



EU - Gulf Cooperation Council (GCC) Dialogue on Economic Diversification

EU – GCC Dialogue on Economic Diversification Gulf Cooperation Council (GCC) countries

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GCC countries – E-Government Development Index 2022 rankings
and opportunities for EU-GCC collaboration

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Your contact persons within
GFA Consulting Group GmbH are

Mr. Lukas Kudlimay (Project Director)
Mr. Douglas Aitkenhead (Team Leader)
Ms. Daniela Stratulativ (International Trade and Foreign Direct Investment Expert)

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Gulf Cooperation Council (GCC) countries**

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Author:
Ms. Daniela Stratulativ, International Trade and Foreign Direct Investment Expert

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GFA Consulting Group GmbH
Eulenkrogstr. 82
D-22359 Hamburg
Phone: +49 (40) 6 03 06 170
Fax: +49 (40) 6 03 06 159
E-mail: lukas.kudlimay@gfa-group.de

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Abbreviations

CIO	chief information officer
CP	content provision (OSI subindex)
EPI	e-participation (OSI subindex)
EPI	E-Participation Index
EU	European Union
GCC	Cooperation Council for the Arab States of the Gulf
HCI	Human Capital Index
ICT	information and communications technologies
IF	institutional framework (OSI subindex)
LOSI	Local Online Services Index
OGD	open government data
OSI	Online Services Index
SDG	Sustainable Development Goal
SP	services provision (OSI subindex)
TEC	technology (OSI subindex)
TII	Telecommunications Infrastructure Index
UAE	United Arab Emirates
UN	United Nations
UN DESA	United Nations Department of Economic and Social Affairs

1 The E-Government Development Index - Role in policymaking

The United Nations E-Government Survey has been published biennially by the United Nations Department of Economic and Social Affairs (UN DESA) since 2001. The Survey assesses the e-government development status of all United Nations Member States and has, over this time, established a body of in-depth data sets and analysis.

The assessment measures the e-government performance of countries relative to one another, as opposed to being an absolute measurement. It recognizes that each country should decide upon the level and extent of its e-government initiatives in keeping with its own national development priorities and achieving the Sustainable Development Goals (SDGs). The Survey serves as a benchmarking and development tool for countries to learn from each other, identify areas of strength and challenges in e-government and shape their policies and strategies.

The Survey is intended mainly for policy makers, government officials, academia, civil society, private sector and other practitioners and experts in the areas of sustainable development, public administration, digital government and Information and Communications Technologies (ICTs) for development.

Starting in 2018, the Survey also assessed the select city portals of the UN Member States by utilising the same methodology with the introduction of the Local Online Service Index (LOSI). After covering 100 cities in 2020, the current edition analyses the progress of the most populous city in each country.

1.1 E-Government Development Index Methodology

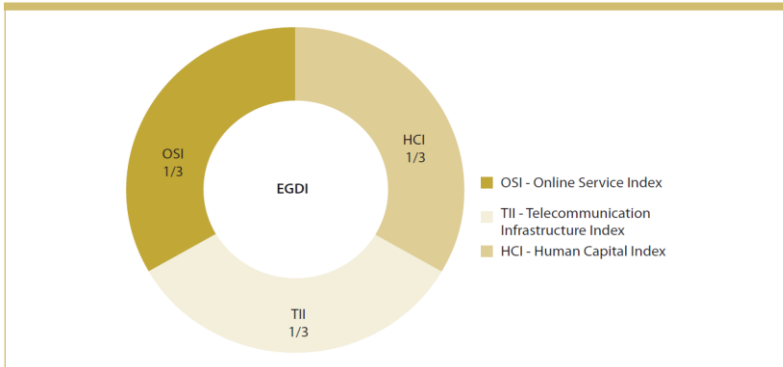
EGDI is a composite index based on the weighted average of three normalized indices, each counting for one third of the EGDI:

- Telecommunications Infrastructure Index (TII) assesses the status of the development of telecommunication infrastructure, based on data provided by the International Telecommunications Union (ITU)
- Human Capital Index (HCI) based on data mainly provided by the United Nations Educational, Scientific and Cultural Organization (UNESCO)
- Online Service Index (OSI) assesses the scope and quality of online services, based on data collected from an independent Online Service Questionnaire (OSQ), complemented by a Member State Questionnaire (MSQ). The survey questionnaire assesses a number of features related to online service delivery, including whole-of-government approaches, open government data, e-participation, multi-channel service delivery, mobile services, usage uptake and digital divides, as well as innovative partnerships through the use of ICTs.

Similarly, the Local Online Service Index (LOSI) captures the state of the development of e-government service provision for similar features at the city level.

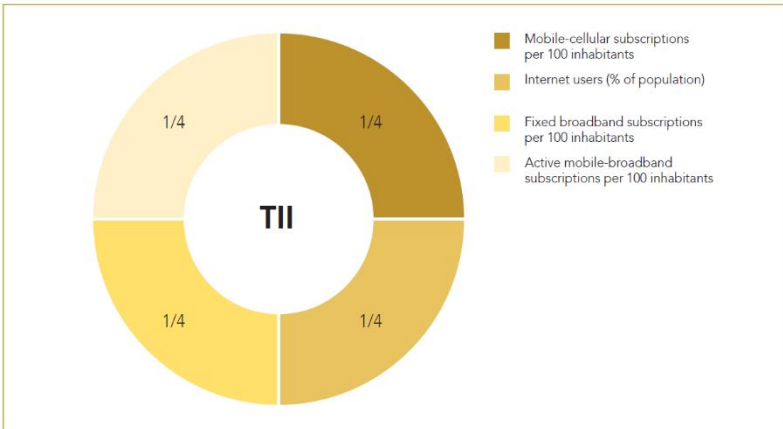
1.2 Framework of the E-Government Development Index 2022

Figure 1. The three components of the E-Government Development Index (EGDI)



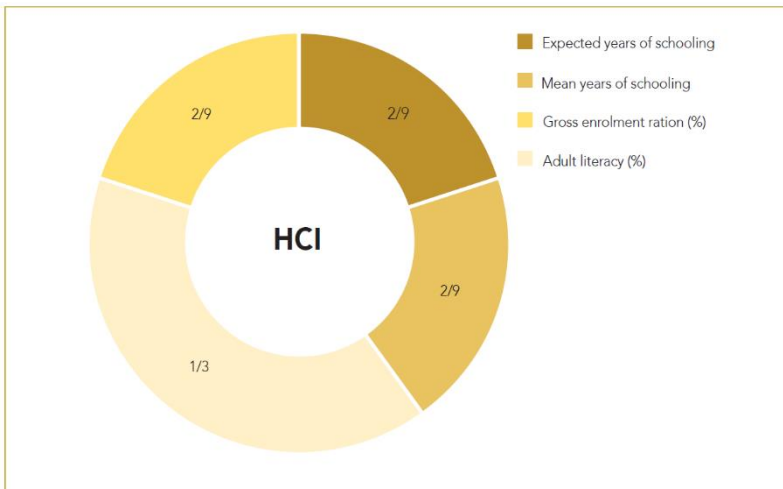
Source: UN E-Government Survey 2022 Report

Figure 2. Telecommunication Infrastructure Index (TII) and its components



Source: UN E-Government Survey 2022 Report

Figure 3. Human Capital Index (HCI) and its components



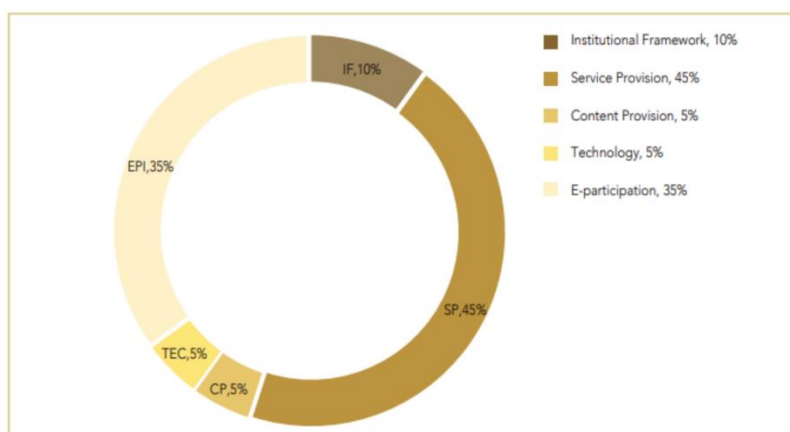
Source: UN E-Government Survey 2022 Report

The four indicators of HCI are defined as follows:

- Adult literacy is measured as the percentage of people aged 15 years and above who can, with understanding, both read and write a short simple statement on their everyday life.
- Gross enrolment ratio is the total number of students enrolled at the primary, secondary and tertiary level, regardless of age, as a percentage of the school-age population.
- Expected years of schooling is the total number of years of schooling that a child of a certain age can expect to receive in the future, assuming that the probability of his or her being in school at any specific age is equal to the current enrolment ratio age.
- Mean years of schooling (MYS) provides the average number of years of education completed by a country's adult population (25 years and older), excluding the years spent repeating grades.

The Online Services Index (OSI) allows government portals to be assessed on the basis of five criteria— institutional framework (IF), services provision (SP), content provision (CP), technology (TEC) and e-participation (EPI)

Figure 4. The Online Services Index composition



Source: UN E-Government Survey 2022 Report

Institutional framework: Among the key elements of a conducive e-government ecosystem are a legislative framework that regulates digital transformation and legal mechanisms that ensure access to public information and compliance with online privacy protocols.

The services provision subindex of the OSI: assesses a wide range of features, including the availability of various online transactional services, how government services are accessed (through one main portal or multiple dedicated portals), the existence and functionality of e-procurement platforms, the integration of GIS or geospatial data and technologies in online services provision, and the availability of sector-specific services and services for people in vulnerable situations.

Content provision subindex: The availability of government information and services in multiple languages or through multiple channels facilitates access and inclusiveness.

The technology subindex assesses whether national portals are designed according to certain criteria (e.g., can be found by search engines, utilize Hypertext Transfer Protocol Secure (HTTPS), offer “advanced search”). In 2022, for the first time, the Survey has assessed whether individuals and

businesses are able to use the national portal to access or modify any data the government has on record that pertains to them.

E-Participation: More specifically, government portals and websites have been assessed for the integration of participatory budgeting or similar mechanisms; the availability of open government data (OGD) in general and in six key sectors linked closely to SDG implementation (education employment, environment, health, justice and social protection); evidence of co-creation or co-production mechanisms for collaborative services provision; evidence that people's voices are heard in discussions and decision-making processes linked to the formulation and adoption of policies on issues relating to vulnerable populations; and evidence of online consultations (via e-forums, e-polls, e-questionnaires, or other e-participation tools) that are designed to facilitate the engagement of people in vulnerable situations.

E-Participation Framework

- E-information: Enabling participation by providing citizens with public information and access to information without or upon demand
- E-consultation: Engaging citizens in contributions to and deliberation on public policies and services
- E-decision-making: Empowering citizens through co-design of policy options and co-production of service components and delivery modalities.

A country's EPI reflects the e-participation mechanisms that are deployed by the government as compared to all other countries. The purpose of this measure is not to prescribe any specific practice, but rather to offer insight into how different countries are using online tools in promoting interaction between the government and its people, as well as among the people, for the benefit of all.

2 Key findings

The leading 15 countries include 8 from Europe, of which 6 from EU27: Denmark, Finland, Sweden, Estonia, Netherlands, Malta. The UAE is also one of the top performers in regards to E-Government, ranking 13th.

The top 15 countries are exclusively high-income countries. Higher-income countries tend to have higher EGDI values than do lower-income countries. This can be explained given the technological advancements in higher-income countries.

Denmark has the highest EGDI value globally for the third consecutive Survey. Malta is the only country in Southern Europe joining this subgroup in 2022, having improved in all three subindices (OSI, TII and HCI) by an average of 4.6 per cent since 2020. The most significant increases in subindex values were achieved by Sweden (a 10 per cent increase for the OSI), the Netherlands (a 4.4 per cent increase for the TII), and the United Arab Emirates (a 19 per cent increase for the HCI).

The top 15 countries have built the capacity to create products and develop platforms; guided by strategic digital policies, they have established a core infrastructure of shared digital systems, technologies, processes and organizational models that have provided a strong but flexible framework for the development and delivery of data-driven user-centric government services.

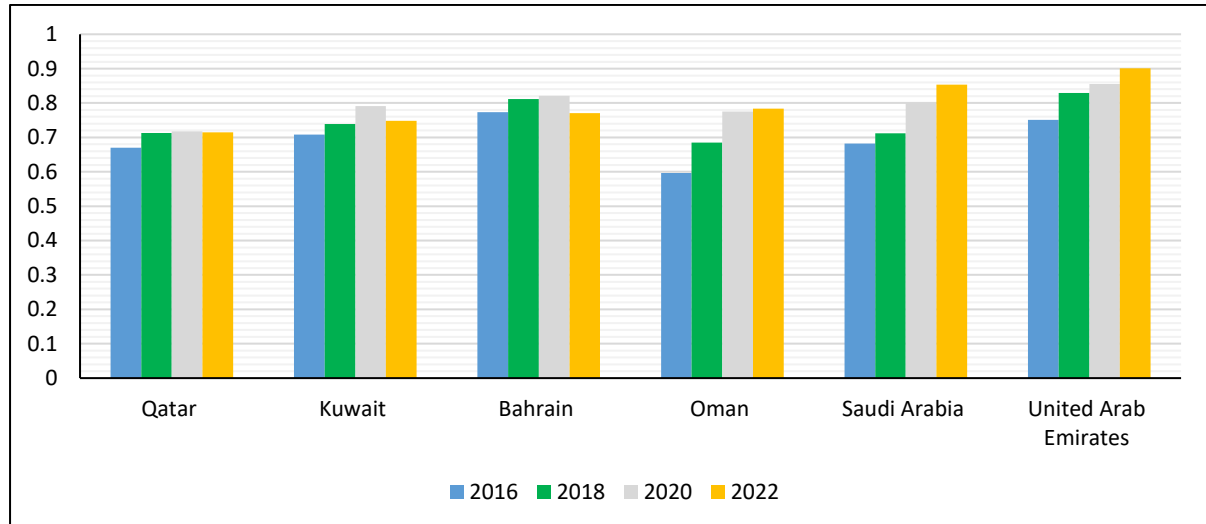
For these countries, the whole-of-government approach has been strongly institutionalized through a central body such as a department, ministry or agency led by a high-ranking government officer—such as a national chief information officer (CIO) or chief digital technology officer—that is in charge of a multi-year digital agenda and reports to the cabinet of the president or the prime minister. This central body contributes to policy formulation and coordinates policy implementation for the Government and has wide-ranging responsibilities relating to digital services for e-government applications, data science and artificial intelligence, traditional and cloud infrastructure, cybersecurity, the Internet of things, and much more. The leading Governments engage in policy, regulatory and technology experimentation and sandboxing to test, develop and adapt cutting-edge technologies for use in e-services provision and smart city development.

The leading countries have specialized legislation or regulations pertaining to digital procurement, digital identity and digital signatures; the legal framework also addresses data sharing, interoperability across public agencies, and access to information such as government expenditures. All of the countries have pending or active strategic initiatives to promote the use of emerging technologies in e-government.

3 E-Government Development Index 2022 ranking comparison across GCC countries

The E-Government Development Index scores range from 0 to 1, with 1 indicating the best performance.

Figure 5. GCC countries E-Government Development Index, 2016-2022



Source: Author's analysis based on UN E-Government data

Highlighted in green in Table 1 are the highest rankings across GCC countries.

Table 1. E-Government Development Index 2022 and its components in the GCC and EU27, 2022

	Bahrain	Kuwait	Oman	Qatar	Saudi Arabia	United Arab Emirates	EU27
E-Government Index	0.7707	0.7484	0.7834	0.7149	0.8539	0.901	0.8625
E-Participation Index	0.4432	0.5455	0.6591	0.375	0.6932	0.7841	0.7151
Online Service Index	0.7523	0.6973	0.7423	0.6094	0.822	0.9014	0.8231
Human Capital Index	0.8154	0.7706	0.8067	0.715	0.8662	0.8711	0.9018
Telecommunication Infrastructure Index	0.7444	0.7774	0.8012	0.8203	0.8735	0.9306	0.8625

Source: Author's analysis and calculations based on UN E-Government data

Table 2. GCC E-Government Development Index 2022 rankings

Country	E-Government Development Index 2022 Rank
United Arab Emirates	13
Saudi Arabia	31
Oman	50
Bahrain	54
Kuwait	61
Qatar	78

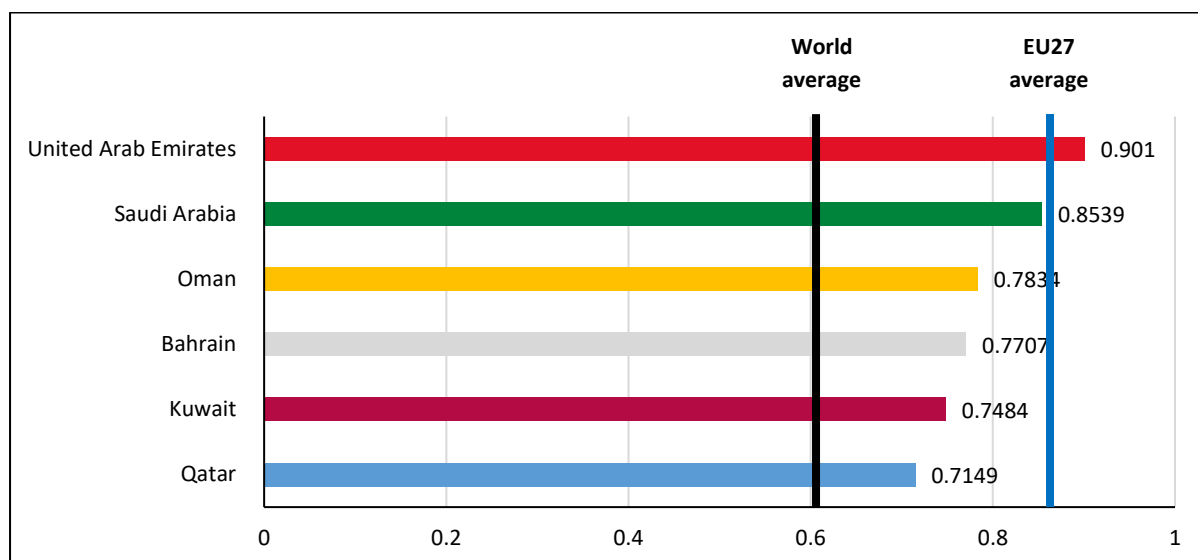
Source: UN E-Government data

Note: countries are listed from highest rank (best performer) to lowest.

GCC countries scores, world and EU27 average

World EGDI average is 0.6102, while the EU27 average is 0.8625, highest than the EGDI value of most of the GCC countries, with the exception of UAE.

Figure 6. E-Government Development Index 2022 – GCC, world and EU27



Source: Author's analysis and calculations based on UN E-Government data

3.1 Telecommunication Infrastructure Index (TII)

Table 3. GCC countries Telecommunication Infrastructure Index and sub-components scores

Country	Telecommunication Infrastructure Index (TII)	Mobile cellular telephone subscriptions per 100 inhabitants	Percentage of Individuals using the Internet	Fixed (wired) broadband subscriptions per 100 inhabitants	Active mobile broadband subscriptions per 100 inhabitants
United Arab Emirates	0.9306	120	100	32.81	120
Saudi Arabia	0.8735	120	97.86	22.66	118.86
Qatar	0.8203	120	99.65	10.28	120
Oman	0.8012	120	95.23	10.85	114.85
Kuwait	0.7774	120	99.11	1.73	120
Bahrain	0.7444	102.77	99.67	8.75	109.38

Source: Analysis based on UN E-Government data

3.2 Human Capital Index (HCI)

Table 4. GCC countries Human Capital Index and sub-components scores, 2022

Country	Human Capital Index (HCI)	Adult Literacy (%)	Gross Enrollment Ratio	Expected Year of Schooling	Mean Year of Schooling
United Arab Emirates	0.8711	97.56	90.53	15.72	12.1
Saudi Arabia	0.8662	97.59	96.81	16.14	10.2
Bahrain	0.8154	90.98	91.19	16.3	9.5
Oman	0.8067	95.65	89.57	14.57	9.7
Kuwait	0.7706	96.46	88.11	14.69	7.3
Qatar	0.7150	93.46	70.56	12.64	9.7

Source: Analysis based on UN E-Government data

3.3 Online Services Index (OSI)

The OSI scores and its components (institutional framework (IF), services provision (SP), content provision (CP), technology (TEC) and e-participation (EPI)) for each GCC country are provided in Table 5.

Table 5. GCC countries Online Services Index and sub-components scores, 2022

Country	OSI 2022	IF	CP	SP	EPI	TEC
United Arab Emirates	0.9014	1	1	0.9067	0.7841	0.9412
Saudi Arabia	0.8220	0.9615	1	0.8133	0.6932	0.9412
Bahrain	0.7523	1	0.9	0.8933	0.4432	0.6471
Oman	0.7423	1	1	0.6667	0.6591	0.8235
Kuwait	0.6973	1	0.8	0.6800	0.5455	0.8235
Qatar	0.6094	0	0.7	0.6533	0.3750	0.6471

Source: Analysis based on UN E-Government data

3.4 E-Participation Index (EPI)

Table 6. GCC countries E-Participation Index and sub-components scores, 2022

Country	Rank	EPI Value	E-information	E-consultation	E-decisionmaking
United Arab Emirates	18	0.7541	0.9091	0.5000	0.60
Saudi Arabia	43	0.6932	0.9273	0.5000	0.15
Oman	50	0.6591	0.6909	0.5000	0.65
Kuwait	67	0.5455	0.6909	0.4286	0.20
Bahrain	89	0.4432	0.6000	0.3571	0.05
Qatar	101	0.3750	0.5273	0.2857	0

Source: Analysis based on UN E-Government data

3.5 Local Online Services Index (LOSI)

The 2022 LOSI comprises 86 indicators relating to 5 criteria: institutional framework, content provision, services provision, participation and engagement, and technology.

- Institutional framework indicators covered the strategy at city level, the organizational structure, presence of portal authentication, information on legislation on access to information, data privacy, open data and security.
- Content Provision refers to the availability and quality of basic information for the residents, not only related to the municipality, but also to other core areas for societies at large (namely Open Data, smart cities initiatives and use of emerging technologies).
- Services Provision assesses a set of fundamental services made available by cities through their websites with emphasis on the delivery of fundamental electronic services.
- Participation and Engagement indicator assesses the existence of relevant online participation mechanisms and initiatives, the availability of social media and the possibility to send comments/suggestions/complaints to the local government, as well as more sophisticated participatory initiatives, such as participatory budget, engagement in online deliberations regarding public policies and services, and empowerment through co-designing of policy options and coproduction of service components and delivery modalities.
- Technology criterion focuses on technical features of the websites with the aim of verifying how the website is made available for users.

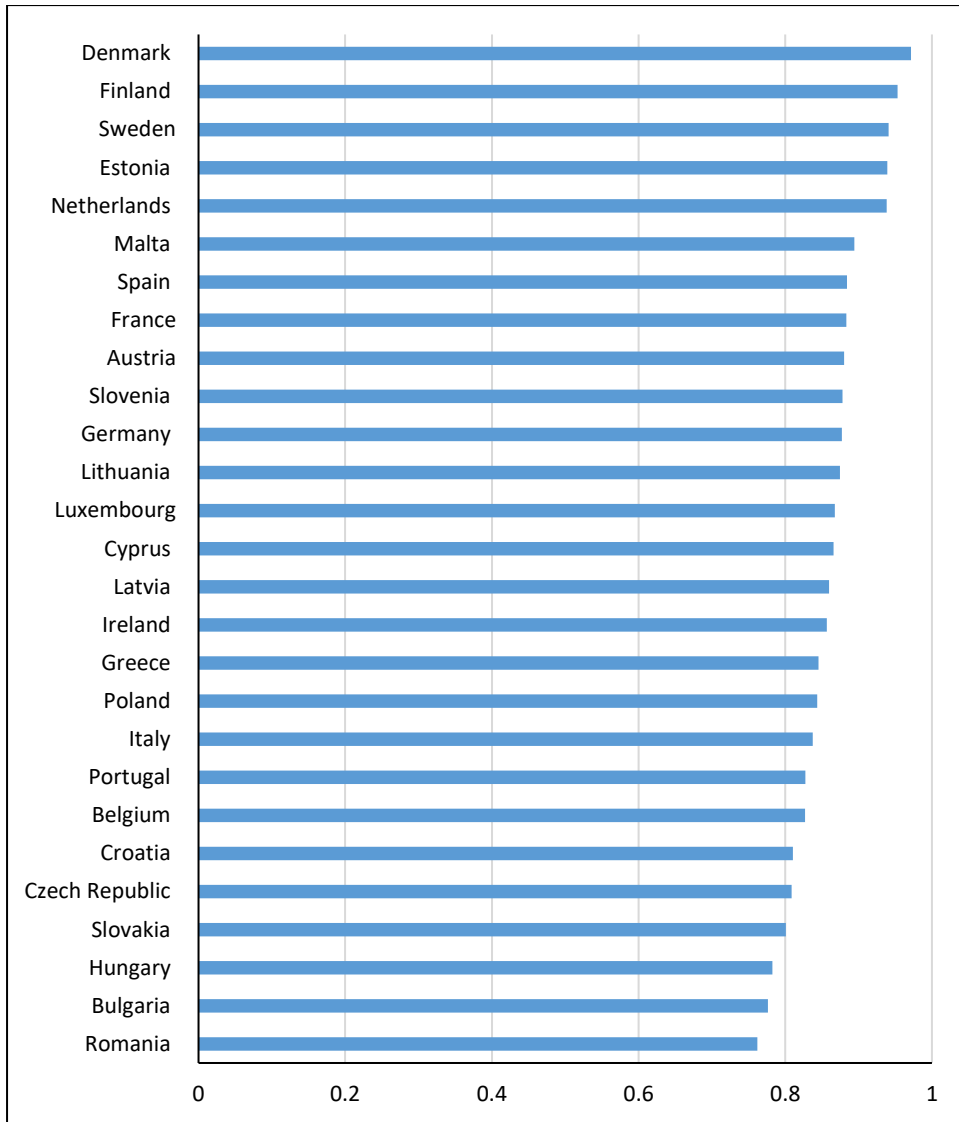
Table 7. GCC cities assessed according to Local Online Services Index criteria, 2022

City	Country	LOSI Rank	LOSI value
Dubai	United Arab Emirates	5	0.9186
Manama	Bahrain	25	0.814
Riyadh	Saudi Arabia	34	0.7558
Muscat	Oman	71	0.5233
Kuwait City	Kuwait	103	0.3256

Source: UN E-Government Survey 2022 Report

3.6 EU 27 E-Government Development Index

Figure 7. EU Member States E-Government Development Index 2022



Source: Author's analysis based on UN E-Government data

4 Key areas where EU can support the GCC economic diversification processes

As part of the Asia region, the GCC countries share similarities in their e-government development. All of these countries have highly developed telecommunications infrastructure (the average TII for this group is 0.8246). Most also have relatively high OSI and HCI values, though strengthening investment in online services provision could help propel Qatar and Kuwait into the very high EGDI group. Qatar should also consider investing more in human capital development, and Bahrain would likely benefit from further investment in infrastructure.

The United Arab Emirates has joined the very high rating class of the very high EGDI group for the first time and is among the global leaders in e-government development. The country is ranked fourth worldwide in investment in telecommunications services and in the digital adaptation of its legal framework. Among other initiatives, 525 of the country's 589 schools have participated in a self-evaluation process that will lead to their eventual conversion to smart schools. Public administration has also undergone digitalization and simplification processes. At present, the Government provides 500 online services, many of which have been streamlined and made faster and easier for public institutions and users.

Following are the areas identified based on analysis of E-Government Development Index data where the EU27 MS can assist the GCC countries in improving their performance in digital government.

Table 8. Areas where the EU27 MS can support the GCC countries in digital government

	Online services	E-Participation (e-information, e-consultation, e-decisionmaking)	Human Capital
Bahrain	Technology, services provision		Adult literacy Mean years of schooling
Kuwait	Services provision	E-decisionmaking, e-consultation, e-information.	Gross Enrollment Ratio Mean years of schooling
Oman	Technology, services provision	E-decisionmaking, e-consultation, e-information.	Adult literacy Mean years of schooling
Qatar	Content provision, services provision, e-participation, technology	E-decisionmaking, e-consultation, e-information.	Adult literacy and Gross Enrollment Ratio Mean years of schooling
Saudi Arabia	Services provision, e-participation		Mean years of schooling
United Arab Emirates			Gross Enrollment Ratio

Source: Author's recommendations based on analysis of the UN E-Government data

5 Next steps

The EU-GCC Dialogue on Economic Diversification Project will follow up on the recommendations above with the European Commission, the EU27 Member States and the project stakeholders to assist them in leveraging these opportunities to contribute to the GCC economic diversification process and to improve the business environment in the GCC countries, which would increase the trade and investment opportunities between EU and GCC countries.

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