,). These include implementing projects such as *Proactive Response Against Cyberattacks Through International Collaborative Exchange* (PRACTICE), *Cyberdefence Exercise with Recurrence* (CYDER) and *Advanced Cyberthreats Response Initiative* (ACTIVE), promoting information sharing among telecommunication operators and enhancing educational and awareness-rising activities for the public.

Also in Japan, the police tackle threats in cyberspace through *mutual cooperation* between the units responsible for community safety, security and infocommunications (SDGs 16 and 17). The Community Safety Division is in charge of cybercrime countermeasures, the Security Division is in charge of cyberattack countermeasures, and the Infocommunications Division is in charge of providing technical support to the other two areas. In July 2012, the National Police Agency (NPA) established a new post, *Director-General for Cybersecurity*, within the Commissioner General's secretariat, in charge of cybersecurity strategies, in order to enhance the unified strategic efforts of NPA to address various difficult challenges in tackling threats in cyberspace. Under the Director-General, a cross-departmental structure is being promoted, as well as measures focusing on ensuring an analysis /enforceability system, based on enhancing abilities to counter cyberthreats and cyberattacks, strengthening public-private cooperation/international cooperation, and advancing infocommunication technology.

In Japan, the Ministry of Internal Affairs and Communications has been running two remarkable projects.

WSIS Prize Winner

Champion Project

Promotion of use and flow of personal data considering privacy protection etc. was born from the realization that it is necessary to make rules for personal data utilization clear, striking a balance between the free flow of information and privacy protection (SDGs 11 and 16). The Ministry organized a study group on the use and flow of personal data and, in June 2013, this group released a report which sets out a framework for the utilization of personal data and how to implement it. In the same month, a basic strategy on governmental IT policy, entitled "Declaration to be the World's Most Advanced IT Nation" (June 2013 Cabinet Decision and IT Strategic Headquarters Decision), was agreed by the Cabinet. To investigate and consider the clarification of utilization rules on personal data and other matters, the Study Group on Personal Data was set up under the IT Strategic Headquarters. It is now considering these issues.

The *Development of security policy* initiative was conceived against the backdrop of people's everyday lives and socioeconomic activities being increasingly dependent on ICTs and the development of affordable, high-speed broadband networks. Enhancement of information security is essential in order to realize a secure and safe environment for the use of ICTs (SDGs 8, 11, and 16). Based on such policy packages as the Cybersecurity Strategy, the Ministry of Internal Affairs and Communications, as the ministry in charge of information communication – a critical element of infrastructures – is actively promoting measures for information security in order to create an environment in which people can use information communication networks with ease. Such measures include implementing the Proactive Response Against Cyber-attacks Through International Collaborative Exchange (PRACTICE), CYber Defense Exercise with Recurrence (CYDER) and Advanced Cyber Threats response InitiatiVE (ACTIVE) projects, promoting information sharing among telecommunications operators, and enhancing educational and awareness-rising activities for the public.

In Malaysia, Arash Habibi Lashkari, a Malaysian Senior Lecturer and Research Adviser in computer and information security devised a *graphical password for mobiles and tablets*. This new graphical password specifically designed and developed for mobiles and tablets is suitable for all websites, online shopping and e-businesses (SDGs 9 and 16). It is resistant to five common types of authentication process attack and boasts more than 90 per cent usability features for users.[22]

In 2014, Pakistan undertook the successful *3G/4G Spectrum Auction and Provision of High Speed and Affordable Internet Connectivity* project through the Ministry of Information Technology, Ministry of Finance and Pakistan Telecommunication Authority (SDGs 9, 16, and 17). This has helped provide cheap and steady Internet connections to citizens and opened up opportunities for the next generation of mobile services in Pakistan. It will also help to generate millions of direct and indirect jobs, provide global Internet access to users through smartphones, which will boost growth in sectors like banking, the media and retail business, and lead to phenomenal improvements in services such as health and education.

In the Philippines, in line with the vision of making the world safe in exchanging digital information, the *Internet Safety for Kids and Families* initiative is a global programme that aims to empower children, their families and guardians, and the communities they belong to, in creating a safer digital environment for children to learn and thrive without fear of online abuse or harm or other malicious digital content (SDGs 4 and 11). The programme is a result of collaborative efforts by Trend Micro, Inc. employees and volunteers

[22] *Project nominated for a WSIS Project Prize 2014*

WSIS Prize Winner

Champion Project

who seek to educate and inspire young digital citizens through meaningful interactions, projects, and partnerships with like-minded organizations.[23]

The *Cybersecurity Awareness Alliance* is an initiative that aims to raise awareness and encourage the adoption of cybersecurity practices in Singapore (SDG 17). Through the Alliance, programmes have been implemented in partnership across the public, private and people sectors. The Alliance organizes a yearly Cybersecurity Awareness Day to reinforce security awareness messages. The Alliance has set up online outreach platforms, including a web portal that contains cybersecurity resources and articles for various target groups and a Facebook page to engage online users on cybersecurity related topics.

[23] *Project nominated for a WSIS Project Prize 2015*

WSIS Prize Winner

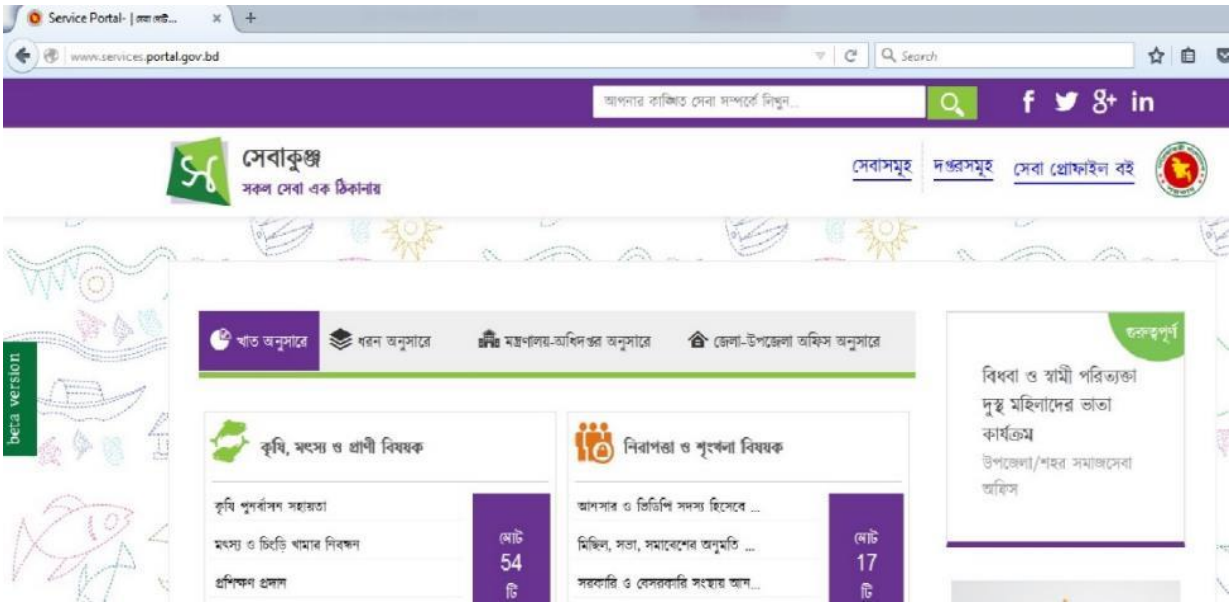
Champion Project

C6. Enabling environment

Digital **Bangladesh** is a long-term vision of human development through leveraging the flexibility and ubiquity of ICTs. With a whole-of-government approach, a2i (Access to Information) – the facilitator of this innovative agenda from the Prime Minister's Office – has mobilized the entire government machinery through:

- service process simplification (SPS) and the Services Portal – tool
- a systematic capacity development approach – capacity
- annual performance agreements (APAs) – policy support.

This combination has created an enabling environment to empower civil servants at all tiers of government to improve the quality of services by reducing service delivery inefficiencies. The project also aims to increase transparency, efficiency and responsiveness, while addressing the empowerment of women, inequality and global partnership (**SDGs 1, 5, 10, 16** and **17**).



The first *IT Park* in **Bhutan** was established in Babesa, Thimphu (the capital). The overall objective of the IT Park project was to increase productive employment in Bhutan by fostering enterprise development in the IT/ITES sector, enhanced IT skills and improved access to finance. The project contributes to **SDGs 4, 8, 9, 10, and 17** and is aimed at promoting innovation and entrepreneurship in the country, providing gainful employment to the growing youth population and promoting inclusive growth, which is critical for laying a strong foundation for the Bhutanese information society. The Thimphu Tech Park houses the *Bhutan Innovation and Technology Centre*, which includes the business incubation centre, a shared technology Centre, and a Tier II data centre. Out of 13 fledglings hosted in the IT Park's incubation centre, three have already graduated and are fully running their own business. *Data Centre Services* is a joint venture between a local IT company and Burland Technology. The **United Kingdom** has set up a data centre and hosted three

WSIS Prize Winner

Champion Project

local clients. So far, a total of 1 372 young Bhutanese have been trained and 1 009 are employed within and outside Bhutan.

Elaborated by the Department of Child Development, Women Development & Social Welfare, the *Trackchild 2.0* project is the National Tracking System for Missing and Vulnerable Children in India. It provides an integrated virtual space for 17 100 police stations, 5 500 child care institutions, citizens and various national law enforcement and ICPS (Integrated Child Protection Scheme) bodies. It also provides a networking system among all the stakeholders and citizens to facilitate tracking of a child in distress. The portal maintains a nationwide database of missing and found children who are covered by various services under the ICPS and Juvenile Justice (Care & Protection of Children) Act. The portal facilitates data entry and the matching of missing and found children, and also enables the progress of children who are beneficiaries of the ICPS Scheme to be followed up. The software provides facilities for the mapping of vulnerable locations, i.e. those which have a large number of children reported missing, so that corrective action can be taken in those areas.

The project accords with SDGs 3, 4, 5, 11 and 16 dealing with the establishment of healthy lives, quality education and the strengthening child protection and promotion of peaceful societies.

The eighth *Internet Governance Forum* (IGF) was held in October 2013 in Bali, Indonesia, on the overarching theme of *Building bridges: Enhancing multistakeholder cooperation for growth and sustainable development* (SDGs 4, 16, and 17). The eighth IGF introduced new formats and refocused some of the forum's traditional issues, in line with the evolving landscape of Internet governance discussions.

In Indonesia, the goal of the *i-CAKAP* programme, launched by the Ministry of Communication and Information Technology, is to raise the awareness and build the capacity of communities with respect to the use of ICTs in a smart, creative and productive way for a sovereign Indonesia. The programme seeks to

WSIS Prize Winner

Champion Project

help those using the Internet to do so effectively and wisely and to teach them how to develop innovative products/services that are beneficial both to themselves and to other people, thereby improving their livelihoods. It consists of the following activities:

- Initial Initiative (2010). i-CAKAP was initiated through the Gema Insani Declaration in 2010, when 21 institutions – ministries, local government entities, religious organizations, Internet provider associations, teacher associations, schools and universities – declared their commitment to safe and secure use of the Internet to create a knowledge-based community in Indonesia.

- Raising Awareness (2011-present).The Declaration was then followed up by various social actions aimed at making the community aware of the need to use the Internet in a safe and secure way.

- Building Capacity (2011-present). The social actions also covered topics for enhancing the community's ICT skills, such as blog creation, e-commerce, etc.

In 2015, there are 21 social actions and training-of-trainers events being conducted in 18 areas within Indonesia. There are 2 966 people, mostly students in junior and high school, gaining knowledge and skills in the use of ICTs in everyday life. Aside from the social actions and training of trainers, the Ministry conducted a competition in 2013 and 2015 to search for talented high school students to serve as role models in the use of ICTs in smart, creative and productive ways.

The project perfectly reflects SDGs 4, 5, 10 and 16 as it addresses equitable quality education, gender equality and peaceful and inclusive societies.

In Japan, in order to comprehensively verify the degree of attainment of indices on the spread of broadband and the status of compliance with fair competition requirements, the *Fair Competition Review System for Promoting Broadband Dissemination* has been in operation since the 2012 fiscal year (SDGs 8, 10, and 16). In addition, on the basis of the Japan Revitalization Strategy (June 2012 Cabinet decision), as from July 2013 the government has initiated verification processes concerning competition policies in the telecommunication area, with a view to developing the world's top-level telecommunication infrastructure.

In New Zealand, the *Digital High Impact Programme* (HIP) was officially launched in December 2013 and has received project funding of NZD 3 million from the Ministry of Business, Innovation, and Employment

WSIS Prize Winner

Champion Project

(MBIE). The main objective is to create initiatives that support high export growth companies in New Zealand, so as to leverage further growth (SDGs 9 and 17). The programme is delivered by New Zealand Trade and Enterprise (NZTE) and Callaghan Innovation, working in partnership with the New Zealand Technology Industry Association (NZTech). It targets support to firms working in the areas of software as a service (SaaS), web services, software development, gaming development, post production, animation and mobile technology.[24]

In Pakistan, the Universal Service Fund under the Ministry of Information Technology of the Government of Pakistan has plans to initiate a *Telecentre Project* in 2015, involving the setup of 500 universal telecentres across the provinces of Pakistan, including the Federally Administered Tribal Areas and Islamabad Capital Territory. They will provide public access to ICT services primarily for people in unserved or underserved rural and semiurban areas of Pakistan (SDGs 4, 8, 10, and 17). The telecentres will follow international standards and be easily accessible. Space will be given to the National Database Registration Authority, mobile phone operators for SIM verification, and other agencies for providing e-services such as e-learning, e-commerce, e-agriculture, etc.

According to estimates by the Infocomm Development Authority of Singapore, between 1 and 2 GHz of spectrum will be required to deliver mobile broadband services in Singapore by 2025. As radio-frequency spectrum is a limited resource, to ensure the optimal use of scarce spectrum resources and to keep up with spectrum demand, Singapore has introduced a set of regulations for the use of television white space technology in the television broadcast band (SDGs 9, 11, and 16). The *Regulatory Framework for TV White Space* will make approximately 180 MHz of spectrum available on a license-exempt basis from November 2014. Singapore is one of the first few countries in the world to implement such a framework.[25]

[24] http://www.ict.org.nz/Category?Action=View&Category_id=311

[25] *Project nominated for a WSIS Project Prize 2015*

WSIS Prize Winner

Champion Project

C7. ICT Applications

E-government

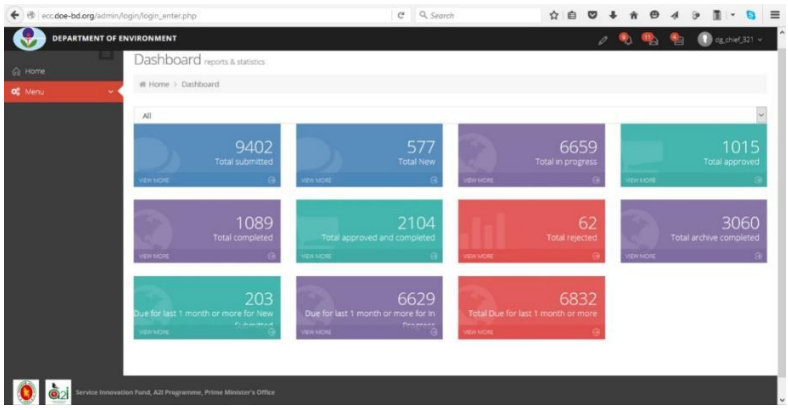
In **Bangladesh**, *Access to Information* (A2I) is a programme being implemented by the Prime Minister's Office with technical assistance from UNDP and the United States Agency for International Development (USAID). It focuses primarily on:

a) making government services responsive to citizens' needs; and

b) bringing public and private services "to citizens' doorsteps".

Recognizing that non-transparent service delivery increases the scope for rent-seeking behaviour and has an adverse impact on the ability of the poor to access the information and services they need in order to earn a livelihood, the project *Services@Citizens' Doorsteps,* which is being implemented under the A2I programme, is leveraging the flexibility and ubiquity of indigenous ICTs to quickly upscale various small prototypes, instilling a culture of innovation in the Bangladeshi civil service[26]; thereby contributing to **SDGs 16 and 17**.

In **Bangladesh**, the Department of Environment (DoE) developed the *Web-based Environmental Clearance Certificate (ECC) Application System* project. As the single most important agency mandated to preserve and protect the environment, DoE had to handle the reluctance of businesses to apply for the ECC on account of the cumbersome and time-consuming application process. By developing an innovation supported by the Service Innovation Fund (SIF), it has re-engineered this project, making it more transparent, accessible, accountable and user-friendly, resulting in a 200 per cent jump in applications and a 20/57/33 per cent decrease in time/cost/visits, respectively, within seven months of its launch, doubling the corresponding revenue and demonstrating visible progress on **SDGs 9** and **13** – building of resilient infrastructure, promotion of sustainable industrialization and combating climate change and its impacts.



26 *Project nominated for a WSIS Project Prize 2014*

WSIS Prize Winner

Champion Project

In Bhutan, the Ministry of Information and Communication, as the lead ministry for the promotion of ICT in Bhutan, has taken numerous initiatives to prepare Bhutan for the knowledge society, including building ICT backbone infrastructure and improving access thereto, developing and promoting the use of application systems, creating the right environment by putting in place appropriate policy and legislative instruments and providing ICT education. In order to further advance the government's ICT agenda, the ministry, in consultation with other ministries and agencies, has developed the *e-governance master plan*. Consolidating the gains made in recent years, the e-governance master plan provides a further set of holistic ICT programmes and strategies to further the government's vision of an information society. The overall objective of the master plan is to enhance effective and transparent political and administrative processes within the government, to enable and facilitate the growth of the Bhutanese information society and to act as the key enabler for socio-economic development (SDGs 9 and 16). The plan provides a coherent and holistic view of the ICT strategies, initiatives and projects that the government will implement over the next five years.

In Bhutan, the Ministry of Information and Communications created the *Community Centre (Empowering Rural Communities - Reaching the Unreached)* project, which is a single window where all citizens can access numerous government and business services. It is also the point where all these services converge. Content providers can link up with service provider agencies, be they government or private, and share the community centre platform for delivering services under a revenue-sharing agreement. It is the front-end point for government, business and social-sector entities to deliver their services to the citizens of Bhutan. The main objectives of the project are to reduce poverty, empower communities and improve the quality of life and education in rural and remote areas of Bhutan by facilitating access to ICTs, media, postal, banking and other services (SDGs 1, 4, 8 and 10).

In India, *Project Arrow* is an initiative to transform India Post by improving the look and feel of post offices and using IT-based key performance indicators (KPI) to monitor and improve their core operations (mail delivery, remittances, postal savings schemes and office services). To complement these efforts, the *Mail Network Optimization Project* was launched in 2010 to consolidate mail offices, redesign processes and introduce a KPI-based online monitoring system. Another step towards improvement of service delivery

WSIS Prize Winner

Champion Project

was the introduction of a citizen-centric web-based grievance mechanism to redress, monitor and prevent public complaints.[27] This initiative thereby relates to SDGs 9, 16, and 17.

In India, *Kanyashree Online 3.0* is a multi-user government to citizen (G2C) application that provides comprehensive e-governance of *Kanyashree Prakalpa*, a conditional cash transfer (CCT) scheme implemented by the government of West Bengal. Kanyashree Prakalpa aims to reduce child marriage and increase the educational status of adolescent girls, thus promoting healthy lives, equitable, quality education, gender equality as well as peaceful and inclusive societies (SDGs 3, 4, 5, 10 and 16). Kanyashree Online provides end-to-end ICT-enablement to the scheme, serves as a real-time monitoring mechanism for the scheme's MIS, and promotes the scheme's accountability, transparency and efficiency.

In Japan, e-government is promoted on the basis of the *Declaration to Be the World's Most Advanced IT Nation* (June 2013 Cabinet decision and IT Strategic Headquarters decision). In order to enable everyone to use one-stop public services anywhere and anytime, the Government of Japan plans to provide administrative e-services, to reform administrative information systems through the government and local government, and to strengthen its own IT governance (SDGs 9, 16, and 17). For this purpose, it is promoting the open government and the consolidation or integration of government information systems by constructing the *Government Shared Platform*, which began operations in March 2013, and utilizes cloud computing technologies.

In Malaysia, in line with the aspirations of the National Key Result Area (NKRA), the *Government Transformation Program* (GTP) aims to broaden access to high-quality education in the interests of improving student performance (SDGs 4 and 9). *The National Pre-School Information System* (SMPK) is intended to be a prime resource reference centre providing information for institutions, teachers and students on all public and private pre-schools in Malaysia, of which at present there are more than 24 000.

[27] *Project nominated for a WSIS Project Prize 2014*

WSIS Prize Winner

Champion Project

This initiative is the first of its kind to integrate information on pre-school learners' institutions throughout Malaysia. Accessible information includes profiles of teachers and teachers' assistants, students, and institutions.[28]

In **Mongolia**, the Information Technology, Post and Telecommunications Authority has designed an interesting project entitled *Public Service Delivery Electronic Machine* (**SDGs 16 and 17**). The aim of this governmental initiative is the transformation of public service into an electronic service in the public sector and to deliver more convenient, customer-oriented and cost-effective public services to citizens in a timely manner without bureaucracy.[29]

In **Pakistan**, the *e-Office (Basic Common Applications) Replication at all Divisions of the Federal Government* suite has been successfully implemented across federal ministries and divisions to automate core business processes through the internal communication, human resources, budgeting/finance, project management, document/file management and collaboration modules (**SDGs 8, 16, and 17**). The National Information Technology Board (NITB), under Pakistan's Ministry of IT, has rolled out e-Office in 11 offices including the Prime Minister's Office, National Assembly Secretariat, Finance Division and Ministry of Science and Technology. Through this, government operations are being brought into line with international e-government standards improving efficiency, effectiveness and transparency. This is a positive step towards delivery of e-citizens' services and promoting the concept of a paperless environment.[30]

The Board of Revenue, Punjab, **Pakistan,** initiated the *Land Record Management Information System (LRMIS)* project to improve the land records service delivery in the Province of Punjab, contributing to long-lasting tenure security. The outcomes expected from the project included increased access to land records at a lower transaction cost for the beneficiary, through a client-responsive service and increased level of tenure security for land-right holders. A key component of the project was the development and deployment of an automated land records system (LRMIS). The current LRMIS application was developed in a distributed environment with each Tehsil having its own server, LAN, storage, etc. The local information is processed locally and uses local storage. Periodically, each site uploads the local data to a hosted storage site at the data centre. Now the Project Management Unit (PMU) – Board of Revenue Punjab - has awarded Systems Limited the project of replacing the existing LRMIS application software for extension and enhancement as

[28] *Project nominated for a WSIS Project Prize 2015*
[29] *Project nominated for a WSIS Project Prize 2015*
[30] *Projects nominated for a WSIS Project Prize 2015*

WSIS Prize Winner

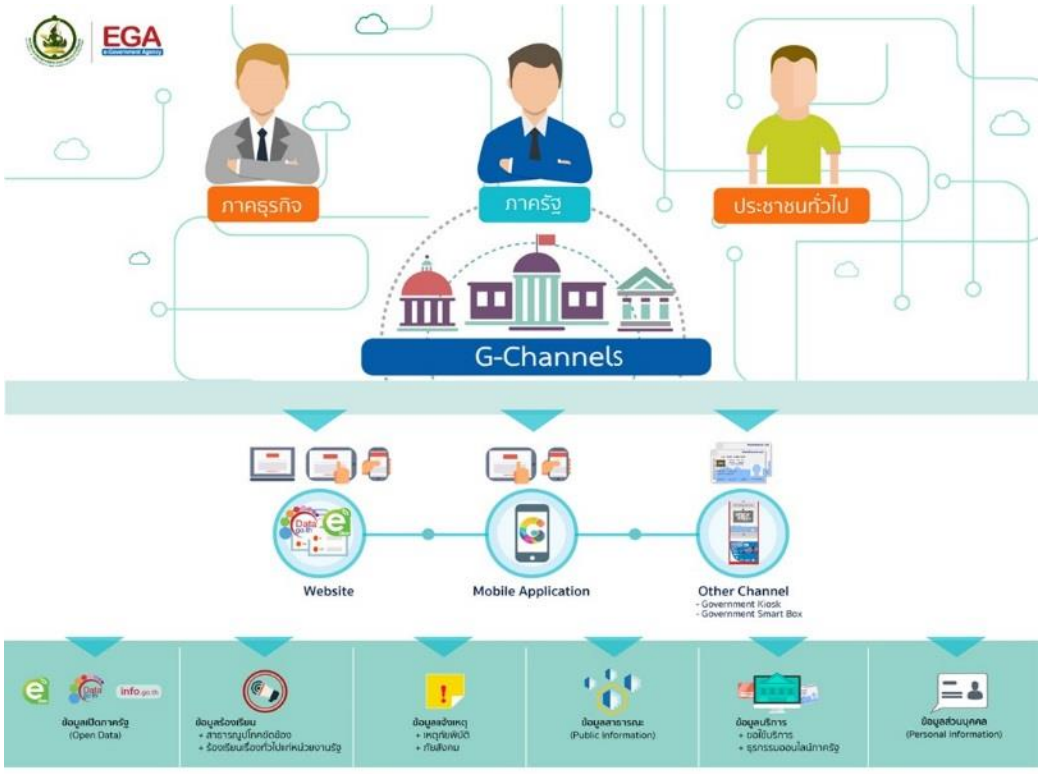
Champion Project

per additionally perceived user requirements. The new software system will be hosted at a centralized, purpose-built PMU data centre.

The project contributes to the economic growth of the country, which relates it to SDG 8 of the WSIS action lines.

The *Government Channels* project was initiated by the Electronic Government Agency of Thailand, to allow people to access useful and reliable information and benefit from the public services provided by government agencies from any location and at any time, using popular communication devices such as computers, smartphones, tablets kiosks, etc. (SDGs 3, 8, 9 and 10). Both government agencies and the private sector have been encouraged to increase service channels to serve people, especially in the form of mobile applications, and to develop more software as a service (SaaS). Currently, many services are provided through the following *channels*:

- Government e-Service Website Portal (Website: www.egov.go.th). People can reach the government services and data through the website from a personal computer whenever convenient.
- Government Application Center (GAC). Mobile devices such as tablets and smartphones can be used to access the government services and data.
- Government Kiosk. The Kiosk will be located in public areas for people to access the government services and data.



WSIS Prize Winner

Champion Project

E-business

In **Bangladesh**, several projects have been implemented for the purpose of developing rural areas and promoting the exchange of market and local product information through the creation of centres and online platforms (**SDGs 1, 8, 9, and 17**), such as:

- Future Solution for Business (FSB) Ltd implemented the *Amar Desh Amar Gram (My Country My Village*) project, focusing on e-commerce for poverty alleviation. The project aims to minimize the digital gap between rural and city life, by creating market linkages for rural communities. The *Amar Desh e-shop* is the virtual market for emerging rural communities in Bangladesh. The e-centres, established in rural areas as hubs, are run by trained members of the local youth community. They collect products from poor producers in all the villages, and then open up national and international markets for them.

- *Online Micro Small and Medium Enterprise* (MSME) secures access to timely information and helps to boost the competencies required to ensure business growth. The main objective is to introduce the *MSME Support Service* as an online platform to assist MSMEs and their stakeholders through the following services: 1) Advisory and information services (Online SME Doctor); 2) Online marketplace; 3) Members' Forum; and 4) Directory services. The Members' Forum is designed to categorize users according to their common interests. This has helped SMEs to unite under those common interests and will benefit them through the exchange of information. The primary target beneficiaries are MSMEs in rural, semi-urban and urban areas of Bangladesh. Groups benefiting from the service include: entrepreneurs at the individual, group and regional levels; associations and institutions; corporate customers; and rural artisans, whose products will be promoted in local and international markets.[31]

In **China,** China Telecommunications Corporation has introduced *NFC Mobile Wallet*. NFC Mobile Wallet is a client mobile phone application with an SWP-UIM card and NFC mobile phone as safety elements (**SDGs 8, 9, and 17**). Based on a Trusted Service Manager (TSM) platform, the application provides users with over-the-air download service to achieve a multipurpose card, while providing convenience and saving the costs involved in the release of the smart card application.[32]

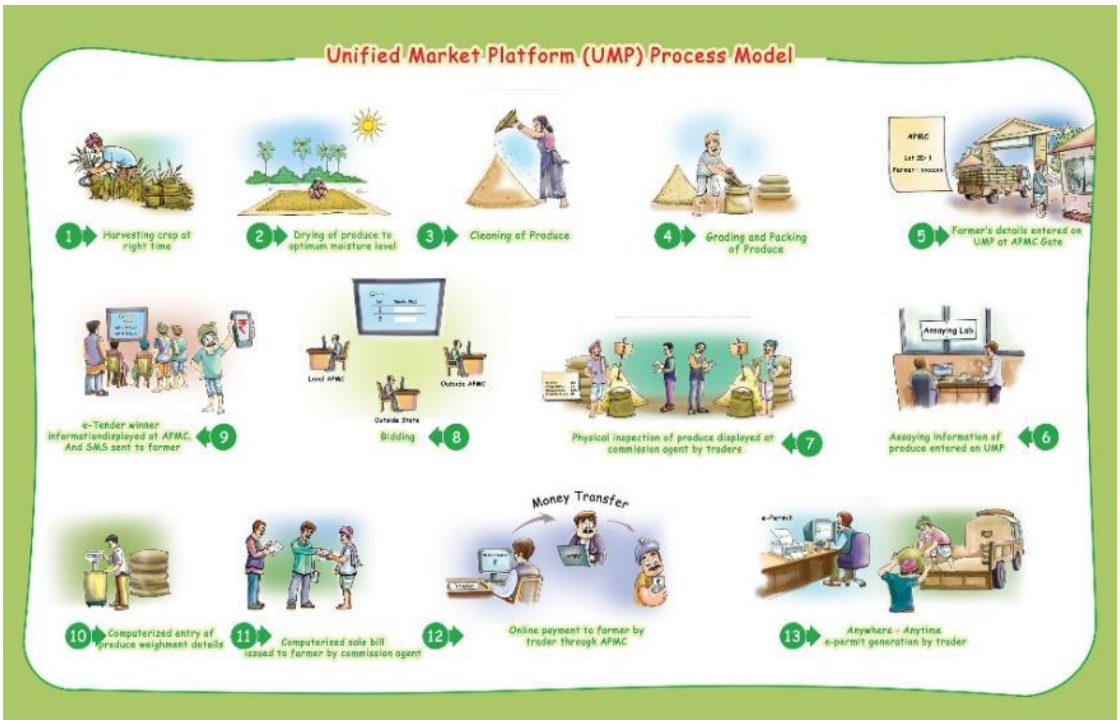
In **India**, the Rashtriya e-Market Services Private Limited (ReMS) created the *Unified Agricultural Markets* programme in order to make markets more efficient and competitive harnessing ICT. The e-auction platform has increased transparency in all market operations, with the effective dissemination of price information to farmers and increased competition for better price realization ultimately leading to enhanced livelihoods. The e-auction platform now connects the state agriculture markets to national buyers. Presently, 2.7 million farmer lots worth USD 1 691.87 million (93.98 million quintals) have been transacted. Farmers have witnessed increased prices and demand for their produce.

The programme's ambitious goals meet SDGs as they deal with poverty and food security, contribute to economic development and promote inclusive societies (**SDGs 1, 2, 8, 12** and **16**).

31 *Project nominated for a WSIS Project Prize 2014*
32 *Project nominated for a WSIS Project Prize 2014*

WSIS Prize Winner

Champion Project



Another project from **India,** *Microlekha-Connecting India to Disconnect Poverty,* uses 3G-connected tablets and an innovative, Android-based Microlekha application to improve the efficiency, profitability and transparency of microfinance institutions (MFIs) by automating and streamlining many routine tasks, expediting the loan application and approval process and improving communication with customers. These improvements work to build the confidence of borrowers in the lending process and stimulate the economic activity of underserved communities, thus fighting against poverty and gender inequality as well as promoting a peaceful society, which coincides with **SDGs 1, 5, 8** and **16** of the WSIS action lines. The new system also stores all know-your-customer (KYC) documents digitally, which eliminates the need for borrowers to submit paperwork each time they apply for a loan. Further, customers making loan repayments receive transaction receipts and account updates via SMS.

Hubco is a web-based service-oriented e-commerce system with ICT development impacts on the businesses of the **Islamic Republic of Iran** that includes a software solution along with all the required processes (e.g. development, training, support, sales and marketing, business consultancy and

WSIS Prize Winner

Champion Project

empowerment) and infrastructures for providing the supply chain management (SCM) functionalities as a service to the suppliers and consumers. Launched two years ago, the Hubco Network acts as a match-making service among consumers of materials and their suppliers, providing information on the price and quality of the goods they need. The primary target audiences of this network are more than 3 million small and large businesses in the country, which automatically makes the network very efficient. It also contributes to economic development, facilitation of infrastructure development as well as the strengthening of technological capacity to move towards more sustainable consumption and production patterns (SDGs 8, 9 and 12). Presently, the system is active in the cement, power, industry, food, transportation and steel industries. One of the services of this network is e-procurement. Consumers send their requests for quotation (RFQs) to this network and interested suppliers provide their responses. The consumer can see and compare the responses and choose the best supplier among the existing suppliers with the help of this system.

In the Islamic Republic of Iran, the Data Processing Company launched *Hubco*, an *e-procurement system*. This e-commerce network operates within the supply chain of any industry as a matchmaking system between vendors and suppliers (SDGs 8 and 9). In this web-based system, suppliers and vendors can register themselves, their capabilities and their products. Also, organizations (e.g. companies, factories) requiring certain products and/or services can use the system to submit enquiries. The system automatically recognizes the required items and distributes the requests to the registered suppliers/vendors. Suppliers can then, via the system, send their quotes in response to the requests. The system uses algorithms and processes to rank the quotes for the requester, which can then order from the supplier of their choice. Revenue is generated for the system through membership packages, advertising, information sharing, and so on. The system, acting as a hub in the supply-chain management of any industry, can link many suppliers among the existing industries within a country or even abroad.[33]

Hubco is an e-business solution that provides e-procurement and all related services based on a software as a service (SaaS) computing model, cloud computing and mobile computing to businesses in the Islamic Republic of Iran (SDG 8). Hubco is not just a technical IT solution: as part of its business model, the company provides business empowerment services to enable businesses, especially small and medium-sized enterprises (SMEs), to use the services provided by the system. These empowerment services are IT consultancy, leveraging the ICT infrastructure of the business, and providing the ICT skills and knowledge development programs needed to improve ICT skills and knowledge levels among employees to help them use the application and its services.[34]

In Nepal, *TrackMandu* is a solution allowing the general public and private fleets to obtain information on their cellphones and computers. The information consists of their current location, timestamp, speed and course of their fleet. Basically, there are 4 components to this system: device (GPS/GSM-based), web server that runs the application, database server that handles the database (accessible only by web server) and mobile/web application communicating with the server to request the data required by the application.

The project perfectly contributes to SDGs 10 and 16, providing equal public access to information and reducing inequality among Nepal's population.

[33] *Project nominated for a WSIS Project Prize 2014*

[34] *Project nominated for a WSIS Project Prize 2015*

WSIS Prize Winner

Champion Project

In the **Philippines**, the *Hapinoy Mobile MicroBusiness (Money) Hub*, a programme co-developed with Qualcomm Wireless Reach, addresses the concern of financial and digital inclusion in rural areas. The programme's shared vision is to bring mobile-based services closer to these rural communities, most especially to the financially and digitally excluded. This is done by enabling women micro-entrepreneurs who own hole-in-the-wall-shops with mobile technologies to offer mobile money services, mobile payments and mobile commerce.

Thus, the programme combats poverty and gender inequality and promotes economic development in the country (**SDGs 1, 5, 8** and **10**).

Thaitrade.com is **Thailand**'s official B2B e-marketplace, operated by the Department of International Trade Promotion since 2011. Acting as an online channel for international buyers to trade with Thai sellers from all regions of Thailand, its main goal is to create international trade opportunities for Thai SMEs by strengthening their competitiveness through free-of-charge online marketing and trading tools and 24-hour-a-day assistance (**SDGs 8 and 17**). Creating over 13 000 Thai SME sellers and 60 000 global buyers to serve over 2.1 million users worldwide, thaitrade.com has helped train over 30 000 participants from all parts of Thailand, encouraged 3 000 new export business start-ups and facilitated over 1 200 business negotiations generating an export value of more than USD 250 million.[35]

[35] *Project nominated for a WSIS Project Prize 2015*

WSIS Prize Winner

Champion Project

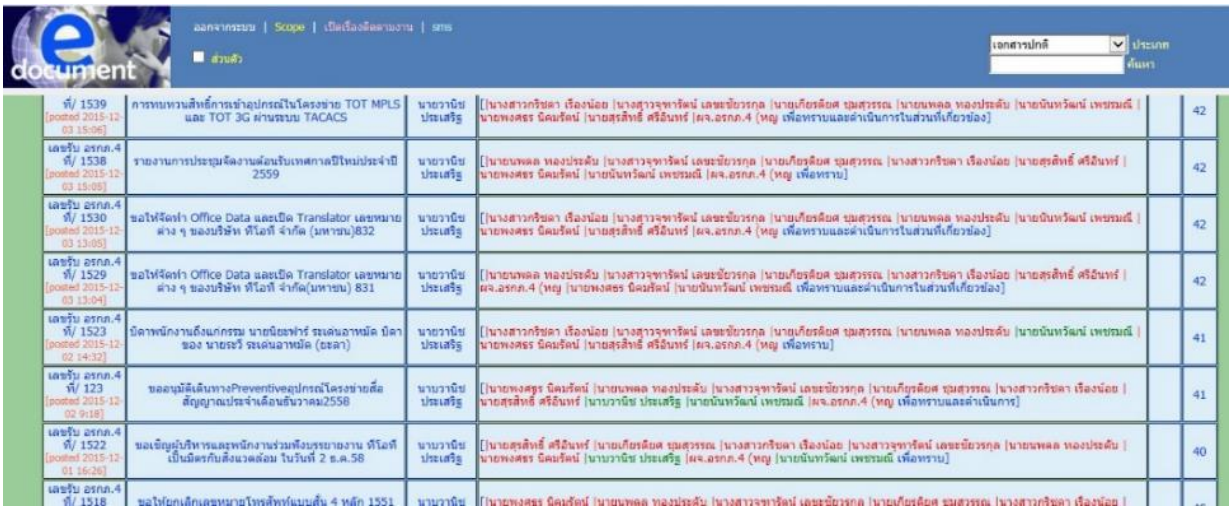
Thailand boasted four projects within this category aimed at promoting its economic development, providing lifelong learning opportunities for its citizens and achieving full and productive employment (SDG 4 and 8).

Initiated by the Electronic Transactions Development Agency (public organization), the *National Payment Message Standard (NPMS)* project comprises payment message standard setting deemed to be crucial for future phases of payment systems development. The standard enables businesses and financial institutions to exchange payment data more conveniently by using standardized messages complying with ISO 20022 (Financial Services) in order to reduce data handling costs. The NPMS has been continually developed and improved by its stakeholders which include the Thailand Payment Market Practice Group (TH-PMPG), consisting of commercial banks, financial institutes and corporations.

WSIS Prize Winner

Champion Project

The *Electronic Document Management (EDM) System* aims to improve the organization's filing system, ease file sharing within the organization, increase productivity by providing updated information to the intended personnel, and scrutinize any illegal sharing of files by unauthorized parties, without compromising the security of the organization vis-à-vis outside threat. The environmental impact is also taken into consideration through reduced paper document usage and optimization of office space previously used for storing paper files (SDG 15). File back-up and ease of access by designated and authorized personnel at different locations within the organization constitute further advantages of this programme.



Thailand's *Location Information Management System (LIMS*) is an accident notification system available via the customer's smartphone for the motor insurance business. A claim submitted by the customer, including claim details, can be received immediately after the accident. LIMS is easy to use, and enables customers to conveniently submit their claims or make a prompt appointment with the surveyor via the smartphone interface. The precise accident coordinates will be sent by the customer to the call centre using the smartphone's GPS signal, reducing the stress associated with explaining the accident location. The surveyor can refer to the GPS coordinates and find the location quickly and easily.

The project thus contributes to promoting well-being for its customers (SDG 3).

In **Thailand**, the *Location-Based Information System (LBIS)* was developed as the most effective tool for executives to efficiently conduct business analysis, evaluate marketing strategies, and ultimately make optimal business decisions. Moreover, LBIS is fully supported by Microsoft Azure (cloud platform), thereby enabling businesses to swiftly expand their services globally. A key attribute of this fully web-integrated system is to precisely and accurately present business information topographically. For any large organization with massive data distributed across many systems, LBIS effortlessly compiles all information to be analysed without compromising the current systems or altering the staff's roles and responsibilities.

E-health

In **Australia**, the Department of Health and Ageing has established the *My Child's e-Health Record* mobile app, which lets parents add and monitor information like immunizations, height, weight and developmental milestones (**SDGs 3 and 4**). Developed in Australia, this is the first smartphone application developed by the

WSIS Prize Winner

Champion Project

Australian Government's e-health record system. Before downloading and using the app, parents must have registered their child or children for a personally controlled e-health record. The app then allows parents to view and add information to the child development part of their child's e-health record. This includes individual information on a baby or young child's head circumference, height and weight, information and reminders about immunizations and child health checks, and observations by parents about their children's personal growth and achievements.

In Bangladesh, maternal deaths can be reduced if pregnant mothers know their blood type and can find blood donors immediately (SDG 3). Over 70 per cent of female villagers in Bangladesh do not know their blood type. Storing blood is a challenge because of the lack of storage facilities, but it is possible to store donor contact details. This "virtual blood bank" can be accessed at any time by phone or the Internet to find the nearest donor. During the pilot phase, 22 organizations were reached and 3 500 records entered. It is hoped that 20 000 people will be reached in 2014 by collaborating with organizations in Bangladesh and abroad using the proposed business model.[36]

Healthcare becomes more inclusive when patients can receive text messages from their doctors on their mobile devices. Patient reminders, notifications and alerts improve patient follow-up.

In Bangladesh, *Amader Dakter*, by mPower Social Enterprises Ltd., is a market-driven healthcare model for rural patients seeking direct access to doctors (SDGs 3, 8, and 11). It allows a rural patient to be registered, screened and guided to a video/audio consultation with a remote doctor, and to receive a printed prescription through a trained intermediary. The intermediary collects the patient's medical data and communicates them to the doctor, carries out any further examinations requested by the remote doctor, and conveys the doctor's instructions back to the patient. The intermediary providing this service purchases technology and training as a one-time investment and collects a fee from patients for the consultation. This fee is then shared between the intermediary and Amader Daktar.[37]

[36] *Project nominated for a WSIS Project Prize 2014*

[37] *Project nominated for a WSIS Project Prize 2015*

WSIS Prize Winner

Champion Project

The "*mHealth*" project, by Synesis IT Ltd., is a 24/7 mobile-based medical counselling and health information service that targets every resident in **Bangladesh**, but primarily those residing in rural areas. The project aims to alleviate the issues of people who have relatively poor access to health services and live in areas that are prone to health issues involving common diseases, maternal health, childcare, and so on (**SDGs 1, 3, 4, 10, and 17**). Through the use of cellphones, mHealth provides a 24/7 health-related information and medical counselling service, with the help of specially trained registered physicians. Since the project was launched, a total of 8 million calls have been handled, and currently around 9 000 calls are handled every day.[38]

Two projects from **Bangladesh** relate to health quality systems – **SDG 3** of the WSIS action lines.

The Ministry of ICT initiated the *Development of Bangladesh National Formulary (BDNF) Online: The Authority on the Selection and use of Medicines in Bangladesh* project. Prior to this initiative, Bangladesh had no online version of drug information; moreover, there was a risk that the information could be of dubious quality and even misleading, owing to cultural and language variations. The other problem was that unauthorized and commercial online drug indexes could contain advertising, and confusing, biased or wrong information. BDNF Online is an informative pharma-indexing website providing tailored solutions for the Bangladesh market that comprises more than 30 000 prescription drugs, over-the-counter medicines and natural products according to the official publications of the Directorate General of Drug Administration (DGDA). The BDNF Online is designed to be a digest for rapid and easy reference, where one can find drug information specifically on the drugs available in Bangladesh, through ICT.

The Amader Gram Breast Cancer e-Health Center is a diagnostic and treatment programme for women with any kind of breast problem in **Bangladesh**. The centre provides, in one place, affordable and high quality services in order to:

- diagnose breast problems

[38] *Project nominated for a WSIS Project Prize 2015*

WSIS Prize Winner

Champion Project

- keep electronic medical records
- take pathology tissue samples if necessary,
- plan treatment
- provide medical treatments for breast cancer (chemotherapies and hormonal therapies)
- provide symptomatic care at home using regular cellphone communications for women with serious cancer problems.

Thus, the programme meets several SDGs in regard to ensuring healthy lives, promoting lifelong opportunities, gender equality, etc. (SDGs 1, 3, 4, 5 and 10).

Despite significant health achievements in recent years, the absence of a properly functioning health information system (HIS) in Bangladesh has prevented policy-makers from monitoring the population's health in real time and targeting interventions accordingly. Bangladesh's HIS is highly fragmented, with multiple overlapping reporting systems resulting in heavy paperwork and poor data quality. For this reason, the Germany's Society for International Cooperation (Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH) elaborated *A Quiet Revolution: Strengthening the Routine Health Information System in Bangladesh* project that has distributed laptops and wireless modems to almost 15,000 government-run health facilities countrywide (SDG3.d). Some 7 000 facilities now report routine information electronically, using DHIS2.

In India, the Centre for Development of Advanced Computing (C-DAC), in Hyderabad, has developed the *MOTHER* tool, a mobile-based system enabling the beneficiaries to receive vital information, in the form of voice calls, related to pregnancy, nutrition and child care; thereby related to SDGs 3, 5, and 9. The MOTHER tool demonstrates how effective use of a simple technology can transform delivery of health services for the benefit of underserved communities. It was developed to capitalize on a key strength of mobile phones - voice calls - in rural communities, particularly among illiterate women. The main objectives are:

- to create health awareness among pregnant and nursing women by providing expert health advice through mobile-based voice call alerts;

WSIS Prize Winner

Champion Project

- to involve men in pregnancy and child care, and to make them aware of pregnancy-related special needs and healthcare issues;
- to encourage women to utilize and participate actively in various government health programmes.[39]

Centralized information systems, analyses, control management and information networks are crucial for the public health sector and for health action and advocacy worldwide.[40]

In India, *Trust+* is an innovative app solution which uses a social media app platform to connect parents, adolescent girls and boys, differently abled children and teachers so they can discuss sexual and reproductive health-related topics without any hesitation. Trust+ works to eradicate the social stigma which stops users from talking about their sexuality in a contextually fit, age-appropriate, normal and humanly sensitive way. This has a high impact in preparing the next generation to fight against sexual abuse in schools and at home and empower them to talk about such topics in a respectful manner.

The project relates to several SDGs, by ensuring healthy lives, equitable quality education, gender equality, etc. (SDGs 3, 4, 5 and 11).

Pompi Club is an initiative from the National Agency for Food and Drugs Control of Indonesia, relating to the means of sharing large amounts of information and ideas about health issues, including but not limited to good nutrition, quality products for consumption, pollution, safe and unsafe food, preservatives and food colouring, and many more, thus matching SDG 2 on achievement of food security and good nutrition for everyone. This website platform is established as a reference for the family, especially children, in terms of health awareness and food safety. The website is also equipped with e-learning materials such as e-book, interactive games, with many of interest to children, making education on health more interesting and exciting (SDG 4).

In Malaysia, the *Compact Rehabilitation Robot (CR2)* is developed to help therapists in assisting patients' rehabilitation training and their further motivation using virtual reality games. It is a compact rehabilitation robot that provides multiple customizable therapy modes including smart assistance therapy, wherein the robot assists the patient's training movement when required and applies resistance to improve the patient's muscle strength. The CR2 robot provides three training modes: passive, assistive and active. The training data are uploaded to the cloud and users can easily review progress via the Internet. With interactive robotic assistance, patients are more motivated to do physiotherapy training during the rehabilitation process, hence facilitating healthy life integration (SDG 3.7).

[39] *Project nominated for a WSIS Project Prize 2014*

[40] https://www.itu.int/wsis/review/inc/docs/ralfreports/WSIS10_ALF_Reporting-C7_E-Health.Summary.pdf

WSIS Prize Winner

Champion Project

NASAM News

At the handover of the CR2 series – (from left) Dr Yeong of UTM, guest-of-honour Associate Professor Dr Arham Abdullah, Director of Industry Relations Division, Ministry of Education, Chris Low, NASAM Vice-Chairman and Sylvia Chong, NASAM General Manager.

COMPACT REHABILITATION ROBOT - CR2 PILOTS AT NASAM PJ

Since October 2014, selected members at NASAM PJ have been training with a new rehabilitation device, the CR2-Haptic and the CR2-Motion, designed to improve muscle control.

The CR2-Haptic is used to improve wrist and forearm movement, more importantly, the system is able to sense and automatically provide assistance when needed or resistance, when the user starts to improve. The CR2-Motion is a rehabilitation system that is used to train arm and trunk movement. Both systems keep members engaged through fun and motivating virtual reality games.

Both systems are on loan for one year following a collaboration between NASAM and Universiti Teknologi Malaysia (UTM). The Compact Rehabilitation Robot was invented by a team of researchers led by Dr Yeong Che Fai, a senior UTM lecturer. **(To know more about the technology visit cr2connect.com)**

Members Vivian Lee (above) and Tan Chin Huat (below) exercising the fun way with the CR2-Haptic.

Another project from **Malaysia** entitled *InnovaBoard* relates to a number of SDGs on health quality, education, economic development, etc. An interactive wobble board called InnovaBoard is developed to help people to improve their body balance through training and strengthen their ankle muscles, and further motivate them with virtual reality games. It is a compact training device that provides multiple levels of difficulty that enable patients to start with a very easy level compatible with everyone. Ankle sprain is an injury that affects many people, in particular athletes engaged in their sport, which is why the InnovaBoard has been developed. Other ankle rehabilitation possibilities are available on the market, but most existing systems are complex, enormous, too basic and less interactive.

Three projects from **Pakistan** meet sustainable development goals on quality healthcare services.

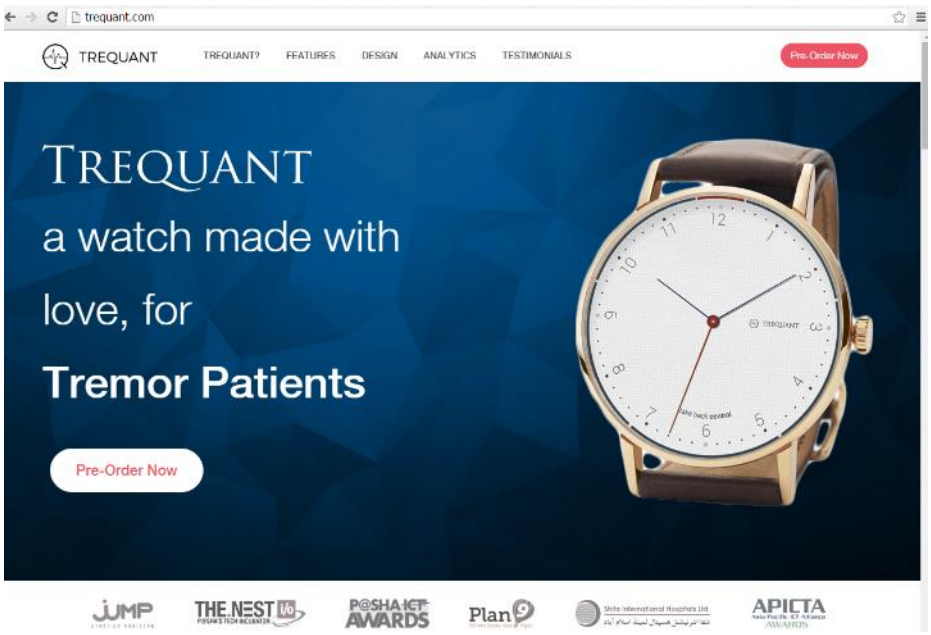
WSIS Prize Winner

Champion Project

Surgical care in Pakistan is very scarce owing to the low number of hospitals and surgeons and the high number of post-operative complications. *SmartSIM - A Cost-Effective Simulator for Minimal Invasive Surgery (MIS)* facilitates quick recovery and reduces post-operative infections. However, it requires special skills, like expert hand-eye coordination and precise handling of instruments. These psychomotor skills can be acquired through rigorous training. Various simulators have been developed for MIS training but their licences are very costly, making them unaffordable for developing nations like Pakistan. In order to overcome this issue, a cost-effective simulator SmartSIM was developed by the National University of Sciences and Technology (NUST).

The initiative has been successfully used to train hundreds of surgeons in order to ensure quality health and education systems (SDGs 3 and 4).

Trequant is a tremor quantifier which is used to detect, monitor and track tremor-based movement disorders in Pakistan. Its aim is to help people suffering from tremors to lead normal lives and also help doctors to cure these patients more successfully. At present, there is no proper way to monitor essential tremors and doctors cure such patients on a hit and trial basis. Data collected from this device will help pharmacies to develop medicines specifically for these patients. In such a manner, they can eventually be fully cured and lead normal and healthy lives (SDG 3).

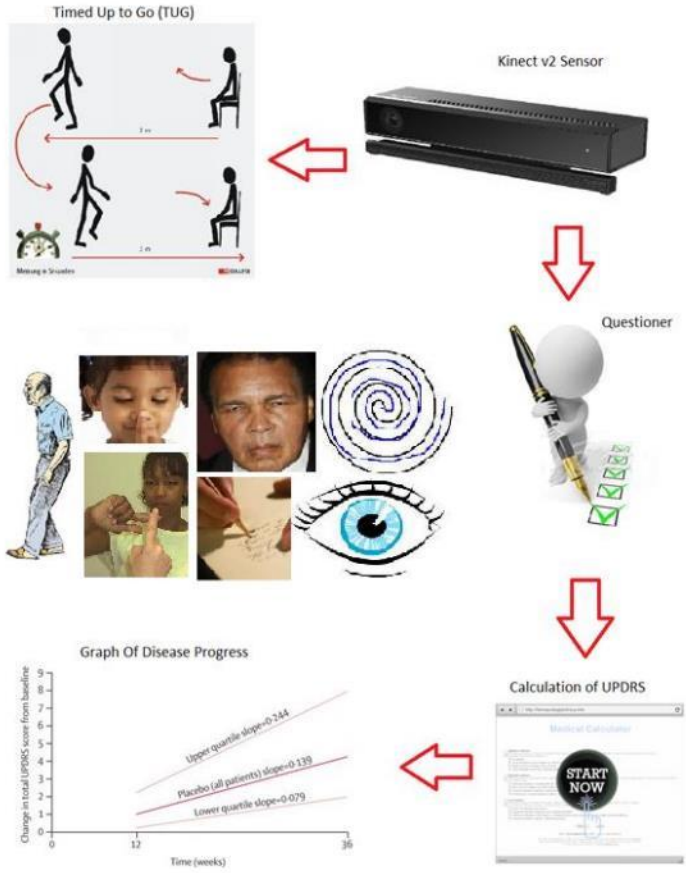


The last project from Pakistan within this category, the *Parkinson's Disease (PD) Management System,* is launched by the NED University of Engineering and Technology. Parkinson's disease is a degenerative disorder of the central nervous system. Studying the symptoms and current clinical methods of diagnosis, and focusing on the proposed methods of diagnosing motion-related disorders in people, the NED University proposed a technological solution to diagnose Parkinson's disease more accurately in its early

WSIS Prize Winner

Champion Project

stages by performing different (motion) tests on the patient according to the UPDRS through Kinect V-2 sensor powered by Microsoft.



In the Philippines, *RxBox 2 - Advancing Community Healthcare* is a multi-component programme comprising a telemedicine device capable of capturing medical signals through built-in medical sensors, storing data in an electronic medical record (Community Health Information Tracking System - CHITS), and transmitting health information via the Internet to a clinical specialist in the Philippine General Hospital for expert advice (SDGs 3, 8, and 9). It is designed to provide better access to life-saving healthcare services in isolated and disadvantaged communities nationwide through smarter diagnosis and fewer unnecessary hospitalizations.[41]

The *National Telehealth Service Program* (NTSP) is a developmental project that seeks to achieve "Kalusugan Pangkalahatan" or Universal Healthcare through the use of ICTs (SDGs 3 and 10). The project has two components, namely Telemedicine and R4Health (Real-Time Regular Routine Reporting for Health). Telemedicine supports physicians from geographically isolated and disadvantaged areas by enabling them

[41] *Project nominated for a WSIS Project Prize 2015*

WSIS Prize Winner

Champion Project

to access specialist clinical advice remotely through the use of tele-health tools (mobile phones and Internet). R4Health allows real-time regular routine reporting of health data using mobile technologies.[42]

Thailand has four remarkable projects.[43] "*SenzE*" is an eye-communication aid designed for paralysed patients, and is also the world's first eye-controlled system embedded with Thai software. OpenCV and image processing techniques are employed, and an HD camera detects and interprets a patient's eye movements (SDG 9). The patient can communicate by using a menu with sections for "my feelings", "my needs", "activities", "entertainment" and "food and drinks". A "chat" keyboard can be operated by the patient for correct, timely and efficient communication with doctors, relatives and attendants. SenzE is now supported in seven languages and has a real-time automatic system for translation into local languages. It also has a monitoring system allowing caregivers to monitor patients in real time. Patients who could use SenzE include those suffering from a stroke, ALS, spinal cord injury or other disabilities, and those in intensive care who cannot communicate by speaking or writing.

SenzE for charity is a CRS project to donate devices to ten public hospitals in Thailand (three devices per hospital) to improve the quality of life of more than 10 000 Thai patients so far.

SenzE is technology of the future for a better life and better tomorrow for humanity.

The Health Information System of the Ministry of Public Health (MOPH) of Thailand is a system for healthcare monitoring, governance and management (SDGs 3, 16, and 17). It comprises a health information "cockpit", healthcare monitoring system, and a healthcare dataset fed from all healthcare government service units throughout the country. The system is intended for governors, senior administrators and provincial healthcare authorities to allow monitoring and assessment of the healthcare situation. It uses the latest Java and PHP web technology, which are open source, for development on the MOPH private Cloud service platform.

[42] *Project nominated for a WSIS Project Prize 2015*
[43] *Projects nominated for a WSIS Project Prize 2015*

WSIS Prize Winner

Champion Project

The third project, the *Licensing of Animals and Animal Products for movement within the Kingdom of Thailand (e-movement)* helps to better organize data and keep the public informed by streamlining the licensing of animal and animal product transport (SDGs 3 and 4). It has helped to eradicate the avian influenza virus and reduce the chances of further disease outbreaks. The e-movement portal is accessible to 877 district livestock offices, 77 provincial livestock offices, and 54 animal quarantine station checkpoints in Thailand. The e-movement system was launched to address the following concerns: prevention, monitoring and controlling the spread of avian influenza; improving staff efficiency and service levels; and reducing costs.

The Graduate School of Management and Innovation (GMI), King Mongkut's University of Technology Thonburi (KMUTT) and TOT Public Company Limited, have developed the *Success Factors in the Adoption of Emergency Health Call Centre*. This project is a study of factors affecting the success of emergency health call center adoption (SDG 3). Authors explore the project based on cooperation between Sriracha Municipality (a local administration in the eastern part of Thailand) and TOT (a state-owned enterprise offering total solutions for telecommunication services). TOT is considered to be an incumbent in the area of fixed telephony and would like to add more value to the decreasing number of fixed telephones. This would "lock in" customers and dissuade them from turning to mobile. In the same way, the Municipality of Sriracha would like to improve quality of life and decrease the risk of acute illness or accident, especially for the many elderly people alone at home. The published findings show that the key factor in success is the leadership of the municipality, include recommendations for improving the service, and indicate general public satisfaction with this project. This pilot project drives WSIS work directly.

In Thailand, the Village Health Volunteers (VHVs) team working for the Tambon Health Promoting Hospital relates to a subdistrict hospital catering for the rural area. With the development of smartphones and the Internet, the intention is for the Advanced Info Service (AIS) to support VHVs with an application that uses digital means to assist and simplify the working process – the *Social Network for Health Promoting Hospital*. Sharing, monitoring and the prevention of epidemic diseases constitute the major feature the application provides. It also adds the agility of fast reporting which the Tambon Health Promoting Hospital uses to analyse health in the coverage area.

The project meets certain SDGs by ensuring the capacity for warning, risk reduction in regard to diseases, and promotion of lifelong learning opportunities (SDGs 3.d, 4).

WSIS Prize Winner

Champion Project

E-employment

In **India**, the Network for Information and Computer Technology (NICT) launched the NICT Project *Samman*, the purpose of which is to empower women through ICT. This network contributes to **SDGs 5, 8, and 10.** In Madhya Pradesh and Chhattisgarh provinces, NICT has around 1 600 customer service points/common service centres working under the government's Department of Electronics. These centres are in rural areas, and form part of the *National e-Governance Plan* (NeGP) network implemented through a public-private partnership. Some 172 of the 1 600 centres are managed by women entrepreneurs with ICT training. These social IT entrepreneurs are catalysing socio-economic growth at the grassroots level by providing services in various fields, including financial inclusion, microbanking, microinsurance, government services, domicile/birth certificates, utility bill payments and revenue services, electricity bill payments, old age pensions, maternity, and so on.[44]

[44] *Project nominated for a WSIS Project Prize 2014*

WSIS Prize Winner

Champion Project

It is said that one empowered woman can empower an entire family and eventually community. India's *Swawlamban* project, the name of which means "self-sustainable", aims to empower rural, slum and suburban women as one of the major ICT-based micro banking kiosk operators, inculcating in women the habit of micro savings and bringing financial sustainability to their families and communities (SDGs 5, 8, and 10). Thanks to ICTs, a technological, social and economic phenomenon that has enabled banking services to reach even grass-roots level, small and micro savings now provide financial sustainability to the poor, allowing them to accumulate small savings pots which they can use in the future to help themselves in times of crisis, health and medical needs, education of children or extreme poverty[45].

By creating the *National Job Market Portal*, the Ministry of Manpower, Indonesia, undertook to enhance employment opportunities and increase job placement services to strengthen labour market information and the job market, thus contributing to SDG 8 by promoting economic development and providing employment for its citizens. The Ministry has built and provides online applications called "Informasi Pasar Kerja" or job market information in the form of a web-based online platform. This platform brings together government, job seeker and business entity for easier information sharing on job offers and opportunities in 34 provinces of Indonesia.

In Indonesia, the *Computerized System for Migrant Workers (Sistem Komputerisasi Tenaga Kerja Luar Negeri - SISKOTKLN)* is a data collection system for Indonesian migrant workers which integrates stakeholders associated with the placement of migrant workers, including the district government, placement company, health facility, insurance, psychological assessment, competency testing agency, financial institutions and Indonesian missions abroad (SDG 8).

[45] *Project nominated for a WSIS Project Prize 2015*

WSIS Prize Winner

Champion Project

SISKOTKLN uses the latest technology in the implementation process. Biometric technology is used to ensure compliance in regard to attendance and duration for a migrant worker's training in accordance with the regulations of the receiving country.

Indonesia's website *kios3in1.net* is an online platform for job seekers who wish to participate in job training, certification and placement. The service and information are jointly provided through cooperation with the "Balai Latihan Kerja Industri" (local vocational training centre for industrial jobs), widely spread across 34 provinces of Indonesia, and with the Ministry of Manpower. There is also information concerning job offers and opportunities to apply for a job through the website.

Thus, the website relates to employment for Indonesians, contributing to the economic growth of the country (SDG 8).

In Japan, *telework* is expected to improve business efficiency while maintaining a healthy balance between work and personal life, for example by facilitating the use of home offices, using ICTs (SDGs 8 and 10). It is also expected to contribute to resolving various social issues, such as gender-equality in society, the declining birth rate and ageing population, and the environmental burden. It is moreover anticipated that telework will contribute to the creation of business continuity plans (BCPs) and to electricity saving in the event of a large-scale disaster or pandemic.

In June 2013, the Government of Japan approved the *Declaration to be the World's Most Advanced IT Nation* (June 2013 Cabinet decision and IT Strategic Headquarters decision), and in this context is promoting and publicizing *telework*. The Ministry of Internal Affairs and Communications (MIC) plans to provide private companies nationwide with human-resources support for the introduction and operation of telework, by establishing sound pilot models and thereby encouraging the fully-fledged spread of telework (SDGs 8 and 10).

The National Information Technology Board of the Ministry of Information Technology of Pakistan has established an *Online Recruitment System* to enable online management of applications for positions advertised by the Federal Public Service Commission for general recruitment and civil service exams (SDGs 4 and 8). The system receives online applications, allocates seats according to the quota system, keeps a record of candidates' results, and posts interview schedules online. The modules include examination systems, income tax officer examinations, section officers examinations, surveys of Pakistan, Northern Areas competitive examinations, and computer-based psychological tests.

In the Philippines, the *Technology for Education, Employment, Entrepreneurs and Economic Development Project (Tech4ED)* seeks to provide access to different aggregated, existing and proven ICT-enabled services and relevant content in one single platform. This platform is accessible through the established Tech4ED centres in the country which serve as a conduit for the efficient delivery of government and other services; a potent tool for the empowerment and participation of unserved and underserved communities. The project aims to harness technology to deliver public services, thereby empowering and transforming society, and creating an inclusive, integrated and equitable countryside, relating to poverty, education and equality issues (SDGs 1, 4, 5 and 8). The platform covers content on education, literacy for special sectors, market, agriculture, industry assessment and government services.

WSIS Prize Winner

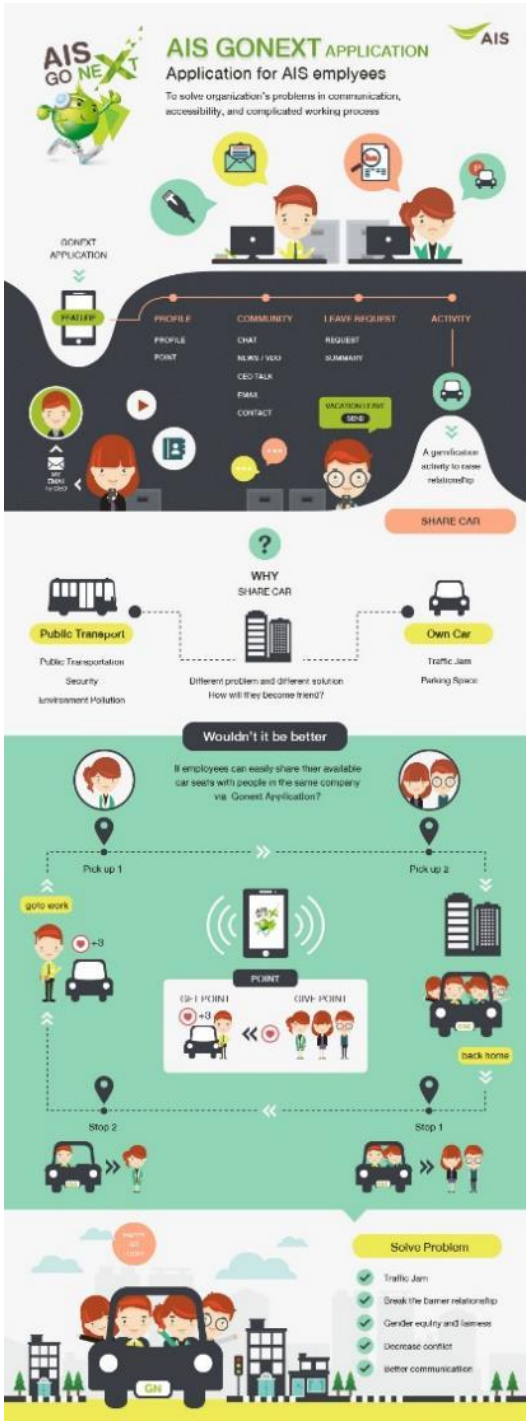
Champion Project

Inefficient working processes, the inaccessibility of validated data from outside the company and differing perspectives on the part of colleagues are the most problematic issues of advanced information services (AISs) in Thailand. With the mobile application, the *AIS GO NEXT* project can boost productivity and create strong bonds between staff. The person in charge accesses the company's system anywhere and at any time. The app encourages employee engagement, suggesting colleagues who share the same approach or interest. The application is integrated with the achievement system. It provides connectivity between officers and company.

The project deals with such issues as gender equality, economic development and sustainable industrialization (SDGs 5, 8 and 9).

WSIS Prize Winner

Champion Project



E-learning

In **Bangladesh**, the *Education at your Home* project has been developed by Educatorbd.com. To quote the words of Educatorbd.com, "Bangladesh is a densely populated country. Population is an asset of our

WSIS Prize Winner

Champion Project

country, but not all the people are educated. If we can make all of them educated, it will turn them into a potential human resource (SDG 4). Moreover, education is one of our fundamental rights. So we should give scope to all the people to educate themselves. The site www.educatorbd.com is a platform where all the Bengali people will learn. Our slogan is "education is at your home". People will learn and enjoy by using this site. This site is totally non-political and non-profit-making.''

In Bangladesh, the Prime Minister's Office created the *Teachers' Portal for Empowerment* that represents a smart supplement to Bangladesh's ailing teachers' training system that fails to serve 900 000 teachers with classroom facilities limited to 1 500 seats. The costly face-to-face training is often prohibitively expensive for the teaching administration and teachers. The Teachers' Portal, a collaborative, co-creative and problem-solving continuing professional development (CPD) platform, has fast become popular among teachers for creating/sharing digital content on all subjects. As membership exceeds 100 000 and growing, the portal is already the largest local repository of educational content. An offline annual conference started recently has also sown the seed for a vibrant community of learners.

The portal thus provides equitable quality education, reducing inequality and revitalizing the global partnership for sustainable development (SDGs 4, 5, 10, 12, 16 and 17).

In India, Cognizant Technology Solutions launched the *Perceptual Examination Platform for Differently Abled Aspirants* (EXAM). Around 3 per cent of the world population is disabled and faces challenges in different spheres of life. E-learning supports SDGs 4 and 10, as it helps people to enrich their knowledge through various sources that are available online. Exams/quizzes are still the main means of evaluating the knowledge gained from following a course. Marks/grades obtained in a course help people to move to the next level, which might either be the next standard in school, obtaining a degree/certificate or even getting a job. EXAM is a unique solution that empowers physically challenged people to attend exams in a foolproof environment, at their leisure and without anyone's help.[46]

In India, a large-scale action research programme was initiated in November 2014. It involves tele-education classes in 1 000 rural Government schools in Karnataka, under the name *Tele-education in 1 000 rural Government Schools* (SDG 4). A hybrid model of satellite and terrestrial communication has been developed to provide interactive classes in all the schools in a cost-effective manner. Interactive classes help students to resolve their questions towards the end of the class with the help of a studio teacher or moderator. Animation used in the classes helps to clarify the concepts and has generated substantial interest among students and school teachers. The Karnataka state government has now decided to double the number of programme-receiving schools in the next academic year.[47]

[46] *Project nominated for a WSIS Project Prize 2014*

[47] *Project nominated for a WSIS Project Prize 2015*

WSIS Prize Winner

Champion Project

In India, *the E-Learning Programme* of the Wockhardt Foundation aims at ensuring academic excellence through quality and innovative teaching methods. The e-learning programme is intended to make learning a fun-filled and interactive experience. It is developed by quality e-learning experts and qualified instructional designers. The programme is designed for children from standard 1 to 10 for all subjects. The curriculum is as prescribed and followed by the Maharashtra State board. The complete syllabus is provided in an audiovisual format in the Marathi, Hindi and English languages. The audiovisual format comprises an interactive question bank and is designed with a child-friendly interface.

Hence, the programme ensures equitable quality education and gender equality and promotes lifelong learning opportunities for Indian citizens (SDGs 4 and 5).

Launched by the Government of Indonesia, the *Open High School* programme is a form of formal education operated under the regular school institution but applying independent learning methods utilizing web-based modules for its students. The dominant model of online learning services, referred to as "Domon" or "Dominan Online", comprises self-learning guidance services conducted online using ICT facilities, with 80 per cent of tutoring online and 20 per cent face-to-face.

The open and distance high school offers the opportunity for students aged 16 to 21 to learn according to their particular needs and conditions. It targets junior high-school graduates with geographical, social, economic and/or time constraints. Currently, there are 7 schools educating 960 students through no less than 126 modules on the system.

The programme's results meet SDG 4 by providing lifelong learning opportunities, ensuring equal access to affordable education (target 4.4).

The *Universitas Terbuka/UT (Open University)* of Indonesia applies a distance and open learning system. The term distance means that learning is not performed face-to-face, but makes use of media, whether printed (modules) or non-printed (audio/video, computer/Internet, radio and television broadcasts). Open means there is no limitation as to age, year of graduation, period of study, registration time, and frequency of examinations. The only limitation applied is that UT students must have graduated from high school (SMA or equivalent). UT students are expected to learn independently. This self-learning method means that a student learns on his/her own initiative.

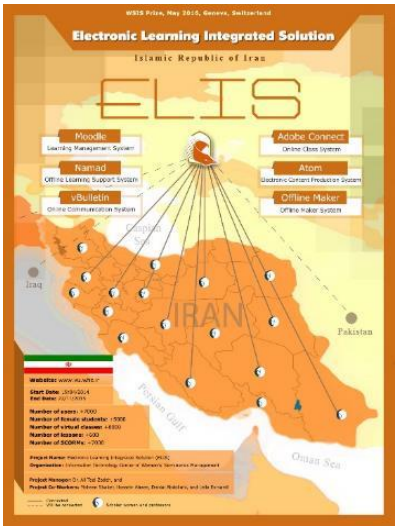
UT provides learning materials specifically designed for independent learning. Aside from using materials provided by UT, students can also take the initiative to make use of the library, take tutorials, whether face-

WSIS Prize Winner

Champion Project

to-face or via Internet, use radio or television broadcasts, or use computer-assisted learning materials and audio/video programmes. When faced with difficulty in learning, students can request information or tutorial assistance from the local Learning Program Unit of the Distance Learning Open University (UPBJJ-UT).

The project thus provides access to distance education for all people without any gender or age limits (**SDG 4, target 4.4**).



The Information Technology Management Center of Women's Seminaries (ITMCWS) in **the Islamic Republic of Iran** started its activity with the *E-Learning Integrated Solution (ELIS)* for women in 2007. Its main objective was to upgrade women's knowledge in religious science, which was the basis and prerequisite for playing a role in Iranian communities. In this regard and in an endeavour to reduce communication deficiencies in many small cities, various custom-made softwares like Namad, Atom, Offline Maker, etc., were implemented and incorporated in ELIS.

Specifically, the solution presented and integrated by ITMCWS has increased accessibility for women in small cities or villages to e-learning services and has empowered women's knowledge, thus meeting **SDGs 4** and **5** on educational and gender matters.

The **Pakistan** Institute of Development Economics (PIDE) is a degree-awarding institute in Islamabad, Pakistan, that developed the *PIDE Smart Application (PSA)* project. It bridges the gulf between students and teachers and provides relevant information instantaneously to students through the app. PSA consists of notifications to remind students about their classes in accordance with the timetable as well as readings of the day also available through PSA. With the increase in cellphone users in Pakistan, PSA will help to better control and administer student information. The barriers in the traditional ways of sending information to students will be overcome at low cost and with high effectiveness. Furthermore, this will allow students to concentrate on studies rather than keeping check on schedules, plan changes, bus routes and important business economics news.

The project aims to facilitate teacher-student relations and contributes to the effectiveness of sharing information (**SDG 4**).

WSIS Prize Winner

Champion Project

Another project from **Pakistan,** the *Daakhla.pk* project, is the online platform that provides centralized information on educational institutions and their courses, and free counselling for students. In Asia, literacy rates are low, so people seeking admission to degree programmes do not have prior knowledge. The project therefore provides such people with complete information. In addition, the unique online admissions portal allows people to apply to different universities without going there.

In this way, the project saves applicants time and money, and provides quality education as well as equal access to all levels of education (**SDG 4.4**).

There are three projects in the e-learning category in **Thailand.**[48] *Ramkhamhaeng University*, by far the country's largest public university, is an open-admission institution to which entry is virtually unrestricted (**SDG 4 and 10**). The university has to organize instruction and assessment not only for ordinary students but also for a cohort of physically and visually challenged students. The university provides various modes of instruction with both on-site teaching and a "virtual" classroom via satellite and Internet, including e-learning. However, testing or measurement is very important for academic achievement, especially for the physically and visually challenged. The e-testing Bureau was established to provide services for both ordinary students and those who are physically and visually challenged. Organizing examinations for visually

[48] *Projects nominated for a WSIS Project Prize 2015.*

WSIS Prize Winner

Champion Project

challenged students was especially difficult. Not only do they need to have the requisite knowledge, they need to be able to use computers to complete their examinations within the allotted time. The Bureau has provided free training and detailed explanations for physically and visually challenged students in order to ensure that they can use computers for examinations on their own.

The second project is *Development of Computer Games in Order to Support Learning Skills in Basic Scientific Processing,* which uses computer games to practise learning skills in basic scientific processing, focusing on the scientific skills that are important to science learning (SDGs 4 and 9). Learners can practise learning skills in basic scientific processing by themselves, at any place and time via the Internet. These games are supported on various platforms including computers, mobile phones, smartphones and tablets.

ICT: E-learning is a project based on the evidence that vocational education is becoming equally important in the everyday life of our developing world, and vocational skills are now recognized as an advantage in finding a job or in surviving as an independent entrepreneur (SDGs 4 and 8). The main goal of this project is to help those seeking knowledge, who are provided with easier and cheaper means of learning anywhere, at any time.

The TOT Public Company Limited (TOT Innovation Institute) of Thailand initiated the *Project of Knowledge Storehouse Development through m-Learning and Education Cloud Computing System for the Promotion of Learning Management to achieve the Sustainable Development Goals (SDGs).* Its principal aims are:

- To promote the capabilities of teachers of formal and non-formal education (NFE) through the joint use of learning management resources and increase learning opportunities for students and NFE students

- To allow students to learn and develop by themselves through mobile learning technology (m-learning) and the education cloud computing system together across the country, elevate the body of knowledge and increase lifelong access to learning resources for students, non-formal students and the entire population (SDGs 4, 11 and 17).

In addition, the government information network (GIN) brings government information to the public by developing the subdistrict learning centre into an ICT community learning centre for the enhancement of public and local community services. The project provides a knowledge base for research, promoting participation and the exchange of opinions on SDGs relating to learning management. Learners can log in at any time and any location to interact with coursework.

E-agriculture

In Bangladesh, FAO launched a project in 2008 on *ICTs for avian influenza active surveillance* using the SMS Gateway system. Through the system, information on high poultry mortality (i.e. highly pathogenic avian influenza – HPAI) is transmitted daily by community animal health workers in the field and received by the central server (SDGs 3, 4, 12, and 17). Suspicious information is followed up for further investigation, including sampling and dispatch for laboratory testing. All information is classified and stored in the

WSIS Prize Winner

Champion Project

database. Thanks to this system, more than 86 per cent (2011) of outbreaks were reported by active surveillance using SMS Gateway ahead of the passive surveillance system. Time between detection and response was reduced from 4.5 to 1.5 days, and fewer man-hours were spent entering data at *upazila* (subdistrict) and central level. The project ended in 2013, but the concept has been incorporated into the HPAI programme in Indonesia and sparked interest in other countries (e.g. Egypt). It has also been rolled out in Lao P.D.R.

In Bangladesh, Grameen Communications has implemented the *Income-generation Project for Farmers using ICT*. The project aims to generate income for rural women farmers in Bangladesh (SDGs 2, 5 and 8). The model farmers produce quality vegetables (QVegie) using no chemical fertilizers/pesticides and sell them to urban customers. ICT was used for three purposes: (a) to digitize and disseminate advanced farming knowledge to the farmers; (b) to upload product information to the e-commerce site; and (c) to establish smooth farmer-farmer, farmer-expert and farmer-consumer communication. In six farming seasons (three years), two pilot sites engaging 35 to 50 farmers focused on five main vegetables, with QVegie estimated to double or triple the farmers' incomes. The aim is to franchise the model to other communities.[49]

In Bangladesh, the *e-Krishok* initiative is aimed at providing farmers with extension and market linkage services from which they can benefit in terms of both their farming activities and opportunities for selling their produce (SDG 8). Farmers with any agriculture-related problem, query or issue can go to the nearest ICT-enabled information centre/telecentre and obtain the information they are seeking. The service is also available via mobile phone using the short code 16250. With such timely and appropriate information, farmers are able to maximize their economic gains, enabling them to achieve income growth through agricultural activities.[50]

The *Farmer Query System* is a platform for designing and implementing an agricultural advisory service for farmers in Bangladesh remotely through an Android-based mobile application where there is scarcity of agriculture extension services (SDGs 8, 12, and 15). The project assessment identified that ICT infomediaries backed by expert agricultural advisory services can be a gateway to effective and authentic solutions for farmers. It demonstrated how smartphone application can solve farmers' cultivation challenges and also bring them closer to an agriculture expert for necessary real-time information in an inadequate agriculture extension service system. This system aims to reduce the gap between expert agriculturists and farmers through ICT channels.[51]

As Bangladeshi farmers are always in search of validated and timely agricultural information, the need for a dynamic ICT-based system was unavoidable. Such a system would provide suggestions and answers to any queries related to agriculture, vegetable and fruit farming, poultry, livestock, fisheries etc. In Bangladesh, being an agriculture-intensive country, this service would make a difference to many who earn their livelihoods in these sectors (SDGs 8 and 12). The purpose of the *Krishi Tathyo Service 27676 (Agri Helpline)* was to act as a farmers' helpline, giving prompt and easy access to valuable advice and solutions

[49] *Project nominated for a WSIS Project Prize 2014*

[50] *Project nominated for a WSIS Project Prize 2014*

[51] *Project nominated for a WSIS Project Prize 2015*

WSIS Prize Winner

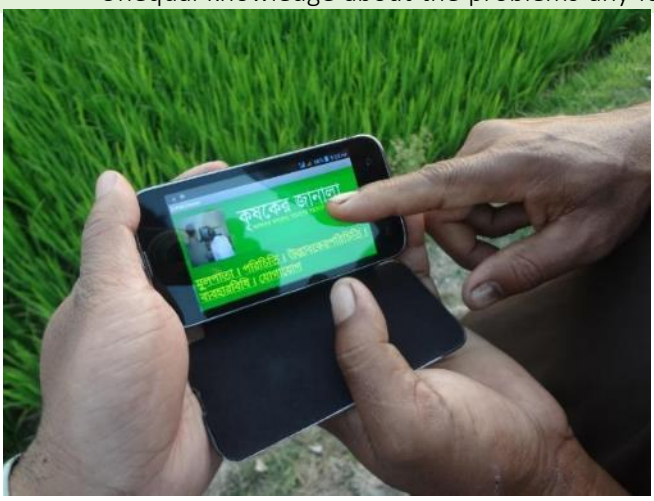
Champion Project

to problems. It was also planned to launch a service to improve farmers' performance and create a range of options to enhance their earnings from farming.[52]

The next three projects from **Bangladesh** relate to such problematic issues as poverty, hunger, healthy lives, gender equality, climate change, and green ecosystem (**SDGs 1, 2, 3, 8, 10, 13** and **15**). They also contribute to the revitalization of global partnership (**SDG 17**).

The Prime Minister's Office of **Bangladesh** launched the *Krishoker Janala (Farmer's Window)* project, an inexpensive-to-build and inexpensive-to-operate, user-centric, indigenous innovation, in order to combat certain challenges in the agricultural domain. The main problems of this sector are:

- Unequal knowledge about the problems any farmer might face during the various stages of pre-production, production and post-production
- Lack of confidence when suggesting solutions to the affected farming communities
- Absence of up-to-date and timely information on ways to identify and treat plant diseases
- Lack of formal education
- Use of crude and inaccurate terms to identify plant diseases.



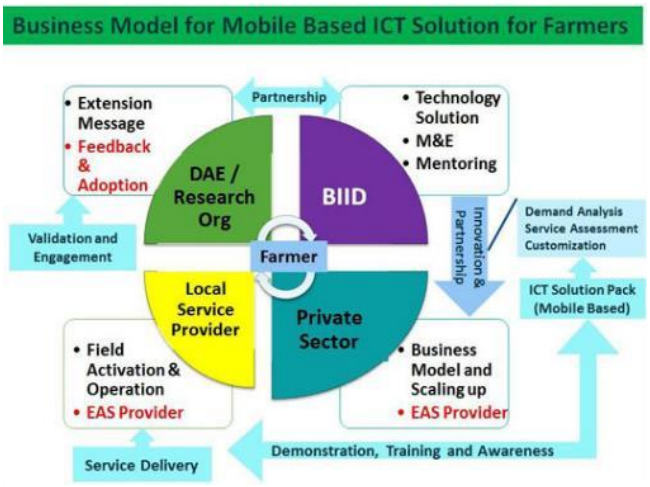
The Krishoker Janala project aims to combat all these challenges.

The *'Zero Cost' extension model & Advisory Service* is developed by the **Bangladesh** Institute of ICT in Development (BIID), as a business model for extension and advisory services (EASs) to serve smallholder farmers through private sector partners powered by ICT. It is a model which will facilitate free extension-related information and advisory services for the clients (farmers) bundled with input packages. Every farmer who buys an input package will be entitled to receive an information service package whose value will depend on the value of products. As such this model provides a sustainable business case to the private sector which plays a major role in the agricultural extension ecosystem. The Bangladesh Seed Association (BSA) expressed its interest in collaborating with BIID on the new EAS model. BIID is also in collaboration with development partners to pilot and implement the model in the field.

[52] *Project nominated for a WSIS Project Prize 2015*

WSIS Prize Winner

Champion Project



Grameen Intel Social Business Limited (GISB) e-Agriculture is an ICT solution to improve the incomes of smallholder farmers through higher yields and lower costs in Bangladesh. A suite of mobile phone and PC-based applications provide expert agricultural advice in critical areas: fertilizer, soil-nutrient analysis, crop/seed recommendations, pest/disease control, harvest management and commercialization. Working successfully in four countries, GISBs yield increases of 20-30 per cent and potential income increases of up to 50 per cent.

Through public-private programmes, the project overcomes major barriers such as literacy, accessibility, and affordability by applying leading-edge mobile and cloud technologies, to contribute to SDGs related to food security, nutrition, poverty alleviation, ICT-literacy and employment creation.

In India, *GreenSky India* brings together various solutions for the Indian agricultural community. The project is aimed at the country's entire agricultural framework and develops systems to provide assistance to multiple stakeholders (SDGs 1, 4, 8, and 12). This includes highly educated researchers as well as farm

WSIS Prize Winner

Champion Project

workers with poor literacy skills. The primary objective of the system is therefore to personalize solutions for users and understand the kind of interface required for certain kinds of tasks.

India also has a *Competency development and e-governance solution for farm health management to reduce farm losses of the farming community* (SDGs 1, 3, and 8). Farm health and farmers' health are important issues in rural India, requiring integrated approaches at all stages of agricultural planning and development. Farm health means plant health, soil health, animal health and water health. Different government agencies are involved in human health, animal health, agriculture and food safety at grassroots level, but they require shared access to location-specific and credible information to help reduce farm production losses. Research studies show that agricultural production and public health are correlated and reinforce each other. It is hoped that this research project will develop an e-governance solution for farm health management.[53]

India launched four projects that also contribute to certain SDGs in regard to sustainable agriculture, economic development, gender equality, climate change, etc. (SDGs 2, 5, 8 and 13).

Shekru is a smartphone-based free application in both English and Marathi that provides agricultural information as it relates specifically to events and schemes in Maharashtra and beyond. It lists more than 25 types of relevant items ranging from training courses to field demonstrations. An organizer can also add a document or an audio recording describing the event. Events can be submitted by anyone, and the users can express interest in attending events and thus provide an RSVP to the organizer. All schemes - insurance, subsidies, financial assistance, loans etc. - from various stakeholders that involve the ministry of agriculture are listed in the Shekru App.

Besides the SDGs listed above, the initiative also promotes peaceful and inclusive societies and lifelong learning opportunities, and ensures quality education and sustainable consumption and production patterns (SDGs 4 and 16).

The University of Agricultural Sciences, Raichur, India, initiated *eSAP - a new ICT application for pest management in agriculture* project. It represents the first dedicated system that enables the two-way dissemination of information in real time and relieves Indian agricultural extension from piggybacking mass media. It is the first to integrate tablet-based technologies and cloud solutions to create this dedicated channel that strengthens the agricultural sector of the nation. It brings different players of the agricultural ecosystem to interact on a single platform in real time, thus promoting well-being for all (SDG 3). So far, it has made a direct difference to more than a 100 000 farmers, the entire state administrative machinery, four agricultural universities and many other organizations.

The *Harmonized Information of Agriculture, Revenue and Irrigation for a Transformation Agenda - Precision Technology for Agriculture (HARITA-PRIYA)* is a pilot project assigned to the Centre for Development of Advanced Computing (C-DAC), India, for the purpose of acquiring microclimate information from farmers' fields using wireless sensor networks (WSNs), thereby enabling the dissemination of location-specific advisories to farmers. "Decision Support Models" are based on the data received from the field and alerts are generated for pest/disease forewarning and irrigation scheduling. Based on the alerts generated by the

[53] *Project nominated for a WSIS Project Prize 2015*

WSIS Prize Winner

Champion Project

system, agricultural officers of the state government send personalized crop advisories to the farmers in the regional language, Telugu, via SMS.

In India, eKutir is a social business that leverages an ICT platform to progressively build a self-sustaining ecosystem to address multiple facets of smallholder farmer poverty. The *ICT-enabled Ecosystem for Poverty Alleviation* project lies in designing a holistic yet highly personalized approach to the needs of the farmers. The strategy is to leverage technology to harness and analyse the complex factors that affect the agricultural cycle and make them actionable. A logic tree maps different elements that impact the agricultural output of a farmer, factors their influence over each other, and analyses them to provide personalized advisory services.

WSIS Prize Winner

Champion Project

The Government of Indonesia has mandated the Ministry to utilize ICT in the context of agriculture-based development, namely E-Planning. Hence, the *Guidelines on Agriculture-Based Development Planning* is a platform for the implementation of e-government to support the acceleration of bureaucratic reform. E-planning allows the regional government agency to submit a programme from a local farmers' group association on an online platform through a "top-down policy and bottom-up planning" approach. E-Planning is equipped with supplementing apps in the form of e-Proposal, to support the planning and budgeting process, and these are transparent, effective and efficient, in the Ministry of Agriculture.

The platform contributes to various SDGs promoting inclusive industrialization and economic development and reducing inequality within the country (SDGs 8, 9 and 10).

Indonesia's agribusiness e-hub, named *e-Petani or e-Farmers*, is a system designed to allow agribusiness stakeholders, especially farmers and agricultural trainers, traders and government, to obtain any information related to agribusiness activity. This platform also facilitates the distribution of income in the agribusiness supply chain, and maintains demand-supply activities to enhance the quality and added value of Indonesian farming products, thus promoting sustainable agriculture (SDG 2).

As the agriculture sector is vast and extensive, a single person cannot be an expert in every subject. It would be difficult for an agricultural officer alone to provide the required technical service in each and every

WSIS Prize Winner

Champion Project

subject area, so if farmers can be in direct contact with agricultural experts and agriculture extensions with the aid of mobile apps, and if books, outlets and materials published for farmers can also be directly provided to them with the aid of mobile technology, the agriculture extension associated with communication would be a respected field. Using the ubiquitous mobile Internet access all over the country, Nepal has started to send information regarding agricultural technology, information and other useful agricultural materials directly to farmers through the *Krishi Ghar* Android app. Krishi Ghar provides a platform for different agriculture extensions so that information can be sent to groups of famers categorized according to crops, districts or geographical regions, and farmers can also give feedback (SDGs 1, 2, 3, 4, and 8,).[54]

In Sri Lanka, the *Agriculture Management Information System* (AGMIS) is a platform for sharing information between producers, suppliers, transporters and others involved in the value chain (SDG 8). Technologies such as mobile phones and landlines link suppliers and producers with buyers. Designated officers collect information on the crop, harvest date, quantity, quality, etc., and share it on the AGMIS platform (www.agmis.lk).

The *Aquaculture Information Management System* (AIMS) in Thailand (FAO) uses ICTs to improve operational decision-making on aquaculture management and development and enhance aquaculture planning and policy capabilities (SDGs 3, 4, and 17).

In Thailand, we find three remarkable projects for e-agriculture.[55] *Database System Development for Comprehensive Management of Dairy Cows* works via the Internet to access a range of data for the comprehensive management of dairy cows (SDGs 3, 4, 8, and 12). Together with the establishment of the Bureau of Biotechnology in Livestock Production, this will provide access to global livestock production systems from devices such as smartphones, tablets, laptop PCs and desktop PCs that use a supported Internet browser (at least HTML 5.0) to record the artificial insemination of dairy cows, milk production, feed intake, treatment and prevention of diseases, including farm management, for both public officials and private farm owners.

APP FONUANG is an application designed for government authorities, farmers and the general public, whether their duties and interests relate to cloud seeding (atmospheric modification) or receiving general updates on weather conditions and rainfall throughout the country. In essence, the application helps farmers in planning their cultivation and harvest by providing access to information such as rainfall, royal rainmaking areas, and periods of rainmaking operations (SDG 8). Farmers are also able to request operations in their own area. For government authorities, it offers a crucial tool for monitoring the situation nationwide, and data collected will be strategically analysed with the aim of solving water shortages in consumption and agriculture.

The third project is by the Utokapat Foundation. This community-based water development foundation has developed *Agro Informatics*, an ICT application for climate change adaptation, as a significant tool for community water resource management (SDGs 8, 13, and 14). Comprehensive and detailed knowledge and information, including from public–private partnerships, are used to improve agriculture production. The successful models of land use mapping, agro-forestry, canal and reservoir ponds, and water balance for

[54] *Project nominated for a WSIS Project Prize 2015*
[55] *Project nominated for a WSIS Project Prize 2015*

WSIS Prize Winner

Champion Project

agriculture planning have been replicated in other community networks, spreading to 238 community networks in 16 river basins across Thailand by 2014. They demonstrate the community outcomes of water and food security, improved livelihood, and climate change adaptation.

Launched by Advanced Info Services (AIS) of Thailand, the *City-to-Farm Agriculture Assisting (CFAA*) project is a service designed to create a sustainable agriculture economy through collaboration between agriculturists, consumers and governments using appropriate technologies. CFAA implements a win-win solution that allows consumers to invest capital in selected agriculturists so that the latter plant the products and deliver them to the consumers in return. This solution eradicates problems on both sides. The agriculturists are not forced to sell their products at low prices, but earn directly from consumers who are willing to pay for healthy products.

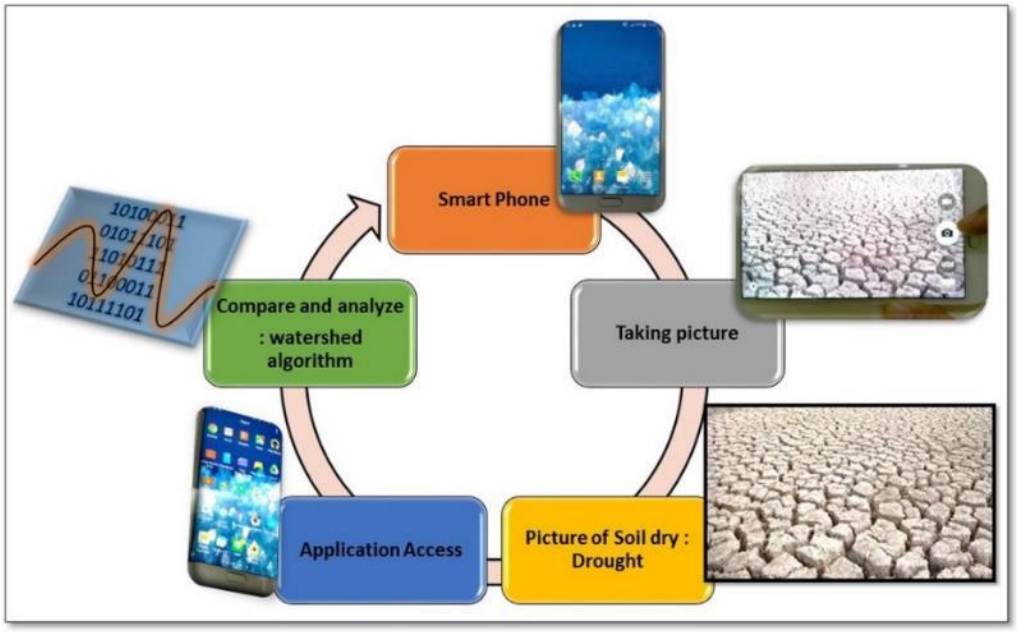
The project thus contributes to SDGs 2, 3 and 12, on the promotion of sustainable agriculture, well-being for all, and sustainable consumption and production patterns.

WSIS Prize Winner

Champion Project

King Mongkut's University of Technology in North Bangkok, **Thailand**, created the *Drought Analysis by Using Ground Information Technique (GIT) for Farmers in Remote Areas* project. Using photos taken by smartphone and an application to analyse soil data, GIT is an essential component in remote-sensing data analysis for drought forecasting. An Android-based application will be developed for drought prediction in the future using data provided by smartphone. The method is based on a bottom-up segmentation algorithm that takes into consideration both the colour and texture properties of the image. The risk of drought is defined by threshold values at three levels: normal, risk and damage. The utility of this technique consists in its ease of access, using a smartphone to take photos of surface soil and processing the images via online networks.

The project meets several SDGs relating to agricultural productivity, climate change and the use of terrestrial ecosystems (**SDGs 2, 13** and **15**).



Member States of the South Asian Association for Regional Cooperation (SAARC) are engaged in a regional cooperation programme for **South Asia** on transboundary animal diseases with a high socio-economic impact (**SDGs 3, 4, and 17**). They share information, e.g. immediate notifications, surveillance results, etc., on transboundary and other high-impact animal diseases occurring in the SAARC region, via a weekly electronic newsletter published with the support of FAO (www.saarc-rsu-hped.org).

E-environment

Relating to the **Africa, Asia and Pacific regions**, the international *Mobilizing Arab-Wide Action for Reliable Environmental Data (MAWARED)* is an online platform that allows users at any time and location to upload their environmental observations to a central server using smartphones. The system also provides information about environmental observations around the user's current location. The users can upload observations through a user-friendly interface by selecting the type of observation and status. The app

WSIS Prize Winner

Champion Project

directly identifies the location (latitude and longitude) and the time, then sends it to the server to be stored. The user can also take a photo of the observation using the phone's camera and upload it to the server. All observations are shown directly on an interactive web mapping system.

Relating to global partnership, the application promotes well-being and contributes to safety of cities, sustainable use of oceans as well as the fight against desertification, etc. (SDGs 3, 11, 13, 14, 15 and 17).

In Malaysia, the *Asia Pacific Green Data Center Farm* was launched as an alternative to normal data centres that globally pose a major environmental threat. Data centres contributed 3.3 per cent of the world's carbon emissions in 2014. The Asia Pacific Green Data Center Farm is a next-generation green data centre park utilizing super energy efficient cooling equipment and ICT equipment. The Eco2 technology submerses servers, switches and routers in a revolutionary coolant. This reduces carbon emissions and energy consumption by 50 per cent. The cost of deployment is also 70 per cent less.

Thus, the project meets certain SDGs related to WSIS action lines in regard to affordable, reliable, sustainable and modern energy, promoting sustainable industrialization, making cities inclusive and safe, and taking urgent action to combat climate change by revitalizing the global partnership for sustainable development (SDGs 7, 9, 11, 12, 13 and 17).

WSIS Prize Winner

Champion Project

Another project from Malaysia is the *Portable Environmental Monitoring System,* a portable instrument for the remote monitoring of physical geographical environments (such as landslides, terrain subsidence, glaciers, avalanches, volcanoes). This innovative solution is designed to serve as an early warning system for life saving. It has the advantages of wide area coverage and simple and quick installation, and can provide continuous monitoring of high-risk areas under all weather conditions. The detection accuracy is in the order of sub-millimetres and the sensing distance is about 1-4 km. It can operate day and night and provide a series of temporal change detection maps through an online portal for real-time analysis.

The project achieves SDGs 13 and 15, combating climate change and desertification, and halting and reversing land degradation.

In Thailand, the *Low Power Wide Area Network (LPWAN)* is a type of telecommunication network designed to allow long-range low bit-rate communications among things (connected objects), such as sensors operated on a battery. The Internet of Things (IoT) is the network of physical objects or "things" embedded with electronics, software, sensors and network connectivity that enables these objects to collect and exchange data. The Internet of Things allows objects to be sensed and controlled remotely across existing network infrastructure. In terms of the smart city, an urban area needs to be developed that would create sustainable economic development and high quality of life by excelling in multiple key areas – the economy, mobility, environment, people, living, and government (SDGs 9 and 11). Low Power therefore constitutes one of the best ways to deploy the smart city ecosystem. The project's objectives are to:

WSIS Prize Winner

Champion Project

- Promote the LPWAN network provider under the CAT Telecom (public limited company) network infrastructure
    a) Data communication and Internet network existing
    b) 3G/4G mobile network existing
- Deploy LoRa gateway in CAT Telecom network infrastructure
- Build e-environment application at CAT Telecom for smart city
- Smart weather data retrieved in the cities around Thailand
- Integrated API (application programming interface) module for more sensor development.

E-science

The Government of **Indonesia** created the *National Science and Technology Library,* which represents a collective subscription to international scientific journals and management of the digital library. It is available to and easily accessed by researchers, engineers and lecturers working on research and scientific writing.

The National Science and Technology Library targets **SDG 4,** providing lifelong learning opportunities, etc.

In the **Islamic Republic of Iran**, the Research Center for ICT Strategic and International Studies, Iran University of Science and Technology, Islamic Republic of Iran developed a project named: **Iran University of Science and Technology, E-Science-Net: Universities and Research Network for Science.** Its aim is to establish an active national reference research point in the field of e-Science (**SDGs 4 and 17**). It also looks for possible opportunities for future international scientific cooperation in related areas. The participating researchers, university professors and students in the network can exchange ideas and scientific information through a web-based platform. The project involves expert surveys on e-science and the role of science and technology in the building and sustainable development of the information and knowledge societies in different areas of science.[56]

Pajoohyar is the first citation organization software in the **Islamic Republic of Iran**. This software assists researchers in research and documentation. Pajoohyar is a research tool that helps users in gathering, organizing and analysing scientific sources. It also documents the results of the research according to citation styles in the form of a book, a thesis or an article. This software has many facilities, including saving and classifying data, noting, using different labels, searching in saved data and so forth. In addition, Pajoohyar is connected to online sources in such a way that the user can automatically save the sources in the software and then cite them using different citation methods. It was designed by the Islamic Computer Research Center (Noor) and works with three different languages – Persian, English and Arabic – according to the user's requirements.

[56] *Project nominated for a WSIS Project Prize 2015*

WSIS Prize Winner

Champion Project

The project fully contributes to SDG 4, providing quality education and promoting lifelong learning opportunities for the country.

The Information Technology Management Center of Women's Seminaries of the Islamic Republic of Iran boosted the *Kowsar-Net: Scientific Intelligent Network for Women* project that started in 2014 with the purpose of establishing safe and pure scientific and social relationships among women, especially women scholars, graduates and professors. This project prepares a new, safe social network experience and has changed the negative views of women regarding the negative impact of social networks.

It aims to increase the empowerment of women by increasing women's IT involvement, thus promoting gender equality, equal public access to information and a peaceful and inclusive society for sustainable development (SDGs 5 and 16).

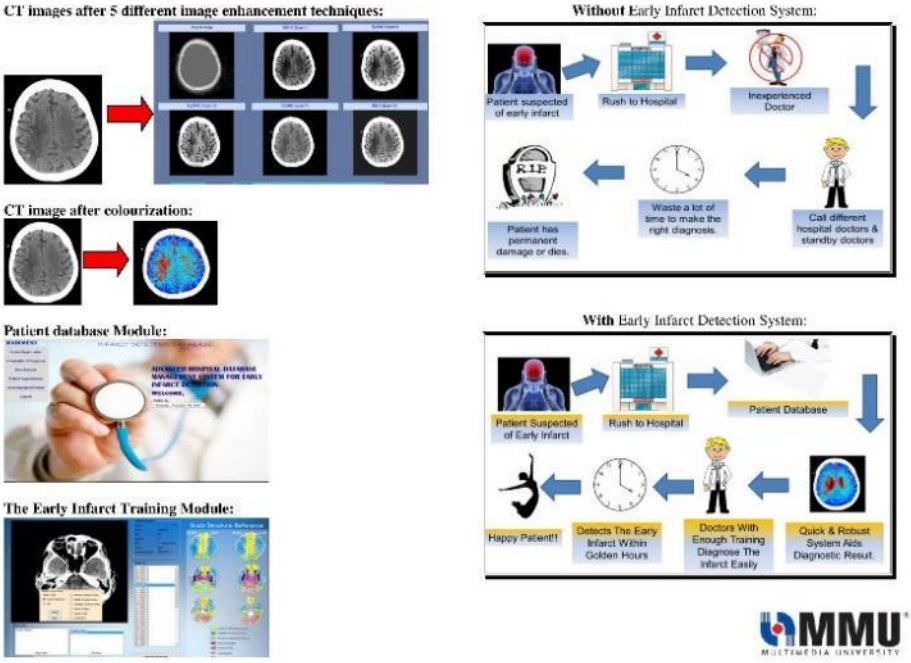
Three projects from the Multimedia University of Malaysia aim to meet several SDGs by promoting healthy lives for the Malaysian population, reduction of inequalities, and so on (SDGs 3 and 10). They also promote the achievement of higher levels of economic productivity through innovation in the country (SDG 8).

The first project represents a computer-aided diagnosis system designed to assist doctors and radiologists in early ischemic stroke detection. The system consists of three modules. The intelligent early infarct detection for brain images module improves the diagnosis time and also the accuracy of the infarct detection process, while the patient database module consists of the details on patient registration, patient

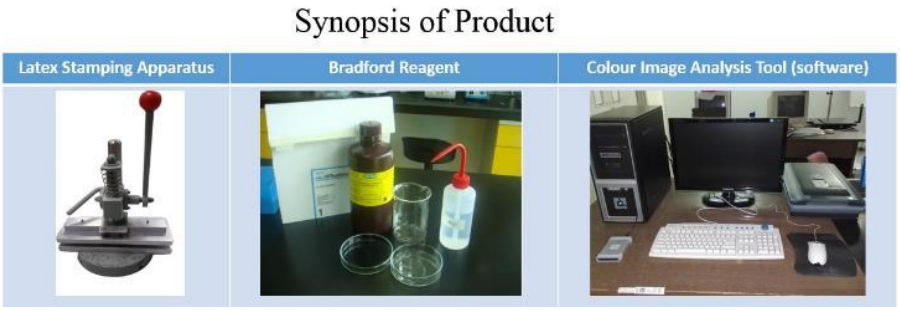
WSIS Prize Winner

Champion Project

diagnosis, and also a statistical analysis tool on the brain infarct patient. Finally, the early infarct training module is a platform for training junior doctors or any doctors lacking experience in early infarct detection.



The *Glove Sample Cutting and Biocompatibility Test Platform*, Malaysia's second project within this category, aims to build a latex glove sample cutting device with specific size, and to develop a biocompatibility test platform. For the cutting device, its machine prototype is designed to cut the sample from the latex glove with emphasis on the accuracy of the targeted area by preserving the density of the protein powders per unit area. The biocompatibility test platform is a digital image analysis software. It is designed to determine the concentration of protein by comparing the dominance of colour difference between the stained image and raw image of the latex sample.

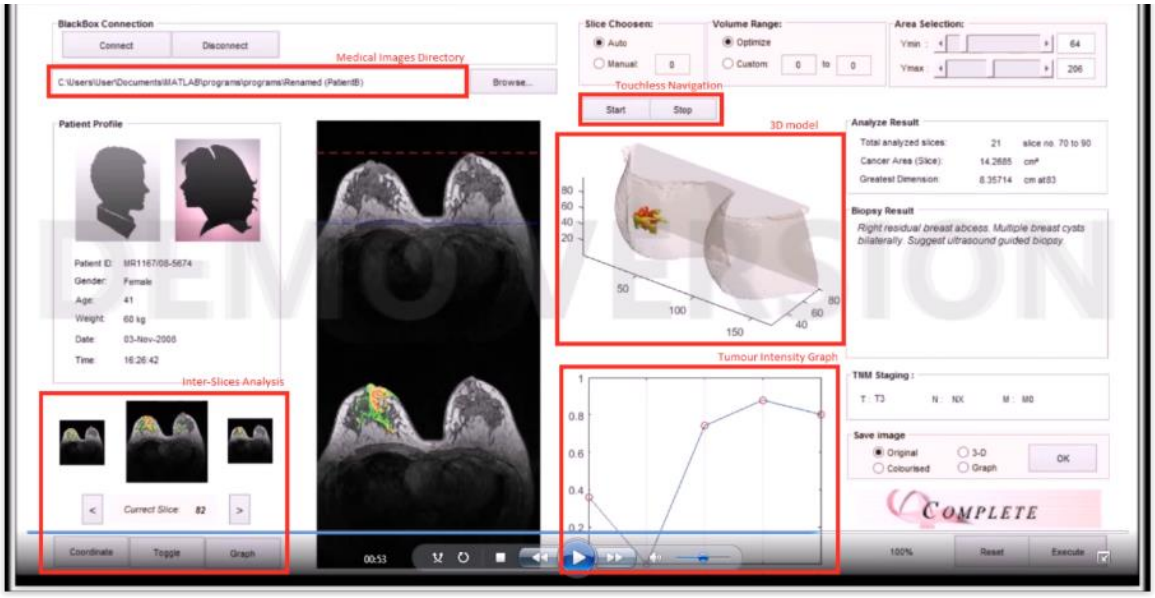


The *Spatial Based Dynamic Contrast Enhanced Magnetic Resonance Imaging 3Dimensional (3D) Visualization* project represents the last project from Malaysia related to the WSIS e-science action line. A computer-aided diagnosis system is designed to assist doctors and radiologists in detecting breast cancer through analysis of magnetic resonance imaging (MRI) screening. It comprises features such as an

WSIS Prize Winner

Champion Project

autoprobing system for lesion detection, 3D modeling of the region of interest, lesion colour classification and automated parameter computation (lesion dimensions), and deploys a three-dimensional webcam-based navigator with surface interpolation with interfacing hermite surface (SIHE) methodology. The standalone CAD-x system improves noise elimination, refines the breast region of interest (ROI) and detects the breast lesion with minimal false positive detection. The system is designed to be used in parallel with the MRI machine and not to replace it entirely.



WSIS Prize Winner

Champion Project

C8. Cultural diversity and identity

In India, the Centre for Development of Advanced Computing (C-DAC) implemented the *India Development Gateway* (InDG), a nationwide government initiative that seeks to use the power of ICTs to empower the poor and underserved through the provision of information in local languages (SDGs 4, 8, and 11). The multilingual knowledge portal www.indg.in developed as part of the initiative offers information, products and services covering key livelihood sectors in nine Indian languages, besides English. The portal acts as a catalyst for collaboration and knowledge sharing among development stakeholders. Building on experiences and usefulness, the scope of the portal is currently being enhanced to support collaborative content creation, more languages and region-specific information.[57]

The *Cultural Property National Registration System*, initiated by the Government of Indonesia, is a platform for the community's discovery of cultural objects (objects, buildings, structures, locations and/or units of geographical space) to be proposed as a cultural property to the district/city government or representatives of Indonesia abroad. There are currently 4 387 heritages registered across Indonesia from Aceh to Papua, and 26 of them have been designated as national cultural heritages.

Indonesia's *Cultural Website* is an online platform created by the Government of Indonesia that contains a list and cultural map of Indonesia, news, and articles about Indonesian culture and the activities carried out by the Directorate-General of Culture.

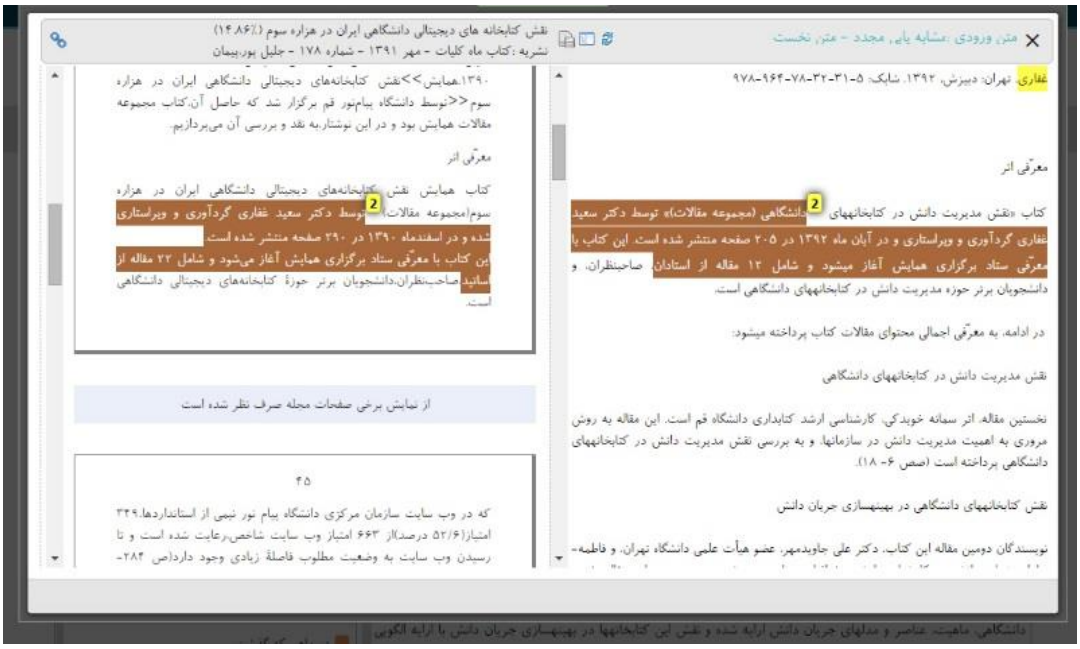
The website provides the Indonesian population with public access to information, protecting fundamental freedoms and promoting economic development (SDGs 8 and 16).

Samimnoor in the Islamic Republic of Iran is a kind of similarity-checking module that focuses on Farsi-language documents. Its main goal is to provide text similarity checking services for Farsi-language journal staff (editors, reviewers, executive managers, etc.), educators (school and university teachers), scientific boards of conferences, and all researchers interested in ethical writing and academic integrity. Samimnoor receives the text from the user and compares it with the database (over 400 000 articles, books, thesis abstracts and other textual materials in the field of humanities and Islamic sciences. It then presents similarity percentages for the user's text and marks the similar sections. Samimnoor is an educational-cultural tool supporting all Farsi-language enterprises and researches in order to generate and publish more ethical research works, thus ensuring that all acquire the knowledge and skills needed to promote sustainable development – target 4.7 under SDG 4.

[57] *Project nominated for a WSIS Project Prize 2014*

WSIS Prize Winner

Champion Project



In **Japan**, two funds-in-trust have been set up with the aim of preserving cultural heritage. The purpose of *Funds-in-Trust for the Preservation of the World Cultural Heritage* is to preserve the tangible cultural heritage, including historic monuments and archaeological remains of great value. It finances activities which comply with the above-mentioned objective, such as restoration and preservation work, and the preliminary or general studies and surveys necessary for that purpose. The purpose of *Funds-in-Trust for the Preservation and Promotion of the Intangible Cultural Heritage* is to safeguard, preserve, promote and revitalize priority areas of intangible cultural heritage in danger of degradation and disappearance all over the world (**SDGs 4, 8, and 11**).

WSIS Prize Winner

Champion Project

C9. Media

In **Bangladesh**, several projects and initiatives were implemented to promote traditional knowledge trough media (**SDGs 4, 8, and 12**):

- Free Press Unlimited, together with its long-term partner the Bangladesh NGOs Network for Radio and Communication (BNNRC), is committed to continuing to build the *capacity of 14 community radio station*s, through training of the stations' journalistic and management staff and the production and distribution of quality content.
- *Connecting Voices, Strengthening Voices and Pioneering Voices* is being implemented in collaboration with BNNRC and other partners.
- The *Basic English Language for Outreach Radio Audience Bangladesh* project provides a pilot series of basic English-language learning episodes and curricula that will be developed for radio broadcasting, targeting students and potential residents from rural communities served by the community radio stations in Bangladesh.

The **Bangladesh** NGOs Network for Radio and Communication (BNNRC), under the banner of "Voices of the rural people", is working on the project *Youth Women in Community Media and Journalism - the beginning of a new era in rural broadcasting journalism of Bangladesh*. Since 2000, the organization has played a leading role in bringing media focus to bear on rural areas. Community Radio, being the only broadcasting media in rural Bangladesh, created a platform for women journalists at grass-roots level to raise their voices to be heard in the community. The majority of the programmes of the women-friendly community radio stations are designed for the most marginalized people in society: women. Bangladesh currently has 16 community radio stations on air, bringing empowerment and the right to information to rural communities. They are broadcasting a total of 125 hours of programmes per day on information, education, local entertainment and development motivation activities. Around 5.6 million people tune in to the programmes.

Meeting several SDGs, the organization creates equality among people in Bangladesh, contributes to ensuring quality education for all, and fosters economic development and an inclusive and peaceful society (**SDGs 3, 8, 10, 11** and **16**).

WSIS Prize Winner

Champion Project

In **China,** the China Telecommunications Corporation (CTC) has implemented *IPTV services deployment with ITU-T H.764*. Having launched its IPTV trial as a service and network provider from 2005 until August 2013, CTC has now deployed its IPTV services all over China, with 25 million public and enterprise subscribers (**SDGs 5 and 8**). CTC's IPTV services provide a totally new solution for TV-based interactive multimedia services.

In **Indonesia**, *Information Village* is a programme of the Ministry of Communication and Information Technology for bridging the digital divide and formulating a knowledge-based society through the development of ICT infrastructure (**SDGs 9 and 12**). Development of radio broadcasting, telecommunications and Internet infrastructure has brought information services to border areas and outlying islands. The Information Village includes the following programmes: Ringing Village; Internet Village; Community Radio; Information Group of Border Communities; Media Centre; Subscribed Pay TV; Folk Performance Media; Community Access Point (CAP) and Mobile Community Access Point (M-CAP).

In **Sri Lanka**, the *Paint a Rainbow project* by Shilpa Sayura Foundation worked towards enabling civil society to lead democratic dialogue for social change by creating an alternative media platform to empower civil society for participation in digital democracy using ICT, digital media and social networks (**SDGs 12 and 16**). The project has trained over 1 200 young people in democracy awareness and digital media skills, and has equipped and engaged them to express themselves and become the "voice of the voiceless" through social media. Their content initiated a democratic dialogue to influence civil society in Sri Lanka in the 2015 presidential election.[58]

Thailand is in the process of *switching from analogue to digital television broadcasting services* (**SDG 9**). The move is bringing about major changes in the country's broadcasting industry. The National Broadcasting and Telecommunications Commission (NBTC) has set the period from 1 to 24 April 2014 for trial broadcasts by digital television operators granted licences to operate 24 commercial channels.[59]

[58] *Project nominated for a WSIS Project Prize 2015*

[59] http://thailand.prd.go.th/view_news.php?id=7187&a=2

WSIS Prize Winner

Champion Project

C10. Ethics

ICT Watch is firmly committed to freedom of information and is keenly aware of the emerging challenges to online freedom of expression in **Indonesia**. It creates the conditions for responsible Internet use and high-quality online content, and involves multistakeholders as partners in the programme's proliferation. Through the *Internet Healthy ("Internet Sehat") towards Indonesian information society programme*, ICT Watch has endeavoured to show multistakeholders that people can take responsibility for their online activities. To this end, ICT Watch released a how-to module under a creative commons licence for parents and teachers, and endorsed several publicly-available comic books for children/youngsters containing basic knowledge about Internet safety. ICT Watch also participates in various offline activities such as workshops, as well as roadshows visiting schools/campuses and communities.

With 73 000 Facebook and 697 000 Twitter followers, and being active on Blog, YouTube, Flickr and Slideshare, the programme provides Indonesian society with equitable quality education, promotes gender equality and fosters an inclusive and peaceful society (**SDGs 4, 5** and **16**).

In **Japan**, measures have been taken by the Human Rights Organization (HRO) of the Ministry of Justice against *harmful information on the Internet* which infringes human rights (**SDGs 11, 12, and 16**). When HRO receives a complaint of infringement of human rights, such as invasion of privacy or the likelihood of invasion of privacy via the Internet, it undertakes prompt investigation into the case, and if evidence is found indicating that this is indeed a case of human rights infringement, necessary measures are taken to give relief to the victim, such as requesting the provider to delete voluntarily the harmful information.

Also in **Japan,** the Ministry of Internal Affairs and Communication (MIC) held a study group on *Use and flow of personal data*, which released a report in June 2013 laying down a framework on the utilization of personal data and directions on how to implement it (**SDG 16**).

WSIS Prize Winner

Champion Project

In Japan, the *Act on punishment of activities relating to child prostitution and child pornography* was partially amended in June 2014 by the Ministry of Justice. Possession or storage of child pornography (including electromagnetic records) for the purpose of satisfying sexual curiosity has become a punishable offence (SDGs 10 and 11).

C11. International and regional cooperation

In the Islamic Republic of Iran, following the successful implementation of three main research projects relating to the Information Society between 2011 and 2013, which resulted in a new movement towards creating the information society in the country and achieving valuable outcomes as regards WSIS Targets and Action Lines, the Iran University of Science and Technology in 2013 established the *Research Centre for ICT Strategic and International Studies*. The main goal of the centre is to provide research services and act as a centre of excellence in international ICT activities and strategic planning in the Islamic Republic of Iran in support of its main international commitments such as WSIS (SDG 17). It is intended that the centre will cooperate with the ITU Academy.

In Malaysia, *Computer Emergency Response Teams (CERTs)* are entities which work to ensure the safety of cyberspace by resolving computer security incidents or cyberincidents in their respective constituencies. In addition to mitigating cyberincidents, they also provide training in cybersecurity and awareness. Since the Internet does not respect a country's physical boundaries, cybercrimes can easily be committed across borders and beyond the jurisdiction of any given law enforcement agency. As the point of contact for cyberincidents, CERTs therefore find it beneficial to form international collaborative partnerships beyond their respective constituencies in the interests of resolving incidents, this being in line with SDG 17 on the global partnership for sustainable development.

In Singapore, two deserving projects are run by the Infocomm Development Authority (IDA).

IDA organizes the annual *Telecom Regulatory Course* (TRC), an executive programme that focuses on sharing Singapore's experiences in developing and regulating the telecommunication sector. The TRC, tailored for senior government policy-makers and telecom regulators, covers topics such as Singapore's overall policy, regulatory and competition management framework, spectrum and resource management, telecom licensing framework, interconnection, and infrastructure sharing, as well as the Next Generation Nationwide Broadband Network. Since its inception, the course has trained more than 185 participants from over 40 countries (SDGs 16 and 17).

Singapore's IDA, together with the Authority of Info-communications Technology Industry of Brunei, the Directorate General Sumber Daya dan Perangkat Pos dan Informatika of Indonesia and the Communications and Multimedia Commission of Malaysia, have jointly undertaken to align with the Asia-Pacific

WSIS Prize Winner

Champion Project

Telecommunity's 700 MHz (APT 700 MHz) band plan (SDGs 10 and 17). The APT 700 MHz band plan aims to optimize the use of the broadcast spectrum freed up as a result of the analogue switch off, allowing greater flexibility for the deployment of mobile broadband services.

WSIS Prize Winner

Champion Project

Conclusion

The International Telecommunication Union (ITU) remains committed to the World Summit on the Information Society (WSIS) process, and to implementation of the WSIS goals beyond 2016. ITU recognizes and highly appreciates the extremely valuable contributions made by stakeholders to enable the continuation of WSIS monitoring and reporting. There can be no doubt whatsoever that, in today's fast-moving world, innovation and efficiency are vital to success. Accordingly, the WSIS Stocktaking Report in CIS Region 2014-2016 shares with you the most recent updates and success stories in the WSIS stocktaking process of this region.

The Web 2.0 WSIS Stocktaking Platform continues to foster implementation of the WSIS outcomes and to facilitate exchange of information among 200.000 members representing governments, the private sector, international organizations, civil society and other stakeholders. As the Web 2.0 platform continues to flourish, so does the promotion of social development and economic growth through ICTs. We continue to maintain and improve the WSIS Stocktaking Database, which contains around 8 000 entries this year. This encouraging outcome reinforces stakeholders' belief in and commitment to the WSIS Stocktaking process and their desire to share best practices.

In addition, the WSIS Overall Review called for close alignment between the WSIS process and the 2030 Agenda for Sustainable Development, highlighting the crosscutting contribution of ICTs to the SDGs. In this context too, WSIS Stocktaking is evolving to become the unique global process for the collection of information on actions carried out within the framework of WSIS, while underlining their contribution to implementation of the 2030 Agenda for Sustainable Development.

We are also pleased to announce the recent launch of a new and innovative interface, which will make it easier to search all WSIS-related activities. All stakeholders benefit from the sharing of interesting case studies, as this undoubtedly facilitates the transfer of knowledge, experiences and models for project implementation. The WSIS platform helps to create partnerships, provide greater visibility and add value to ICT projects all around the world. The many and varied stakeholders who have implemented innovative projects and contributed to the success of the WSIS Stocktaking process deserve our sincere gratitude.

ITU announces an official call for updates and new entries and urges these stakeholders, along with all Member States, international organizations, the private sector and civil society, to continue submitting such contributions in the future as WSIS pursues the ongoing stocktaking process. We trust that readers will find this report insightful, and sincerely hope that it will inspire them to participate in the construction of a broader and more inclusive information society for all.