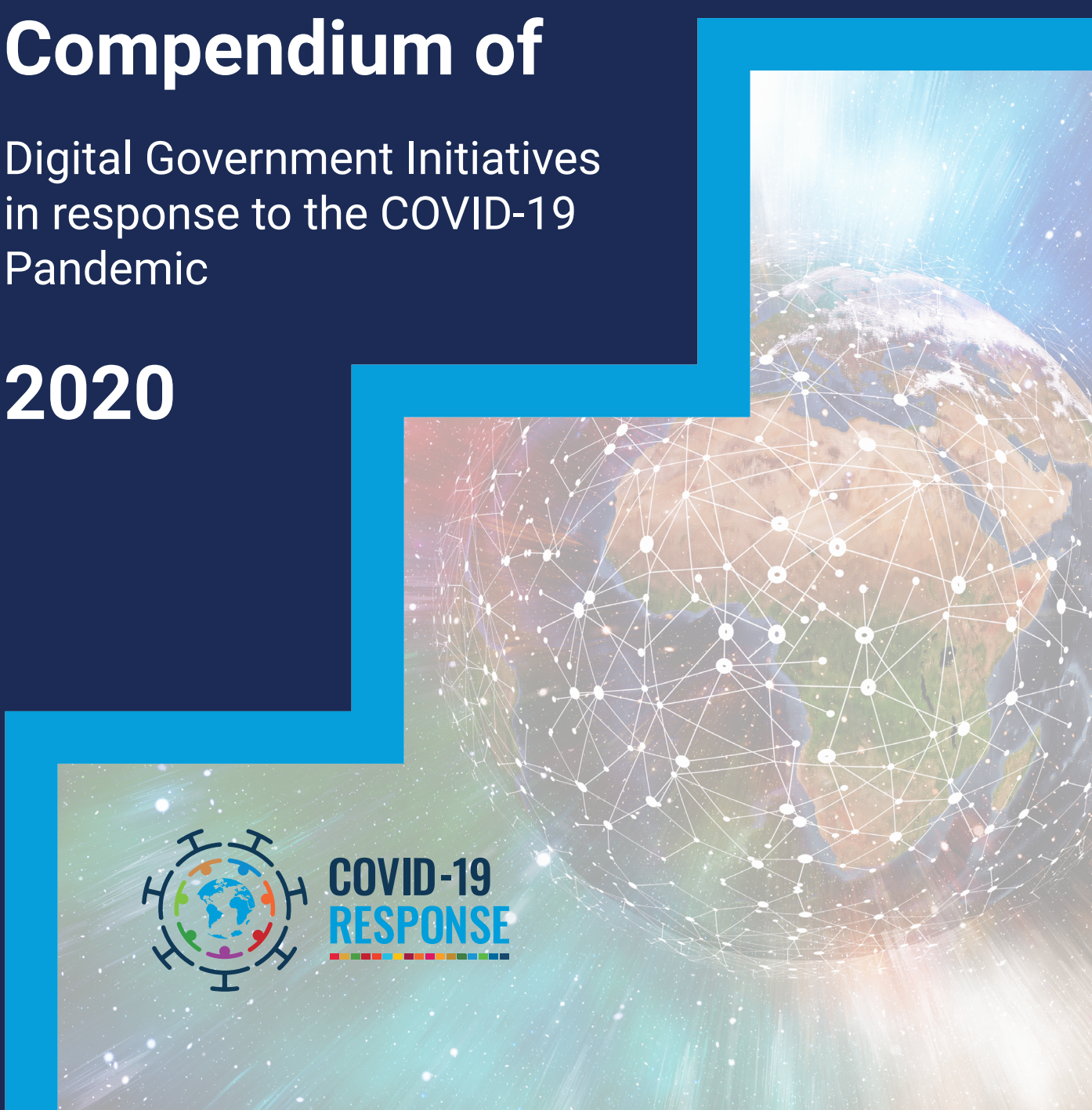
United Nations | Department of Economic and Social Affairs

Compendium of

Digital Government Initiatives in response to the COVID-19 Pandemic

2020



Department of Economic and Social Affairs

COMPENDIUM OF

DIGITAL GOVERNMENT INITIATIVES IN RESPONSE TO THE COVID-19 PANDEMIC

2020

UNITED NATIONS
New York, 2020
publicadministration.un.org

United Nations Department of Economic and Social Affairs

The Department of Economic and Social Affairs of the United Nations Secretariat is a vital interface between global policies in the economic, social and environmental spheres and national action. The Department works in three main interlinked areas:

(i) it compiles, generates and analyses a wide range of economic, social and environmental data and information on which Member States of the United Nations draw to review common problems and to take stock of policy options,
(ii) it facilitates the negotiations of Member States in many intergovernmental bodies on joint course of action to address ongoing or emerging global challenges, and
(iii) it advises interested Governments on the ways and means of translating policy frameworks developed in United Nations Conferences and Summits into programs at the country level and, through technical assistance, helps build national capacities.

Disclaimers

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries. The term "country" as used in the text of this publication also refers, as appropriate, to territories or areas.

Title: Compendium of Digital Government Initiatives in response to the COVID-19 Pandemic
Language: English
Sales no.: E.20.II.A.5
ISBN: 978-92-1-104697-7
eISBN: 978-92-1-005370-9
Print ISSN: N/A
Online ISSN: N/A

Website: publicadministration.un.org
Layout: United Nations, UNON Publishing Services Section – ISO 14001:2004 Certified, Nairobi (Eugene Papa).
Cover Design: United Nations Department of Global Communications, New York
Photo credits: pixabay.com
Printed at the United Nations, New York

Contents

Foreword

Throughout the COVID-19 pandemic, digital technologies have enabled governments to connect with people and to continue to deliver services online. In many countries digital government has stepped up its central role as a necessary element of communication, leadership and collaboration between policy makers and society. At the same time, heightened concerns over privacy, misinformation and disinformation have emerged. Policy makers have found themselves in the middle of a rapid digital transformation during these times.

In a quick call for inputs by UN DESA, government officials around the world shared nearly 500 COVID-19 related applications in less than two weeks. As the pandemic progressed, policy makers responded by mobilizing public-private partnerships to engage in designing new services and apps as part of the crisis response. Some of these new services and apps went beyond information-sharing and included delivering essential services to those most in need, thus optimizing the entire supply chain via digital government services. As demonstrated in this Compendium, governments have further sought to ensure e-participation, facilitate E-health, E-business, support working and learning from home, and initiate contact tracing.

Peoples' expectations of governments have already increased during the pandemic and they will expect the same level of e-services in the post-pandemic era. As policy makers respond to these rising expectations, continuing to innovate and use digital technologies will help to achieve their development objectives. Facilitating solutions must be a priority for policy makers in countries where connectivity is still an issue, to enable the delivery of online services and eliminate further divides. As seen in many examples in this Compendium, digital technologies are crucial in delivering accessible, reliable and inclusive services, especially for vulnerable groups.

It is now our collective responsibility to use digital technologies and solutions as an implementation tool for the realization of the 2030 Agenda for Sustainable Development, and a means to improving public service delivery; increasing people's engagement; enhancing transparency, accountability and inclusion; and making life better for all. It is my hope that cases in this Compendium will serve as an inspiration to policy makers.

LIU Zhenmin
Under-Secretary-General for Economic and Social Affairs
United Nations

Acknowledgements

The "Compendium of Digital Government Initiatives in response to the COVID-19 Pandemic" was prepared by the United Nations Department of Economic and Social Affairs (UN DESA) through its Division for Public Institutions and Digital Government (DPIDG) under the responsibility of Juwang Zhu (Director, DPIDG) by a team of United Nations staff led by Vincenzo Aquaro, Chief of Digital Government Branch (DGB). The team coordinated by Mr. Deniz Susar, Governance and Public Administration Officer of the DGB, comprised Isabella Bremers, Yusuf Ekrem Eren, Arpine Korekyan, Micaela Mihov, Wai Min Kwok, Madeleine Losch, Rachael Purcell and Laura Rocha. All of the cases in this compendium were submitted by Member States in response to a call for inputs issued by DGB in April/May 2020.

Introduction

This compendium, prepared by the Division for Public Institutions and Digital Government (DPIDG) of the United Nations Department of Economic and Social Affairs (UN DESA), aims to capture emerging trends in digital responses of the United Nations Member States against the COVID-19 pandemic, and provide a preliminary analysis of their main features.

The inclusion of any technology or platform in this publication does not represent an endorsement from the United Nations. These cases are shared for exchange of information so that Member States can learn from each other and possibly create new partnerships.

The initiatives listed in this compendium were submitted by Member States in response to a call for inputs launched by UN DESA/DPIDG in April/May 2020. The compendium lists selected initiatives according to major categories of action areas. While this publication does not list all initiatives submitted by Member States, the complete list can be accessed here: https://bit.ly/EGOV_COVID19_APPS . Major groupings of action areas are:

1. Information sharing
2. E-participation
3. E-health
4. E-business
5. Contact tracing
6. Social distancing and virus tracking
7. Working and learning from home
8. Digital policy
9. Partnerships

Member States are invited to contribute comments and additional feedback to this compendium by emailing: dpidg@un.org. Stakeholders are likewise welcome to share their observations.

1. Information sharing

It is vital for governments to provide accurate, useful and up-to-date information to people, particularly during times of crisis. During the COVID-19 pandemic, governments started providing information on their national portals, mobile apps or through social media platforms. The vital need for accurate, useful and up-to-date information provided by governments has been amplified during the COVID-19 pandemic. A review of the 193 UN Member States national portals showed that as of 25 March 2020, only 57 per cent (110 countries) had put in place some kind of information on COVID-19. The percentage of countries providing such information and guidance reached roughly 86 percent (167 countries) by 8 April 2020. Finally, on 13 May nearly 97.5 percent (188 countries) had information about COVID-19 in their national portals.

Photo credit: United Nations

The cases in this section lay out some selected initiatives on information-sharing across different channels, which are grouped under three main sub-headings:

i) providing information,
ii) monitoring and
iii) setting up dedicated COVID-19 portal.

In most cases of this section, the Health Ministries took an active role in their implementation in partnership with other government agencies such as ministries responsible for technology and innovation as well as non-governmental institutions including the private sector and civil society.

1.1 Providing information

Information sharing cases include websites, chatbots, activities on social media among many others. Simultaneously, with increasing online information-sharing, there has also been a wave of fake news, disinformation and viral hoaxes. People with ill objectives or inadequate knowledge contributed to the spread of wrong data and information, which aggravated anxieties in society. In response, some governments have launched campaigns to fight against COVID-19 online misinformation. For example, Brazil Ministry of Health implemented an SMS service to combat fake news; other governments also started online campaigns against this threat. Similarly, the United Nations started an initiative[1] called Verified to encourage people to check the advice people share on COVID-19. It is an initiative of the United Nations, in collaboration with Purpose[2], to provide content that cuts through the noise to deliver life-saving information, fact-based advice and stories about frontline and essential workers.

Photo credit: pixabay.com

Chatbots were popular among governments when it comes to providing information. Governments implemented chatbots not only on their own portals but also on other social media and messaging platforms. These chatbots respond to people's initial queries and also help people to evaluate next actions in case of symptoms.

1 https://shareverified.com/en
2 https://www.purpose.com/

Brazil

1.1.1 Combat fake news

Institution(s) in charge: Ministry of Health

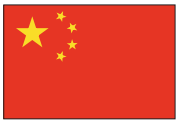
Focus: Information sharing

Technology: SMS, Whatsapp

Description: This is a short message service designed to combat fake news. People send suspected information to a Whatsapp number and the input is investigated and officially answered.

Anyone can send free messages with images or texts that they have received on social networks to confirm that the information is correct before proceeding with sharing it further.

Links: https://www.saude.gov.br/fakenews



China

1.1.2 Special services for COVID-19 prevention and work resumption

Institution(s) in charge: Ministry of Finance

Focus: Information sharing

Technology: Website

Description: The platform provides special services for orderly return to work and production in various regions. Services include information about planning for return to work, employment opportunities, project approval and enterprise information. Bringing together the statistics from departments like National Health Commission, Ministry of Industry and Information Technology, Ministry of Transport, General Administration of Customs, National Immigration Administration, civil aviation and railway enterprises, the national government service platform uses the data to promote the orderly flow of healthy people, and resumption of work and production.

In addition, people can apply for a health code through WeChat. People with green codes can go in and out of residential areas freely, go to the supermarket for shopping, and etc. People with red codes and yellow codes need to be isolated at home, and community managers can provide help for their daily needs.

Links: https://www.gov.cn

http://gjzwfw.www.gov.cn/col/col638/index.html

http://www.gov.cn/fuwu/zt/yqfkzq/index.htm

Health QR Code: https://mp.weixin.qq.com/s/h7Xj_k6yL9TWAOJZjb0jiQ

1.1.3 CoronApp Colombia

Colombia

Institution(s) in charge: National Institute of Health and National Digital Agency, Ministry of ICT

Focus: Information sharing

Technology: App

Description: This is a mobile application to improve monitoring of public health risks associated with the COVID-19. People registered on the app can report their health status. Available in AppStore, PlayStore, and AppGallery.

Features include:

- Daily health status report
- Access to news, official data, and heat maps
- Geolocation of contagion hotspots
- Geolocation for health centers
- Prevention recommendations
- Potential exposure alerts sent through SMS/push notifications
- Identification of high traffic areas that can become infection hotspots
- Estimation of possible spread of COVID-19.
- Characterization of infected population.

In addition, Ministry of ICT started a campaign aiming to stop the spread 'fake news' about COVID-19. It aims to teach people to identify fake news and instruct them where to report it. Citizens are taught about the importance of preventing the spread online by showing the negative impacts that fake news can have on people.

Links: https://coronaViruscolombia.gov.co/Covid19/aislamiento-saludable/coronapp.html

1.1.4 Implementing specific COVID-19 information chatbots

France

Institution(s) in charge: Government's Information Service

Focus: Information sharing

Technology: Chatbot

Description: In order to multiply and diversify its communication channels and respond to people's demands for information on COVID-19, the Government's Information Service (SIG) decided to implement innovative digital solutions, in partnership with innovative companies/start-ups:

A chatbot dedicated to answering French citizen's questions about COVID-19 on Facebook Messenger was created and implemented, with the innovative start-up Clustaar.

A similar chatbot was implemented on WhatsApp (with the company Infobip).

An automatic notification system was created via the Chrome browser to notify of changes in the government's official instructions (with the startup Batch).

Links: N/A

Kuwait

1.1.5 Shlonik App

Institution(s) in charge: Council of Ministers, Ministry of Health, Central Agency for Information Technology, Ministry of Interior, Ministry of Commerce and Industry, Ministry of Foreign Affairs, The Public Authority for Civil Information, Ministry of Education, Communication and Information Technology Regulatory Authority

Focus: Information sharing

Technology: App, Chatbot

Description: Shlonik is an interactive app used to assist the Ministry of Health (MoH) in Kuwait to engage with people and ensure their safety with a focus on the COVID-19 pandemic. Shlonik offers a variety of features such as the latest health updates, a health chatbot, a self-check-in mechanism for quarantined patients, vitals reporting and a communication tool with the MOH medical teams. Shlonik is a combined effort of MOH, the Kuwait Central Agency of Information Technology and Zain.

Links: https://apps.apple.com/us/app/shlonik-%D8%B4%D9%84%D9%88%D9%86%D9%83/id1503978984

Mauritius

1.1.6 Public awareness campaign on Facebook and a landing page

Institution(s) in charge: Ministry of Health & Wellness (MoHW), Ministry of Information Technology, Communication and Innovation (MITCI), Central Informatics Bureau (CIB)

Focus: Information sharing

Technology: Website, social media

Description: The Ministry of Health & Wellness (MoHW) decided that a public awareness campaign should be run on social media. A Facebook account and a landing page have been setup to create awareness for COVID-19. Also, MoHW is using this platform to communicate important information advice and government communiques to people.

Links: https://www.facebook.com/coronaVirusmoris/

1.1.7 KoronaVirus MK official communication channels on COVID-19

North Macedonia

Institution(s) in charge: Government of the Republic of North Macedonia Ministry of Health and Institute of Public Health

Focus: Information sharing

Technology: Website, social media

Description: KoronaVirus MK is a hub of communication channels, created by the Government of North Macedonia in order to strengthen communication with people, as one of the most important tools in the fight against COVID-19. It consists of a timely updated webpage in three languages (Macedonian, Albanian and English), Android and IOS informative mobile application sending notifications, verified Facebook and Instagram pages, Twitter account and verified Viber Community communication channel.

The goal is to timely inform the citizens with official information from all of the governmental institutions, regarding the measures undertaken for defeating the COVID-19, and with new information from Ministry for Health,sharing useful content, explaining the measures for protection from the Virus."

Links:

Webpage: www.koronaVirus.gov.mk

Facebook: https://www.facebook.com/koronaVirus.gov.mk/

Instagram: https://www.instagram.com/koronaVirus.gov.mk/

Twitter: https://twitter.com/KoronaVirusMK

Viber: https://invite.viber.com/?g2=AQAopiALaleJhEtjCYM%2FooPTeFLG4qXUriyvsAsT8K5jFiORNcASU32%2FrO6IpHCf

1.1.8 Singapore's efforts against COVID-19

Singapore

Institution(s) in charge: Government Technology Agency Ministry of Culture, Community and Youth

Focus: Information sharing

Technology: Website, Chatbots, Social Media

Description: Singapore has expanded its use of social media for policy announcements amid Government's effort to combat COVID-19. Chatbots are deployed at various places to help with frequently asked questions. The use of chatbots supplement various government communication platform to provide answers where required. Citizens are also able to access the chatbots via Facebook Messenger and Telegram.

The official Gov.sg WhatsApp account provides citizens with timely and trusted updates on the COVID-19 situation. This service has been optimised to send multi-lingual messages to all subscribers within 30 minutes.

The SGUnited Telegram channel disseminates the latest updates on content and community initiatives by Singaporeans stepping up to support one another.

Links: www.go.gov.sg/askjamiebotfbm

www.go.gov.sg/askhamiebottg

https://www.form.gov.sg/#!/5e33fa3709f80b00113b6891

https://t.me/SG_United

Oman

1.1.9 COVID-19 campaign using drones to urge people to stay at home

Institution(s) in charge: Government Communications Center of the General Secretariat of the Council of Ministers, Ministry of Health

Focus: Information sharing

Technology: Drone, Multiple channels

Description: Oman vs. COVID-19 is a national campaign that aims to curb the spread of COVID-19 in the Sultanate through promoting awareness among citizens and residents. It is supervised by the Government Communications Center of the General Secretariat of the Council of Ministers, in cooperation with various government institutions in the Sultanate. The Center works within the media team emanating from the National Supreme Committee formed by the Royal directives of His Majesty the Sultan to oversee all measures against COVID-19.

The campaign includes designing and managing high quality content (text, visual and audio) published in 10 languages and local dialects, including Arabic, English, Swahili, Bengali, Hindi, Urdu, Sinhala, Nepali, Tagalog, and French through different online and offline channels.

In addition, the Royal Oman Police is using drones to disseminate the critical message of avoiding public spaces and to instruct citizens and residents to stay at home and avoid stepping out unless it is absolutely necessary.

Links: www.moh.gov.om

www.rop.gov.om

Pakistan

1.1.10 Efforts in Pakistan against COVID-19

Institution(s) in charge: National Information Technology Board (NITB), Ministry of Information Technology and Telecommunication, Ministry of National Health, Regulations and Coordination, Prime Minister's Office, National Command and Operations Centre, Ministry of Overseas Pakistanis and HRD

Focus: Information sharing

Technology: App

Description:

1. RADIUS Alert & Real-Time cases data.
2. GoP Official Covid cases information.
3. COVID equipment supply & demand management system.
4. Geographical Maps depicting distribution of resources.
5. Connecting PK International Doctors Diaspora with National Health Institutions.
6. An Integrated platform with Pakistan Citizens Portal. 1M+ Tigers registered.
7. Connecting remote patients with doctors on Video Conferences.
8. a) TTQ Application
   b) Develop TTQ Call Centre
   c) Integrate Data Sources with Central COVID Database.
9. Dashboard for PM to monitor real time allocation, release and utilization for funds with respect to COVID-19
10. Mechanism in Islamabad City App to register complaint against high price/shortage of COVID-19-related medicines / items
11. Complete backend support for development, hosting, operations of portal

1.1.10 Efforts in Pakistan against COVID-19 (continued)

12. Complete backend support for hosting, operations maintenance of portal
13. Developing a portal to increase country's foreign exchange reserves

Links:

1. https://play.google.com/store/apps/details?id=com.govpk.covid19&hl=en
2. http://covid.gov.pk
3. http://yaranewatan.gov.pk
4. http://cid.nitb.gov.pk/
5. https://play.google.com/store/apps/details?id=com.gov.pk.ictadministration&hl=en
6. https://covid.ophrd.gov.pk
7. https://rashan.pass.gov.pk
8. http://app.nhsrc.gov.pk
9. www.covid.gov.pk

1.1.11 Tawakolna (COVID-19 KSA)

Saudi Arabia

Institution(s) in charge: Ministry of Health and Saudi National Information Center

Focus: Information sharing

Technology: App

Description: Tawakolna (COVID-19 KSA) is the official application approved by the Ministry of Health to help reduce the spread of COVID-19. It was developed by Saudi National Information Centre. The application provides real-time and direct information about the number of cases of infections in the Kingdom. It also helps with the early detection of potential COVID-19 cases. It allows citizens and residents to request emergency exit permits in times of curfews imposed on some cities and neighbourhoods. Tawakolna follows-up on people that requested exit during the curfew time and warns them if they have come near pandemic hotspots. Through the application, people can report if they have COVID-19 symptoms, which helps them obtain medical assistance.

Links:

https://apps.apple.com/sa/app/%D8%AA%D9%88%D9%83%D9%84%D9%86%D8%A7-covid-19-ksa/id1506236754?l=ar

https://www.spa.gov.sa/2082034

1.1.12 Push-notifications in Diia Mobile App

Ukraine

Institution(s) in charge: Ministry of Digital Transformation

Focus: Information sharing

Technology: App

Description: The initiative was launched to inform people about the pandemic and possibly avoid the spread of COVID-19 in Ukraine. Push notifications will be received in Diia mobile app (government mobile app for e-documents) to inform users about the situation caused by the COVID-19 pandemic, quarantine conditions, government decisions and practical recommendations on how to prevent COVID-19 infection.

Links: https://thedigital.gov.ua/news/mintsifri-zapuskae-push-povidomlennya-u-zastosunku-diya

1.2 Monitoring

Photo credit: pixabay.com

Governments also implemented portals to monitor the spread of COVID-19 in their home countries, as well as within their respective regions and around the world. These systems usually include a visualization with maps supported by an integrated database at the back end. Many portals integrated several data sources produced by different agencies that have been progressively set up. It is crucial to monitor the spread, to measure its impact, and to recommend necessary precautions. The data usually included statistics about the number of positive cases, as well as recoveries and fatalities.

Afghanistan

1.2.1 Ministry of Public Health Data Warehouse (DHIS2)

Institution(s) in charge: Ministry of Public Health (MoPH), General Directorate of Monitoring & Evaluation and Health Information System (M&EHIS), National Disease Surveillance and Response (NDSR), Central and some of designated Regional Public Health Laboratories

Focus: Monitoring

Technology: Social Media Platforms, Email, SMS

Description: Before COVID-19 health data was collected through surveillance by laboratory departments on paper and then entered in excel sheets. However, since there was already an electronic data warehouse system (DHIS2) available in MoPH, established through a partnership with USAID, the system was adapted for COVID-19 data.

Further, the risk communication messages regarding COVID-19 are developed by the Health Promotion Department in partnership with the WHO and released through MoPH social media sites. Different coordination and communication channels are established in MoPH as well as with related COVID-19 control partners in order to better communicate the related tasks for the control and response to COVID-19.

Links: https://moph-dw.gov.af

https://moph.gov.af/en

Bulgaria

1.2.2 National information system for combating COVID-19

Institution(s) in charge: The Government of Bulgaria & the IT Sectors

Focus: Monitoring

Technology: Database, Visualization, Maps

Description: The Ministry of Health implemented a national information system for combating COVID-19. The system provides centralized management and storage of information on all diagnosed and quarantined persons and functional support to all institutions engaged in the fight against COVID-19. It ensures the link between the individual institutions – regional health inspections, general practitioners, laboratories, hospitals, Ministry of Internal Affairs, fire department, etc. The system has a specialized software for analysis and visualization through geographical maps.

Links: http://www.mh.government.bg/bg/informaciya-za-grazhdani/informaciya-otnosno-noviya-koronaVirus-2019-ncov/

1.2.3 COVID-19 Cuba data

Cuba

Institution(s) in charge: Juventud Técnica, en cooperación con la Facultad de Matemática y Computación de la Universidad de La Habana y el royecto Postdata.club

Focus: Monitoring

Technology: Website

Description: A dashboard about latest developments of the pandemic has been created in Cuba. It offers information such as the distribution of cases in the municipalities, disaggregated by sex, mode of infection, age, number of cases per day, recoveries and fatalities. There is also a mobile application for Android. Geographic Information Systems allow the performance of spatial analysis, network analysis, statistical analysis or information exchanges to show results on potential areas where to locate disease outbreaks, disease dispersal mechanisms, or identify optimal routes for the transfer of patients quickly and safely.

Links: https://covid19cubadata.github.io/#cuba

1.2.4 Open data and dashboard

France

Institution(s) in charge: Prime minister office (Etalab), French Ministry of Health and the French public health agency (Santé publique France), Government Information Secretariat (SIG)

Focus: Monitoring

Technology: Open data, Data visualization

Description: A new monitoring system based on several data sources produced by different actors has been progressively set up. Santé publique France is now publishing several datasets on the national open data portal www.data.gouv.fr.

Thanks to these datasets, public institutions can avail themselves of reliable indicators over time and observe hospitals capacity to absorb the demand. The civil society can also reuse this dataset to inform citizens or for research purpose.

Etalab has developed, in partnership with the Government Information Secretariat and the civil society, a data visualization dashboard published on the website www.gouvernement.fr. It allows every citizen to track the evolution of the epidemiological situation over through the analysis of raw data.

Links:

Dashboard: https://www.gouvernement.fr/info-coronaVirus/carte-et-donnees

Open data: https://www.data.gouv.fr/fr/organizations/sante-publique-france/

Seychelles

1.2.5 Seychelles ArcGIS Hub COVID-19 response

Institution(s) in charge: Centre for Geographic Information Systems (GIS), Ministry of Habitat, Infrastructure & Land Transport (MHILT), Department of Health, Surveillance & Epidemic Intelligence Section (SEIS)

Focus: Monitoring

Technology: Online survey, Dashboard, Maps

Description: Centre for GIS (MHILT) designed online platform to help public health agencies, department of risk & disaster management, local government and other organizations jump-start their response to COVID-19.

- COVID-19 Community Notification - Online survey form to help with contact tracing in response to COVID-19
- COVID-19 Local Situation Dashboard - Offering maps and sharing authoritative information about the pandemic within the local community.
- Web Map Applications COVID-19 - Various web map application designed to share information on location of suspected or infected cases, critical infrastructures, school closing and other facilities.
- Web maps also developed to visualize closure of educational facilities and business location being affected among other critical responses in regard to COVID-19.
- Develop GIS database with new datasets and maps about local communities.

Links:

https://survey123.arcgis.com/share/acb6691e34524d6a876844123f979551

https://www.arcgis.com/apps/opsdashboard/index.html#/6fe10e85541a44bc84353060546c4d99

Slovakia

1.2.6 eAlerts – free mobile application for health care workers

Institution(s) in charge: National Health Information Center (NCZI)

Focus: Monitoring

Technology: App

Description: The application was created by Slovak volunteers and experts in a short time to stop the spread of the pandemics. The application shows the map and the latest information about infections in individual districts. Its purpose is not to identify positively tested people, and it doesn't have access to this type of information. The map shows just the statistical number of COVID-19 cases in a broader area. The app also contains statistical information about the number of positively tested, cured people, and the number of deaths caused by COVID-19. Users can also find information about how to protect themselves, recognize symptoms and access essential emergency numbers. The "CoronaVirus" tab was added to the application summarizing information about the standards of the transport of COVID-19 patients, guidance for the principal public health officer as well as relevant websites with further information on COVID-19. Health care workers receive the most up-to-date information about adopted measures of the Ministry of Health, the Public Health Authority and the Social Insurance Agency.

Links: https://www.old.korona.gov.sk/en/ealerts.php

1.2.7 Digital solutions against COVID-19

Spain

Institution(s) in charge: Secretary of State for Digitization and Artificial Intelligence

Focus: Monitoring

Technology: Database

Description: Database on COVID-19, crossing data from mobile companies, aggregated/ anonymized way. Data processors will be operators, ridership: Statistics Institute i.e. study on mobility of Spanish citizens during crisis

Links: https://www.ine.es/covid/covid_inicio.htm

https://www.ine.es/covid/exp_movilidad_covid_proyecto.pdf

1.2.8 COVID response information system

Uganda

Institution(s) in charge: Ministry of Health, National Information Technology Authority, Uganda

Focus: Monitoring

Technology: Portal

Description: NITA-U was able to leverage its existing resources (Programmers and Data Center) to quickly work with Ministry of Health and develop COVID-19 Response Information System that is used to track daily information on case management, contacts follow-up, alerts management, institutional quarantine and lab results tracking. This information is used for decision making within the situation room that is at the heart of all medical response to COVID-19. In addition, NITA-U was able to quickly provide secure hosting to MoH and the public information portal, which improved ease of information from a trusted point.

Links: https://covid19.gou.go.ug/

1.3 Covid-19 portal

Some governments started using dedicated COVID-19 portals to centralize the information during the pandemic. These dedicated portals are designed to provide timely and accurate official information on all measures and activities undertaken by government agencies. In addition to information sharing, these one-stop shops include links to statistics as well as links to newly developed COVID-19 apps.

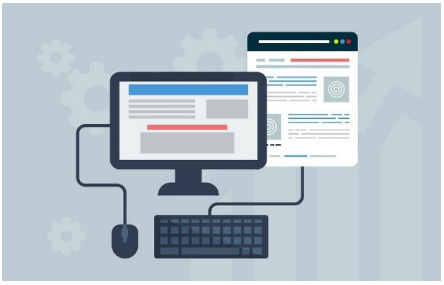


Photo credit: pixabay.com

Andorra

1.3.1 Assistance COVID-19

Institution(s) in charge: Government of Andorra

Focus: COVID-19 portal

Technology: Website

Description: A new platform has been created to provide information to the Andorran population on all the economic measures taken as a consequence of COVID-19, including financial help for individuals and companies and an auto-evaluation platform where people can register their symptoms if they feel sick to have a first assessment. There is a possibility to use the e-register for COVID-19 tests. All people registered will be tested twice.

Links: https://coronaVirus.govern.ad/

Belize

1.3.2 COVID19 Financial and Economic Relief Program

Institution(s) in charge: Government of Belize - Ministry of Human Development, Ministry of Finance, Office of the Prime Minister

Focus: COVID-19 portal

Technology: Website

Description: The Government has ventured into some partnerships with the private sector and other organizations. Technologies being used are Web Applications, Web Services, Online Fillable Forms and Mobile Technologies.

Links: https://covid19.bz

Benin

1.3.3 Information on covid-19

Institution(s) in charge: The Ministry of Health, Ministry of the Interior and Public Security, Ministry of Economy and Finance and the Communication Department of the Government

Focus: COVID-19 portal

Technology: Website

Description: Seven billion CFA have been mobilized by the government for urgent actions such as construction of infrastructure necessary for the care and treatment of infected persons, acquisition of various equipment to reinforce the technical platform and medical consumables, provision of

1.3.3 Information on covid-19 (continued)

buildings to ensure the isolation of persons suspected of carrying the germs of COVID-19 for the duration of the observation period, etc.

A website has been deployed to serve as a central platform for official information about COVID-19. It is accessible free of charge to all Beninese internet users thanks to the contribution of GSM partners (Moov Benin and Mtn Benin). There is also a toll-free number (#136) for free calls 24 hours a day, 7 days a week for all information regarding COVID-19: screening, support, isolation, reporting and miscellaneous questions.

An Android and IOS mobile applications are being developed based on the content of the site to make information even more available to the population.

Links: https://www.gouv.bj

https://www.gouv.bj/actualites/categorie/coronaVirus--covid-19-/

https://sante.gouv.bj

https://www.gouv.bj/coronaVirus/

https://www.gouv.bj/coronaVirus/faq/

1.3.4 COVID19 financial and economic relief program

Brazil

Institution(s) in charge: Government of Brazil – Ministry of Health

Focus: COVID-19 portal

Technology: Website

Description: A portal developed to publicize confirmed cases, deaths, lethality, cases by geographic region, new cases per day, cases per epidemiological week, among others.

Links: https://covid.saude.gov.br

https://coronavirus.saude.gov.br

1.3.5 Single Information Portal

Bulgaria

Institution(s) in charge: The Government of Bulgaria in partnership with IT Sector

Focus: COVID-19 portal

Technology: Website

Description: The Government launched a Single Information Portal with information on measures for combatting the spread of COVID-19 in Bulgaria, including the health, economic and social consequences. It provides timely and accurate official information on all measures and activities undertaken by the executive authorities, as well as documents issued. The objective is to facilitate citizens and business by gathering all pertinent information in one place. The portal is dynamic and will be updated constantly. Important numbers and links of all state institutions, statistics on the spread of the virus, protection advices, questions and answers, volunteering activities are also available. All the important topics are included, among which digital services, healthcare, economy, finance, tourism, mobility, international situation, security and home affairs, social services, education, culture, justice, sports, and others. There is also a specialized web GIS

1.3.4 Single Information Portal (continued)

application with up-to-date information, statistics and schedules for the spread of the pandemic in Bulgaria and worldwide.

Links: https://coronaVirus.bg

https://arcg.is/1LK1TW

Cabo Verde

1.3.6 COVID-19 portal

Institution(s) in charge: Health Ministry

Focus: COVID-19 portal

Technology: Website

Description: The portal includes chatbot for COVID-19 pre-diagnostic, geo-tracking, incident response and analytics and allows health sector integration with follow-up of suspected cases.

Links: www.Covid19.cv

Colombia

1.3.7 CoronaVirus Colombia website

Institution(s) in charge: Presidency

Focus: COVID-19 portal

Technology: Website

Description: Comprehensive website with official information related to COVID-19, including official decrees; actions taken by the Government; FAQs; hotlines for citizens; self-diagnostic tools and chatbots; fake news updates and; links to freely accessible tools.

Links: https://coronaViruscolombia.gov.co

Côte d'Ivoire

1.3.8 COVID-19 information portal

Institution(s) in charge: The Prime Minister office, Ministry of Public Health, Ministry of Security, Ministry of Communication, Government General Secretariat (SGG)

Focus: COVID-19 portal

Technology: Website

Description: The portal provides an SMS channel for sending mass information and raise awareness for the spread of COVID-19. It has also an integrated COVID-19 call centre for people to easily stay informed.

Links: http://info-covid19.gouv.ci/

http://www.sante.gouv.ci

http://www.telecom.gouv.ci

1.3.9 Official COVID-19 epidemic information portal

Czech Republic

Institution(s) in charge: Ministry of Health

Focus: COVID-19 portal

Technology: Website, Chatbot

Description: A "one-stop-shop" government portal in Czech and English languages with daily updated information on the COVID-19 epidemic. It is possible to make a conversation with the chatbot "Anezka". The portal provides important links as well as relevant information on:

- National COVID-19 pandemic situation
- Roadmap for easing measures
- Important phone numbers
- List of testing centres
- Q&A
- Tips and recommendations
- Measures in other countries: OECD action map

The COVID-19 portal is part of a broader communication strategy. Other initiatives implemented to ease the pandemic situation in the Czech Republic include the 1212 helpline and a digital interactive map for mobile phones. The portal was implemented in cooperation with IBM and Mluvii (a chatbot technology).

Links: https://koronaVirus.mzcr.cz/en/

1.3.10 COVID-19 portal

Denmark

Institution(s) in charge: The Danish Health Authority, The Danish police,

Focus: COVID-19 portal

Technology: Website, Chatbot

Description: The portal includes information about health regulations and recommendations and statistics. There is also a chatbot that helps people evaluate their next actions in case of COVID-19 symptoms.

Links: https://www.sst.dk/da/corona

https://politi.dk/coronaVirus-i-danmark

Dominican Republic

1.3.11 CoronaVirusRD (República Digital)

Institution(s) in charge: Ministry of the Presidency and other institutions that are part of the High-Level Commission for the Prevention and Control of Coronavirus

Focus: COVID-19 portal

Technology: Website, Artificial intelligence

Description: The different entities that are part of the High Level Commission for the Prevention and Control of Coronavirus (Ministry of the Presidency, Ministry of Public Health, Ministry of Economy, Ministry of Defense, among others) have joined forces to install a control and monitoring center that centralizes and integrates all the information systems involved for real-time monitoring of the spread of the pandemic; receiving reports of symptoms and offering medical assistance through Apps and a dedicated portal to inform the public on incidents, statements and recommendations, with the support of the República Digital Program. The initiative has had the active participation of the national private sector, associations of clinics, laboratories, and administrators of health risks, among many others. Cloud computing tools, artificial intelligence and various information exchange mechanisms have been used intensively (webservices, APIs, etc.).

Links: https://coronavirusrd.gob.do/

Ethiopia

1.3.12 Ethiopian COVID-19 monitoring platform

Institution(s) in charge: Ministry of Health, Information Network Security Agency and Ministry of Innovation and Technology

Focus: COVID-19 portal

Technology: Website

Description: This is a detailed portal about COVID-19 in Ethiopia including statistics about the total number of tests, confirmed cases, recoveries and fatalities by city and region. In order to enable electronic services and payments, a new e-transaction proclamation has been approved by the government. Different technologies have been employed for platforms, web applications, mobile apps, and BOTs.

Links: https://www.covid19.et/covid-19

Greece

1.3.13 Official COVID-19 portal

Institution(s) in charge: Greek Government and Ministry of Digital Governance

Focus: COVID-19 portal

Technology: Website

Description: Official website containing information of legislative and other measures adopted by the Greek Government, as well as all the information needed by people and businesses to deal with the COVID-19 pandemic, categorized by government area.

Links: https://covid19.gov.gr/

1.3.14 Website for national COVID-19 task force

Indonesia

Institution(s) in charge: National Agency for Disaster Management (BNPB), Ministry of Communications and Informatics, Ministry of Health, Ministry of Internal Affair, and Local Governments.

Focus: COVID-19 portal

Technology: Website

Description: The national official website was designed to provide information related to COVID-19 in Indonesia, including policy, guidelines, real-time and integrated data, as well as a hoax-buster feature.

Links: https://www.covid19.go.id/

1.3.15 COVID-19 information portal

Ireland

Institution(s) in charge: Department of Health

Focus: COVID-19 portal

Technology: Website

Description: The website allows people to view the latest information on how Ireland is responding to cases of COVID-19. The latest information, advice and guidelines are published and updated daily on this centralized portal.

Links: https://www.gov.ie/en/campaigns/c36c85-covid-19-coronavirus/

1.3.16 Dedicated website for COVID-19 information

Kiribati

Institution(s) in charge: Ministry of Information and Communications, Office of the President, Ministry of Health, Ministry of Commerce, Ministry of Education, Vodafone, ANZ Bank

Focus: COVID-19 portal

Technology: Website

Description: The website addresses misinformation about the pandemic that circulates on major social media platforms. A working committee has been established to bring together relevant institutions to work on the creation and centralisation of information from the government on COVID-19.

Links: https://covid19.gov.ki/

Kuwait

1.3.17 Kuwait combatting COVID-19

Institution(s) in charge: Council of Ministers, Ministry of Health, Central Agency for Information Technology, Ministry of Interior, Ministry of Commerce and Industry, Ministry of Foreign Affairs, The Public Authority for Civil Information, Ministry of Education, Communication and Information Technology Regulatory Authority

Focus: COVID-19 portal

Technology: Website

Description: Official Website for COVID-19 updates in Kuwait. It shows the basic statistics such as number of deaths, people in critical conditions, people receiving treatment and as well as total number of cases. The portal also includes latest news on a daily basis and frequently asked questions.

Links: https://corona.e.gov.kw/

Kyrgyzstan

1.3.18 COVID-19 portals

Institution(s) in charge: IT headquarters under the State Committee for Information Technologies and Communications, State Committee of Information Technologies and Communications

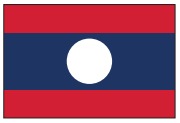
Focus: COVID-19 portal

Technology: Website

Description: Covid.kg website was developed and launched in order to post summary information on all emerging issues regarding the COVID-19 situation. The website also has important contact details for call centers. It provides information on pharmacies, delivery services, laboratories, etc. People can track statistical data for countries, including Kyrgyzstan, the number of sick persons, recoveries and fatalities on virus.el.kg.

Links: http://virus.el.kg/

https://covid.kg/



Lao People's Democratic Republic

1.3.19 Official COVID-19 website and government services

Institution(s) in charge: Ministry if Post and Telecommunications

Focus: COVID-19 portal

Technology: Website, Mobile App

Description: The Ministry of Post and Telecommunications together with a local software development company established an official COVID-19 website and mobile application called LaoKYC for reporting the status to pandemic centers and the Ministry of Public Health. LaoKYC allows people to submit address locations electronically, follow the news, report status, and get informed if an outbreak occurs. In addition, the e-government center under the Ministry of Post and Telecommunications is also providing applications such as e-office, g-chat, g-share and video conferencing systems to all ministries and government offices to support their work from home.

Links: www.covid19.gov.la

www.mpt.gov.la

www.egc.gov.la

1.3.20 COVID-19 portal

Luxembourg

Institution(s) in charge: Information and Press Service of the Luxembourg Government

Focus: COVID-19 portal

Technology: Website

Description: Specific, complete and up-to-date portal on all important topics linked to COVID-19 in Luxembourg

Links: http://covid19.lu

1.3.21 eCOVID-19

Malaysia

Institution(s) in charge: Ministry of Health (MOH)

Focus: COVID-19 portal

Technology: Website

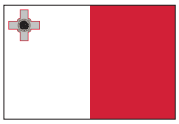
Description: The portal is used by various MOH users from Crisis Preparedness and Response Centre (CPRC) headquarters (HQ), Disease Control Division, CPRC State Health Office, CPRC District Health Office and National Public Health Laboratory. The objectives of the system are:

- To ensure COVID-19 data reporting is accurate and real-time.
- To ensure uniformity of information reported from the field.
- To avoid overlapping of reporting
- To become the main source of data for COVID-19 outbreaks at all levels.

The portal was developed without any cost by Malaysian Communications and Multimedia Commission (MCMC) as Corporate Social Responsibility (CSR) initiative and under the instructions of National Security Council (NSC).

Links: https://cprc.mcmc.gov.my/

1.3.22 COVID-19 Malta



Malta

Institution(s) in charge: Office of the Prime Minister

Focus: COVID-19 portal

Technology: Website, Chatbot

Description: The portal has been created to provide constant updates on the pandemic in Malta. The aim is to guide the general public on what measures are being taken to avoid the spread of the virus. A chatbot has also been created and is implemented within the website to help the public with their concerns. Updates on major news are provided daily on the website.

Links: www.covid19.gov.mt

www.facebook.com/covid19malta

Mexico

1.3.23 #QuédateEnCasa (#StayAtHome)

Institution(s) in charge: Mexican Government, Ministry of Health

Focus: COVID-19 portal

Technology: Website

Description: On the microsite people can gather information on specific COVID-19 policies, government programs, suggestions, open data and on other topics of interest.

Links: https://coronaVirus.gob.mx

Monaco

1.3.24 Covid19.mc

Institution(s) in charge: Inter-ministerial Delegation for Digital Transition (DITN)

Focus: COVID-19 portal

Technology: Website

Description: Covid19.mc is a bilingual website created to provide practical and useful information to the people about respecting public health measures implemented by the Government. It also shows how workers and people should adapt their everyday lives. The website also informs people about support for companies and workers facing financial challenges and provides general information about the virus. Additionally, people can find a list of medical professionals who provide online consultation to ensure people keep receiving medical care.

Links: https://covid19.mc/

Niger

1.3.25 National response plan against the COVID-19 pandemic

Institution(s) in charge: National Agency for the Information Society (ANSI), Ministry of Public Health

Focus: COVID-19 portal

Technology: Website

Description: The website offers an interactive voice server with operators which provide pre-recorded messages (in French and in other national languages) on the preventive measures of COVID-19 and redirect people to specialized services. A telephone number (701) allows free calls for advice on COVID-19. A teleworking platform was also created for public administrators and an e-consultation system was also established.

Links: www.coronaVirus.ne

1.3.26 COVID-19 Health Information

Philippines

Institution(s) in charge: Department of Health (DOH)

Focus: COVID-19 portal

Technology: Website

Description: The COVID-19 website was created by the Philippine Department of Health as primary resource for COVID-19 health information. The NCOV tracker website contains information on the number of confirmed cases from the DOH-Epidemiology Bureau.

Links: https://covid19.healthypilipinas.ph/

https://ncovtracker.doh.gov.ph/

1.3.27 Estamos ON (We're ON)

Portugal

Institution(s) in charge: Portuguese Government (Prime Minister's office)

Focus: COVID-19 portal

Technology: Website

Description: The government launched EstamosON (website and app) as the single point of contact for relevant information on the prevention and containment measures of COVID-19. It is directed at citizens, families and companies.

- Communication campaigns to promote the use of digital public services and of ePortugal portal, to minimize social contact;
- Technological tools/tutorials to operationalise the telework regime;
- List of exceptional measures adopted by each governance area, political communications and relevant legislation, with FAQs;
- Dashboard with the epidemiological evolution in Portugal;
- Questions collected from social networks and answered by Health authorities;
- Consolidated and reliable list of emergency and support contacts;
- Government support to companies;
- Civil society initiatives;
- Epidemic status with a graphic visualization option;
- The platform was developed with the support of VOST.Portugal and Flutter Portugal.

Links: https://covid19estamoson.gov.pt/

Armenia

1.3.28 COVID-19 website

Institution(s) in charge: Office of the Deputy Prime Minister

Focus: COVID-19 portal

Technology: Website

Description: In the fight against COVID-19 in Armenia three technical solutions have been introduced. First, a website, to prevent the transmission of the virus by providing information on the decisions adopted, relevant documents, protective measures, statistics and official news.

Second, along with the website, a mobile application has been designed. The application requires registration and provides an opportunity to people to learn about medical guidelines to help protect themselves against the risk of infection. Users have to take an online test in order to be diagnosed and to be contacted by relevant specialists if necessary.

The third solution is a location tracking software. The location of self-quarantined people is checked by two methods: 1. specially designed software that enables GPS location tracking 2. location data provided by telecommunication companies

Links: https://covid19.gov.am

Republic of Korea

1.3.29 Efforts against COVID-19

Institution(s) in charge: Ministry of Health and Welfare

Focus: COVID-19 portal

Technology: Website

Description: On February 5, 2020, the Korean government established an official website on COVID-19 (http://ncov.mohw.go.kr/en), where all relevant information is available for the public. Comprehensive information such as daily case counts, quarantine process data, regular briefings by the government, and instructions for those under quarantine are provided. Data such as confirmed cases from screening centers are available in CSV and open API formats to allow immediate use. The Korean government has temporarily permitted doctors to perform telemedicine from the end of February as part of preventive measures to avoid group contagion in vulnerable facilities including medical institutions and nursing homes. In other words, patients can receive phone consultations and have medicine prescribed without visiting medical institutions when the doctor considers it safe. The National Information Society Agency (NIA) of Korea implemented the "Korean ICT services against COVID-19 pandemic" measures which consist of ICT use in each of the below 4 stages:

1. Screening and Diagnosis stage
2. Epidemiological Investigation stage
3. Patient and Contact Management stage
4. Prevention stage

Links:

http://ncov.mohw.go.kr/en

https://eng.nia.or.kr/site/nia_eng/ex/bbs/View.do?cbIdx=31975&bcIdx=22150&parentSeq=22150

1.3.30 COVID-19 related portals

Saudi Arabia

Institution(s) in charge: Saudi e-Government Program (Yesser) Ministry of Health

Focus: COVID-19 portal

Technology: Website

Description: Yesser, Saudi e-Government Program actively and timely disseminating the required information and services at the time of COVID-19 through My.Gov.Sa and Open Data Portal which are the main source of all information from various Ministries and Public Sector initiatives at the time of COVID-19 in Saudi Arabia.

The National Portal Yesser publishing COVID-19 related Information, current situation, measures, travel restrictions for people in KSA with complete Contact information with different Ministries and organizations and patient cases, recoveries, and fatalities numbers; real time Information about different Ministries initiatives with proper links to national portal as well as different data set on Data Portal.

A dedicated COVID-19 portal with various detailed information on COVID-19 was launched. It provides information on transmission and infection methods, protection procedures with daily news updates, information on precautionary measure and health related details about protection procedures and protocols in different sectors (shopping, mosques, work, home). This portal also provides information about self-quarantine as well as Information about the hospitals treating the infected cases.

There is also a section on testing and medical treatment expenses details for people as the government ordered free medical testing and treatment for all people including citizens, residents and visitors.

Links: https://www.my.gov.sa

https://www.data.gov.sa

https://covid19.moh.gov.sa

https://covid19.cdc.gov.sa/ar/home-ar https://www.my.gov.sa

https://covid19.cdc.gov.sa

https://covid19.moh.gov.sa

Serbia

1.3.31 COVID-19 info

Institution(s) in charge: Ministry of Health Office for IT and e-Government

Focus: COVID-19 portal

Technology: Website

Description: Website developed in collaboration with the Ministry of Health and Serbian Institute for Public Health. The website publishes the newest information on the COVID-19 pandemic including number of tested, number of cases, and number of hospitalized, deaths and recovered. The website also provides phone numbers for the support of the elderly and a tool for checking medical symptoms.

In addition, an open data portal with machine readable sets was enriched with the new open data sets related to the COVID-19 pandemic.

Links: https://covid19.rs/homepage-english/

https://data.gov.rs/sr/

https://covid19.data.gov.rs/

https://covid19.data.gov.rs/infected

https://covid19.data.gov.rs/self_isolation

https://covid19.data.gov.rs/ambulances?locale=en

Kazakhstan

1.3.32 E-government during COVID-19

Institution(s) in charge: Ministry of Digital Development, Innovations and Aerospace industry

Focus: COVID-19 portal

Technology: Website

Description: The e-government portal implemented services for monitoring the situation of COVID-19 in the country. A map, working in real time mode, was developed to inform people about the situation of infected persons and the ones who were in contact with them. To keep citizens informed about the COVID-19 pandemic, the e-government portal contains a FAQ section.

Links: https://egov.kz/cms/en

1.3.33 Togo COVID-19 portal

Togo

Institution(s) in charge: Ministry of Posts, Digital Economy and Tech Innovation, National Crisis Management Board, Ministry of Health,

Focus: COVID-19 portal

Technology: Website, Social Media

Description: In the interest of complementing ongoing publicity campaigns in traditional media and combating disinformation, the government is also engaging with the Togolese public online through the official portal covid19.gouv.tg and through its accounts on Facebook and Twitter.

The official portal (https://covid19.gouv.tg) provides daily updates on the progress of the COVID-19 situation in Togo i.e. information on new cases, important announcements and more.

The platform's presence on social media is combatting disinformation about the virus, including fake news circulating on WhatsApp and other platforms. It helps to alleviate fears and panic about the public health crisis, supporting transparency and communication with the general public in a timely manner.

Links: https://covid19.gouv.tg

1.3.34 Case follow-up across the world and in Turkey

Turkey

Institution(s) in charge: Digital Transformation Office Ministry of Health

Focus: COVID-19 portal

Technology: Website

Description: The website has been established to follow-up on daily COVID-19 cases in the world and in Turkey.

In addition, "Turkey Daily Coronavirus Table" has been prepared by the Ministry of Health and provides general updates on COVID-19.

Links: https://corona.cbddo.gov.tr

https://covid19.saglik.gov.tr/

2. E-Participation

Photo credit: United Nations

During the COVID-19 pandemic, countries have taken steps to actively support vulnerable groups in society through digital donation campaigns and volunteering platforms. Many countries have also established hackathons to bring private companies, social entrepreneurs, tech start-ups and civil society organizations to collectively brainstorm for innovative digital ideas to fight the economic, financial and social repercussions of the pandemic. These e-participation initiatives have helped foster a sense of community and shared responsibility in these challenging times.

Public civic engagement platforms have focused on donation and volunteering campaigns. Countries have published information on their government websites or have developed new websites for specific campaigns. Some initiatives have focused on civil society volunteers, while others targeting private companies to donate or volunteer for specific good causes. There have also been initiatives that focus on specific vulnerable groups in society, as for example migrant worker communities in Singapore, social minorities in Saudi Arabia or the elderly in Serbia. The idea behind those initiatives is to motivate people to help other people who have suffered more than other groups as a result of the lockdowns and social isolation.

Another form of government engagement with different stakeholders has been the organization of hackathons to come-up with solutions to the most pressing challenges arising from the COVID-19 crisis. Governments around the world have begun to seek the active support of social entrepreneurs, tech start-ups or other private and civil society organizations to improve the provision of healthcare, support MSMEs in different industries or avoid an intensification of social and digital divides. For example, the goal of the online hackathon in Montenegro was to identify solutions that can help Montenegro adjust to, respond to, and recover from, the consequences caused by COVID-19. Hackathons use application programming technology to make the collected innovative ideas operational in a short period of time.

2.1 Civic engagement

Colombia

2.1.1 Donation campaign

Institution(s) in charge: Presidency

Focus: Civic engagement

Technology: Website

Description: The donation campaign "Ayudar Nos hace Bien" aims to bring together the private sector and ordinary citizens to help those most in need receive the goods and services that they rely on during the COVID-19 crisis.

Links: http://ayudarnoshacebien.org/

France

2.1.2 Creating a civic reserve platform

Institution(s) in charge: Inter-ministerial Directorate for Digital Affairs / Ministry of National Education

Focus: Civic engagement

Technology: Website

Description: Beta.gouv.fr (a state start-up incubator hosted by the Inter-ministerial Directorate for Digital Affairs) and the Ministry of National Education developed a civic reserve platform to help match and connect public organizations or associations in need of volunteers during the crisis with citizens willing to help. Citizens register on the platform and are presented with a variety of missions, such as the distribution of healthcare necessities or childcare for healthcare workers.

Links: https://covid19.reserve-civique.gouv.fr/

North Macedonia

2.1.3 Easy donation of the VAT returns for COVID-19 relief

Institution(s) in charge: Public Revenue Office

Focus: Civic engagement

Technology: App

Description: Individuals using the MyDDV mobile application will be able to donate their VAT refunds for the first quarter of 2020 to combat COVID-19. In the MyDDV mobile application, the ""scan and donate"" allows individuals to have the opportunity to easily donate the amount of VAT which they are entitled to return.

Links: http://www.ujp.gov.mk/mk/javnost/soopstenija/pogledni/767

2.1.4 Electronic procedures for donations and sponsorship for the duration of the state of emergency

North Macedonia

Institution(s) in charge: Ministry of Justice

Focus: Civic engagement

Technology: Website

Description: In order to strengthen the public interest in sponsorships and donations, the Government of the Republic of North Macedonia adopted a decree in which the requests are submitted and issued electronically, using electronic communication means. This procedure is a precondition for obtaining tax benefits for legal entities that have given sponsorships or donations.

Links: http://justice.gov.mk/vest/4080

2.1.5 "Move to Donate" initiative

Saudi Arabia

Institution(s) in charge: The Saudi Sports for All Federation (SFA)

Focus: Civic engagement

Technology: Website

Description: The Saudi Sports for All Federation (SFA) has launched "Move to Donate" initiative in collaboration with Saudi Food Bank (SFB) at the start of Ramadan, which rewards people's activities by delivering food baskets to people most in need. Those wishing to participate in this initiative can benefit from services provided by the SFA portal, where they can get advice and guidance from 5 professional on how to exercise in a professional manner and following a healthy diet.

Links: https://sportsforall.com.sa/move-to-donate?lang=ar

2.1.6 Online platform for COVID-19 volunteers

Saudi Arabia

Institution(s) in charge: Ministry of Health

Focus: Civic engagement

Technology: Website, Social Media

Description: It is an online platform established during COVID-19 for those who like to become volunteers and serve people in need. This volunteer platform is approved by the Ministry of Health to allow people to offer their services in the health sector in partnership with different government agencies. Volunteers can register through the Nafaz service using their Absher accounts to log in and will then receive the necessary basic training. More than 100,000 volunteers have already registered on this portal.

Links: https://volunteer.srca.org.sa/

Saudi Arabia

2.1.7 Blood donation from home

Institution(s) in charge: Saudi Blood banks

Focus: Civic engagement

Technology: Social media, Apps

Description: Through this initiative, donors can send blood donation requests through WhatsApp or an electronic link providing the information of those who want to donate blood and scheduling a date when healthcare professional can come to their house to take the blood. Those who wish to go to hospitals to donate blood can book an appointment online and receive permits to move around if the appointment is at the time of the curfew. The apps Wateen and ASAFNY help people find others who need a specific blood type in nearby blood donation centres.

Links:

https://twitter.com/KFSHRC/status/1256644886402609152

https://www.moh.gov.sa/Ministry/MediaCenter/News/Pages/News-2020-04-10-003.aspx

https://apps.apple.com/sa/app/%D8%A3%D8%B3%D8%B9%D9%81%D9%86%D9%8A/id1227196538

Saudi Arabia

2.1.8 Waqfy portal

Institution(s) in charge: The General Authority for Awqaf

Focus: Civic engagement

Technology: Website

Description: The General Authority for Awqaf has launched Waqfy portal during COVID-19 to activate community participation in support of endowments and the non-profit sector and provide secure electronic payment options via the platform. It enables the donor to fully or partially contribute to projects. Many of these projects are supposed to help during COVID-19, for example "Help them to breath", which is a project to help people with chest diseases by providing them with oxygen generators for home use. Participation in these projects can be requested easily through the Waqfy portal.

Links: https://waqfy.sa/

Serbia

2.1.9 Be a Volunteer

Institution(s) in charge: Government of the Republic of Serbia

Focus: Civic engagement

Technology: Website

Description: Website developed by the Government of the Republic of Serbia with the Office for IT and e-Government and UNDP Office in Serbia. The website collects applications for volunteering to help vulnerable groups. Activities include providing food and other necessities that elderly, disabled and other vulnerable groups require.

Links: https://budivolonter.gov.rs/

2.1.10 Campaigns for vulnerable groups affected by COVID-19 on giving.sg

Singapore

Institution(s) in charge: National Volunteer and Philanthropy Centre (Government-linked nonprofit organization)

Focus: Civic engagement

Technology: Website

Description: "Migrants we care" and "#HOMEFORALL migrants" are two key e-campaigns launched to aid Singapore's migrant workers community, which has been seriously affected by COVID-19. The initiatives have raised S$ $1,105,951 (USD776k) and S$738,468 (USD518k) respectively as of 21 April 2020. A central giving page has been set up on Giving.SG to enable people and organizations to easily find and contribute to charities' efforts to address the needs of communities affected by the COVID-19 outbreak. The Community Befriending Program (CBP) is a befriending program for isolated elderly living on their own in the community. The program re-engages the elderly with community and links them to services which they may require.

Links: https://www.giving.sg/

2.1.11 Better.SG - Help Malaysians

Singapore

Institution(s) in charge: Better.SG (a Government-supported tech-for-good nonprofit charity)

Focus: Civic engagement

Technology: Website

Description: The Better.SG - Help Malaysians portal is a one-stop page providing helping opportunities to aid Malaysian workers in Singapore who are affected by the Malaysian lockdown.

Links: https://better.sg/helpmalaysians/

2.1.12 The COVID-19 Civil Society Point of Contact platform

Switzerland

Institution(s) in charge: Federal Council Coronavirus Crisis Unit (KSBC)

Focus: Civic engagement

Technology: Website

Description: The COVID-19 Civil Society Point of Contact platform serves as a connection between the Federal Administration and initiatives of the Swiss civil society. It sends specific needs and requests from civil society to the Federal Council Coronavirus Crisis Unit (KSBC). It also provides a platform for a targeted exchange between the Crisis Unit and initiatives from Swiss civil society.

Links: https://covid19-civilsociety.ch/

United Arab Emirates

2.1.13 Volunteering and donations to contain the impact of COVID-19

Institution(s) in charge: Ministry of Community Development

Focus: Civic engagement

Technology: Website

Description: The UEA formed the Supreme National Committee to organize volunteering during the COVID-19 crisis. It also coordinated with the Emirates Red Crescent to distribute 5,000 food and health parcels to different groups in need.

Links: https://www.mocd.gov.ae/en/about-mocd.aspx

2.2 HackathonS

Austria

2.2.1 Hack the Crisis Austria

Institution(s) in charge: Federal Ministry for Digital and Economic Affairs, Austrian Startups

Focus Hackathon

Technology: Application programming

Description: "Hack the crisis Austria" is a virtual hackathon organized by volunteers of the Austrian Startup Community with support from the corporate and public sector. It aims to cooperatively develop new solutions to counter challenges posed by the Corona crisis.

Links: https://austrianstartups.com/event/hack-the-crisis-austria-online-hackaton/

Colombia

2.2.2 Colombia Undertakes and Innovates

Institution(s) in charge: iNNpulsa

Focus: Hackathon

Technology: Application programming

Description: This is an online platform to mobilize the entrepreneurial and business sector to find solutions in the fight against COVID-19. It identifies, centralizes and brings together existing start-up solutions that can help citizens, business leaders, entrepreneurs, and governments overcome the crisis.

Links: https://innpulsacolombia.com/ColombiaEmprendeInnova/

2.2.3 Innovate for Italy

Italy

Institution(s) in charge: Minister for Technological Innovation and Digitalization

Focus: Hackathon

Technology: Application programming

Description: "Innova per l'Italia" calls upon companies, universities, public and private research centers, associations, cooperatives, consortia, foundations and institutes to come up with technologies that contribute to the containment of the COVID-19 crisis. The project is a joint initiative between the Ministry for Technological Innovation and Digitization, the Ministry of Economic Development and the Ministry of University and Research together with Invitalia and the Extraordinary Commissioner for the Coronavirus Emergency.

Links:

https://innovazione.gov.it/innova-per-l-Italia-la-tecnologia-e-l-innovazione-in-campo-contro-l-emergenza-covid-19/

2.2.4 Coronathon

Montenegro

Institution(s) in charge: Ministry of Science, Ministry of Culture, UNDP

Focus: Hackathon

Technology: Application programming

Description: The goal of the online hackathon is to identify solutions that can help Montenegro adjust to, respond to, and recover from, the consequences caused by COVID-19. The event brings together the digital community and experts from various fields and civil society. The teams have 48 hours to develop solutions from the comfort of their own homes.

Links: https://coronathon.me/

2.2.5 Hack COVID-19

Qatar

Institution(s) in charge: Qatar Development Bank

Focus: Hackathon

Technology: Application programming

Description: An online platform to allow innovators to share their entrepreneurial ideas to help deal with the various challenges posed by the spread of the Coronavirus. The hackathon includes four COVID-19 related challenges which are a) protecting the elderly & at-risk community members from Covid-19 exposure; b) ensuring the safety & efficiency of healthcare professionals; c) strengthening our supply chain to facilitate the availability of medical supplies; and d) maintaining the productivity & well-being of the workforce. The 5 winning ideas will receive support (e.g. Incubation, advisory programs) and a grant of QR 250,000 each to develop and implement their ideas. This is a partnership between QDB and other entities in Qatar, including MoPH, MoCI, MoTC, Ooredoo, Aspetar Hospital, Qatar University, Virginia Commonwealth University in Qatar, Carnegie Mellon University in Qatar, etc.

Links: Hackcovid19.qa

Saudi Arabia

2.2.6 Hope hackathon

Institution(s) in charge: Ministry of Communications and Information Technology

Focus: Hackathon

Technology: Application programming

Description: The Ministry of Communications and Information Technology launched "Hope Hackathon". It is a hackathon that enable entrepreneurs to come up with innovative ideas and solutions to current challenges. The main goals of this hackathon are to a) encourage innovation and development in healthcare, game development and home entertainment; b) support creatively and technically talented individuals; and c) find sustainable solutions that help overcome the current pandemic.

Links: https://hopehackathon.com/

Saudi Arabia

2.2.7 COVID-19 Saudi hackathon

Institution(s) in charge: Saudi Dominoes Company in partnership with Ministry of Communications and Information Technology and Social Development Bank and other government agencies

Focus: Hackathon

Technology: Application programming

Description: A 48-hour remote event that aims to create innovative solutions to challenges in sectors affected by COVID-19. It will also help build proactive ideas to confront any pandemics or disasters that may occur in the future.

Links: https://covid19saudihackathon.com/

Oman

2.2.8 COVID-19 research program

Institution(s) in charge: The Research Council

Focus: Hackathon

Technology: Application programming

Description: The Research Council has launched a national program and called for civil society proposals for projects addressing the current COVID-19 pandemic. The proposals must focus on the COVID-19 pandemic and be of clinical and non-clinical scope. The non-clinical scope includes but is not limited to a) Artificial intelligence; b) e-learning during pandemic; c) emergent tracking and monitoring technologies; d) economic and business impact; and e) crisis management.

Links: www.trc.gov.om

2.2.9 Online hackathon Anti-Corona

Kazakhstan

Institution(s) in charge: Ministry of Healthcare of Kazakhstan

Focus: Hackathon

Technology: Application programming

Description: Anti-corona is an online open-source hackathon dedicated to creating a unified information resource to raise public awareness of the situation with COVID-19 and prevent its spread. The hackathon's activity is aimed at creating a set of accessible digital resources with reliable and relevant information about the situation around COVID-19 in Kazakhstan.

Links: Not available

2.2.10 Coronathon Turkey

Turkey

Institution(s) in charge: The Ministry of Industry and Technology

Focus: Hackathon

Technology: Application programming

Description: The Ministry of Industry and Technology together with the private sector organized a Coronathon event for entrepreneurs who have the potential to provide technology-based solutions to the COVID-19 pandemic. This event was held on 21-22 March 2020 and more than 150 teams competed.

Links:

https://www.tr.undp.org/content/turkey/en/home/presscenter/articles/2020/03/coronathon-Turkiye.html

3. E-Health

Photo credit: UNICEF

The COVID-19 pandemic has accelerated the deployment of innovative e-health solutions by governments. Countries around the world have started to search for new ways to use technology to cater to the medical needs of their people. These digitalization efforts in the healthcare industry hold important promises for the future of healthcare provision.

The cases in this section includes some selected e-health initiatives grouped under five main sub-headings:

i) e-health services;
ii) supply of medical goods;
iii) virtual doctor;
iv) self-assessment of health status; and
v) remote patient monitoring,

Due to the lack of medical personnel and capacity in hospitals, governments have worked on a variety of portals, chatbots and apps to provide people with tools to self-assess their health status and for doctors to remotely monitor the health of their patients. In Croatia, the digital assistant "Andrija" uses artificial intelligence to process thousands of health requests via a government portal and social media. COVID-19 has also resulted in the use of virtual doctors, which represent online platforms where patients can talk to doctors virtually and seek health advice.

E-health services have helped citizens access a variety of health-related information from the comfort of their homes. For example, the Singaporean platform FluGoWhere allows people to search for public clinics providing special subsidies for those diagnosed with respiratory illnesses. In the United Arab Emirates, people can use the 1MAP Health Facility Locator app to locate newly launched COVID-19 screening drive-through centres.

The shortage of medical goods has led to more coordination and transparency when it comes to identifying and reacting to the needs of hospitals and other health facilities. In Brazil and the Kyrgyzstan, the central governments have launched websites that allows local governments to provide real-time information on shortages to central government. The government in Turkey offers free face masks to its people through its e-government portal.

As the various e-health initiatives depict, the technology-healthcare nexus holds the potential to create a more accessible and transparent healthcare sector beyond the COVID-19 crisis.

3.1 Self-assessment of health status

Croatia

3.1.1 COVID-19 digital assistant "Andrija"

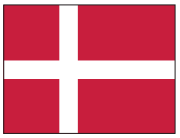
Institution(s) in charge: Ministry of Administration

Focus: Self-assessment of health status

Technology: Artificial intelligence

Description: A digital assistant who advises people how to diagnose and manage suspected COVID-19 infections. It is powered by artificial intelligence and has been developed by Croatian IT companies in cooperation with epidemiologists. The digital assistant is available online and can be activated on WhatsApp using the name Andrija. The digital assistant is very helpful to the healthcare system as it can process tens of thousands of requests on a daily basis, while doctors can handle some 50 calls a day.

Links: https://andrija.ai/



Denmark

3.1.2 Chatbot

Institution(s) in charge: Joint initiative by the health sector

Focus: Self-assessment of health status

Technology: Chatbot

Description: A chatbot which helps citizens evaluate the next steps to take in case of COVID-19 symptoms.

Links: https://www.sundhed.dk/borger/corona/online-corona-test/

Estonia

3.1.3 Koroonatest

Institution(s) in charge: The Ministry of Social Affairs

Focus: Self-assessment of health status

Technology: Website

Description: The Ministry of Social Affairs created a Coronavirus questionnaire for self-assessing whether one is infected with the Coronavirus. It gives recommendations on what to do and where to turn to. Users are able to share their location to gather data about the spread of the Coronavirus in Estonia.

Links: https://koroonatest.ee./

3.1.4 Hidoctor.kg

Kyrgyzstan

Institution(s) in charge: IT headquarters under the State Committee for Information Technologies and Communications

Focus: Self-assessment of health status

Technology: Website

Description: On the portal, citizens can take an online test to check for COVID-19. Work has also begun on telehealth modules and additional information for citizens (addresses and phone numbers of regional infection control departments and hospitals, addresses of specialized laboratories, contact details of regional call centres etc.). The information is constantly updated and widened to allow citizens to remain at home and only leave the house in emergencies.

Links: https://hidoctor.kg/

3.1.5 MySejahtera

Malaysia

Institution(s) in charge: National Security Council (NSC), the Ministry of Health (MOH), the Malaysian Administrative Modernisation and Management Planning Unit (MAMPU) and Malaysian Communications and Multimedia Commission (MCMC)

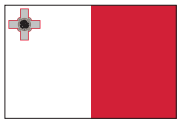
Focus: Self-assessment of health status

Technology: App

Description: MySejahtera is an application developed by the Government of Malaysia to assist in monitoring the spread of COVID-19 outbreaks in the country by enabling users to carry out self-health assessments. At the same time, it helps the Ministry of Health Malaysia (MOH) get early information to take action quickly and effectively.

Links: https://mysejahtera.malaysia.gov.my

3.1.6 COVID-19 symptom checker



Malta

Institution(s) in charge: Ministry for Health

Focus: Self-assessment of health status

Technology: Website, App

Description: The COVID-19 symptom checker will help assess the risk of citizens being infected and it provides guidance based on the person's individual situation. The results will also assist the Superintendence of Public Health to assess and predict the spread of COVID-19 in Malta. This app will also be included in the Health Tab under the Malta Apps Application Store of the Government of Malta.

Links: https://covid19check.gov.mt/

Republic of Korea

3.1.7 Self-health check app

Institution(s) in charge: Ministry of Health and Welfare

Focus: Self-assessment of health status

Technology: App

Description: This self-health check app enables everyone entering Korea to report their health status to the Korean health authorities via their smartphones. This allows the health authorities to manage the health of inbound travellers and ensure prompt and effective control of imported cases of COVID-19.

Links: http://ncov.mohw.go.kr/selfcheck/

Slovakia

3.1.8 Online contact form

Institution(s) in charge: National Health Information Center (NCZI)

Focus: Self-assessment of health status

Technology: Website, SMS

Description: NCZI's website offers an online contact form for patients who think they might have contracted the Coronavirus. Upon filling in their details, the patient will be scheduled for a COVID-19 test. The patient is informed about the time and date of the test via text message.

Links: https://www.korona.gov.sk/poziadat-o-vysetrenie-na-covid-19/

Spain

3.1.9 Self-assessment of symptoms of with help of chatbot

Institution(s) in charge: Secretary of State for Digitization and Artificial Intelligence

Focus: Self-assessment of health status

Technology: Chatbot, website

Description: The platform helps with the self-assessment based on symptoms and gives information about the probability of being infected including advice for further action. The associated conversational assistant/chatbot Hispabot-Covid19 can be used via WhatsApp/other applications.

Links: https://asistencia.covid19.gob.es/

Kazakhstan

3.1.10 Checking for COVID-19 symptoms

Institution(s) in charge: Ministry of Digital Development, Innovations and Aerospace industry

Focus: Self-assessment of health status

Technology: Website

Description: The e-gov portal has an online questionnaire for checking whether a person shows Coronavirus symptoms.

Links: https://egov.kz/cms/en

3.1.11 NCOVI app

Viet Nam

Institution(s) in charge: Ministry of Information and Communications and Ministry of Health

Focus: Self-assessment of health status

Technology: App

Description: The NCOVI application was created so that people can actively check their own health situation. The application also provides an official channel for state agencies to give recommendations to people about the pandemic

Links: https://apps.apple.com/vn/app/ncovi/id1501934178

3.2 Virtual doctor

Brazil

3.2.1 Coronazap

Institution(s) in charge: Federal Senate

Focus: Virtual doctor

Technology: Portal

Description: The initiative provides an online chat, which allows employees of the Senate to ask questions to in-house doctors about COVID-19. The requests are exclusively answered by message from 7 a.m. to 7 p.m. from Monday to Friday. In this way, specialists answer questions about symptoms of the disease and advise on the necessary actions to take. The measures are intended to reduce the number of visitors to healthcare facilities and avoid an overloaded Emergency Medical Service.

Links: Not available

Indonesia

3.2.2 Artificial Intelligence for Covid-19 detection

Institution(s) in charge: Agency for the Assessment and Application of Technology (BPPT)

Focus: Virtual doctor

Technology: Artificial intelligence

Description: The Task Force for Research and Technological Innovation for Handling Covid-19 (TFRIC19) is working to use artificial intelligence (AI) in handling the Coronavirus (Covid-19). AI can be used to strengthen diagnostics by doctors in detecting the Coronavirus. This effort is carried out with the Machine Learning model and uses their latest Deep Learning techniques to build AI-based detection models. Later, the system will be assisted with AI techniques based on Knowledge Growing System as a Decision Support System (DSS). The artificial intelligence model was built based on X-Ray and CT-Scan data from positive and negative Coronavirus patients, which are then used to conduct early detection and diagnosis of patients.

Links:

https://www.bppt.go.id/siaran-pers/3903-sp-026-iv-2020-artificial-intelligence-untuk-deteksi-covid-19

Kuwait

3.2.3 COVID-19 psychotherapy program

Institution(s) in charge: Council of Ministers, Ministry of Health, Central Agency for Information Technology, Ministry of Interior, Ministry of Commerce and Industry, Ministry of Foreign Affairs, The Public Authority for Civil Information, Ministry of Education, Communication and Information Technology Regulatory Authority

Focus: Virtual doctor

Technology: Website

Description: The National Corona Psychotherapy Program is run by a dedicated team of volunteers and offers a platform for people that seek help and psychological counselling.

Links: https://coronacare.com.kw/

3.2.4 Medical teleconsultation

Monaco

Institution(s) in charge: Inter-ministerial Delegation for Digital Transition (DITN)

Focus: Virtual doctor

Technology: Website

Description: To help people respect the social distance needed to limit the Coronavirus spread, the Government implemented special regulations to help medical professionals provide teleconsultation more easily. The DITN provides a teleconsultation solution for free to local medical professionals and trains them on its use. A directory of medical professionals who can be reached through teleconsultation can be found on the website.

Links: https://covid19.mc/en/annuaire-des-professionnels-de-sante-en-teleconsultation/

3.2.5 Better Connections Virtual Consultation

Qatar

Institution(s) in charge: Ministry of Public Health

Focus: Virtual doctor

Technology: Computers

Description: The initiative "Better Connections" aims to reduce migrant workers visits to hospitals and health centres as much as possible in order to comply with the measures of social distancing, while easing the need for consultation with doctors . The Better Connections virtual consultation is based on improving infrastructure (computers installed and connected to the internet for use by migrant workers), to allow the migrant workers to have a successful virtual consultation with physicians and doctors in the health centres through online video session instead of physical visits to the health centres or hospitals.

Links: https://www.motc.gov.qa/en/ditoolkit/migrant-workers/better-connections-program

3.2.6 Health sector virtual response

Qatar

Institution(s) in charge: Ministry of Public Health

Focus: Virtual doctor

Technology: Not applicable

Description: MoPH and TASMU have launched 13 virtual clinics across their primary care (PHCC) and secondary/tertiary care (HMC and Sidra) facilities, and 5 laboratory compounds. These include urgent care for primary health care, mobile doctors' clinics for the specialist ambulatory department, mental health services, a dental clinic for primary health care and more.

Links:

http://wap.thepeninsulaqatar.com/article/11/04/2020/HMC's-virtual-consultation-offers-access-to-13-specialties

Saudi Arabia

3.2.7 SEHA app for doctor consultations

Institution(s) in charge: Ministry of Health

Focus: Virtual doctor

Technology: App

Description: Through this e-Government initiative developed and designed by the Ministry of Health, doctors can provide online health related medical consultation services to people through this App. It allows users to get medical consultations from accredited doctors in all specialties. It is available for Android as well iOS users.

Links: https://www.moh.gov.sa/en/Support/Pages/MobileApp.aspx

United Arab Emirates

3.2.8 "Don't worry" national campaign for mental support

Institution(s) in charge: The National Program for Happiness and Wellbeing

Focus: Virtual doctor

Technology: Social media, website

Description: The UAE's National Program for Happiness and Wellbeing (NPHW) has launched a nationwide campaign to offer free online mental health support for all UAE residents coping with the adverse psychological effects of the Covid-19 pandemic. More than 50 experts in the fields of psychology, mental and social support, and life skills are participating in the initiative.

Links:

https://www.mocaf.gov.ae/en/media/news/the-national-program-for-happiness-and-wellbeing-launches-the-national-campaign-for-mental-support

https://www.instagram.com/happyuae/?hl=en

3.3 E-health services

Brazil

3.3.1 Validate medical documents online

Institution(s) in charge: National Institute of Information Technology

Focus: E-health services

Technology: Website

Description: The website allows doctors, patients and pharmacists to process documents online. The objective is to validate the health professional's digital signature on a medical prescription or leave certificate and the professional's registration with the respective council. The portal is currently validating documents signed by doctors and pharmacists only.

Links: https://assinaturadigital.iti.gov.br/

3.3.2 Telehealth regulation

Colombia

Institution(s) in charge: Ministry of Health

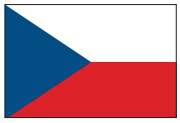
Focus: E-health services

Technology: Not applicable

Description: The Ministry modified existing regulation to lower certain requirements and to allow Telehealth solutions to be deployed faster. For example, patient signatures are not always required for consent or that prescriptions can be scanned and sent electronically.

Links: https://www.minsalud.gov.co/Normatividad_Nuevo/Forms/DispForm.aspx?ID=5982

3.3.3 ePrescription and eSick



Czech Republic

Institution(s) in charge: State Institute for Drug Control, Ministry of Labour and Social Affairs; Czech Social Security Administration

Focus: E-health services

Technology: Website

Description: ePrescription and eSick are national digital services that help avoid unnecessary "face-to-face" contact between patients and health care providers, while enabling collection of relevant data to adjust policies and plan timely responses. eSick solutions connect employers, health carer providers and the Czech Social Security Administration. Employers access employees' sickness reporting directly from the electronic portal of the Czech Social Security Administration. Employees receive their sickness benefit automatically; they only have to inform their office on a sick day by phone or email. Amid COVID-19 pandemic, the eSick note is used for citizens under quarantine. In this way, authorized institutions have real-time information about the development of their illness.

Links: https://www.epreskripce.cz/about-prescription-0

http://www.sukl.cz/erecept

https://www.cssz.cz/web/en/e-sick-leave-eneschopenka-

3.3.4 Paperless function of e-prescription system

Greece

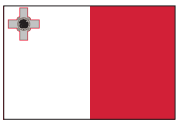
Institution(s) in charge: Ministry of Digital Governance and Ministry of Health

Focus: E-health services

Technology: Website

Description: A paperless function of e-prescriptions was implemented and put into operation.

Links: https://www.e-syntagografisi.gr/p-rv/p



Malta

3.3.5 Expeditious delivery of COVID-19 test results

Institution(s) in charge: Ministry for Health

Focus: E-health services

Technology: Website, SMS

Description: The national myHealth portal was reconfigured to allow quick delivery of COVID-19 test results. In addition, results are being delivered to tested people through an SMS gateway and via email.

Links: https://myhealth-ng.gov.mt/

North Macedonia

3.3.6 COVID-19 screening module

Institution(s) in charge: Ministry of Health, eHealth Directorate

Focus: E-health services

Technology: SMS

Description: Using the COVID-19 online screening module, general practitioners can schedule e-referrals for COVID-19 testing. The doctor is entering the patient answers from the epidemiological questionnaires prepared by the National Commission on Communicable Diseases in the National System for Electronic Health Records "Moj Termin". The system uses an algorithm and is based on the answers it is automatically creating the e-referral. The system then sends an SMS to the patient with the date, time and place of the scheduled testing. Through the integrated system, the doctor who issued the e-referral receives the result of the test in real time.

Links: https://www.mojtermin.mk

North Macedonia

3.3.7 Digital health services

Institution(s) in charge: Health Insurance Fund, Ministry of Health, eHealth Directorate

Focus: E-health services

Technology: Website

Description: As a response to COVID-19, existing services (i.e. maternity leave, health insurance extension etc.) on the portal of the Health insurance fund were upgraded in order to reduce unnecessary physical contact.

Links: http://www.fzo.org.mk/default.asp?ItemID=D2452F93EBB3D244AED7CCC61DB868EF

3.3.8 FluGoWhere platform

Singapore

Institution(s) in charge: Government Technology Agency

Focus: E-health services

Technology: Website

Description: FluGoWhere is a website to conveniently and easily search through a list of public clinics providing special subsidies for those diagnosed with respiratory illnesses.

Links: https://www.flugowhere.gov.sg/

3.3.9 1MAP for COVID screening centres and health facilities

United Arab Emirates

Institution(s) in charge: UAE Federal Competitiveness and Statistics Authority

Focus: E-health services

Technology: App

Description: The 1MAP Health Facility Locator app can help the public locate newly launched COVID-19 screening drive-through centres and all other health facilities across the UAE including hospitals, health centres and clinics. Users can search for various facility details, location or proximity from their current location or any other location.

Links:

https://www.albayan.ae/across-the-uae/news-and-reports/2020-04-06-1.3822775?itm_source=parsely-api

https://www.instagram.com/p/B-pAbOyp9Yw/?igshid=c3jdi3dxskuj

3.4 Supply of medical goods

3.4.1 Information of medical inventory

Brazil

Institution(s) in charge: Ministry of Health

Focus: Supply of medical goods

Technology: App

Description: A web application which promotes the transparency of information about ICU beds, gloves, aprons, goggles, surgical mask, rapid test kits, etc., acquired by the Ministry of Health and sent to subnational governments.

Links: https://covid-insumos.saude.gov.br/paineis/insumos/painel.php

Kyrgyzstan

3.4.2 Resources to support the activities of health workers

Institution(s) in charge: State Committee of Information Technologies and Communications of the Kyrgyzstan

Focus: Supply of medical goods

Technology: Website

Description: This digital solution provides an opportunity to local governments to promptly and directly inform Central Government about existing problems and difficulties (omissions, food, wages, etc.), including the availability of personal protective equipment and other needs, as well as ask questions. Medical workers from around the country can send an application to provide information on necessary personal protective equipment, medical devices and medicines in their healthcare organizations.

Links: http://med.tunduk.kg

Monaco

3.4.3 "Getting protection masks for your employees" online service

Institution(s) in charge: Inter-ministerial Delegation for Digital Transition (DITN)

Focus: Supply of medical goods

Technology: Website

Description: The Government of Monaco provides protection masks for people living and working in Monaco. It created an online service which allows companies to get protection masks directly from the government. Companies provide their information using the online service and can retrieve their masks once their eligibility has been confirmed.

Links: https://en.service-public-entreprises.gouv.mc/Covid-19/Covid-19-practical-information/Securite-sanitaire/S-approvisionner-en-masques-pour-vos-salaries

Republic of Korea

3.4.4 Transparency in the sales of protective masks

Institution(s) in charge: Central Government, private companies

Focus: Supply of medical goods

Technology: Website, GPS

Description: The Korean government discloses the sales data of government-rationed masks with complete transparency. Based on this data, Korean companies and citizens have created apps that alert users of mask availability at pharmacies in close proximity. They also provide detailed information on the locations of pharmacies, how many masks have been brought to those pharmacies, and how many remain in stock in real-time

Links: https://mymask.info/

Saudi Arabia

3.4.5 Tamini app

Institution(s) in charge: Food and Drug General Authority

Focus: Supply of medical goods

Technology: App

Description: Tamini App provides accurate information to consumers about the products supervised by the Food and Drug General Authority. When searching for the name of the product or by scanning its barcode, the application will provide information about where the product can be obtained. During COVID-19 the app is particularly useful to show all the nearby pharmacies and the availability of medical masks and sterilizers.

Links:

https://www.sfda.gov.sa/ar/Pages/smartapps.aspx

https://apps.apple.com/us/app/%D8%B7%D9%85%D9%86%D9%8A/id1483589368?ign-mpt=uo%3D2

https://play.google.com/store/apps/details?id=sfda.tamini

Turkey

3.4.6 Application for free masks

Institution(s) in charge: Ministry of Health

Focus: Supply of medical goods

Technology: App

Description: The application offers free-of-charge masks to all citizens between the ages of 20-65. The national post and telegraph directorate of Turkey delivers the masks to the people.

Links: https://www.turkiye.gov.tr/ptt-ucretsiz-maske-dagitimi

3.5 Remote patient monitoring

Kyrgyzstan

3.5.1 Monitoring system

Institution(s) in charge: IT headquarters under the State Committee for Information Technologies and Communications

Focus: Remote patient monitoring

Technology: Website

Description: The objective of this innovative solution is to reduce the spread of the Coronavirus which aims to protect citizens and medical workers, in particular. The system was developed by taking into account current and future tasks of the healthcare sector. An information system was planned and is being tested, which is designed to ensure the transition of the main medical registration cards into electronic format. It is developed based on national and international practices. Personal identification will also be implemented on the basis of data that a person can only provide / not provide independently and voluntarily. The health monitoring solution made it possible to combine all the stages in the field of sanitary and epidemiological surveillance into a single ecosystem. In turn, this will affect the improvement of management efficiency through access and analysis of relevant, reliable data.

Links: http://ict.gov.kg/index.php?r=site%2Fpress&pid=553&cid=1

Monaco

3.5.2 Covid19 monitoring centre

Institution(s) in charge: Inter-ministerial Delegation for Digital Transition (DITN)

Focus: Remote patient monitoring

Technology: Website

Description: Patients with mild symptoms are kept and treated at home. The government created a tool that helps medical professionals and social workers to keep track of their daily exchanges with patients and to monitor the evolution of the disease. The tool ensures that every patient is contacted every day and users can easily be added and trained to use it. The monitoring centre provides medical and psychological help and make sure people's needs are fulfilled through the delivery of medical supplies.

Links: https://covid19.mc/

North Macedonia

3.5.3 Home treatment and monitoring of COVID-19 patients

Institution(s) in charge: Ministry of Health, eHealth Directorate

Focus: Remote patient monitoring

Technology: Website

Description: This platform monitors the health of patients who are being treated for COVID-19 at home. It includes daily monitoring of the patient's condition by a physician. Every physician is entering the daily health status of its patient that has been tested COVID-19 positive. The daily health status is monitored by the regional virologists and supervised by the University Clinic for Infectious Diseases and Febrile Conditions.

Links: https://www.mojtermin.mk

Saudi Arabia

3.5.4 Tatman app

Institution(s) in charge: Ministry of Health

Focus: Remote patient monitoring

Technology: App

Description: The Ministry of Health has launched a new app called Tatman to prevent the spread of COVID-19. The app aims to provide help to citizens and residents who are self-isolating or in quarantine and s to enhance their recovery. The app provides many services including, examination results, updating data of those who were in contact with confirmed cases, daily follow-up of the health status, epidemiological investigation and communicating (dedicated 24/7 call centre). This application also allows individuals ordered to quarantine to remain in contact with case workers and report their health and tracks user's location to ensure individual has not broken quarantine which is very important to prevent the spread of pandemic.

Links:

https://www.moh.gov.sa/en/Ministry/MediaCenter/News/Pages/News-2020-04-11-004.aspx

https://play.google.com/store/apps/details?id=com.tetaman.home&hl=ar

https://apps.apple.com/sa/app/%D8%AA%D8%B7%D9%85%D9%86/id1503939198

Oman

3.5.5 Tarassud Plus app

Institution(s) in charge: Ministry of Health

Focus: Remote patient monitoring

Technology: App

Description: Tarassud Plus is an integrated platform having international standards developed by highly qualified local SME.

The monitoring platform enhances the Ministry of Health's current monitoring system by diagnosing, following up, and tracking the medical condition of individuals infected with COVID-19, who are under quarantine, by using artificial intelligence technology and advanced tracking technologies. The platform consists of two main systems – the medical test program and the registration and follow-up system to check their medical condition on a daily basis. It also monitors the spread of the pandemic and sets priorities by using Artificial Intelligence technology to minimize the intervention of medical personnel in early quarantine stages.

Links: https://play.google.com/store/apps/details?id=om.gov.moh.tarassudapplication&hl=en_US

Qatar

3.5.6 Droobi app

Institution(s) in charge: Ministry of Health

Focus: Remote patient monitoring

Technology: App

Description: The Droobi technology solution and platform assists healthcare workers in accessing clinical information of COVID-19 infected patients remotely, identifying patients at higher risk and engaging with them through behavioral therapy, with limited healthcare worker exposure and monitoring patient movement within quarantine facilities.

Links: https://www.droobihealth.com/how-it-works

4. E-Business

Photo credit: International Trade Centre

The e-business category includes many government-led COVID-19 initiatives that relate to strengthening private sector companies, in particular micro-, small- and medium-sized companies (MSMEs) to make them more resilient in light of the current economic and financial repercussions.

Large companies and MSMEs have suffered from the nation-wide lockdowns which have led to a fall in demand for a variety of goods and services and ultimately, rising levels of unemployment. To counteract these consequences, many governments have established a variety of portals including job portals, in the form of talent reserves and portals where businesses can apply for tax exemptions. E-business initiatives include online applications for businesses to apply for financial support, as for example in the Czech Republic, Saudi Arabia and Turkey or engage in government-supported temporary layoffs as in Monaco or Germany.

MSMEs have been particularly vulnerable during the COVID-19 crisis. Governments have implemented initiatives to support small grocery stores through online delivery systems, established e-business directories or helped them with technical know-how on how to use digital resources for their business activities. For example, the governments of Colombia, Cuba, Indonesia and Luxemburg have all worked on platforms to ensure the supply of food deliveries. In Togo, the government developed the "Novissi" cash transfer scheme to provide monthly financial aid to informal workers and their families throughout the duration of the state of health emergency.

E-business activities supported by e-government portals and online platforms have been an important source to sustain productivity in a variety of industries and protect vulnerable MSMEs and their workers during the COVID-19 pandemic.

Canada

4.0.1 Talent reserve

Institution(s) in charge: Treasury Board of Canada Secretariat

Focus: E- business

Technology: Job portal

Description: Canada's Talent Cloud team started working on a platform that would allow managers to access a pool of qualified public servants with a specific set of skills and triage them to the departments in need of staff to address COVID-19. Employees of the Government of Canada can apply to Talent Cloud's Talent Reserve highlight their core skill set in 3 categories: backend operations (IT, procurement, etc.), front end operations (call-centres, security, etc.), and advice & analysis (communications, finance, policy, etc.). From there managers can visit the platform and pick candidates to fill positions on a term basis to address their staffing needs during the COVID-19 crisis. This allows much quicker deployment of staff to front-line departments than normal staffing practices typically allow.

Links: https://talent.canada.ca/en/response

Colombia

4.0.2 Free website for small businesses

Institution(s) in charge: Ministry of ICT

Focus: E-business

Technology: Website development platform

Description: In cooperation with the Organization of American States, Colombia launched a program for small- and medium-sized business owners, and independent professionals to create their online presence completely free of charge. The program includes a tool to have a website running in 15 minutes and includes tools and tutorials to help those who don't have any experience in building a website.

Links: https://www.kolau.es/colombia

Colombia

4.0.3 E-commerce marketplace

Institution(s) in charge: Ministry of Commerce, Industry and Tourism, iNNpulsa, InterAmerican Development Bank

Focus: E-business

Technology: Website

Description: Online platform to promote the development and strengthening of Colombian companies and promote commercial activity. It connects buyers with sellers, providing access to business opportunities. It also coordinates and integrates the different stakeholders from the entire food supply chain, including supply, distribution, payment, and delivery. It contains a guide dedicated to the supply chain at both the national and local levels to guarantee citizens have access to the necessary products.

Links: https://compralonuestro.co/

4.0.4 EnSuCasa platform

Cuba

Institution(s) in charge: Ministerio de Comercio Interior

Focus: E-business

Technology: Website

Description: The food delivery service EnSuCasa allows people to find out about the groceries options closest to their homes and to make online orders. Deployed and tested in the province of Guantánamo.

Links: http://ensucasa.comerciogtm.co.cu

4.0.5 Online application in the "AntiVirus" program

Czech Republic

Institution(s) in charge: Ministry of Labour and Social Affairs

Focus: E-business

Technology: Website

Description: Online solution for businesses and employers to submit applications for financial support provided by the government during the COVID-19 pandemic. This digital solution is a part of broader government support program "AntiVirus". The program focuses on partial compensation of total wage costs for employees facing work-related obstacles due to the quarantine and/or emergency measures. The submission of applications is fully digitized and contactless. The chatbot technology is implemented on the website to provide necessary information and guidance. The user-friendliness of the solution makes it easy to request and receive the support as soon as possible. The negative impact of COVID-19 pandemic on national economy is partially mitigated by the program, which is intended for all employers whose wages are not covered by public budgets.

Links: https://www.mpsv.cz/web/cz/antiVirus

4.0.6 Application for wage payment compensations

Germany

Institution(s) in charge: Federal Ministry of the Interior / Ministry for Work, Social Affairs, and Health of North Rhine Westphalia

Focus: E-business

Technology: Website

Description: The Federal Ministry of the Interior and the Ministry for Work, Social Affairs and Health of North Rhine Westphalia conducted a fast-track design thinking process ("digitalization lab") to come up with an online application, which allows businesses to claim compensations for continued wage payments in case of government-imposed quarantines on employees, closures of schools and kindergartens as well as bans on work for certain groups of employees. The concept for the online application was quickly implemented and serves the majority of German states. It features a backend-system allowing for a quick processing of compensation claims by local authorities.

Links: www.ifsg-online.de

Indonesia

4.0.7 Online shopping and goods delivery

Institution(s) in charge: Local Government of DKI Jakarta Province, Local Government of East Java Province

Focus: E-business

Technology: Website

Description: This initiative aims to facilitate small grocery sellers to be able to keep running their business and people to be able to buy and meet their grocery needs. DKI Jakarta Provincial Government provides an online grocery shopping service to the public during the Covid-19 outbreak. The policy sets the cooperation of local state-owned enterprise Pasar Jaya with traders from around 50 traditional markets and online delivery service companies. The initiative also ensures the availability of foods supply and the stability of commodity prices by collecting food commodities from farmers in various regions of East Java. East Java Provincial Government provides an online grocery shopping service to the public during the Covid-19 outbreak through a website. This website facilitates transactions between local people and local grocery sellers.

Links: http://belanja.pasarjaya.co.id/ http://lumbungpanganjatim.com/

Kyrgyzstan

4.0.8 List of e-commerce companies

Institution(s) in charge: The Electronic Commerce Association of the Kyrgyzstan

Focus: E-business

Technology: Website

Description: A list of online stores, marketplaces and other online platforms that will provide their services during quarantine, as well as their offers.

Links: https://e-com.kg/covid19/

Luxembourg

4.0.9 LetzShop

Institution(s) in charge: Ministry of Economy

Focus: E-business

Technology: Website

Description: In the context of the COVID-19 pandemic, the Luxembourg government has set up the online sales platform corona.letzshop.lu, dedicated to vulnerable people with no means of obtaining supplies. This platform can also be contacted by telephone. The platform is aimed at people over 65 years of age and at people suffering from diabetes, cardiovascular disease, chronic respiratory disease, cancer or immune weakness due to disease or therapy. The platform thus offers a home delivery service, including more than 40 basic necessities.

Links: https://corona.letzshop.lu

4.0.10 Total temporary layoff online service

Monaco

Institution(s) in charge: Inter-ministerial Delegation for Digital Transition (DITN)

Focus: E-business

Technology: Website

Description: The strengthened provisions for total temporary layoff (CTTR) is a special measure that makes it possible to reduce or temporarily suspend the activity of employees. The DITN created an online service to allow companies to list the employees who will benefit from this measure. 100% of the notifications are made online. The administrative services can process the request using a specific back-offfice suited to their working habits and procedures.

Links: https://en.service-public-entreprises.gouv.mc/Covid-19/Covid-19-practical-information/Employment/How-to-declare-Total-Temporary-Layoff

4.0.11 E-commerce directory

Qatar

Institution(s) in charge: Ministry of Transport & Communications

Focus: E-business

Technology: Website

Description: The e-commerce directory was established to provide an easy way for people in Qatar to reach their favourite shops or services easily online throughout the current situation of COVID-19. It aims to facilitate the process of reaching retail stores, search retail stores or services by using clear and easy categories. The category list includes the following: Electronics / Healthcare / Grocery / Fashion / Apparel & Accessories / Home & Kitchen, etc. The initiative aims to improve the e-commerce activity in Qatar and shed light on the importance of it during such events and to step up the e-commerce in Qatar.

Links: Not launched yet

4.0.12 Delivery program

Saudi Arabia

Institution(s) in charge: Human Resource Development Fund (HRDF) in partnership with Communications and Information Technology Commission (CITC)

Focus: E-business

Technology: Website

Description: During the COVID-19 pandemic, the Human Resource Development Fund (HRDF) in partnership with the Communications and Information Technology Commission (CITC) launched a new initiative to support Saudis working in delivery service through Apps registered in CITC, with a monthly support of 3,000 Saudi Riyals. This initiative aims at raising the levels of pay in this activity, and creating new job opportunities that meet the different types of work, including (self-employment), and in response to the precautionary health measures adopted by the state through a number of government institutions and financial incentives to reduce the economic and health consequences of the pandemic.

Links: https://hrdf.org.sa/News/4436

https://freelance.sa/about

Singapore

4.0.13 Covid GoBusiness portal

Institution(s) in charge: Government Technology Agency

Focus: E-business

Technology: Portal

Description: Covid.gobusiness.gov.sg is a one-stop platform for business to apply for exemptions (i.e. to be a business exempted from mandatory business closure during the lockdown), additional manpower or registration of essential workers.

Links: https://covid.gobusiness.gov.sg/

Spain

4.0.14 Digital solutions against COVID-19

Institution(s) in charge: Secretary of State for Digitization and Artificial Intelligence

Focus: E-business

Technology: Portal

Description: AceleraPyme contains technical know-how for companies and SMEs on how to use digital resources during COVID-19.

Links: https://acelerapyme.gob.es/

Togo

4.0.15 Novissi - digital cash transfer program

Institution(s) in charge: Multi-sectorial government departments (incl. Presidency, Ministry of Posts, Digital Economy and Tech Innovation, Ministry of Finance)

Focus: E-business

Technology: SMS, Website

Description: Novissi is a digital social safety net intervention that provides financial support to hundreds of thousands of informal workers whose daily revenues have been affected by the COVID-19 outbreak, and by complying with physical distancing measures (including a daily curfew) enforced in the country. Citizens register through a USSD short code on their mobile phones. Using a simple KYC process based on authentication via voter's ID, applicants who are deemed eligible then receive bi-monthly cash transfers from the state equivalent to 30%-35% of the minimum wage. Funds are paid directly into the beneficiaries' mobile money accounts.

This program ensures that the government can support the most vulnerable people from falling into poverty in an efficient way, while preventing physical contact. It enables people to be able to afford complying with physical distancing measures and to reduce movements to only the most essential trips.

Links: https://novissi.gouv.tg

4.0.16 Social support pre-application form

Turkey

Institution(s) in charge: Ministry of Family, Labour and Social Services

Focus: E-business

Technology: Website

Description: In order to alleviate the socio-economic burden of COVID-19 for citizens, social assistance applications are received via the social support pre-application form which is available through the e-Government gateway.

Links: https://www.turkiye.gov.tr/acshb-pandemi-sosyal-destek-on-basvurusu

5. Contact tracing

Photo credit: World Bank Group

As the pandemic progressed globally, the need for countries to localize and contain the spread of COVID-19 has increased. Digital technologies employed to develop contact tracing applications were designed to allow both government health authorities and citizens to be informed about infected cases and trace down the contacts of infected people to test for the virus.

The initial applications used in many countries under lockdown were targeted at limiting non-essential movement of individuals by obtaining permissions. In Malaysia, for instance, the Gerak Malaysia mobile application serves as a travelling permission application platform for Malaysians who wish to travel across states during the curfew. The QR Code generated by this application serves as digital authorization permit for Interstate travel and other types of travelling as needed. Brazil's contact tracing initiative is using artificial intelligence algorithms to contact Brazilians for a web-consultation using an artificial voice to make the screening. The chatbot application helped people assess remotely if they are in a risk group, and then suspected cases were invited to test for COVID-19.

Given the sensitivity of sharing private data, most applications developed in European countries were designed to allow voluntary participation and consent of users to share their contacts data and geolocation information based on the General Data Protection Regulation (GDPR). For instance, Austria's "Stopp Corona" app allows an anonymized digital handshake (active storage of contacts) between mobile handsets. If a user gets infected, he/she can send an anonymized warning to people s/he has been in contact with. The app created in North Macedonia uses Bluetooth to communicate with other app users and exchanges encrypted, anonymized data about the distance of all nearby devices, at a distance relevant to the spreading of the infection, for a limited period of the past 14 days. In Estonia, the app itself is based on on-board radios on a given device and transmits an anonymous ID over short-range Bluetooth. The application analyses what IDs the individual was in contact with over the last 14 days, and only if a certain threshold of distance and time between two devices is recorded will a match be deemed confirmed.

In the Czech Republic anyone infected is interviewed by an operator to track their past contacts. With consent from the patient the operator is then using Memory Maps from mobile operators, banking data, phone location history and other sources to help the patient remember their whereabouts and contacts. Then the contact data are uploaded to the central system, evaluated against epidemiological criteria, double checked, phone numbers retrieved from the central database, and new suspected cases are then invited by SMS to be tested.

Many countries, including Armenia and Ukraine, have passed legislation allowing mobile operators to share with authorities the geo-location data of self-quarantined patients with confirmed COIVD-19 to monitor that the patients indeed observe self-quarantine and that their recent contacts are invited to undergo testing.

In Bhutan a QR based app is used to allow the identification of people who may have come in direct contact with a COVID-19 infected person while visiting public places or while using public transportation. The app allows people to easily log their visits to different places or when they use public transport. An opt-in model requires the smartphone user to only provide a mobile number for registration so that the Ministry of Health can reach out to them in case they may have come in contact with a COVID-19 positive person. At the same time, individuals are mandated to use the Druk Trace app to scan the QR code every time they enter public spaces or use public transportation. Similarly, the Bluetooth based COVID-19 trackers used in India and the U.A.E alert users about the proximity of an infected person, offers mapping of likely hotspots and dissemination of relevant information about COVID-19.

In Bulgaria the approach was to use the Virusafe app to share the patient's health status with the authorities and their general practitioner. Chronic diseases and symptoms for the disease can also be uploaded, which allows general practitioners to have up-to-date information on the current condition of their patients.

5.1 Tracking and tracing

Austria

5.1.1 Stopp Corona App

Institution(s) in charge: Austrian Red Cross

Focus: Contact tracing

Technology: App

Description: The Austrian Red Cross has developed the "Stopp Corona" app, based on the General Data Protection Regulation (GDPR) and national data protection rules. Mobile operators provide the government's emergency task force with anonymized and aggregated movement data to better monitor the effectiveness of the protection measures. The use of the app is on a voluntary basis. It allows an anonymized digital handshake (active storage of contacts) between mobile handsets. If a user gets infected, he/she can send an anonymized warning via the app to all contacts from the last 48 hours.

Links: https://participate.roteskreuz.at/stopp-corona/

5.1.2 COVID-19 location tracking system and mobile app

Armenia

Institution(s) in charge: Office of Deputy Prime Minister

Focus: Contact tracing

Technology: App

Description: In the fight against COVID-19 in Armenia, three technical solutions have been introduced. First, a website that aims to prevent the transmission of the virus by providing information on the decisions adopted, relevant documents, protective measures, statistics and official news. Along with the website, a mobile application has been designed. The application requires registration and provides an opportunity for people to learn about medical guidelines to help protect themselves against the risk of infection. People can also take an online test in order to reveal the user's health condition and to help to be contacted by relevant specialists. Moreover, the app offers access to movement permits, information on statistics, news and a list of medical institutions. The third solution is a location tracking software. The location of self-quarantined people is checked by two methods: (1) specially designed software that enables GPS location tracking (2) location data provided by telecommunications companies.

Links: https://covid19.gov.am/hy

5.1.3 BeAware Bahrain

Bahrain

Institution(s) in charge: Information & eGovernment Authority, Ministry of Health

Focus: Contact tracing

Technology: App

Description: The application intends to advance contact tracing efforts to identify and track active cases of COVID-19. It provides users with COVID-19 updates within the Kingdom, spreads awareness of the location of active cases and maintains accurate figures from contact tracing data provided by the Kingdom's Ministry of Health.

The app also identifies contact tracing cases and alerts individuals in the event they approach an active case or a location where an active case has visited or passed by.

The Kingdom's health authorities have stressed that all information provided by the app will be confidential and protected to ensure the privacy of citizens and residents. People are free to download the app or turn on its location services entirely by choice.

Links: https://bahraincorona.page.link/en

http://www.iga.gov.bh/en/article/COVID-19

Bhutan

5.1.4 Druk Trace App

Institution(s) in charge: Ministry of Health

Focus: Contact tracing

Technology: App (QR-based)

Description: A simple QR based app is used for "Contact Tracing" by helping with the identification of people who may have come in direct contact with a COVID-19 infected person while visiting public places or while using public transportation.

The app allows people to easily log their visits to different places or when they use public transport. An opt-in model requiring the smartphone user to only provide a mobile number for registration so that the Ministry of Health can reach out to them in case they may have come in contact with a COVID-19 positive person. Similarly, all individuals are mandated to use the Druk Trace app to scan the QR code every time they enter these public places or use public transportation. Those who do not have smartphones will be required to provide contact information to be filled in the log files that are to be managed by the respective offices and drivers.

Links: http://www.moh.gov.bt/druk-trace-app/

Brazil

5.1.5 Coronavírus Telesus

Institution(s) in charge: Ministry of Health

Focus: Contact tracing

Technology: Chatbot, artificial intelligence

Description: The initiative consists of an algorithm developed with artificial intelligence, that is planned to contact 125 million Brazilians for a web-consultation using an artificial voice to make the screening. The calls are stored in a large data centre, which will help people assess if they are in a risk group, and then predict people's names, where they are, with whom they live, etc.

As of the end of May 2020, the service has been accessed by more than one million people. Of this total, 471.6 thousand were evaluated remotely using Chatbot Application, Active Search and Monitoring services. The Active Search service has already made 424 thousand automatic calls. Among the people evaluated, 89% were considered healthy. Approximately 13,000 people were referred to pre-clinical call centres with doctors, nurses and nursing technicians.

Links: https://w.tnh.health/c/5521

5.1.6 The application "Call Sofia – Sofia Municipality Contact Center"

Bulgaria

Institution(s) in charge: Sofia Municipality

Focus: Contact tracing

Technology: App

Description: The residents of Sofia can use the free mobile app on the platform of Sofia Municipality to submit breaches of the anti-pandemic measures. The application "Call Sofia – Sofia Municipality Contact Centre" is available to users of Android and iOS devices through Google play and the App Store. Due to the current situation, a special section "COVID-19" has been implemented where people can submit signals on breaches of the anti-pandemic measures introduced in Sofia. A new function was added to the mobile version of the Contact Centre, allowing users to submit applications for voluntary work in the fight against COVID-19. The function is active through the Desktop application of the Contact Centre.

Links: https://call.sofia.bg/

5.1.7 Free mobile app Virusafe

Bulgaria

Institution(s) in charge: The Government of Bulgaria & the IT Sector

Focus: Contact tracing

Technology: App

Description: Each citizen can download the free mobile app Virusafe and use it to share his/her health status with the National Operational Staff, the health authorities and the general practitioner. The objective of this app is to provide all residents in the Republic of Bulgaria with the opportunity to contribute to the fight against the spread of the virus by uploading their data and giving daily information on their condition. All citizens can voluntarily enter their data and be included in the statistics. Chronic diseases and symptoms for the disease can also be uploaded. Thus, the general practitioners have up-to-date information on the current condition of their patients. The users of the app are informed on the way their data is used.

The app is available at Google Play Store and Apple Store.

Links: https://play.google.com/store/apps/details?id=bg.government.Virusafe&hl=en

5.1.8 Smart Quarantine

Czech Republic

Institution(s) in charge: Ministry of Health; regional sanitary stations; private companies CleverMaps and Keboola.

Focus: Contact tracing

Technology: Call center, database, App

Description: The solution is based on data analytics, augmented automation and citizens' engagement. It includes: (1) Call centre software and call centre operators to offload auxiliary calls; (2) Memory maps based on the location data from mobile operators and credit card payment data from banks; and (3) eRouska mobile app.

5.1.8 Smart Quarantine (continued)

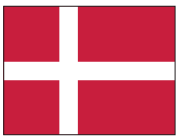
Based on user consent and adhering to GDPR, anyone infected is interviewed by an operator to track their past contacts. The operator is using Memory Maps which include telco data from mobile operators, banking data, phone location history and other sources to help the patient remember their whereabouts and contacts. Then the contact data is uploaded to the central system, evaluated against epidemiological criteria, double checked, phone numbers retrieved from the central database, and new suspected cases are then invited by SMS to be tested.

Links:

https://www.youtube.com/watch?v=10U4dSRv3do

https://covidhacks.org/active-tracing-call-centre/

https://www.slideshare.net/PavelDolezal/overview-app-for-tracing-call-center-data-analyses-smart-quarantine



Denmark

5.1.9 COVIDmeter

Institution(s) in charge: Ministry of Health and the Danish Agency for Digitization in collaboration with IT provider Netcompany

Focus: Contact tracing

Technology: Online survey

Description: COVIDmeter aims to collect information from participating Danes on disease symptoms and the development of COVID-19 in the population on a weekly basis. The solution contains a questionnaire that is voluntary for all Danes to answer. The data is used to track the level of COVID-19-related symptoms in society.

In COVIDmeter, subscribers answer weekly questions about their health condition. It allows the authorities to assess the development of the pandemic, for example, by looking at whether the proportion of citizens who have a fever is increasing or decreasing. It can be used to assess how many citizens are expected to turn to healthcare facilities.

Links: https://www.sundhed.dk/borger/corona/covidmeter/

India

5.1.10 Aarogya Setu - Bluetooth based tracker

Institution(s) in charge: Ministry of Electronics and IT & Ministry of Health

Focus: Contact tracing

Technology: Bluetooth

Description: The Bluetooth-based COVID-19 Tracker alerts users about the proximity of an infected person, offers mapping of likely hotspots and disseminates all relevant information about COVID-19. The app also informs users about best practices on COVID-19 and is available in 12 Indian Languages. Aarogya Setu is integrated within Testing Labs and the Surveillance System.

Links: http://mohfw.gov.in

https://www.mygov.in/aarogya-setu-app/

5.1.11 PeduliLindungi (Care & Protect)

Indonesia

Institution(s) in charge: Ministry of Communications and Informatics, Ministry of Health, Ministry of State-Owned Enterprises, Ministry of Internal Affair, National Agency for Disaster Management, Ministry of Defence, and Indonesian National Police.

Focus: Contact tracing

Technology: App

Description: PeduliLindungi is a mobile application that helps the government track the spread of COVID-19. This application relies on community participation. People share their location data so that the tracing of persons in contact with COVID-19 suspected cases is made possible. Users of the application also get a notification when they are in a crowded area or in a red zone, which indicates they are close to COVID-19 suspected cases. This feature is using Bluetooth technology for detecting nearby suspects.

Links: https://pedulilindungi.id/

5.1.12 Stop COVID-19 KG mobile app

Kyrgyzstan

Institution(s) in charge: State Committee of Information Technologies and Communications

Focus: Contact tracing

Technology: App

Description: The IT solution is designed to help increase the efficiency and effectiveness of the fight against the pandemic. The system was developed to take into account current and future tasks in the healthcare sector. The central system and database operate on the State Committee of Information Technologies and Communications digital infrastructure, where measures to ensure information security are implemented.

Links: https://play.google.com/store/apps/details?id=kg.cdt.stopcovid19&hl=en_US

5.1.13 Gerak Malaysia

Malaysia

Institution(s) in charge: Malaysian Communications and Multimedia Commission (MCMC) and Royal Malaysia Police

Focus: Contact tracing

Technology: App

Description: The Gerak Malaysia mobile application serves as a travelling permission application platform for Malaysians who wish to travel across states during the Conditional Movement Control Order (CMCO)Virus through contact tracing. This application uses mobility data to assist the Royal Malaysia Police (PDRM) in traffic movement control and to assist the Ministry of Health (MOH) in contact tracing and limiting all non-essential movement. The QR Code generated by this application serves as a digital authorisation permit for Interstate Travel and other types of travelling as needed. The app also provides additional features such as the latest information from relevant authorities as well as general COVID-19 preventive measures and advice.

Links: https://www.gerakmalaysia.gov.my/home

North Macedonia

5.1.14 StopKorona! - mobile application

Institution(s) in charge: Ministry of Information Society and Administration, Ministry of Health

Focus: Contact tracing

Technology: App

Description: StopKorona! is a contact tracing mobile app intended to trace exposure with potentially infected people. The app uses Bluetooth to communicate with other app users and exchanges encrypted, anonymized data about the distance of all nearby devices, at a distance relevant to the spreading of the infection, for a limited period of the past 14 days.

In case an app user tests positive for COVID-19, the Ministry of Health will request that user to disclose to the Ministry a list of his/her app data, whereby authorities then detect telephone numbers and inform the persons that they have been in contact with a COVID-19 positive person , whilst fully protecting their privacy.

The usage of the app and sharing of the stored data is strictly voluntary and in compliance with the GDPR.

Links: https://stop.koronaVirus.gov.mk/

Philippines

5.1.15 WeTrace App

Institution(s) in charge: Start-up company DXFORM INC led by Eddie Ybanez, Cebu Governor, Department of Information and Communications Technology (DICT), and Department of Health (DOH)

Focus: Information sharing

Technology: App

Description: It was developed by a team of Cebuano IT experts and endorsed by Cebu Governor Gwendolyn Garcia.

A community tracker app that is specifically designed for COVID-19 contact tracing and can be downloaded onto mobile phones to help the Department of Health (DOH) and other government agencies with the easy tracking and monitoring of COVID-19 cases in Central Visayas.

The team is currently working with the Department of Information and Communications Technology (DICT) and the Department of Health for this app to be used throughout the country.

Links: https://www.wetrace.ph/

https://apps.apple.com/ph/app/wetrace-ph/id1506567245

https://play.google.com/store/apps/details?id=com.dxform.ph&hl=en

5.1.16 ProteGO Safe

Poland

Institution(s) in charge: Ministry of Digital Affairs

Focus: Contact tracing

Technology: App

Description: An application for mobile devices ProteGO-Safe allows for the self-monitoring of the user's health. At a later stage the application intends to also allow to "track the Virus"- to detect infected people with whom the user had close physical contact using Bluetooth technology.

Links:

https://www.gov.pl/web/cyfryzacja/pokonajmy-razem-koronawirusa--poznaj-protego-safe

https://play.google.com/store/apps/details?id=pl.gov.mc.protegosafe

5.1.17 TraceTogether

Singapore

Institution(s) in charge: Ministry of Health & Government Technology Agency

Focus: Contact tracing

Technology: App

Description: The pioneering Bluetooth contact tracing solution rolled out nationally on 20 March. It is accompanied by a mass adoption strategy and the integration with the public health contact tracing system. The underlying protocol and source code open-sourced on 9 April.

Links: tracetogether.gov.sg,

bluetrace.io,

go.gov.sg/tt-comms-kit

5.1.18 Healthcare IT solution during COVID-19

Kazakhstan

Institution(s) in charge: Ministry of Healthcare of Kazakhstan

Focus: Contact tracing

Technology: Portal

Description: The Mapcovid application was designed to visualize the location of COVID-19 infected and suspected individuals. Services are implemented for transferring data of citizens (Individual identification number, phone number, geo position, country of arrival, etc.) to the E-gov portal. Citizens will be able to see locations with potential infection risks.

Links: https://mapcovid.eisz.kz/Account/Login

Turkey

5.1.19 Efforts against COVID-19

Institution(s) in charge: Ministry of Health

Focus: Contact tracing

Technology: App

Description: The Ministry of Health launched the "Hayat Eve Sığar" application to monitor patients and prevent the spread of the COVID-19 virus. With the application of "Hayat Eve Sığar", which is offered to citizens by the Ministry of Health, people can answer COVID-19 symptoms related questions and receive step-by-step guidance on what actions to take based on the symptoms. According to the answers people have given, the referrals are only suggestions and do not contain a final result, and they are only recommendations. At the same time, people can easily find hospitals, pharmacies, market chains, metro and stops on the map to see infected people and risky areas. By adding relatives that you are curious about and want to follow, you can see their location information, track and see their risk status.

If a person thinks that they or any other person nearby has been infected, they can answer the online questions and the application provides guidance.

Those who tested COVID-19 positive are tracked through their mobile phone signals in order to check whether they obey the isolation rules required both for their own health and the health of others.

Links:

https://play.google.com/store/apps/details?id=tr.gov.saglik.hayatevesigar&hl=tr

https://koronaonlem.saglik.gov.tr/

https://www.iletisim.gov.tr/turkce/duyurular/detay/kovid-19a-karsi-pandemi-izolasyon-takip-projesi-gelistirildi

Ukraine

5.1.20 Diy vdoma (Take action at home)

Institution(s) in charge: Ministry of Digital Transformation

Focus: Contact tracing

Technology: App

Description: The mobile application "Diy vdoma" helps medical professionals and National Police to monitor persons who are diagnosed with COVID-19, contact people who have been diagnosed with COVID-19 or recently travelled from abroad and should remain in self-isolation.

During the day in random timeslots, a person who installs «Diy vdoma» receives 3 push-notifications; after receiving one, a user should take a selfie. Application using machine learning checks if the user photo matches their reference photo and at the same time checks if the geo-location matches their reference geo-location. If something doesn't match or the user doesn't react, the application informs police to check the location and condition of the person.

The mobile application is optional. If a person installs the application, the person's compliance with the quarantine is being monitored. In cases where the person has not installed, or removed the app, monitoring is carried out as usual.

Links: https://apps.apple.com/us/app/дій-вдома/id1504695512

5.1.21 AlHosn App

United Arab Emirates

Institution(s) in charge: National Emergency Crisis and Disaster Management Authority

Focus: Contact tracing

Technology: App

Description: The AlHosn application provides a service that shows the extent of commitment of home quarantined people to the instructions, to protect themselves and society.

The app uses short distance Bluetooth signals to determine when your phone is near another phone that also has the app installed and whether they have contact or interact with people who have been infected with COVID-19.

Each user will have their own QR code, which is a sign of his/her health, which enables them to reach public places with more reassurance and interact with others safely.

Links: https://www.instagram.com/tv/B_adwTWJJML/?igshid=i6skp976ln84

http://covid19.ncema.gov.ae/en

6. Social distancing and virus tracking

Photo credit: World Bank Group

To promote social distancing, many governments used robots, drones, self-help temperature scanners, contactless infrared thermometers, various apps and social media campaigns.

The Qatari government deployed Al-Asas security robots that perform patrols in both residential and public areas of the country to educate the community on the importance of preventing gatherings and limit the spread of the virus. The government has also launched drones in several areas to spread awareness messages through speakers about the importance of abiding by the social distancing measures to limit the spread of the virus. The United Arab Emirates used social media platforms to develop and promote awareness videos highlighting "stay at home" policy.

Indonesia launched the Robot Medical Assistant ITS-Airlangga (RAISA) in order to minimize contact between medical personnel and patients with COVID-19 and to reduce the use of Personal Protective Equipment (PPE), which was increasingly depleting. The robot can carry goods up to 50 kilograms such as medicines, patient clothes, and foods to patient rooms. It can also monitor for two-way communication between medical personnel and patients using multimedia.

Many countries have begun encouraging people to limit their exposure to infection risks in shopping queues. Kuwait initiated a food shopping appointment reservation system to regulate the shopping for food in the coops. In Kyrgyzstan a dedicated website was created for citizens in need of food assistance to remotely apply for it and get their rations delivered to home. In Portugal the Citizen Map (site and app), provides georeferenced information for public services and allows users to get digital queue tickets for onsite public services.

The Fijian Government has implemented real-time digital surveillance to process outbreak data for early detection, including in peripheral health care facilities and laboratories. In the Iran (Islamic Republic of), a portal and a mobile application were developed for an electronic self-test of coronavirus infection risks by assigning color-codes for further action: black status (with a 90% chance of developing infection), red status (requiring a medical examination), yellow status (requiring home care and not communicating with others), pink status (high-risk individuals with underlying diseases) and green status (low probability). The government then uses this information to find hotpots in cities for disinfection, provide immediate care for high-risk individuals, refer the infected people to hospitals, provide home care services, and receive complaints about public services.

In Singapore an AI powered thermal scanner SPOTON was developed by the government to set up a mass temperature screening system. It uses a long-wave infrared (LWIR) camera module integrated with an RGB camera and is being progressively deployed to Government buildings and community facilities. Further, an AI-driven automated temperature screening gantry (VigilantGantry) is deployed to augment existing thermal systems and enhance the rate of contactless scanning, saving time and manpower.

6.1 Social distancing

Cuba

6.1.1 Portero

Institution(s) in charge: Ministry of Public Health and University of Computer Science;

Ministry of Internal Trade and University of Computer Sciences

Focus: Social Distancing

Technology: App

Description: Android application for managing waiting lines in shopping centres. It allows customers to keep healthy distance when buying a product or ordering a service.

Links: https://play.google.com/store/apps/details?id=com.embarcadero.Portero&hl=en_US

Indonesia

6.1.2 Robot medical Assistant ITS-Airlangga (RAISA)

Institution(s) in charge: Provincial Government of East Java, Sepuluh November Institute of Technology (ITS), Airlangga University

Focus: Social Distancing

Technology: Robots

Description: In order to minimize contact between medical personnel and patients with COVID-19 and reduce the use of Personal Protective Equipment (PPE), which is increasingly depleting, the Sepuluh November Institute of Technology (ITS) with Airlangga University and the Provincial Government of East Java have officially launched the Robot Medical Assistant ITS-Airlangga (RAISA). This 1.5-meter tall RAISA robot is equipped with four stacking shelves which can carry a lot of goods up to 50 kilograms such as medicines, patient clothes, and foods to patient rooms. It also features a monitor for two-way communication between medical personnel and patients using multimedia. Patients can communicate with RAISA operators through the voice talk feature in the robot. RAISA is controlled remotely with a joystick through Wifi connection.

Links:

https://www.its.ac.id/news/2020/04/14/kolaborasi-its-unair-luncurkan-raisa-robot-pelayan-pasien-covid-19/

6.1.3 MASK

Iran (Islamic Republic of)

Institution(s) in charge: National COVID-19 Management Task Force, Ministry of ICT and Ministry of Health and Medical Education

Focus: Social Distancing

Technology: App

Description: The "Mask" is a free program provided by the Ministry of Health and Medical Education. It has been developed in accordance with the guidelines of the World Health Organization to combat the prevalence of COVID-19. By using this application, people can track the spread of the Coronavirus on a map and avoid contaminated areas. This system is designed based on checking the geographical location of patients and traffic by maintaining their privacy. The citizens can register themselves and their family members to monitor their health status.

Links: https://app.mask.ir/home

6.1.4 E-shopping

Kuwait

Institution(s) in charge: Council of Ministers, Ministry of Health, Central Agency for Information Technology, Ministry of Interior, Ministry of Commerce and Industry, Ministry of Foreign Affairs, The Public Authority for Civil Information, Ministry of Education, Communication and Information Technology Regulatory Authority

Focus: Social Distancing

Technology: App

Description: The food shopping appointment reservation system was initiated to regulate the shopping for food in the shops.

Links: https://www.moci.shop/Associations/WebPages/index.aspx

6.1.5 Electronic resource for applying for food assistance

Kyrgyzstan

Institution(s) in charge: Ministry of Labor and Social Development; State Committee of Information Technologies and Communications

Focus: Social Distancing

Technology: Website

Description: This resource allows citizens in need of assistance (eligible people are specified by the government) to remotely (online) apply for food assistance. The requests are then reviewed and transferred to the authorized bodies for further processing and distribution.

Links: https://1227.tunduk.kg/

Portugal

6.1.6 Citizen Map

Institution(s) in charge: Administrative Modernization Agency (AMA)

Focus: Social Distancing

Technology: Website

Description: The Citizen Map (site and app), which provides georeferenced information for public services and allows users to get digital queue tickets for onsite public services, was updated with a view to:

Ensuring there are no "open" queue tickets and providing textual and graphic information (including a new splash screen and banner) to users;

Targeting citizens, to help prevent crowding in on-site counters (in conjunction with ePortugal);

Clicking for action for services on digital channels (in conjunction with ePortugal);

Clicking for action to obtain information and answer questions (in conjunction with the Citizen Contact Centre and Business Contact Centre);

Clicking for action to request placement for pre-scheduling services (in conjunction with the entities responsible for the service).

There are other small improvements foreseen:

Backend (invisible to the user): for instance, immediate map information update system, performance improvement, etc.

Frontend: accessibility, click to call throughout the Map, etc.

Links: https://mapa.eportugal.gov.pt/

Qatar

6.1.7 Drones

Institution(s) in charge: Ministry of Interior

Focus: Social Distancing

Technology: Drones

Description: The drones provide awareness for COVID-19 and prevent gatherings to limit the spread of the virus. The Ministry of Interior launched drones in several areas that spread awareness messages through loudspeakers about the importance of abiding by the social distancing measures.

Links: https://www.thepeninsulaqatar.com/article/02/04/2020/Drones-to-broadcast-coronaVirus-awareness-message-in-Qatar

6.1.8 Stay at home awareness

United Arab Emirates

Institution(s) in charge: Media Cultural Office

Focus: Social Distancing

Technology: Social Media

Description: The Media Cultural Office is issuing and publishing awareness videos about COVID-19 and presenting message to the community about the need to adhere to policies and government instructions in order to limit the spread of COVID-19 through influential personalities in the community. It also Issues and publishes digital books on "Isolation Talk" including poems and stories of families

Links:

https://youtu.be/BQkVHn6xHG4

https://youtu.be/Bj-yCg-rRUo

https://youtu.be/kng92l5yW04

https://youtu.be/LqBs0R3hxRE

https://youtu.be/Inyinz1fk6Q

https://youtu.be/pPPDLeqw8pc

https://youtu.be/3blcAO1B-xs

http://www.alkhaleej.ae/home/getpage/f53c9315-c755-48f7-a351-9dc93baa2e5a/6b7444e2-ad04-44cb-bdf2-a8d87a5fa575

https://drive.google.com/file/d/1aCBsTeMlf5eouVkRqZZKjFXsrVauRUH2/view?usp=drivesdk

http://marami.net/page.php?id=39

6.2 Virus tracking

6.2.1 COVID19 Pandemic Connexion

Côte d'Ivoire

Institution(s) in charge: The Prime Minister office, Ministry of Public Health, Ministry of Security, Ministry of Communication, Government General Secretariat (SGG)

Focus: Monitoring

Technology: Website

Description: The government website provides an application for tracking patients to prevent the spread of the virus through the Connexion tracking portal. Citizens can log in, fill in their data and track COVID-19 cases.

Links: http://coronaVirustracking.ci/

Fiji

6.2.2 Outbreak Management and Analysis system

Institution(s) in charge: Ministry of Health & Medical Services (MOHMS)

Focus: Virus Tracking

Technology: eHealth System

Description: The Fijian Government through its Ministry of Health and Medical Services has implemented the Surveillance Outbreak Response Management and Analysis System (SORMAS). It is an eHealth System that processes outbreak data which enables early detection through real-time digital surveillance including peripheral health care facilities and laboratories. This system was procured from the Helmholtz Centre for Infection Research and has been successfully deployed. It has been in operation since mid-March and has greatly enhanced the MOHMS in its management and analysis of the COVID-19 outbreak. The system has also been utilized in Germany, Ghana and Nigeria in their fight against COVID-19.

Links: https://sormasorg.helmholtz-hzi.de/About_SORMAS.html

Iran (Islamic Republic of)

6.2.3 Anti COVID-19 (ac19) portal

Institution(s) in charge: Ministry of ICT; Ministry of Health and Medical Education; Iran Medical Council

Focus: Virus Tracking

Technology: Portal and Mobile App

Description: A portal and mobile application were developed for screening citizens for COVID-19. In this portal/mobile app a self-diagnosis tool is provided. This service can help the government find hotpots, provide immediate care for high-risk individuals, refer the infected people to hospitals, provide home care services, receive complaints about public services, and disinfect areas at the request of the public.

Citizens are divided into five categories: black status (with a 90% chance of developing infection), red status (requiring a medical examination), yellow status (requiring home care and not communicating with others), pink status (high-risk individuals with underlying diseases) and green status (low probability). People with black and yellow status are contacted by doctors by phone to follow up on their treatment. According to surveys, the probability of data accuracy is 60%. The android App had more than 1 million downloads in one day.

Links: ac19.ir

Qatar

6.2.4 "Ehteraz" tracking and monitoring smart platform

Institution(s) in charge: Ministry of ICT, Ministry of Health and Medical Education, Iran Medical Council

Focus: Virus Tracking

Technology: App

Description: The app uses a GPS feature and Bluetooth to track and control COVID-19 cases. It aims to enhance preventive measures and to limit the spread of COVID-19; display the latest

6.2.4 "Ehteraz" tracking and monitoring smart platform (continued)

developments and official statistics related to Covid-19; spread awareness and official precautionary instructions; provide a hotline to inquire about symptoms; and recommended course of action.

The profile of each user is linked to a QR Code to automatically extract health information from official entities. Users will be categorized as follow: Red – for people who have tested positive for COVID-19; Yellow – for individuals who have been placed in quarantine facilities; Grey – suspected cases, individuals who exhibit symptoms, or who have been in contact with COVID-19-positive cases but have not been tested; Green – healthy individuals who do not exhibit any symptoms, or who have tested negative.

Links: https://apps.apple.com/us/app/ehteraz/id1507150431

6.2.5 VigilantGantry

Singapore

Institution(s) in charge: Government Technology Agency

Focus: Virus Tracking

Technology: AI, thermal scanner

Description: VigilantGantry is an AI-driven automated temperature screening gantry that augments existing thermal systems to enhance the rate of contactless scanning, saving time and manpower. GovTech has developed self-help temperature scanners using existing contactless off-the-shelf battery-operated infrared thermometers and other materials. The thermometer is retrofitted with a motion-sensing camera and a power source to enable temperature scanning without human intervention. This system is being deployed to Government buildings and community facilities to support temperature screening operations there.

Links: https://www.tech.gov.sg/media/technews/how-gt-developed-fit-for-purpose-temperature-scanners-part-2

6.2.6 SPOTON thermal scanner

Singapore

Institution(s) in charge: Government Technology Agency

Focus: Virus Tracking

Technology: AI, thermal scanner

Description: SPOTON is an AI powered thermal scanner developed by GovTech. It is an easy-to-set-up system that helps mass temperature screening. SPOTON is built with a complete long-wave infrared (LWIR) camera module that is integrated with RGB camera. It is being progressively deployed to Government Buildings and community facilities.

Links: https://www.youtube.com/watch?v=q7LykdDqdFY

Zimbabwe

6.2.7 Emergency operations centre and electronic monitoring system

Institution(s) in charge: Ministry of Health and Child Care, Ministry of ICT Postal and Courier Services, Postal and Telecommunications Authority of Zimbabwe, Mobile Network Operators.

Focus: Virus Tracking

Technology: Call Center

Description: The Ministries collaborated through their industry players for setup of an Emergency Operations Centre and call centre through which COVID-19 related calls can be received. The regulator availed short code 2019 and operators availed toll free lines accessed through the shortcake and handsets for the call centre as well as internet connectivity. The call centre is currently functional and being used by the public to make inquiries as well as report suspected cases.

The electronic monitoring and surveillance system is still being set up and aims to provide a means of monitoring people who come into the country through ports. The regulator has provided servers and computers for this purpose.

Links: www.mohcc.gov.zw

7. Working and learning from home

Photo credit: pixabay.com

The COVID-19 pandemic has disrupted the studies of children and young adults around the globe, as schools and universities shut down. Education now needs to be done remotely. In response, large-scale, national efforts to utilize technology to support remote learning, distance education during the COVID-19 pandemic are emerging and evolving quickly.

Colombia, Czech Republic and Fiji have created educational programs which are streamed on national television channels for students. These initiatives aim to supplement learning from home.

The higher education sector has also been significantly disrupted. Recent graduates and young people are entering a more precarious job market. To overcome this, the Singaporean government has launched an online initiative that matches students with industry mentors from their field of interest, so students can make informed career choices.

In response to COVID-19, many public administrations have transitioned rapidly to working from home. As the crisis continued to evolve, public administrations enacted immediate measures to help public officials perform as effectively as possible. In order to ensure coherence during the transition, some governments such as Bosnia and Herzegovina and Vanuatu, have focused on strengthening infrastructure to improve teleconferencing and to create a secure network for public servants to access government networks from their homes. This has been established by generating an exclusive VPN Access in coordination with the National Broadband Network. Other measures include connecting civil servants to the government's Cloud networks from their home computers to improve security.

Efforts have focused on strengthening existing digital infrastructure for remote service delivery, as well as, exploring digital avenues to ensure that decision-making by authorities is still feasible. The Remote Deliberation System (SDR) established in Brazil allows for senators and parliamentarians to debate and vote via video and audio call which ensures the continuity of decision-making during the pandemic.

Overall, the pandemic response has cast light on the importance of flexibility through the use of technology for our daily lives. As the COVID-19 disruptions continue, it is likely that working and learning from home will increasingly shape the life of workers and students around the world.

7.1 E-learning

Austria

7.1.1 Eduthek

Institution(s) in charge: Federal Ministry of Education, Science and Research

Focus: E-Learning

Technology: Website

Description: Eduthek is a centralized learning platform that provides material for pupils and teachers across all levels of education and subjects. The distance learning platform supports teachers in providing videos and online seminars to supplement digital teaching. Students are able to access digital schoolbooks and apply for electronic devices to support distance learning.

Since the COVID-19 Pandemic school leavers can apply for their leaving certificate online and information about graduation from vocational summer school.

Links: https://eduthek.at/schulmaterialien

Bulgaria

7.1.2 E-learning

Institution(s) in charge: Ministry of Education and Science

Focus: E-learning

Technology: Website

Description: The Ministry of Education and Science developed a National Portal for Digital Education and integrated Teams as a platform to support schools in the successful completion of the educational process. Over 90% of the students are already included in the digital education process and are able to access the "E-Readable Textbook" for free.

In addition, teachers are able to access a national digital library, which provides digital content for online work – video lessons, training program. The repository is also a platform for promotion of research, students' work, motivation, feedback, group and individual work, creation and application of skills etc. There are 2353 educational materials and 4066 files have been uploaded and 50,000 users have visited the platform. Download of educational resources exceeds 131,000.

Links: https://edu.mon.bg

Colombia

7.1.3 Teacher at home

Institution(s) in charge: Ministry of Education, Ministry of ICT

Focus: E-learning

Technology: Videos

Description: An online platform that offers audio-visuals and radio programs that educate children and young adults about the state of emergency and how to stay safe during the pandemic.

Links: https://www.rtvcplay.co/competencias-basicas-ciudadanas-y-socioemocionales/profe-en-tu-casa

7.1.4 UčíTelka program

Czech Republic

Institution(s) in charge: Ministry of Education, Youth and Sports

Focus: E-learning

Technology: TV

Description: A unique live educational program streamed on Czech national television is part of a distance education initiative during the pandemic. The daily broadcasting starts at 9 a.m. and is devoted to the respective subject matter for the respective class. An experienced teacher and three pupils simulate a school lesson. The feedback from parents and children has been very positive so far.

Links: https://nadalku.msmt.cz/cs/vzdelavaci-zdroje/prurezove/ucitelka

7.1.5 #nadalku

Czech Republic

Institution(s) in charge: Ministry of Education, Youth and Sports

Focus: E-learning

Technology: Portal

Description: The portal provides updated information, recommendations, online tools and support to promote distance education during the COVID-19 pandemic. The portal focuses on schools, teachers, students and parents. Part of the portal is dedicated to high schools/universities. It will ensure that end-of-year exams as well as admission and final exams take place for as many students as possible. The guidelines follow a special act on COVID-19 crisis measures, which provides higher education institutions with greater flexibility in online teaching and learning, in particular in relation to quality assurance regulations. The purpose of these documents is both to share good practice and to provide institutions with greater legal certainty in the time when quick and unforeseen decisions are necessary.

Links: https://nadalku.msmt.cz/cs/

7.1.6 Walesi application

Fiji

Institution(s) in charge: Ministry of Education, Heritage and Arts (MEHA)

Focus: E-Learning

Technology: TV

Description: The Fijian Government through the Ministry of Education, Heritage and Arts (MEHA) and the Ministry of Communications is rolling out curriculum content for Fijian students in light of the COVID-19 pandemic. This is being rolled out on a number of platforms. Radio stations are broadcasting curriculum content for various educational levels at allocated time slots throughout the week. The Fijian Government's Digital TV initiative "Walesi" will be providing a dedicated channel on its Digital TV, Satellite TV and Walesi application to broadcast curriculum.

Links: https://www.fiji.gov.fj/Media-Centre/News/STUDENTS-GET-FREE-ACCESS-TO-EDUCATION-CHANNEL-DURI

Indonesia

7.1.7 Study from home

Institution(s) in charge: Ministry of Education and Culture

Focus: E-Learning

Technology: TV

Description: The TV program is an alternative learning experience for students, teachers, and parents, while studying at home in the midst of the COVID-19 pandemic. Learning from home shows a variety of educational shows for secondary education and guidance programs for parents and teachers. The program will run until July 2020.

Links: https://www.kemdikbud.go.id/main/blog/2020/04/kemendikbud-hadirkan-program-tayangan-belajar-dari-rumah-di-tvri

Kyrgyzstan

7.1.8 OKUU portal

Institution(s) in charge: Ministry of Education and Science of the Kyrgyzstan

Focus: E-Learning

Technology: Portal

Description: The portal contains more than 400 video lessons for students from classes 1 to 11 in Kyrgyz and Russian. The OKUU portal is an information and educational environment that provides equal access to quality general education. The portal was created with the aim of providing an integrated approach to the development and implementation of distance learning technologies in the educational process. The OKUU portal provides completely free access to all courses of the school curriculum posted on the portal.

Links: http://ict.gov.kg/index.php?r=site%2Fpress&pid=560&cid=1

North Macedonia

7.1.9 TV-Classroom

Institution(s) in charge: Ministry of Education and Science

Focus: E-learning

Technology: TV

Description: The TV-Classroom is a collaboration between the Ministry, the Bureau for the Development of Education, UNICEF and the Macedonian radio and television. It provides programs for younger children by volunteer teachers, demonstrating a whole range of activities that parents and teachers can use to ease stress, including exercise routines, with classes running in all five official languages of North Macedonia: Macedonian, Albanian, Turkish, Serbian and Bosnian.

Links: https://www.unicef.org/eca/stories/keeping-education-track-north-macedonia-during-covid-19-pandemic

7.1.10 EDUINO - e-classroom

North Macedonia

Institution(s) in charge: Ministry of Education and Science, Ministry of Labour and Social Policy, UNICEF

Focus: E-learning

Technology: Website

Description: In collaboration with the Ministry of Education and Science, Ministry of Labour and Social Policy, Bureau for Education Development and partners, UNICEF today launched an E-Classroom digital platform providing teachers with tools to support distance learning for children temporarily out of school due to COVID-19.

The platform is part of the Bureau for Development of Education resources to provide curriculum support and teacher professional development beyond the temporary school closures. Although initially intended for pre-school and the primary education students, the scope of the platform is extended to both primary and upper secondary education.

The E-Classroom complements the TV-Classroom initiative launched a week after school closures on national television and social media in Macedonian, Albanian, Turkish and Bosnian and Serbian languages.

Links: http://eduino.gov.mk/

7.1.11 Getting ready for online education

Republic of Korea

Institution(s) in charge: Ministry of Education

Focus: E-learning

Technology: Website

Description: As schools have been closed due to COVID-19, the Korean government is offering science content online to minimize disruptions in students' learning and expand their opportunities for learning activities. Content-oriented classes allow for students to watch video-recorded lectures and/or learning content, while the teacher monitors how much students have learned and gives feedback.

Links: http://english.moe.go.kr/sub/info.do?m=090101&page=090101&num=1&s=english

7.1.12 Virtual school e-Learning portal

Saudi Arabia

Institution(s) in charge: Ministry of Education

Focus: E-learning

Technology: website

Description: An online initiative that offers e-classes and e-learning to students across all levels of education. Through this virtual school, students can login and choose their desired subject and chapter so that their education will not suffer.

Links: https://vschool.sa/

Saudi Arabia

7.1.13 Coronavirus online awareness

Institution(s) in charge: Saudi Red Crescent Authority

Focus: E-learning

Technology: Website

Description: The Saudi Red Crescent Authority (SRCA) has launched a distance learning awareness initiative about coronavirus control and prevention. More than 7,500 trainees have taken part in remote online training sessions organized by the authority aimed at preventing the spread of the COVID-19 disease. Upon passing the program and completing the course, the trainee received a certificate automatically through the electronic training system.

Links: https://training.srca.org.sa/#!/home

Serbia

7.1.14 Online school

Institution(s) in charge: Ministry of Education

Focus: E-learning

Technology: TV

Description: Ministry of Education in collaboration with the Office for IT and e-Government and the national TV broadcaster have organized online classes. Pupils and students in elementary and secondary schools attend their classes, get homework and be tested using the nationwide TV station. In addition, a mobile application has been developed for online learning to supplement the lesson on TV.

Links: https://rtsplaneta.rs/

Singapore

7.1.15 Advisory mentorship program

Institution(s) in charge: Advisory (Government-funded youth-led non-profit organization)

Focus: E-learning

Technology: Website

Description: The Advisory Mentorship Program is an online initiative that matches students aged 16-25 with industry mentors from their field of interest one-to-one on a three-month basis from May to July. Through this, it is hoped that students can learn how to make informed career choices, and be provided with sufficient support and advice during these uncertain times.

Links: https://mentorship.advisory.sg/#

7.1.16 Distance education

Turkey

Institution(s) in charge: Ministry of National Education

Focus: E-Learning

Technology: TV

Description: Educational Informatics Network (EBA), which is an online social education platform, has developed remote classes for primary, secondary and high schools. From March 2020 on TRT EBA TV, a channel created through the collaboration of Turkish Radio and Television Corporation (TRT) and the Ministry of Education, broadcasted these classes.

Links: http://www.eba.gov.tr/

7.1.17 Distance learning

United Arab Emirates

Institution(s) in charge: UAE Ministry of Education

Focus: E-Learning

Technology: Website

Description: The Ministry of Education has embarked on testing a variety of platforms, aimed at creating a smart learning environment that is easy to access and adaptable in all circumstances.

Links: https://www.albayan.ae/across-the-uae/education/2020-03-16-1.3804819

7.2 Telecommuting

7.2.1 Work from home initiative & teleconferencing

Bosnia and Herzegovina

Institution(s) in charge: Ministry of Communications and Transport

Focus: Telecommuting

Technology: VPN

Description: Via VPN Access public servants can connect from home using the ISP. Others can use Microsoft Office 365 to enable a cloud application to work from home. In addition, there is an operational teleconferencing facility inside the Ministry that public servants can use if there is any need for online meetings.

Links: This initiative has not been published online.

Brazil

7.2.2 Remote deliberation and voting

Institution(s) in charge: Brazilian Federal Senate

Focus: Telecommuting

Technology: Two-factor identification

Description: In order to discuss and vote on important issues during the new coronavirus pandemic, the Federal Senate held a deliberative session for remote voting on 20 March. On March 24, the House implemented the Remote Deliberation System (SDR). Through the platform, parliamentarians can debate and vote via video and audio. The system, which can be used both on a cell phone and on a personal computer, can serve the voting needs of the National Congress. This technology allows the Senate to continue deliberating in remote sessions. The purpose of the measure was to enable the continuity of parliamentary work following the recommendations made to avoid the crowding of people.

Links: This initiative has not been published online.

Canada

7.2.3 Network capacity and remote work

Institution(s) in charge: Shared Services Canada and Treasury Board of Canada Secretariat

Focus: Telecommuting

Technology: Network capacity, WIFI calling

Description: In order to support the shift to working remotely, the Government of Canada has: increased network capacity to support the rise in demand of working remotely, developed guidance on best practices for working remotely, prioritized network access and IT services to sustain critical service continuity, enabled Wi-Fi calling for all government department and updated devices to address emergency requirements and support essential services.

Links: https://www.canada.ca/en/government/publicservice/covid-19/working-remotely.html

Fiji

7.2.4 Work from Home

Institution(s) in charge: Fijian Government Initiative

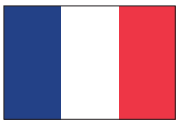
Focus: Telecommuting

Technology: Not stated

Description: The Fijian Government initiated a Work from Home Policy for civil servants not part of the essential services in light of the COVID-19 global pandemic. The Ministry of Communications acquired support from Microsoft to utilize its Teams platform to enable civil servants to remotely hold virtual meetings, communicate and carry out designated tasks on Government issued Laptops and Portable Wi-Fi devices.

Links: https://www.fbcnews.com.fj/news/civil-servants-to-work-from-home/

7.2.5 Facilitating remote working for public officials



France

Institution(s) in charge: Inter-ministerial Directorate for Digital Affairs (DINUM)

Focus: Telecommuting

Technology: Website, App

Description: In order to ensure the continuity of public services, several initiatives have been undertaken to facilitate efforts to address this unprecedented situation of widespread remote work for public officials. Several digital tools have been developed and operated by the state. These initiatives have been deployed by the state to facilitate collaboration during the pandemic, whilst guaranteeing privacy and security. These tools include "Tchap", the state's trusted instant messenger for public officials and their partners (with end-to-end encryption of conversations), the state's web conference system and two new collaborative platforms for professional communities and project management. Market tools that met security and privacy requirements were also identified.

Links: https://www.numerique.gouv.fr/outils-agents/webconference-etat/

7.2.6 Secure remote working

Kuwait

Institution(s) in charge: Council of Ministers and the Central Agency for Information Technology

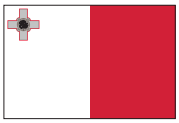
Focus: Telecommuting

Technology: Not applicable

Description: The initiative enables and encourage secure and remote working tools for government entities across Kuwait. The initiative titled 'Enabling remote working for government sector is in line with CAIT's efforts to equip government employees with the right communication and technology to work from anywhere while maintaining productivity and ensuring business continuity. In addition, an online training portal was developed to broaden the skills and knowledge of government employees to try and reduce the impact of COVID-19.

Links: https://remotework.e.gov.kw/

7.2.7 Facilitating teleworking activities



Malta

Institution(s) in charge: Malta Enterprise

Focus: Telecommuting

Technology: Not applicable

Description: The Malta Enterprise encourages employers to provide teleworking arrangements to their employees so they are able to work from their residence. The call persuades employers to invest in technology that enable teleworking and to partially cover the costs of teleworking solutions. Support under this initiative is capped at €2,000,000 up to €500 per teleworking agreement and €4,000 per undertaking.

Links: https://covid19.maltaenterprise.com/covid19-initiatives/

Morocco

7.2.8 Telework

Institution(s) in charge: The Ministry of Economy, Finance and Reform of the Administration and Department of Administration Reform

Focus: Telecommuting

Technology: Telework is an alternative work option which ensures the continuity of public service. It is a guide for civil servants to make sure they are able to continue their professional obligations, partially or completely from different locations and away from his usual workplace.

Description: The Ministry of Economy, Finance and Reform of the Administration- Department of Administration Reform has released a telework guide to offer civil servants or employees the opportunity to carry out their professional obligations, partially or completely, from different locations and away from their usual workplace. Telework will be seen as an alternative work option ensuring the continuity of public service, through the performance of the missions and tasks associated with the delivery of public services.

Links: https://www.mmsp.gov.ma/fr/actualites.aspx?id=1942

Philippines

7.2.9 Telecommuting Act

Institution(s) in charge: Department of Labor and Employment (DOLE)

Focus: Telecommuting

Technology: Not applicable

Description: The Telecommuting Act refers to remote working with the use of telecommunications and/or computer technologies. It encourages the formulation and implementation of national policies that will promote the development and use of ICT for telecommuting.

Links: https://dict.gov.ph/dict-proposes-guidelines-for-telecommuting-in-govt-service-amidst-the-covid-19-public-health-emergency/

Seychelles

7.2.10 Support for work from home for government officers

Institution(s) in charge: Department of Information and Communications Technology (DICT)

Focus: Telecommuting

Technology: Telecommuting

Description: The Department of Information and Communications Technology provides IT solution to Government departments and agencies who wish to work from home by allowing them to access their IT resources over the internet via a secure network.

Links: Not available

7.2.11 Work from Home initiative

Oman

Institution(s) in charge: Ministry of Technology and Communications (MTC)

Focus: Telecommuting

Technology: Not applicable

Description: The Ministry of Technology and Communications in cooperation with the National Supreme Committee on COVID-19 has launched the Work from Home initiative in March 2020. The initiative aims to provides public officials and staff to continue government tasks such as meetings, conferences and daily tasks from home. The Ministry also created the Technological Innovation committee to oversee all IT initiatives to ensure diversity and strengthen the partnership between sectors to implement the new projects accurately and provide innovative IT solutions.

Links: Not available

7.2.12 Remote working technology initiative

United Arab Emirates

Institution(s) in charge: Department of Government Support

Focus: Telecommuting

Technology: Not applicable

Description: In line with Abu Dhabi's digital agenda, the Department of Government Support has activated and enabled remote working tools in Abu Dhabi public sector such as the integration of the 'Microsoft Teams' system. The system enables the remote working through features that facilitate communication and cooperation between work teams via secure communication channel. The system is available on a range of devices such as desktop, mobile and browser. Today, more than 50 government entities in Abu Dhabi have deployed this technology and more than 40,000 users are adopting this technology in their day-to-day work activities.

Links: https://www.tahawultech.com/region/uae/abu-dhabi-to-enhance-services-with-digital-month-initiative/

7.2.13 Work from Home Initiative

Vanuatu

Institution(s) in charge: Office of the Government Chief Information Officer

Focus: Telecommuting

Technology: VPN

Description: Public servants are provided with VPN access to connect themselves from home using the internet service provided by telecommunication operators to the Government Broadband Network (GBN), while still being able to have access to the services that are available on the Government's private cloud.

Links: Not available

8. Digital policy

Photo credit: pixabay.com

To minimize socio-economic disruptions during the pandemic, many governments had to create quick policy solutions. A variety of innovative policies have beenwere introduced, particularly in the area of digital inclusion.

For some governments, the policy actions entailed redirecting channels from traditional visits to government offices to online services. This high demand and pressure for front line services required policy adjustments to co-ordinate requests for government agencies including support and assistance.

Other policy responses were aimed at dealing with the challenges arising from the spread of information and sharing of data during COVID-19. The pandemic also highlighted disparities in access to Internet and also in digital skills. Many governments embarked on creating policies that are more inclusive and which accelerate the provision of internet connectivity for vulnerable groups.

For example, in the Philippines the Free Wi-Fi for All Program advanced the upgrading and installation of free Wi-Fi services across the country to bring vulnerable groups online, while simultaneously connecting frontline workers to increase their capacity to respond to outbreaks and emergencies. In France, the government set up a portal called MedNum to support people with difficulties using digital tools during the crisis. The platform offers a variety of digital inclusion resources such as tutorials and free advice from volunteer digital mediators.

8.1 Digital policy

Italy

8.1.1 Task force on the use of data against the COVID-19 emergency

Institution(s) in charge: Minister for Technological Innovation and Digitalization

Focus: Digital Policy

Technology: Database

Description: The task force on the use of data against COVID-19 is an interdisciplinary group of experts. The Task Force was convened to explore possible solutions to deal with this emergency based on the international data and research frameworks. The experts analysed the applications and produced two reports, one focusing on privacy and the other one focusing on the analysis of technological solutions.

Links: https://innovazione.gov.it/nasce-la-task-force-italiana-per-l-utilizzo-dei-dati-contro-l-emergenza-covid-19/

New Zealand

8.1.2 Covid-19 response

Institution(s) in charge: Digital Public Service Branch and the Department of Internal Affairs

Focus: Digital Policy

Technology: Not applicable

Description: The Government's Chief Digital Officer COVID-19 response team has focussed on co-ordinating requests for government agencies for technology-related support and assistance. The supporting agencies that require assistance are front-line services (health, education, social services) and public servants that need help with working from home during New Zealand's lockdown.

Links: https://www.digital.govt.nz/digital-government/strategy/strategy-summary/

Korea

8.1.3 Flattening the curve on COVID-19 - How Korea responded to a pandemic using ICT

Institution(s) in charge: Ministry of Health and Welfare, Ministry of Economy and Finance

Focus: Digital Policy

Technology: Not Applicable

Description: The Korean government has released its response to COVID-19 which includes tools and strategies such as 1) social distancing, 2) high tech-based disease prevention and treatment, and 3) data sharing, such as through apps showing drugstore mask inventory. ICTs played a vital role in fighting COVID-19 in Korea. Mobile devices were used to support early testing and contact tracing. Advanced ICTs were particularly useful in spreading key emergency information on the Coronavirus and help to maintain extensive 'social distancing'. The testing results and latest information on COVID-19 was made available via national and local government websites. The government-provided free smartphone apps flagged infection hotspots with text alerts on testing and local cases. In its publications, the government presents actual response measures against COVID-19 using the latest ICTs and discusses how to better fight against the virus.

Links: http://english.moef.go.kr/pc/selectTbPressCenterDtl.do?boardCd=N0001&seq=4879

8.1.4 Digital solutions against COVID-19

Spain

Institution(s) in charge: Secretary of State for Digitization and Artificial Intelligence

Focus: Digital Policy

Technology: Not applicable

Description: This is a GDPR-related clarification note on the usage of digital technologies in Spain. The report notes that the Personal Data Protection Regulation, while aimed at safeguarding a fundamental right, apply in its entirety during the COVID-19 pandemic in relation to the data processing resulting from the current situation and arising from the spread of the virus. The report further clarifies there is no reason to determine the suspension of fundamental rights during the pandemic.

Links: https://www.aepd.es/es/documento/2020-0017-en.pdf

8.1.5 The Digital Month initiative

United Arab Emirates

Institution(s) in charge: Abu Dhabi Digital Authority (ADDA)

Focus: Digital Policy

Technology: Not applicable

Description: The Abu Dhabi Government launched the "Digital Month" initiative to highlight the benefits of more than 1,000 digital services as compared to traditional visits to government offices. This initiative has contributed a lot to protecting the community members from the COVID-19 pandemic by encouraging them to use the digital channels to reach government services.

Links: N/A

8.2 Digital inclusion

8.2.1 Digital inclusion platform

France

Institution(s) in charge: Secretariat for Digital Affairs, La MedNum

Focus: Digital Inclusion

Technology: Portal

Description: The lockdown measures put in place to fight against COVID-19 may reinforce the digital gap, as many French citizens struggle with online services. As a response, the civil society organization MedNum, with the support of the Secretariat for Digital Affairs, launched solidarite-numerique.fr, a platform which helps people who have difficulties with accessing digital tools during the crisis. It offers a variety of digital inclusion resources (tutorials, useful websites, etc.), as well as a free of charge number to get advice from volunteering digital mediators.

Links: https://solidarite-numerique.fr/

Italy

8.2.2 Solidarietà digitale (Digital solidarity)

Institution(s) in charge: Minister for Technological Innovation and Digitalization

Focus: Digital Inclusion

Technology: Not available

Description: The initiative aims to help Italians to maintain their daily routine, in compliance with the measures for the containment of the spread of COVID-19. The initiative aims to provide free services to citizens, professionals and companies, such as fast and free connectivity and the use of advanced smart working platforms; free online newspapers or e-books; e-learning platforms; digital online services such as medical or professional advice; etc.

Links: https://innovazione.gov.it/coronavirus-solidarieta-digitale-in-tutta-italia/

Philippines

8.2.3 Free wifi for all

Institution(s) in charge: Department of Information and Communications Technology (DICT)

Focus: Digital Inclusion

Technology: WIFI

Description: The Free Wi-Fi for All Program connects COVID-19 monitoring and control centres to facilitate the swift data gathering and exchange. It will also give frontline workerss and patients the opportunity to communicate with their loved ones to let them know of their situation.

Links: freepublicwifi.gov.ph

Saudi Arabia

8.2.4 Giving for All initiative

Institution(s) in charge: Ministry of Communications and Information Technology

Focus: Digital Inclusion

Technology: Website

Description: Ministry of Communications and Information Technology launched the "Giving for All" initiative, which is highlighting the importance of technology and advocates that everyone has a right to it. It supports students and low-income families to receive the devices necessary to complete their distance education during COVID-19.

Links: https://www.mcit.gov.sa/ar/media-center/news/244983

8.2.5 Cultural activities of the Sharjah Sport Council

United Arab Emirates

Institution(s) in charge: Sharjah Sport Council

Focus: Digital Inclusion

Technology: Social Media

Description: The public sports club implemented a number of initiatives in order to remotely involve all members of society in the cultural and community work during the quarantine period, such as: Cubes competition, remote book summarization competition, Holy Quran competition and virtual Ramadan Council.

Links: https://www.instagram.com/p/B-HPukAA07H/?utm_source=ig_web_copy_link

8.2.6 Improving ICT sector

United Arab Emirates

Institution(s) in charge: Telecommunication Regulatory Authority

Focus: Digital Inclusion

Technology: SMS, website

Description: In response to the global pandemic, the government of the United Arab Emirates has launched several initiatives to enhance the ICT sector. The initiatives include: free Internet, data via mobile phones to enable distant learning, emergency broadcast and SMS alerts to UAE nationals abroad.

Links: https://www.tra.gov.ae/en/about-tra/tra-initiatives-in-response-to-covid-19.aspx

9. Partnerships

Photo credit: United Nations

Partnerships with the private sector, academia, NGOs or publicsector organizations, have been crucial for governments to effectively manage the COVID-19 crisis. More than ever, a multi-stakeholder approach to the many challenges stemming from the global health crisis, have supported governments in overcoming crucial socio-economic challenges.

Private technological companies have made many of their resources free to the public to support people with online learning content, video conferencing solutions, job opportunities or free mobile data. For example, together with the Colombian government, Coursera has established the Workforce Recovery initiative to help unemployed people gain new skills. In Mauritius, a leading private technology company supplied the government and public hospitals with video conferencing solutions to facilitate the communication between these organizations.

The cooperation between public and private organizations has also led to the deployment of new frontier technologies such as 3D printing in the healthcare sector, as for example in Austria or the development of new health apps, such as in Kazakhstan. In the United Republic of Tanzania, the Ministry of Health partnered with mobile network operators to provide free of charge information and free calls to health experts through a special short code number dedicated to COVID-19. The global COVID-19 pandemic has demonstrated that governments rely on private companies for innovative ideas, technical expertise and financial resources to quickly recover from the crisis.

Governments around the world have also partnered with medical and technological research departments of universities to accelerate the development of COVID-19 vaccines, learn more about the virus and its spread or create technological tools to help infected people. These collaborations between governments and academia have been indispensable in a time of high uncertainty about the COVID-19 virus and its repercussions for people and society.

Austria

9.0.1 Digital Team Austria to support SMEs

Institution(s) in charge: Federal Ministry for Digital and Economic Affairs (BMDW) in co-operation with partners from the digital economy

Focus: Partnerships

Technology: Website

Description: The Federal Ministry for Digital and Economic Affairs launched the initiative "Digital Team Austria" to support SMEs in meeting the requirements for digital and mobile working in times of the COVID-19 crisis. The Digital Team Austria is a cooperation initiative of companies from the digitization sector offering digital services to SME free of charge for at least three months. The package includes the provision of video conferencing tools, Office licenses and security solutions for home office as well as businesses.

Links: https://www.usp.gv.at/Portal.Node/usp/public/content/home/532049.html

Austria

9.0.2 Cooperation and crowd-working models in the field of 3D-printing

Institution(s) in charge: Private sector in cooperation with wider health sector

Focus: Partnerships

Technology: 3D printing

Description: Austria expanded the production possibilities of protective masks and shields through a cooperation arrangement of the healthcare sector, universities and pioneers in 3D printing. In order to further increase the capacity, the company Happylap started a nationwide crowd-funding initiative or "crowd-printing" process for the production of facial protection shields.

Links:

https://www.tugraz.at/tu-graz/services/news-stories/tu-graz-news/einzelansicht/article/kages-setzt-bei-schutzausruestung-auf-3d-druck-by-tu-graz/

https://happylab.at/de_vie/covid19

Colombia

9.0.3 Free online training for unemployed

Institution(s) in charge: Presidency

Focus: Partnerships

Technology: Website

Description: In partnership with the company Coursera, as part of their "Coursera Workforce Recovery Initiative" plan to mitigate the impact of COVID-19, the Colombian government is now providing access to online learning for unemployed people. This includes 3,800 courses and 400 specializations.

Links: https://www.coursera.org/government/workforce-recovery

9.0.4 Automatic sick leave letter

Estonia

Institution(s) in charge: Health and Welfare Information Systems Centre

Focus: Partnerships

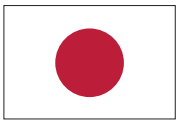
Technology: Website

Description: In collaboration with the software company Heisi, an automatic sick leave feature was launched in the National Public Patient portal in just a few days. Patients can temporarily decide themselves when they need to take sick leave to manage the burden on doctors and nurses.

Links:

https://www.digilugu.ee/login;jsessionid=63604A36295B57AB5891FA3FFE61C272?locale=en

9.0.5 Utilization of ICT to prevent the spread of COVID-19



Japan

Institution(s) in charge: Cabinet Secretariat

Focus: Partnerships

Technology: Website

Description: The Japanese government established a public-private joint task force "Tech Team Responding to COVID-19" to promote the utilization of data for limiting the spread of COVID-19. The task force shares experiences between organizations and deploys services while collaborating with the private sector.

Links: https://corona.go.jp/

9.0.6 Video conferencing solution for the Ministry of Health and Wellness

Mauritius

Institution(s) in charge: Ministry of Health and Wellness, private company

Focus: Partnerships

Technology: Website, Social Media

Description: The Ministry of Health & Wellness (MoHW) has partnered with Huawei Mauritius to bring in video conferencing solutions to facilitate communication/meetings between all hospitals and the Ministry.

Links: Not available

Philippines

9.0.7 FASSSTER - Feasibility analysis of syndromic surveillance

Institution(s) in charge: Department of Health, Ateneo de Manila University and University of the Philippines

Focus: Partnerships

Technology: Database

Description: In partnership with the Department of Health, Department of Science and Technology, the Philippine Council for Health Research and Development, and the Ateneo de Manila University, FASSSTER aims to provide a user-friendly tool for modelling disease spreads in the Philippines to aid in the Department of Health's disease surveillance efforts. FASSSTER takes a multi-dimensional approach in modelling disease spreads by using localized indices from Philippine health records and by integrating third-party data, such as those found in Electronic Medical Record (EMR) systems and online sources. It is a web-based disease surveillance platform that uses deterministic compartmental modelling.

Links: https://fassster.ehealth.ph/covid19/

Saudi Arabia

9.0.8 Partnership with private telecommunication companies

Institution(s) in charge: Ministry of Education, Ministry of Communications and Information Technologies, Saudi telecommunication companies

Focus: Partnerships

Technology: Website

Description: Partnership with the private sector to provide free access to e-learning platforms.

Links: https://www.spa.gov.sa/viewfullstory.php?lang=ar&newsid=2044708

Saudi Arabia

9.0.9 Understanding the SARS-CoV-2 genome

Institution(s) in charge: King Abdullah University of Science and Technology (KAUST), researchers

Focus: Partnerships

Technology: Database

Description: Researchers across disciplines are coming together to understand SARS-CoV-2 to help protect communities. They are using the supercomputer of the King Abdullah University of Science and Technology to not only compare and analyze COVID-19 cases, but also to scan billions of environmental samples for traces of SARS-CoV-2. Their work is already available as an open research tool, providing access to all data to scientists around the world.

Links: https://www.kaust.edu.sa/en/news/hacking-the-sars-cov-2-genome

9.0.10 Tanzania e-Government initiative with mobile network operators

United Republic of Tanzania

Institution(s) in charge: Ministry of Health, e-Governnment Authority, national mobile network operators

Focus: Partnership

Technology: Not applicable

Description: The Ministry of Health has partnered with the e-Government Authority and all mobile network operators through the Tanzania Communication Regulatory Authority to provide free-of-charge information and free calls to health experts through a special short code number 199 dedicated to COVID-19. It provides preliminary diagnosis to citizen according to their locations and other personal data.

Links: https://www.moh.go.tz/en/covid-19-info

9.0.11 IT solutions for healthcare during COVID-19

Kazakhstan

Institution(s) in charge: Ministry of Healthcare of Kazakhstan, private sector

Focus: Partnerships

Technology: App

Description: IT company "Damu" has developed "Damumed" mobile app where patients can assess their symptoms with a simple questionnaire. An automatic assessment of threatening symptoms marks patients with COVID-19 alertness and all data is instantly displayed at your doctor's office. 5000 doctors in the cities of Nur-Sultan and Almaty have been provided with free mobile communications and Internet from the companies Tele2, Altel, Kcell. The relevant agreement has been signed between Kazakhtelecom JSC and the Ministry of Healthcare.

Links: https://apps.apple.com/kz/app/damumed/id1238801709

9.0.12 Tübitak – Cooperation and technology platform

Turkey

Institution(s) in charge: The Scientific and Technological Research Council of Turkey (Tübitak), researchers

Focus: Partnerships

Technology: Website

Description: The Scientific and Technological Research Council of Turkey (Tübitak) has initiated bilateral and multilateral cooperation actions to support joint R&D projects with the aim of facilitating scientific collaboration between Turkish researchers and colleagues in other countries. In the area of vaccine development, all relevant actors in Turkey have been mobilized and a COVID-19 technology platform was created.

Links: https://covid19.tubitak.gov.tr/

United Arab Emirates

9.0.13 The UAE virtual labour market

Institution(s) in charge: Ministry of Human Resources and Emiratisation (MOHRE), private sector

Focus: Partnerships

Technology: Job portal

Description: The UAE Virtual Labour Market was developed in partnership with the private sector, supported and supervised by MOHRE. It is designed to support the non-UAE workforce inside the UAE, which has been significantly impacted by the precautionary measures taken in the UAE to confront COVID-19. Jobseekers can register on the website to search and apply for available job opportunities advertised by employers.

Links: https://careers.mohre.gov.ae

List of Cases by Country

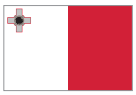
Flag	Country	Category	Sub-Category	Case	Page No.
	*Afghanistan*	Information sharing	Monitoring	Ministry of Public Health Data Warehouse (DHIS2)	8
	*Andorra*	Information sharing	Covid-19 portal	Assistance COVID-19	12
	*Armenia*	Contact tracing	Tracking and tracing	COVID-19 location tracking system and mobile app	22
		Information sharing	Covid-19 portal	COVID-19 website	63
	*Austria*	E-participation	Hackathons	Hack the Crisis Austria	32
		Contact tracing	Tracking and tracing	Stopp Corona App	62
		Working and learning from home	E-learning	Eduthek	82
		Partnerships	-	Digital Team Austria to support SMEs	100
		Partnerships	-	Cooperation and crowd-working models in the field of 3D-printing	100
	*Bahrain*	Contact tracing	Tracking and tracing	BeAware Bahrain	63
	*Belize*	Information sharing	Covid-19 portal	COVID19 Financial and Economic Relief Program	12
	*Benin*	Information sharing	Covid-19 portal	Information on covid-19	12
	*Bhutan*	Contact tracing	Tracking and tracing	Druk Trace app	64
	*Bosnia and Herzegovina*	Working and learning from home	Telecommuting	Work from home initiative & teleconferencing	87
	*Brazil*	Information sharing	Providing information	Combat fake news	2
		E-health	E-health services	Validate medical documents online	45
		E-health	Supply of medical goods	Information of medical inventory	48

Flag	Country	Category	Sub-Category	Case	Page No.
	*Brazil*	Contact tracing	Tracking and tracing	Coronavírus Telesus	64
		Working and learning from home	Telecommuting	Remote deliberation and voting	88
		Information sharing	Covid-19 portal	COVID19 financial and economic relief program	13
		E-health	Virtual doctor	Coronazap	42
	*Bulgaria*	Working and learning from home	E-learning	E-learning	82
		Information sharing	Monitoring	National information system for combating COVID-19	8
		Information sharing	Covid-19 portal	Single Information Portal	13
		Contact tracing	Tracking and tracing	The application "Call Sofia – Sofia Municipality Contact Center"	65
		Contact tracing	Tracking and tracing	Free mobile app Virusafe	65
	*Cabo Verde*	Information sharing	Covid-19 portal	COVID-19 portal	14
	*Canada*	E-business	-	Talent reserve	54
		Working and learning from home	Telecommuting	Network capacity and remote work	88
	*China*	Information sharing	Providing information	Special services for COVID-19 prevention and work resumption	2
	*Colombia*	Information sharing	Providing information	CoronApp Colombia	3
		E-participation	Civic engagement	Donation campaign	28
		E-participation	Hackathons	Colombia Undertakes and Innovates	32
		E-health	E-health services	Telehealth regulation	45
		E-business	-	Free website for small businesses	54
		E-business	-	E-commerce marketplace	54
		Working and learning from home	E-learning	Teacher at home	82
		Partnerships	-	Free online training for unemployed	100
		Information sharing	Covid-19 portal	Coronavirus Colombia website	14

Flag	Country	Category	Sub-Category	Case	Page No.
	*Côte d'Ivoire*	Information sharing	Covid-19 portal	COVID-19 information portal	14
		Social distancing and virus tracking	Virus tracking	COVID19 Pandemic Connexion	77
	*Croatia*	E-health	Self-assessment of health status	COVID-19 digital assistant "Andrija"	38
	*Cuba*	Information sharing	Monitoring	COVID-19 Cuba data	9
		E-business	-	EnSuCasa platform	55
		Social distancing and virus tracking	Social distancing	Portero	74
	*Czech Republic*	E-health	E-health services	ePrescription and eSick	45
		E-business	-	Online application in the "AntiVirus" program	55
		Contact tracing	Tracking and tracing	Smart quarantine	65
		Working and learning from home	E-learning	UčíTelka program	83
		Working and learning from home	E-learning	#nadalku	83
		Information sharing	Covid-19 portal	Official COVID-19 epidemic information portal	15
	*Denmark*	E-health	Self-assessment of health status	Chatbot	38
		Information sharing	Covid-19 portal	COVID-19 portal	15
		Contact tracing	Tracking and tracing	COVIDmeter	66
	*Dominican Republic*	Information sharing	Covid-19 portal	CoronaVirusRD (República Digital)	16
	*Estonia*	E-health	Self-assessment of health status	Koroonatest	38
		Partnerships	-	Automatic sick leave letter	101
	*Ethiopia*	Information sharing	Covid-19 portal	Ethiopian COVID-19 monitoring platform	16
	*Fiji*	Social distancing and virus tracking	Virus tracking	Outbreak Management and Analysis system	78
		Working and learning from home	E-learning	Walesi application	83
		Working and learning from home	Telecommuting	Work from home	88

Flag	Country	Category	Sub-Category	Case	Page No.
	*France*	Information sharing	Providing information	Implementing specific COVID-19 information chatbots	3
		E-participation	Civic engagement	Creating a civic reserve platform	28
		Working and learning from home	Telecommuting	Facilitating remote working for public officials	89
		Digital policy	Digital inclusion	Digital inclusion platform	95
		Information sharing	Monitoring	Open data and dashboard	9
	*Germany*	E-business	-	Application for wage payment compensations	55
	*Greece*	Information sharing	Covid-19 portal	Official COVID-19 portal	16
		E-health	E-health services	Paperless function of e-prescription system	46
	*India*	Contact tracing	Tracking and tracing	Aarogya Setu - Bluetooth based tracker	66
	*Indonesia*	Information sharing	Covid-19 portal	Website for national COVID-19 task force	17
		E-health	Virtual doctor	Artificial Intelligence for Covid-19 detection	42
		E-business	-	Online shopping and goods delivery	56
		Contact tracing	Tracking and tracing	PeduliLindungi (Care & Protect)	67
		Social distancing and virus tracking	Social distancing	Robot medical Assistant ITS-Airlangga (RAISA)	74
		Working and learning from home	E-learning	Study from home	84
	*Iran (Islamic Republic of)*	Social distancing and virus tracking	Social distancing	MASK	75
		Social distancing and virus tracking	Virus tracking	Anti COVID-19 (ac19) portal	78
	*Ireland*	Information sharing	Covid-19 portal	COVID-19 information portal	17
	*Italy*	E-participation	Hackathons	Innovate for Italy	33
		Digital policy	Digital policy	Task force on the use of data against the COVID-19 emergency	94
		Digital policy	Digital inclusion	Solidarietà digitale (Digital solidarity)	96

Flag	Country	Category	Sub-Category	Case	Page No.
	*Japan*	Partnerships	-	Utilization of ICT to prevent the spread of COVID-19	101
	*Kazakhstan*	Information sharing	Covid-19 portal	E-government during COVID-19	24
		E-participation	Hackathons	Online hackathon Anti-Corona	35
		E-health	Self-assessment of health status	Checking for COVID-19 symptoms	40
		Contact tracing	Tracking and tracing	Healthcare IT solution during COVID-19	69
		Partnerships	-	IT solutions for healthcare during COVID-19	103
	*Kiribati*	Information sharing	Covid-19 portal	Dedicated website for COVID-19 information	17
	*Kuwait*	Information sharing	Providing information	Shlonik app	4
		Information sharing	Covid-19 portal	Kuwait combatting COVID-19	18
		E-health	Virtual doctor	COVID-19 psychotherapy program	42
		Social distancing and virus tracking	Social distancing	E-shopping	75
		Working and learning from home	Telecommuting	Secure remote working	89
	*Kyrgyzstan*	Information sharing	Covid-19 portal	COVID-19 portals	18
		E-health	Self-assessment of health status	Hidoctor.kg	39
		E-health	Supply of medical goods	Resources to support the activities of health workers	48
		E-health	Remote patient monitoring	Monitoring system	50
		E-business	-	List of e-commerce companies	56
		Contact tracing	Tracking and tracing	Stop COVID-19 KG mobile app	67
		Social distancing and virus tracking	Social distancing	Electronic resource for applying for food assistance	75
		Working and learning from home	E-learning	OKUU portal	84

Flag	Country	Category	Sub-Category	Case	Page No.
	*Lao People's Democratic Republic*	Information sharing	Covid-19 portal	Official COVID-19 website and government services	18
	*Luxembourg*	Information sharing	Covid-19 portal	COVID-19 portal	19
		E-business	-	LetzShop	56
	*Malaysia*	Information sharing	Covid-19 portal	eCOVID-19	19
		E-health	Self-assessment of health status	MySejahtera	39
		Contact tracing	Tracking and tracing	Gerak Malaysia	67
	*Malta*	Information sharing	Covid-19 portal	COVID-19 Malta	19
		E-health	Self-assessment of health status	COVID-19 symptom checker	39
		E-health	E-health services	Expeditious delivery of COVID-19 test results	46
		Working and learning from home	Telecommuting	Facilitating teleworking activities	89
	*Mauritius*	Information sharing	Providing information	Public awareness campaign on Facebook and a landing page	4
		Partnerships	-	Video conferencing solution for the Ministry of Health and Wellness	101
	*Mexico*	Information sharing	Covid-19 portal	#QuédateEnCasa (#StayAtHome)	20
		E-health	Virtual doctor	Medical teleconsultation	43
	*Monaco*	Information sharing	Covid-19 portal	Covid19.mc	20
		E-health	Supply of medical goods	"Getting protection masks for your employees" online service	48
		E-health	Remote patient monitoring	Covid19 monitoring centre	50
		E-business	-	Total temporary layoff online service	57
	*Montenegro*	E-participation	Hackathons	Coronathon	33
	*Morocco*	Working and learning from home	Telecommuting	Telework	90

Flag	Country	Category	Sub-Category	Case	Page No.
	*New Zealand*	Digital policy	Digital policy	Covid-19 response	94
	*Niger*	Information sharing	Covid-19 portal	National response plan against the COVID-19 pandemic	20
	*North Macedonia*	E-participation	Civic engagement	Easy donation of the VAT returns for COVID-19 relief	28
		E-participation	Civic engagement	Electronic procedures for donations and sponsorship for the duration of the state of emergency	29
		Contact tracing	Tracking and tracing	StopKorona! - mobile application	68
		Information sharing	Providing information	KoronaVirus MK official communication channels on COVID-19	5
		E-health	E-health services	COVID-19 screening module	46
		E-health	E-health services	Digital health services	47
		E-health	Remote patient monitoring	Home treatment and monitoring of COVID-19 patients	50
		Working and learning from home	E-learning	TV-Classroom	84
		Working and learning from home	E-learning	EDUINO - e-classroom	85
	*Oman*	Information sharing	Providing information	COVID-19 campaign using drones to urge people to stay at home	6
		E-participation	Hackathons	COVID-19 research program	34
		E-health	Remote patient monitoring	Tarassud Plus app	51
		Working and learning from home	Telecommuting	Work from home initiative	91
	*Pakistan*	Information sharing	Providing information	Efforts in Pakistan against COVID-19	6
	*Philippines*	Information sharing	Covid-19 portal	COVID-19 Health Information	21
		Contact tracing	Tracking and tracing	WeTrace app	68
		Working and learning from home	Telecommuting	Telecommuting act	90

Flag	Country	Category	Sub-Category	Case	Page No.
	*Philippines*	Digital policy	Digital inclusion	Free wifi for all	96
		Partnerships	-	FASSSTER - Feasibility analysis of syndromic surveillance	102
	*Poland*	Contact tracing	Tracking and tracing	ProteGO Safe	69
	*Portugal*	Information sharing	Covid-19 portal	Estamos ON (We're ON)	21
		Social distancing and virus tracking	Social distancing	Citizen Map	76
	*Qatar*	E-participation	Hackathons	Hack COVID-19	33
		E-health	Virtual doctor	Better Connections Virtual Consultation	43
		E-health	Virtual doctor	Health sector virtual response	43
		E-health	Remote patient monitoring	Droobi app	52
		E-business	-	E-commerce directory	57
		Social distancing and virus tracking	Social distancing	Drones	76
		Social distancing and virus tracking	Virus tracking	"Ehteraz" tracking and monitoring smart platform	78
	*Republic of Korea*	Digital policy	Digital policy	Flattening the curve on COVID-19 - How Korea responded to a pandemic using ICT	22
		Information sharing	Covid-19 portal	Efforts against COVID-19	40
		E-health	Self-assessment of health status	Self-health check app.	49
		E-health	Supply of medical goods	Transparency in the sales of protective masks	85
		Working and learning from home	E-learning	Getting ready for online education	94
	*Saudi Arabia*	Information sharing	Providing information	Tawakolna (COVID-19 KSA)	7
		Working and learning from home	E-learning	Virtual school e-Learning portal	85
		Working and learning from home	E-learning	Coronavirus online awareness	86
		Digital policy	Digital inclusion	Giving for All initiative	96

Flag	Country	Category	Sub-Category	Case	Page No.
	*Saudi Arabia*	Information sharing	Covid-19 portal	COVID-19 related portals	23
		E-participation	Civic engagement	"Move to Donate" initiative	29
		E-participation	Civic engagement	Online platform for COVID-19 volunteers	29
		E-participation	Civic engagement	Blood donation from home	30
		E-participation	Civic engagement	Waqfy portal	30
		E-participation	Hackathons	Hope hackathon	34
		E-participation	Hackathons	COVID-19 Saudi hackathon	34
		E-health	Virtual doctor	SEHA app for doctor consultations	44
		E-health	Supply of medical goods	Tamini app	49
		E-health	Remote patient monitoring	Tatman app	51
		E-business	-	Delivery program	57
		Partnerships	-	Partnership with private telecommunication companies	102
		Partnerships	-	Understanding the SARS-CoV-2 genome	102
	*Serbia*	Information sharing	Covid-19 portal	COVID-19 info	24
		E-participation	Civic engagement	Be a Volunteer	30
		Working and learning from home	E-learning	Online school	86
	*Seychelles*	Information sharing	Monitoring	Seychelles ArcGIS Hub COVID-19 response	10
		Working and learning from home	Telecommuting	Support for work from home for government officers	90
	*Singapore*	Information sharing	Providing information	Singapore's efforts against COVID-19	5
		E-participation	Civic engagement	Campaigns for vulnerable groups affected by COVID-19 on giving.sg	31
		E-participation	Civic engagement	Better.SG - Help Malaysians	31
		E-health	E-health services	FluGoWhere platform	47

Flag	Country	Category	Sub-Category	Case	Page No.
	*Singapore*	E-business	-	Covid GoBusiness portal	58
		Contact tracing	Tracking and tracing	TraceTogether	69
		Social distancing and virus tracking	Virus tracking	VigilantGantry	79
		Social distancing and virus tracking	Virus tracking	SPOTON thermal scanner	79
		Working and learning from home	E-learning	Advisory mentorship program	86
	*Slovakia*	Information sharing	Monitoring	eAlerts – free mobile application for health care workers	10
		E-health	Self-assessment of health status	Online contact form	40
	*Spain*	Information sharing	Monitoring	Digital solutions against COVID-19	11
		E-health	Self-assessment of health status	Self-assessment of symptoms of with help of chatbot	40
		E-business	-	Digital solutions against COVID-19	58
		Digital policy	Digital policy	Digital solutions against COVID-19	95
	*Switzerland*	E-participation	Civic engagement	The COVID-19 Civil Society Point of Contact platform	31
	*Togo*	Information sharing	Covid-19 portal	Togo COVID-19 portal	25
		E-business	-	Novissi - digital cash transfer program	58
	*Turkey*	Information sharing	Covid-19 portal	Case follow-up across the world and in Turkey	25
		E-participation	Hackathons	Coronathon Turkey.	35
		E-health	Supply of medical goods	Application for free masks	49
		E-business	-	Social support pre-application form	59
		Contact tracing	Tracking and tracing	Efforts against COVID-19	70
		Working and learning from home	E-learning	Distance education	87
		Partnerships	-	Tübitak – Cooperation and technology platform	103

Flag	Country	Category	Sub-Category	Case	Page No.
	*Uganda*	Information sharing	Monitoring	COVID response information system	11
	*Ukraine*	Information sharing	Providing information	Push-notifications in Diia mobile app.	7
		Contact tracing	Tracking and tracing	Diy vdoma (Take action at home)	70
	*United Arab Emirates*	E-participation	Civic engagement	Volunteering and donations to contain the impact of COVID-19	32
		E-health	Virtual doctor	"Don't worry" national campaign for mental support	44
		E-health	E-health services	1MAP for COVID screening centres and health facilities	47
		Contact tracing	Tracking and tracing	AlHosn App	71
		Social distancing and virus tracking	Social distancing	Stay at home awareness	77
		Working and learning from home	E-learning	Distance learning	87
		Working and learning from home	Telecommuting	Remote working technology initiative	91
		Digital policy	Digital policy	The Digital Month initiative	95
		Partnerships	-	The UAE virtual labour market	104
		Digital policy	Digital inclusion	Cultural activities of the Sharjah Sport Council	97
		Digital policy	Digital inclusion	Improving ICT sector	97
	*United Republic of Tanzania*	Partnerships	-	Tanzania e-Government initiative with mobile network operators	103
	*Vanuatu*	Working and learning from home	Telecommuting	Work from Home Initiative	91
	*Viet Nam*	E-health	Self-assessment of health status	NCOVI app.	41
	*Zimbabwe*	Social distancing and virus tracking	Virus tracking	Emergency operations centre and electronic monitoring system	80

The global crisis of the COVID-19 pandemic has completely altered all aspects of people's lives. Digital became the new normal and the pandemic has brought to the fore the interconnectedness of digitalization and development. It has led the world to experience a level of digital transformation that previously would have been expected to take years in a short period of time. Governments have also done their share. Digital technologies have allowed governments to provide clear, up-to-date information to the public, local authorities and health workers, while working alongside stakeholders such as platform providers to reduce the spread of misinformation, and to address cybersecurity and data privacy issues. Many countries were quick to deploy tracking and tracing apps, and apps for working and learning from home. We have experienced new tools and processes, such as dedicated COVID-19 information portals, hackathons, e-services for the supply of medical goods, virtual medical consultations, and self-diagnosis apps, among others. This Compendium highlights some of the cases shared by Member States in a response to a call for inputs from the Division for Public Institutions and Digital Government (DPIDG) of the United Nations Department of Economic and Social Affairs (UN DESA) in April/May 2020 and aims to serve as an inspiration to policy makers.

ISBN 978-92-1-104697-7