**Annex 3. Inputs received from GCYE Arab States Region**

Arab youth preparation for the WTDC-25

Final Report

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| **List of Teams** | | |
| **No.** | **Name** | **Topic** |
| **1** | Khalil Gaha | Addressing Youth Digital Literacy and Inclusion |
| Zomurud Alhamdani |
| **2** | Haneen Abdullah | E-waste management |
| Taher Ali |
| Sami Saad |
| Masarah Hussein |
| Yaffa Jaradat |
| **3** | Hosam Shawaqfeh | Youth Unemployment |
| Nada Bennouri |
| Nusseibah Adan |
| Amr Said |
| Mareim Landlossi |
| **4** | Faisal AlBenJasim | Cybersecurity |
| Said Mohammad |
| Sultan Alhaddad |
| **5** | UAE Youth Envoys | Bridging the Digital Gender Divide |
| **6** | Mahasen Moudallali | Space Technology & Sustainable Development |

**Team Number:** 1

**Title:** Addressing Youth Digital Literacy and Inclusion: Challenges and Solutions

Annex 1. Inputs from GCYE-ARB to the Global Youth Summit 2025

**Team Members:** Khalil Gaha & Zumurod

### Introduction:

Despite widespread engagement with digital tools, 43% of young people worldwide report only moderate digital literacy, with significant disparities in skills and access across socioeconomic and geographic lines. In Germany, over 20% of students struggled with online learning during the pandemic due to limited device and internet access. Similarly, rural youth and ethnic minorities in Southeast Asia consistently report lower digital competency than their urban counterparts, highlighting the need for targeted digital literacy programs. Closing these divides is crucial for ensuring that all young people can thrive in today’s technology-driven world.

### Key Challenges in Digital Inclusion for Youth:

#### Challenge 1: Ethical Dilemmas in Emerging Technologies

The rapid adoption of technologies such as artificial intelligence (AI), blockchain, and cloud computing presents significant ethical challenges, particularly concerning data privacy and algorithmic bias. Surveys indicate that 64% of youth are concerned about data privacy and feel unprepared to manage their online information securely. High engagement with AI-driven social media platforms, where algorithmic biases may perpetuate inequality, exacerbates these issues. For example, facial recognition technologies demonstrate a 34% higher error rate in identifying people of color, raising serious concerns about discrimination against minorities.

Young people, as primary users of these technologies, often lack sufficient training to navigate these ethical complexities, facing increased risks of unintentional exposure to discrimination and loss of personal privacy. Over 70% of teens report discomfort with data collection practices, highlighting a pressing need for improved digital literacy on ethics and privacy. Without a robust ethical framework, the expanding use of these technologies risks eroding public trust—56% of consumers, especially youth, cite privacy concerns as a barrier to trusting tech companies.

#### Challenge 2: Limited Digital Education in Traditional Systems

Traditional education systems often lack curricula focused on emerging technologies such as coding, data literacy, and artificial intelligence, leaving students underprepared for the digital demands of today’s workforce. In the United States, 87% of parents view digital skills as essential, yet only about half of schools effectively support digital readiness, with significant gaps in coding and data analytics training (Pew Research Center). Globally, only 30% of educational institutions in Europe offer comprehensive digital education resources. Meanwhile, over 70% of employers prioritize candidates with digital skills, emphasizing the urgent need for schools to align with industry demands (Statista; World Economic Forum).

**Proposed Solutions:**

* Educational programs should integrate training on responsible technology use, emphasizing data privacy, algorithmic fairness, and the societal impacts of emerging technologies. Encouragingly, 80% of students express interest in learning about these areas, indicating youth’s readiness to engage responsibly with technology. Organizations should establish clear ethical guidelines and conduct regular audits to address potential biases and privacy issues. Collaboration among technologists, educators, and policymakers is essential to equip young people with the skills needed to navigate the ethical landscape of digital innovation. By promoting transparency and accountability, we can foster a culture of ethical innovation that protects user rights and builds public trust.
* To bridge gaps, partnerships among educational institutions, tech companies, and government agencies can enhance digital resources and provide real-world learning experiences. Integrating workshops, online resources, and mentorship programs into school curricula would offer students hands-on experience in areas like AI and data science. Initiatives such as tech clubs and community-based hackathons can foster collaborative learning environments, while tech-awareness workshops for parents create a supportive ecosystem. This comprehensive approach will help equip students with essential digital skills, enhancing their career prospects in the digital age.

### Conclusion

The youth are a vital force for innovation, bringing fresh perspectives, creativity, and adaptability to an increasingly digital world. Empowered with emerging technologies, they have the potential to drive industry transformation, address global challenges, and build a responsible, sustainable future. By providing young people with strong ethical frameworks and technical skills, we can harness their potential to create solutions that not only enhance productivity but also promote social responsibility. Supporting and empowering youth is essential as we navigate the complexities of technological advancement, ensuring they are well-prepared to lead and contribute to a more equitable and inclusive digital future.

**Team Number:** 2

**Title:** E-Waste Management In The Arab Region

**Team Members:** Haneen Mohammed Yassin Abdullah, Masarah Ahmedhussain, Taher Mustafa, Sami Saad, Yaffa Jaradat

#### Introduction

E-waste, or electronic waste, is one of the fastest-growing waste streams worldwide, with an estimated 53.6 million metric tons generated in 2019 alone. In our region, the challenge is intensified by the widespread use of electronic devices—over 70% of households own at least one smartphone—and a general lack of awareness about proper disposal methods. Improper disposal of e-waste poses significant health and environmental risks, underscoring the urgent need for effective management strategies.

### Key Issues in E-Waste Management

#### 1. Increasing E-Waste Generation

* **Observation:** The regional growth rate of electronic device usage is alarming, with a projected annual increase of 10%.
* **Impact:** The proliferation of devices results in escalating e-waste, overwhelming existing disposal systems and heightening environmental risks.

#### 2. Lack of Public Awareness

* **Observation:** Surveys indicate that over 60% of the population is unaware of the hazards associated with e-waste.
* **Impact:** This lack of awareness impedes responsible disposal and recycling, hindering effective e-waste management efforts.

#### 3. Inadequate Infrastructure for E-Waste Disposal

* **Observation:** Only 20% of e-waste in the region is collected and recycled properly, as reported by recent research.
* **Impact:** The absence of adequate infrastructure limits consumers’ ability to dispose of e-waste responsibly, often leading to illegal dumping practices.

#### 4. Weak Regulatory Framework

* **Observation:** Existing e-waste management laws are outdated and lack sufficient enforcement mechanisms.
* **Impact:** Insufficient regulations allow improper disposal practices to persist, exacerbating environmental damage.

#### 5. Health and Environmental Risks

* **Observation:** Improper e-waste disposal leads to soil and water contamination, with over 30% of residents near e-waste dumps reporting health issues.
* **Impact:** The toxic substances in e-waste present severe health risks, particularly affecting vulnerable populations.

### Proposed Solutions to E-Waste Management Challenges

#### 1. Public Awareness Campaigns

* **Action:** Launch educational initiatives to inform the public about e-waste hazards and available recycling options, using social media platforms and community workshops.
* **Expected Outcome:** Greater public awareness will promote responsible disposal practices and community engagement in e-waste management.

#### 2. Development of E-Waste Collection Centers

* **Action:** Establish dedicated e-waste collection centers in both urban and rural areas through partnerships with local governments and NGOs.
* **Expected Outcome:** Improved access to collection centers will facilitate responsible disposal and recycling, helping to reduce illegal dumping.

#### 3. Strengthening of E-Waste Regulations

* **Action:** Advocate for updated and more stringent e-waste management laws with enforcement mechanisms, working closely with policymakers to revise current legislation.
* **Expected Outcome:** A strengthened regulatory framework will help deter illegal dumping and support sustainable recycling practices.

#### 4. Collaboration with the Private Sector

* **Action:** Partner with companies specializing in e-waste recycling to develop sustainable solutions, including take-back programs for consumers.
* **Expected Outcome:** Engaging the private sector will enhance recycling efficiency and technology, driving improvements in e-waste management.

#### 5. Promotion of a Circular Economy

* **Action:** Encourage initiatives that support reuse and refurbishment, such as repair cafés and buy-back programs, to extend device lifecycles.
* **Expected Outcome:** Promoting the circular economy will reduce e-waste generation and foster sustainable consumption.

### Conclusion

Effective e-waste management in our region requires a multifaceted approach that incorporates public education, infrastructure development, regulatory reform, and stakeholder engagement. By implementing these solutions, we can mitigate the harmful effects of e-waste and promote a healthier environment. We call upon all stakeholders—governments, businesses, and the public—to take immediate, collective action to address this pressing issue.

**Team Number:** 3

**Title:** Youth Unemployment in the Arab World and Economic Challenges

**Team Members:** Hosam Shawaqfeh, Nada Bennouri, Nusseibah Adan, Amr Said, Mareim Landlossi

**Introduction:**

Youth unemployment in the Arab world poses significant economic and social challenges, with a critical need for targeted action to stabilize the region and ensure sustainable development. Addressing youth unemployment requires an integrated approach aligned with the International Telecommunication Union’s (ITU) vision of fostering inclusive economic growth through digital and skill-based development. This report provides a comprehensive analysis of the current landscape, identifies key obstacles, and presents solutions to bridge the employment gap for Arab youth.

**Youth Unemployment and Economic Impact:**

Youth unemployment in the Arab region is among the highest globally, with rates exceeding 25% in most countries and over 40% for young women, according to 2023 World Bank and International Labour Organization data. The COVID-19 pandemic exacerbated these challenges, with sectors such as tourism and retail, which traditionally employ young people, experiencing prolonged downturns. The economic consequences of high youth unemployment are severe, curbing GDP growth potential by an estimated 2% annually, while socially, high unemployment contributes to instability, mental health issues, and diminished trust in local governance.

**Key Challenges in Youth Employment:**

1. **Skills Gap and Market Demand Mismatch:** Many Arab education systems emphasize theoretical knowledge over practical skills, leaving graduates unprepared for workforce demands. A 2023 UNESCO report indicates only 20% of young people in the region engage in vocational training, contributing to a shortage of job-ready skills.
2. **Economic and Political Instability:** Political unrest in countries like Yemen and Syria has severely restricted job creation and foreign investment, resulting in limited employment opportunities for young people, who increasingly seek work abroad.
3. **Reliance on Public Sector Employment:** Historically, many Arab nations relied on the public sector as a primary employer. However, public sector hiring has slowed, while the private sector remains underdeveloped, especially in rural areas, exacerbating job shortages.
4. **Social and Cultural Constraints:** In some Arab countries, cultural norms restrict young women’s workforce participation. Although reforms are improving women’s access to employment in countries like Saudi Arabia and Jordan, progress remains slow, and women continue to face significant employment barriers.
5. **Digital Literacy and Limited Digital Infrastructure:** With the global economy increasingly reliant on digital skills, many young Arabs lack access to adequate digital training. An ITU study showed only 15% of youth in some Arab countries participate in digital skills programs, impeding their ability to compete in a technology-driven job market.

**Proposed Solutions for Reducing Youth Unemployment:**

1. **Expand Vocational and Technical Training Programs:** Aligning education with labor market needs can bridge the skills gap. The UAE and Egypt have launched successful vocational programs in collaboration with the private sector to equip youth with practical skills. Further regional partnerships are essential to scale these initiatives and integrate training in fields such as AI, data analysis, and cybersecurity.
2. **Promote Entrepreneurship and Self-Employment:** Supporting youth-led startups through national programs can create jobs and foster innovation. The UAE’s "Khalifa Program" and Jordan’s "Start-up Support Program" are notable models that provide financial aid and mentorship to young entrepreneurs. Expanding these initiatives across the region could enable more youth to pursue self-employment and contribute to economic growth.
3. **Strengthen Public-Private Partnerships:** Public-private collaboration can enhance job readiness. Programs like Saudi Arabia’s "Vision 2030" aim to increase youth employability by aligning training with industry needs. Expanding such partnerships can support training in high-demand sectors and facilitate employment pipelines.
4. **Increase Digital Education and Technology Access:** Digital skills are critical in today’s economy. Governments, with ITU support, should prioritize digital literacy through accessible online courses, in-school tech programs, and mobile training in underserved areas. Fostering partnerships with technology companies could also expand access to the internet and devices, particularly in rural regions.

**Role of Youth Envoys in Implementation:**

1. **Advocacy and Awareness:** ITU youth envoys can raise awareness about youth unemployment through campaigns that share resources, highlight success stories, and engage communities on potential solutions.
2. **Building Strategic Partnerships:** Collaborating with educational institutions, technology firms, and local governments, youth envoys can support programs tailored to market needs and ensure that young people gain skills in digital and remote work.
3. **Promoting Digital Literacy and Remote Work Access:** By advocating for digital literacy initiatives, youth envoys can promote remote work opportunities and bridge the employment divide in underserved areas, allowing more youth to access global job markets.
4. **Hosting Youth Dialogues and Skill-Building Workshops:** Organizing forums for youth to voice their challenges and discuss employment solutions with policymakers can foster more responsive and inclusive policies.

**Future Focus Areas for ITU:**

1. **Digital Entrepreneurship:** ITU can support young people in launching tech startups by providing resources, mentorship, and funding specifically tailored to digital enterprises.
2. **Expanding Remote Work Opportunities:** By promoting policies that encourage remote work, ITU can support marginalized communities and enhance infrastructure for digital connectivity, allowing for wider participation in the global economy.
3. **Fostering Green and Cybersecurity Jobs:** ITU can develop programs targeting sustainable and cybersecurity careers, preparing Arab youth for emerging sectors that address both economic and security needs.

**Conclusion**

Addressing youth unemployment in the Arab world requires coordinated action across governments, the private sector, and international organizations like the ITU. By advancing digital skills, promoting vocational training, and encouraging entrepreneurship, the region can create an ecosystem that supports youth employment and economic resilience. Equipping young people with relevant skills and fostering a culture of innovation are essential to building a sustainable future that benefits the Arab region and strengthens its global economic position.

**Team Number:** 4

**Title:** Enhancing Cybersecurity Awareness for Youth in Education and Socio-Economic

Development

**Team Members:** Faisal AlBenJasim, Said Mohammad, Sultan Alhaddad

**Introduction:**

The Arab region, with its varying levels of digital adoption, is undergoing a substantial digital transformation. Spanning from the bustling markets of Morocco to the historic landmarks of Egypt, Jordan, Iraq, and Syria, and including the thriving Gulf nations such as the UAE, Saudi Arabia, Bahrain, Oman, Kuwait, and Qatar, this shift toward interconnectedness through technology offers opportunities and challenges, particularly concerning cybersecurity. With digital systems and networks becoming essential to communication, commerce, and governance, the urgency of securing these assets against cyber threats has increased significantly.

The digital shift in the Arab region is marked by internet penetration rates exceeding 90% in many countries. This revolution notably affects youth, who lead in technology adoption but also face heightened cybersecurity risks. Many young users, especially children, navigate the internet without adequate supervision, leaving them vulnerable to online threats. ICT access among youth varies widely; while Gulf countries report high levels of access, with 70% of children aged 8 to 18 owning internet-enabled devices (UNICEF, 2021), other areas face limitations due to infrastructure and socio-economic or political barriers, amplifying the digital divide between urban and rural settings.

Youth in the Arab region increasingly utilize ICTs for education, especially post-pandemic e-learning growth, and actively engage with platforms like Instagram, TikTok, and YouTube. Many young people also explore entrepreneurship and the gig economy. However, gaps persist in critical cybersecurity knowledge, data privacy, and online safety skills, underscoring a pressing need for digital education programs.

The Arab region's cybersecurity landscape presents complex challenges. Cybercrime threatens regional digital infrastructure and economic stability, and gaps in digital literacy highlight the need for awareness initiatives that empower self-protection online. Bridging this digital divide and fostering cybersecurity consciousness are essential for a secure digital society.

**Importance of cybersecurity awareness:**

This is a Critical Issue Enhancing cybersecurity awareness for youth in the Arab region is crucial for both individual safety and societal stability. The financial impact of cybercrime emphasizes this urgency, with global costs predicted to reach $10.5 trillion annually by 2025 (Cybersecurity Ventures, 2020). This economic burden is particularly pronounced in the Middle East, where the average data breach costs $6.93 million—significantly above the global average of $4.24 million (IBM Security, 2021). Educating youth on cybersecurity could help reduce these immense losses. Noting that the youth are particularly vulnerable to cyber threats, including cyberbullying, scams, and inappropriate content, due to limited digital experience. For example, 70% of children aged 8 to 18 in Gulf countries own internet-enabled devices, often without sufficient online safety guidance.

Moreover, high internet penetration rates in the Arab region, especially in Kuwait, UAE, and Qatar, have bolstered socio-economic development but also increased vulnerability to cybercrime, which occurs at nearly twice the global rate in the Middle East. Losses from cyberattacks range from $5 million to $100 million. Despite the cybersecurity readiness of some countries, such as Oman, Saudi Arabia, Egypt, and Qatar, gaps in ICT security measures, geopolitical tensions, rapid digitization, and inconsistent regulations add to the region's susceptibility to cyber threats, underscoring the need for robust cybersecurity frameworks.

Countries like Bahrain are facing increased cybersecurity threats as employees return to office settings, with a need to address outdated systems and enhance employee training. The scarcity of skilled cybersecurity professionals in Bahrain exacerbates these risks. Bahrain’s national cybersecurity strategy aims to bolster awareness, especially for young people and critical industries like FinTech.

Cybersecurity awareness also has implications for national security and workforce preparedness. Educating youth fosters a more cyber-resilient society, which is crucial as digital technologies dominate various economic sectors. This is especially relevant in Saudi Arabia, where 60% of the population is under 30, yet there is a gap in cybersecurity knowledge (Saudi General Authority for Statistics, 2022).

Lastly, cybersecurity awareness enhances socio-economic development. Educating youth on digital safety reduces their vulnerability to cybercrime and builds valuable digital skills, promoting a stable and prosperous society. Investment in cybersecurity awareness is, therefore, an investment in sustainable development for a digital future.

**Proposed Solutions:**

1. **Awareness Campaigns:**

* The ITU could launch social media campaigns on platforms like Instagram, TikTok, and YouTube to promote cybersecurity among GCC youth, with engaging content on safe practices, cyberbullying, phishing, and data privacy.
* Establish a network of trained youth ambassadors who can serve as community resources for cybersecurity awareness.
* Launch campaigns across media channels to target youth, parents, and educators, focusing on safe online practices, recognizing cyber threats, and cultivating a cybersecurity culture.

1. **Comprehensive Cybersecurity Curriculum Integration:**

* Develop and implement a standardized cybersecurity curriculum across educational levels, covering online safety, data protection, and ethical online behavior.

1. **Public-Private Partnerships for Skill Development:**

* Partner educational institutions, government agencies, private sector companies, and ministries of education to create training programs, workshops, and internships for hands-on cybersecurity experience.

1. **Reward Systems and Gamification:**

* Use gamification, such as interactive games and challenges, to make cybersecurity education engaging.
* Introduce point-based systems for certificates, badges, or scholarships and organize "Cyber Challenge" competitions.

**Conclusion:**

Prioritizing cybersecurity awareness aims to develop a generation of digitally empowered youth who can navigate cyberspace securely. This aligns with ITU's strategic goals and underscores cybersecurity's role in digital transformation. Investing in youth cybersecurity education is foundational for sustainable development in an increasingly digital world.

**Team Number:** 5

**Title:** Bridging the Digital Gender Divide: Empowering Women through Equitable Internet Access and Remote Work Opportunities

**Team Members:** UAE Youth Envoys

**Introduction:**

In today’s digital era, internet access is a critical enabler of economic growth, social inclusion, and gender equality. However, a substantial gender gap in internet accessibility persists globally, limiting many women from reaching their full potential in the digital economy. The International Telecommunication Union (ITU) reports that in 2023, approximately 70% of men worldwide had internet access compared to only 65% of women, resulting in 244 million more male than female users. This disparity is even more pronounced in Least Developed Countries (LDCs), where only 20% of women are online compared to 34% of men. In Africa, only 32% of women use the internet compared to 42% of men, while in the Arab States, 64% of women are online versus 74% of men. These statistics underscore the urgent need for inclusive digital policies and programs to bridge this divide and create equitable opportunities for women in the digital age.

In LDCs, affordability remains a key barrier, with mobile data access costing around 8.6% of an individual’s income, compared to a global average of less than 1.3%. Such high costs further exacerbate the digital divide and hinder efforts to achieve gender parity in digital access.

### The Socio-Economic Impact of Digital Exclusion on Women:

### Limited internet access affects women’s lives in profound ways, influencing their economic participation, career advancement, and ability to access crucial information and digital services—particularly in regions such as Least Developed Countries (LDCs) and the GCC. Digital exclusion not only prevents women from engaging in remote work and acquiring digital skills but also limits their access to essential financial and healthcare resources, ultimately hindering broader socio-economic development. Bridging this digital gender divide is essential for meeting sustainable development goals, especially those focused on gender equality and economic empowerment.

### Proposed Solutions:

1. **Expanding Remote Work Opportunities for Women**: Governments and private sectors, particularly in GCC countries and LDCs, can implement dedicated remote work initiatives for women. These programs should include flexible, part-time roles suited for mobile devices and low-bandwidth connections, enabling women to work from home even with limited internet infrastructure. Additionally, establishing mentorship and networking programs for women in remote work settings can promote long-term career growth and sustained digital engagement.
2. **Internet Access Subsidies and Public-Private Partnerships**: To make internet access more affordable and accessible, collaboration between government agencies and corporations is essential. Subsidizing internet costs for women in underserved regions through mobile data subsidies, discounted broadband services, and low-cost digital devices would improve digital inclusivity. Public-private partnerships, with the involvement of telecom providers and international organizations, can be instrumental in expanding digital infrastructure and reducing connectivity costs for marginalized women.
3. **Digital Literacy and Empowerment Hubs**: Setting up digital literacy hubs—both physical and virtual—in local communities can provide training in essential digital skills, online safety, financial literacy, and e-commerce. These hubs are particularly valuable in rural areas, where internet access and digital skill-building opportunities are scarce. Peer-led workshops and community support groups can foster a localized digital ecosystem that empowers women.
4. **Access to Telehealth and E-Government Services**: Digital access is vital not only for employment but also for essential services like healthcare and government resources. Expanding telehealth services in underserved areas can improve women’s access to healthcare, while e-government portals can streamline access to critical services, including social security, financial aid, and legal assistance. Providing digital access points in rural or underserved areas can help governments ensure that more women benefit from these essential online services.

### Conclusion

Closing the digital gender divide is essential for building a more inclusive, equitable, and prosperous global society. By implementing a holistic approach that includes remote work opportunities, affordable internet access, digital literacy training, telehealth, and data-driven policies, we can empower women to actively participate in and contribute to the digital economy. The combined commitment of governments, private sectors, and international organizations will be crucial to turning these proposals into reality, ensuring that all women—regardless of their location or socio-economic background—have the digital tools and opportunities necessary to thrive in a rapidly evolving world.

**Team Number:** 6

**Title:** Space Technology and Satellite Communications: A Pathway to Sustainable Development in the Arab Region

**Team Members:** Mahasen Moudallali

**Introduction:**

The Arab region, spanning 22 countries from the Atlantic Ocean to the Arabian Gulf, faces shared environmental and climate challenges despite its vast geographical range. Space technology offers a promising solution to these challenges by providing critical data to inform decision-makers, support sustainable development, and contribute to achieving the United Nations Sustainable Development Goals (SDGs). Many Arab states have made significant progress in space technology, launching earth observation satellites and publishing national space policies or strategies. Countries like Egypt, Iran, Iraq, Syria, and particularly the Gulf States—including the UAE, Saudi Arabia, Oman, Kuwait, Bahrain, and Qatar—are all investing in space initiatives.

However, the region still faces obstacles such as limited financial support, technological gaps, and policy fragmentation. Space technology, especially satellite communications, holds great potential to accelerate progress in key sectors like education, agriculture, healthcare, disaster management, and infrastructure. The lack of robust satellite communication networks hinders the delivery of essential services to rural and underserved areas, slowing progress toward the SDGs. Regional collaboration is essential to overcoming these bottlenecks and advancing space initiatives, as shared efforts can bridge gaps in funding, technology, and expertise.

### Importance of Space Technology:

Advancing space technology and satellite communications is crucial for the Arab region to address a range of pressing issues, including environmental, economic, security, and connectivity challenges. Satellite data can monitor pollution, predict natural disasters, and support agricultural productivity (SDGs 2, 13), while also enhancing communication infrastructure, enabling remote education, and improving healthcare access in rural areas (SDGs 4, 3). These technologies are vital for tackling regional development challenges.

However, Arab countries currently depend heavily on satellite services from non-regional providers, which may not prioritize regional needs or align with Arab development goals. This dependence limits the region’s ability to fully control its own data and communications infrastructure, raising concerns over security and data sovereignty. Furthermore, isolated rural communities remain excluded from digital opportunities such as online education and e-health services, widening the digital divide.

While countries like Egypt, the UAE, and Morocco have made developments in their space programs, the region as a whole lags in space sector investment compared to other regions, threatening long-term global competitiveness in high-tech industries. Additionally, a lack of regional cooperation hinders the ability to address transnational challenges, such as environmental disasters and security threats, which require collective action.

A unified regional space strategy would not only strengthen sovereignty and security but also foster innovation, create jobs, and support economic diversification, especially in economies reliant on oil. By fully leveraging space technologies, the Arab region can accelerate progress toward achieving the UN's Sustainable Development Goals, improve its global competitiveness, and ensure long-term sustainable development.

#### Proposed Solutions:

##### 1. ITU’s Role in Building a Collaborative Space Ecosystem

* **Capacity Building and Technical Training:** The ITU can provide tailored training programs to Arab countries, focusing on space technology, satellite data interpretation, and remote sensing applications. This would help close the skills gap and improve human capital in the region.
* **Regional Coordination for Satellite Infrastructure:** Arab countries can individually develop their space infrastructure by partnering with international organizations such as the ITU and private companies. These partnerships can provide the technical expertise and financial investment needed to establish national satellite platforms, ground stations, and data processing centers. Over time, these independent infrastructures can foster informal data-sharing networks or agreements between Arab states, encouraging gradual cooperation while still advancing national capabilities (SDG 9).
* **Support for Regulatory Frameworks:** The ITU can help draft harmonized regulatory frameworks for space technology, enabling seamless cross-border data sharing and enhanced regional coordination.

**2. Partnerships and SDG-Focused Solutions:**

* **Cross-Border Collaboration on Satellite Constellations:** Arab countries can collaborate to create a regional satellite constellation focused on environmental monitoring, disaster prevention, and resource management. This would improve regional data-sharing capabilities and boost the space industry’s contribution to the economy (SDGs 13, 14, 15).
* **Public-Private Partnerships for Investment:** Arab states can leverage public-private partnerships to mobilize investments in space technology, encouraging innovation and generating revenues from space-related industries (SDG 8).
* **Collaborative Research and Innovation:** Joint research programs across Arab universities and institutions can foster a strong talent pool of space scientists and engineers.

**Conclusion:**

While space exploration can significantly enhance the region’s development and global standing, it is crucial that advancements in this area do not overshadow ongoing efforts to address social, political, and human rights challenges. A holistic strategy that balances investments in space technology with the resolution of deeper regional issues will sustain long-term development and improve governance.

Advancing space technology and satellite communications is essential for sustainable development in the Arab region. By collaborating, investing, and utilizing existing infrastructure, Arab states can strengthen their space capabilities and contribute to achieving the SDGs. With support from the ITU and regional partnerships, a more coordinated and resilient approach to space technology will help the region address its pressing environmental and economic challenges, ensuring long-term growth and stability.

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