



# Digital youth

Empower | Engage | Participate



# Youth must be included in solutions for the future

By Houlin Zhao, ITU Secretary-General

In a rapidly changing world, the United Nations (UN) remains the one place where all the world's countries and peoples can gather to find shared solutions that benefit all of humanity. Still, many voices are too easily missed.

Last year, in a survey marking the organization's 75th anniversary, respondents called on the UN system to become more inclusive as we strive to build a better world for our children to inherit. The International Telecommunication Union (ITU), as the UN specialized agency for information and communication technologies (ICTs), has taken concrete steps to answer this call.

The ITU Youth Strategy encompasses three main action areas:

- 1 Supporting youth **empowerment** by creating a community of young leaders called **Generation Connect**;
- 2 Bringing young people together for direct **engagement** with ITU's membership of 193 governments as well as over 900 private sector companies, universities, and international and regional organizations;
- 3 Fostering youth dialogue and **participation** in ITU activities and decision-making processes.

Inclusiveness is one of the four I's that have marked my leadership at ITU, along with infrastructure, investment, and innovation. This latest *ITU News Magazine* shines the spotlight on the world's youth as equal partners alongside today's digital leaders.



“This latest ITU News Magazine shines the spotlight on the world's youth as equal partners alongside today's digital leaders.”

Houlin Zhao

# Digital youth

Empower | Engage | Participate

## Editorial

### 2 Youth must be included in solutions for the future

By Houlin Zhao, ITU Secretary-General

## Message from the Director

### 5 Generation Connect: Amplifying young voices to advance digital inclusion

By Doreen Bogdan-Martin, Director,  
ITU Telecommunication Development Bureau

## Youth shaping the digital agenda

### 11 Now more than ever, we must amplify youth voices in digital development

By Shalin Jyotishi, Senior Analyst, Education and Labour, New America and  
Fellow, Centre for the Fourth Industrial Revolution, World Economic Forum

### 14 Generation Connect joins forces with Kofi Annan Changemakers

### 18 Enabling youth engagement and empowerment

By Marco Obiso, Head, ITU Cybersecurity Division and  
Acting Chief, Digital Network Society Department

## Advancing digital inclusion

### 24 Connecting underserved communities

### 27 School connectivity equips learners for education, work and life

ITU News  
MAGAZINE

No. 6, 2021



Cover photo: Shutterstock

ISSN 1020-4148  
itunews.itu.int  
Six issues per year  
Copyright: © ITU 2021

Editor-in-Chief: Neil MacDonald  
Editorial Coordinator & Copywriter: Nicole Harper  
Art Editor: Christine Vanoli  
Editorial Assistant: Angela Smith

Editorial office:  
Tel.: +41 22 730 5723/5683  
E-mail: itunews@itu.int

Mailing address:  
International Telecommunication Union  
Place des Nations  
CH-1211 Geneva 20 (Switzerland)

Disclaimer:  
Opinions expressed in this publication are those of the authors and do not engage ITU. The designations employed and presentation of material in this publication, including maps, do not imply the expression of any opinion whatsoever on the part of ITU concerning the legal status of any country, territory, city or area, or concerning the delimitations of its frontiers or boundaries. The mention of specific companies or of certain products does not imply that they are endorsed or recommended by ITU in preference to others of a similar nature that are not mentioned.

All photos are by ITU unless specified otherwise.

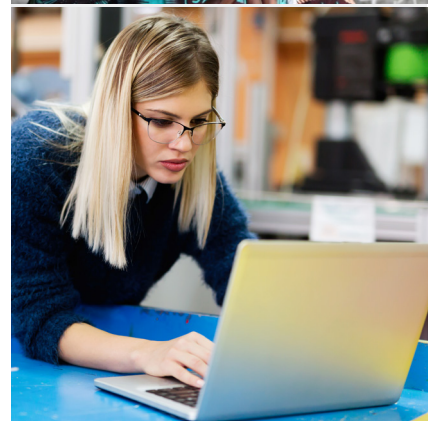
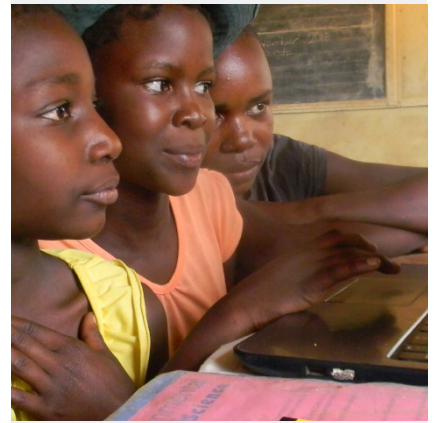


### STEM girls

- 31 200 girls and women in ICT share their stories**
- 34 'Scully effect' entices women and girls into STEM careers**
- 38 Empowering women and girls through sport and technology**  
By Sylvia Poll, Head, Digital Society Division,  
ITU Telecommunication Development Bureau

### Connected to the future

- 42 Aspiring astrobiologist aims for Mars**
- 47 Empowered youth for inclusive digital futures**



**Generation  
Connect**



# Generation Connect: Amplifying young voices to advance digital inclusion

By Doreen Bogdan-Martin, Director,  
ITU Telecommunication Development Bureau

Young people around the world are powerful drivers of innovation, highly motivated to improve their own lives and the lives of their families and communities. The [Generation Connect](#) initiative gives them a voice, with the opportunity to be empowered, to be engaged, and to help advance the global digital development agenda for present and future generations.

Generation Connect encourages global youth to participate as equal partners alongside the leaders of today's digital change. Led by the International Telecommunication Union (ITU), the initiative empowers young people with skills and opportunities to advance their vision of a connected future.

In addition to welcoming young people to actively participate in digital development, it provides a platform for them to connect and act on issues they care about – a step towards mobilizing youth worldwide to close the digital divide.



“Generation Connect encourages global youth to participate as equal partners alongside the leaders of today's digital change.”

Doreen Bogdan-Martin

Director, ITU  
Telecommunication  
Development Bureau

“

*Young people are at the forefront when it comes to adoption of new technologies, constituting the largest demographic of users, developers and shapers of digital trends globally. Ensuring that their voices and perspectives are included in the international digital development dialogue is key to engaging new ideas, and vital in sustaining the representation, interest and partnership of the next generation in achieving our collective digital development goals.”*

Bolutife Adisa

Young Digital Technology Expert and Founder,  
Generation Connect Visionaries Board member



“

*I said yes to joining the Generation Connect Visionaries Board because universal and meaningful connectivity is a defining challenge of our generation. I hope we succeed in bringing new and innovative ideas to the conversation on digital inclusion, and to highlight the importance of digital inclusion for women and girls in economic participation.”*

---

Alexa Roscoe

Disruptive Technology Lead, International Finance Corporation (IFC)



## Youth at the forefront

Along with initiatives like [Generation Equality](#) and [Generation Unlimited](#), the Generation Connect initiative aims to put the voices of youth at the forefront of international advocacy for digital societies.

Today's challenges can only be tackled collaboratively, and young people must be included in the consequential decision-making processes.

Recently, young people engaged directly with the international regulatory community for the first time in the 20+ year history of the Global Symposium for Regulators ([GSR](#)). Those discussions in June featured a candid dialogue around what it means for young people to be involved in United Nations processes, how regulators can involve youth voices in regulatory processes, and the role of youth in driving regulatory change to create a digital future for all.

Through [Generation Connect Regional Youth Groups](#), diverse young people have been enabled, virtually, to feed into regional discussions relating to digital technologies. Each ITU regional office has selected 20-30 young leaders to collaborate on crowd-sourced projects for the consideration of regional stakeholders.

“

*Today's challenges can only be tackled collaboratively, and young people must be included in the consequential decision-making processes.”*

---

Doreen Bogdan-Martin

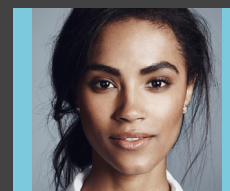
“

*We are arriving at a truly historic moment in time. Through technology, we have the potential to build a future in which no one gets left behind. I said 'Yes' to joining the Generation Connect Visionaries Board to see that potential through.”*

---

Sinead Bovell

Model and Tech Entrepreneur



Participants in those groups remain members of the Generation Connect Community beyond their regional assignments. too. Additionally, two Generation Connect members were chosen to be Kofi Annan Changemakers, deepening the dialogue for intergenerational impact.

## Young leaders take the helm

ITU formed the [Generation Connect Visionaries Board](#) – including eight competitively selected young leaders – specifically to champion youth voices. As board members, those eight young leaders now work side-by-side with eight high-level appointees to advocate meaningful youth engagement in digital cooperation.

The board brings together valuable expertise and vast experiences from the private sector, public sector as well as international organizations. Each board member's perspective enriches the whole initiative, especially in these challenging times of the COVID-19 pandemic.

Enlisting diverse youth representatives alongside high-profile appointees has created the essential dynamic that Generation Connect represents. The Generation Connect Visionaries Board will offer strategic guidance as we implement the [ITU Youth Strategy](#) going forward, based on three essential pillars: Empowerment, Engagement, and Participation.

Through the commitment and contribution of board members, Generation Connect brings young people closer to high-level decision making. Their input can then help in finding concrete solutions to the challenges all youth face today. Ultimately, this could be a pivotal step in bridging the digital divide.



*ITU formed the Generation Connect Visionaries Board – including eight competitively selected young leaders – specifically to champion youth voices. ”*

Doreen Bogdan-Martin



*Enlisting diverse youth representatives alongside high-profile appointees has created the essential dynamic that Generation Connect represents. ”*

Doreen Bogdan-Martin



*As a board member, I look forward to working towards incorporating the unique set of experiences and perspectives the youth bring to address the pressing concerns of digital and ideological divide. I believe as an engineer, the opportunity will further empower me to act as the bridge where technical aspects are understood and thus an effective framework is set up to foster a sustainable growth and engagement by the youth. ”*

Ihita Gangavarapu  
Young Engineer and Founder





## 2021: A year of Generation Connect milestones:

**February** Generation Connect Virtual Communities launched on [Facebook](#) and [LinkedIn](#).

**23-25 March** ITU becomes the new co-chair of the UN Inter-Agency Network on Youth Development (IAYND) for 2021-2022.

**6 April** Economic and Social Council (ECOSOC) Youth Forum. ITU co-organizes a side event focusing on meaningful connectivity and digital inclusion from a youth lens.

**20 May** Generation Connect Global Roundtable, during which 60 Digital Youth Envoys from the Regional Youth Groups meet to discuss what's working and areas for improvement.

**25 May** Telecommunication Development Advisory Group (TDAG), with a side event highlights Generation Connect's journey and achievements so far.

**23 June** Generation Connect ensures youth engagement at the Global Symposium for Regulators (GSR).

**6 July** Emerging Technologies Week, co-designed between ITU staff and Generation Connect Regional Youth Groups, highlights the role of emerging tech in education and digital inclusion for marginalized youth.

**13 August** #YouthLead Innovation Festival, featuring a discussion about youth innovation through digital technologies, hosted by Generation Connect team in partnership with the Office of the UN Secretary-General's Envoy on Youth and social media company Twitter.

**20 September** Partner2Connect launch, with youth, Generation Connect Visionary Board members, and inspiring leaders speaking about the importance of partnership in connecting the unconnected.

**22 September** Learning and Knowledge Development Facility of the United Nations Industrial Development Organization (UNIDO) and Generation Connect host a session on youth e-learning experiences and how to equip young people with skills and education for a sustainable future.

**14 October** Global E-Waste Iconathon launch, aiming to encourage youth to learn about e-waste and engage in discussions around the environment and ICT development.

**9 November** Launch of Instagram account on the occasion of the Generation Connect one-year anniversary celebrated during the 29th meeting of the Telecommunication Development Advisory Group (TDAG-21).

# The Generation Connect Visionaries Board

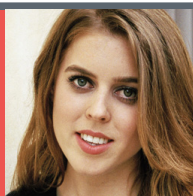
The Generation Connect Visionaries Board members are working to achieve the board's strategic objectives in the build up to the World Telecommunication Development Conference (WTDC) and the Generation Connect Youth Summit.



Learn more about the members and the board's objectives.



**Doreen Bogdan-Martin**



**HRH Princess Beatrice**



**Diogo Ide**



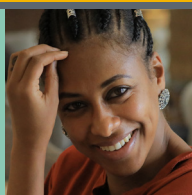
**Jayathma Wickramanayake**



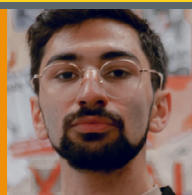
**Ted Chen**



**Alexa Roscoe**



**Betty G**



**Roman Gojayev**



**Lady Marième Jamme**



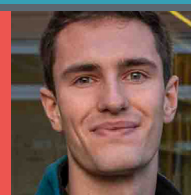
**Sinead Bovell**



**Shalin Jyotishi**



**Mmabatho Motsamai**



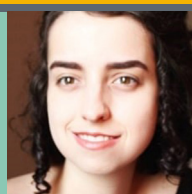
**Luke Cavanaugh**



**Vigneswara Ihita Gangavarapu**



**Othman Almoamar**



**Juliana Novaes**



**Bolutife Adisa**



**Sylvia Poll**

## Engagement Managers

**Dunola Oladapo**



# Generation Connect

## Regional Youth Groups

An opportunity for engaged young leaders around the world to provide their views on the **challenges, opportunities and actions** related to digital development at the regional level

### Africa

(GC-AFR)



### Americas

(GC-AMS)



### Asia & the Pacific

(GC-ASP)



### Commonwealth of Independent States (CIS)

(GC-CIS)



### Europe

(GC-EUR)



### Arab States

(GC-ARB)







# Now more than ever, we must amplify youth voices in digital development

By **Shalin Jyotishi**, Senior Analyst, Education and Labour, [New America](#) and Fellow, Centre for the Fourth Industrial Revolution, World Economic Forum

Access to affordable, reliable, Internet connectivity and digital literacy is no longer a “nice to have” for nation states. The COVID-19 pandemic has illustrated the crucial role of high-quality broadband access in advancing the physical, social, financial and emotional wellbeing of people all around the world.

Whether for access to health care, support with schooling, the means to work remotely, or support in combatting mental health fatigue amid the pandemic, digital technologies connected via the Internet have proven indispensable in nearly all facets of life.



*Access to affordable, reliable, Internet connectivity and digital literacy is no longer a ‘nice to have’ for nation states.”*

**Shalin Jyotishi**

Senior Analyst, Education and Labour, New America and Fellow, Centre for the Fourth Industrial Revolution, World Economic Forum

By extension, communities with robust broadband connectivity have weathered the peaks of the pandemic far more effectively than those without it. In parallel, the need has become paramount to bring youth to the forefront in the ongoing digital development conversation.

While Millennials and Generation Z are often referred to as “digital natives,” they are more often than not left out of the dialogue and actions that drive digital development forward.

Now more than ever, youth should be given an equal seat at the table in conversations around digital development. A fundamental tenant of user-centred design is that the end-users of a given technology or service are the masters of their own experience.

While governments, corporations, civil society groups, and other stakeholders sometimes study the perspectives of youth, there is a great deal of value of learning directly from the lived experiences of youth who have experienced the digital divide at first hand.

### Deliberating with digital natives

All stakeholders active in digital development should make use of substantive strategies such as [co-design](#), public engagement, and inclusive deliberations. Public-private stakeholders can turn to initiatives like the [ITU's Generation Connect](#) to identify models, best practices, and regional digital development youth advocates, as a key step towards consultations on a digital inclusion strategy that is, indeed, inclusive of the youth perspective.

More broadly, stakeholders can turn to the [World Economic Forum's Global Shapers Community](#) – a valuable platform to which I belong. With a network of nearly 11 000 young leaders under the age of 30, this vast and valuable community works through 448 city-based hubs to drive local-level dialogue, action and change, including around digital development issues.

In August 2021, the Global Shapers Community collectively contributed to and published the [Davos Lab: Youth Recovery Plan](#) – a ten-pillar approach to pandemic recovery focused on the welfare of youth. Two pillars relate directly to digital development, signalling the demand from young leaders around the world to incorporate youth perspectives in this crucial field.

As [Raashi Saxena](#), a youth engagement advocate and [Global Shaper from the Bangalore Hub](#), told me in an interview: “For a digital society to be open, safe, and empowering for everyone involved, we need to co-create policies for the digital age that put the interests of people first. Youth mirror the social fabric of our society, providing a holistic view and understanding of Internet governance that will be key to bridging the information-parity gap.”



*Now more than ever, youth should be given an equal seat at the table in conversations around digital development.”*

Shalin Jyotishi



*Public-private stakeholders can turn to initiatives like the ITU's Generation Connect to identify models, best practices, and regional digital development youth advocates.”*

Shalin Jyotishi

## Building a youth-centred ecosystem

Public-private stakeholders need not reinvent the wheel. In recent years, many organizations have produced resources to aid stakeholders with empowering and including youth perspectives in all aspects of digital inclusion and digital development.

Saxena recently contributed to a Youth Internet Governance Forum that published [12 Youth Recommendations for a Sustainable Internet](#). A paper [published in March](#) as part of the Mastercard Foundation's [Youth Forward Initiative](#) focused on advancing a youth-centred ecosystem in Africa in a post-COVID-19 world.

Just last month, the joint [Lancet and Financial Times Commission](#) on governing health futures for 2030 published a landmark report on what it means for children and young people to grow up in a digital world. The report underlined the significance of digital transformation as a key health determinant.

In many ways, the pandemic has hit the accelerator of global digital transformation – affecting the way we all work, play and live. Now more than ever, as nations around the world consider recovery plans and post-COVID opportunities, youth need to be afforded the opportunity to shape the digital future they will inherit.

As a [researcher, writer, policy strategist](#), and member of the [ITU's Generation Connect Visionaries Board](#), I'm honoured to stand alongside colleagues from the [ITU Partnership 2 Connect Coalition](#), the Global Shapers Community, and several other youth-focused advocacy and digital development organizations to elevate the perspectives of young people. The youth perspective will be key as we work collectively to advance true digital inclusion.

Onward for a more inclusive, digital future.



*Public-private stakeholders need not reinvent the wheel. ”*

Shalin Jyotishi



*Now more than ever, as nations around the world consider recovery plans and post-COVID opportunities, youth need to be afforded the opportunity to shape the digital future they will inherit. ”*

Shalin Jyotishi





## Generation Connect joins forces with Kofi Annan Changemakers

Around the world, in every region, more young people are online than adults. And yet they are often left out of the conversation when it comes to creating the digital strategies and policies that impact them.

Creating the digital leaders of tomorrow requires empowering the digital youth of today. The Kofi Annan Changemakers (KAC) and Generation Connect, the youth initiative of the International Telecommunication Union (ITU) are joining forces to facilitate this.

The Generation Connect-KAC partnership aims to amplify young voices and perspectives in the fast-paced world of digital development.

The Generation Connect-KAC partnership aims to amplify young voices and perspectives in the fast-paced world of digital development.

## Recognized changemakers

Abdul Gafaru Dasana Amin and Sophiyat Sadiq were invited to join the KAC project earlier this year to develop leadership skills and amplify their impact in their communities. Both were already active in the [Generation Connect Africa Regional Youth Group](#).

Abdul, from Ghana, says he is passionate about poverty eradication, gender equality and inclusive economic growth. He is a co-founder of SheaMe, a start-up that seeks to empower rural women by employing them and integrating them into a sustainable crop supply chain for companies in Ghana and Sierra Leone.

SheaMe serves as an out-grower for skin- and haircare products derived from the shea tree in Ghana, and for Imperishable LLC, a Sierra Leone-based firm that uses solar fruit drying technology to aid in reducing post-harvest losses in fruits and vegetables.

"Investing in economic empowerment, especially among young women, sets a direct path towards poverty eradication, gender equality and inclusive economic growth," Abdul says.

Working towards achieving the United Nations Sustainable Development Goals as a young leader is in line with the "Kofi Annan Way", he adds.

## Power of youth leadership

The late Kofi Atta Annan – Ghanaian diplomat, seventh UN Secretary-General, 2001 Nobel Peace Prize co-recipient, and founder of the foundation bearing his name – strongly advocated the power of youth leadership for sustainable development. "You're never too young to lead, and we are never too old to learn," he memorably said in some of his final public statements in 2018.

Sophiyat, from Nigeria, entered the KAC programme intent on acquiring the skills "to build the Africa we all want to see."

For her, this means a digital economy in which young girls can participate fully, regardless of their gender or socio-economic backgrounds.



*Investing in economic empowerment, especially among young women, sets a direct path towards poverty eradication, gender equality and inclusive economic growth. ”*

Abdul Gafaru Dasana  
Co-founder, SheaMe



From left: Sophiyat Sadiq, Doreen Bogdan-Martin and Abdul Gafaru Dasana Amin.

*“I’ve particularly enjoyed the feeling of being heard and knowing that we were given the opportunity to create the change we want to see.”*

Sophiyat Sadiq

ITU Generation Connect  
Regional Youth Envoy

At 21 years old, Sophiyat is making an impact in her community, working with girls in Lagos to build their capacity with digital tech and in science, technology, engineering and mathematics (STEM) subjects. She points to the need for platforms for youth to lead and learn.

On her experience as a Generation Connect Regional Youth Envoy, she adds: “I’ve particularly enjoyed the feeling of being heard and knowing that we were given the opportunity to create the change we want to see.”

## Aligned missions

The world’s fast-moving digital transformation needs everyone’s input.

Generation Connect identifies young digital changemakers who bring unique perspectives on digital development to help inform ITU’s work on the harmonization, standardization and development of global communication networks.

The initiative is central to ITU’s Youth Strategy, which aims to empower, engage and increase the participation of youth as leaders in digital transformation.

In line with this mission, the KAC project helps young people develop leadership capacity to increase their impact. As the experiences of Abdul and Sophiyat make clear, young leaders can serve as a powerful force in shaping our digital future.



## Intergenerational dialogue

In November this year, ITU collaborated with KAC to host an intergenerational dialogue on digital development. Open discussions provided the opportunity for young participants and older technology and policy professionals to exchange ideas on digital inclusion.

Doreen Bogdan-Martin, Director of ITU's Telecommunication Development Bureau, reflected on her own career and shared some life lessons as a changemaker and trailblazer.

"It was a pleasure to discuss connectivity and digital inclusion with the Kofi Annan Changemakers! We need to continue to champion youth voices in the digital development dialogue – the future looks bright with this group!"

ITU's partnership with the Kofi Annan Foundation aims to amplify youth input in the fast-paced world of digital transformation. Collaborative activities ensure the participation of youth as key stakeholders in the implementation of the 2030 Agenda for Sustainable Development, with a particular focus on achieving positive impact in the lives of young people.



Learn more about [Generation Connect](#).



*We need to continue to champion youth voices in the digital development dialogue – the future looks bright with this group! ”*

Doreen Bogdan-Martin

Director, ITU  
Telecommunication  
Development Bureau





# Enabling youth engagement and empowerment

**By Marco Obiso**, Head, ITU Cybersecurity Division and Acting Chief, Digital Network Society Department

The world today is home to around 1.8 billion young people between the ages of 10 and 24, with close to 90 per cent of them living in developing countries. This is the largest generation of youth in history. Youth voices, therefore, ought to be reflected and amplified in the world's digital development dialogue. The time is now.

In September, during this year's United Nations (UN) General Assembly, UN Secretary-General António Guterres presented Our Common Agenda, aimed at accelerating actions to meet the Sustainable Development Goals (SDGs) adopted by the UN and endorsed by countries worldwide for 2030. A key focus of Our Common Agenda is on younger generations. To achieve the SDGs, we must keep listening to and working with diverse youth across the world.



*What prompted the launch of the initiative in November 2020 was the conviction that ITU could give young people a valuable platform and real opportunities to become empowered and engaged. ”*

Marco Obiso

Head, ITU Cybersecurity Division, Acting Chief, Digital Network Society Department

The Generation Connect initiative, launched just over a year ago, engages global youth and encourages their participation as equal partners alongside the leaders of today's digital change. Generation Connect forms the overarching initiative in the Youth Strategy of the International Telecommunication Union (ITU), the UN tech agency.

Young people need to be empowered with the digital skills and opportunities to advance their vision of a connected future. What prompted the launch of the initiative in November 2020 was the conviction that ITU could give young people a valuable platform and real opportunities to become empowered and engaged.

## Making headway

At the initiative's recent first anniversary celebration, Doreen Bogdan-Martin, Director of ITU's Telecommunication Development Bureau, recalled the upbeat feeling of the initiative launch even as the pandemic cast a gloom over the world.

"One year ago," she said, "we joined hands with a group of enthusiastic young people with limitless energy and launched the Generation Connect initiative to ensure young people have a seat at the table to shape the digital development agenda for present and future generations. Let's make sure they're empowered, engaged and participating in our mission to build an inclusive and sustainable digital future."

Discussions and activities through Generation Connect now enable youth to participate in the advancement of the global digital development agenda for present and future generations. As early adopters, young people are uniquely placed to harness the power of digital technologies, which can enhance education, reduce youth unemployment, and promote social and economic development.

## Early adopters and active users

Last year, an estimated 71 per cent of the world's youth (aged between 15 and 24 years) were using the Internet, compared with 57 per cent in other age groups. On the global scale, young people are therefore more likely to connect than the rest of the population, despite the numerous barriers to connectivity across the world.



*As early adopters, young people are uniquely placed to harness the power of digital technologies, which can enhance education, reduce youth unemployment, and promote social and economic development. ”*

Marco Obiso



Still, we must remember that almost 760 million of the world's youth aged 15-24 lack any Internet connection at home. As we celebrate this first anniversary of Generation Connect, as we further youth engagement in ITU's events, projects, and programmes regionally and globally, we must persist in our commitment to connecting the unconnected.

### Vital support and engagement

The world was – and still is – facing critical challenges, including a global pandemic, economic contractions, and climate change. Young people are disproportionately affected. At least 90 per cent of youth have experienced some degree of disruption in their education during the COVID-19 pandemic.

Yet the dedication and support of ITU's membership and partners enabled us to launch this valuable initiative to empower and engage global youth. Throughout its first year, the initiative has gained momentum thanks to the ongoing input of member countries and companies, the ITU Youth Task Force, the Generation Connect Visionaries Board and Regional Youth Groups, and, of course, all the young people who are engaging with this initiative.

We look forward to many more years of impactful and meaningful youth engagement at ITU. We must move forward with optimism, provide inspiring leadership, and continue to mobilize the energy, resources, and support to empower and engage youth in the digital development dialogue.



*As we celebrate this first anniversary of Generation Connect, as we further youth engagement in ITU's events, projects, and programmes regionally and globally, we must persist in our commitment to connecting the unconnected. ”*

Marco Obiso



### Generation Connect Podcasts

Designed by youth, for youth.



Learn more [here](#).



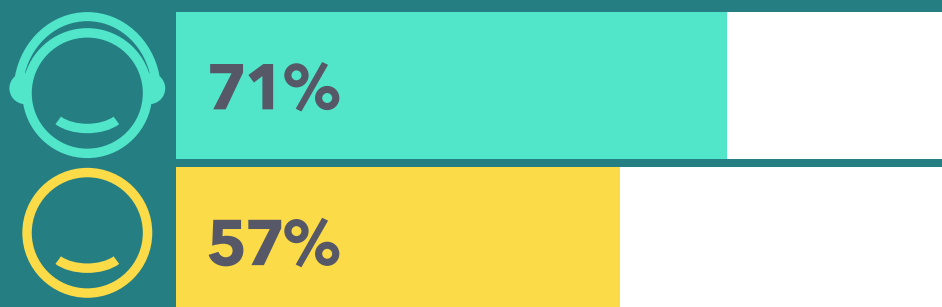
# Youth Internet use: Facts and figures

Worldwide in 2020, young people were **1.24 times more likely** to connect to the Internet than the rest of the population.



## Individuals using the Internet worldwide

 Youth (15-24 years old)  Rest of the population

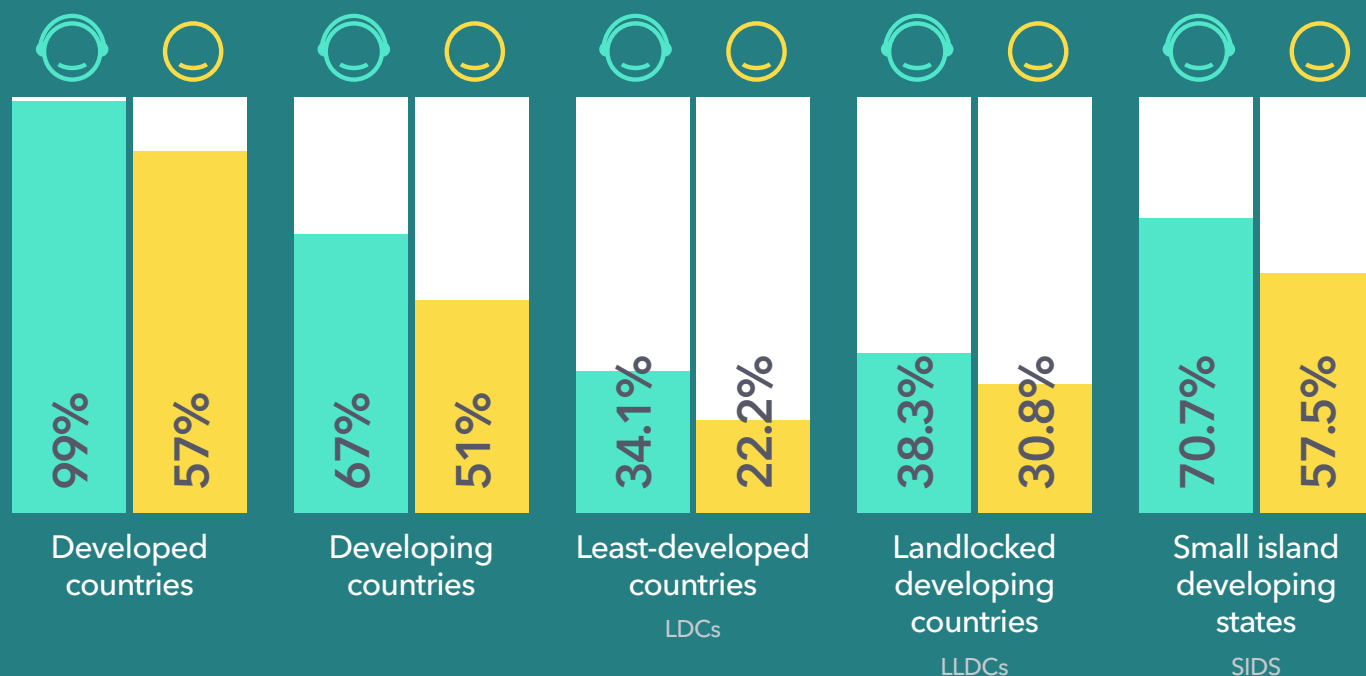


Note: Youth means 15-24-year-old individuals using the Internet as a percentage of the total population aged 15 to 24 years. Rest of the population means individuals below 15 years old or over 24 years old as a percentage of the respective population.

Source: *Measuring digital development: Facts and figures 2021* (ITU, November 2021)

# Individuals using the Internet in different country groups

 Youth (15-24 years old)  Rest of the population



➔ The greater uptake among young people bodes well for connectivity in areas where the demographic profile is skewed towards youth, such as the least-developed countries.

➔ It means that the workforce will become more connected and technology-savvy as the young generation joins its ranks.

Digital Gap  
Empowered ↔ Excluded



**2.9 billion** people  
still offline

**96%** of whom live in  
developing countries



Browse the Facts and Figures 2021 [website](#).



Download the [new report](#).

# Generation Connect

## Global E-waste Iconathon

Design a universal icon to symbolize  
the **take-back and collection** of e-waste

Registration deadline: **1 February 2022**

Young people  
aged 18-24  
are invited  
to participate.

**Learn more, and  
register today!**



Deadline for icon submissions:  
**28 February 2022**



Partners:



weeeforum



## Connecting underserved communities

Aiming to pick up the pace on digital sustainability, the International Telecommunication Union (ITU) and the UK's Foreign, Commonwealth & Development Office (FCDO) have joined forces to co-design a far-reaching digital inclusion project.

Together, the two institutions aim to help bridge the persistent global digital divide.

Despite efforts over the past decade to narrow the gap, nearly half of the planet remains unconnected. People living in rural areas – especially in developing economies – face greater access and usage constraints than those in urban areas.

Faster advances are needed in regulation, investment, technologies and business models – particularly to achieve universal connectivity by 2030. This equates with fulfilling the current Decade of Action set out by the United Nations (UN) to accelerate sustainable development globally.



*The UK shares ITU's ambition of closing the global digital gap. ”*

Simon Manley

Ambassador and UK Permanent Representative to the United Nations and other international organizations



“The UK shares ITU’s ambition of closing the global digital gap,” said Ambassador Simon Manley, UK Permanent Representative to the UN and other international organizations.

“For this reason, the FCDO Digital Access Programme [DAP] team has recently co-designed an exciting collaboration with ITU, to leverage each other’s expertise and ongoing digital inclusion initiatives.”

The COVID-19 pandemic has put into sharp focus the need for digital connectivity to learn, work, trade and communicate. But recent challenges have also widened the gap between people who – thanks to the Internet and digital technologies – enjoy broad access to information and opportunities, and those without.

Doreen Bogdan-Martin, Director of ITU’s Telecommunication Development Bureau, said: “In a world beset by global crises, we simply cannot and will not move forward without enhanced global cooperation and a renewed emphasis on partnership.”

## Complementary goals

With an initial duration of 12 months, the project focuses on five FCDO-designated DAP countries: Brazil, Indonesia, Kenya, Nigeria and South Africa. Major gaps remain in all five countries in terms of affordability and access to connectivity.

ITU and the FCDO aim to complement each other’s activities, programmes and goals in relation to school and community connectivity and digital skills development.

ITU will contribute technical assistance and capacity building in four key areas:

- Regulatory analysis, framework and tool development.
- Expanding school connectivity sustainably in underserved communities.
- Promoting more conducive conditions for private and public investment in digital inclusion.
- Advancing digital skills to ensure decent jobs, especially for young people.



*In a world beset by global crises, we simply cannot and will not move forward without enhanced global cooperation and a renewed emphasis on partnership. ”*

Doreen Bogdan-Martin

Director, ITU  
Telecommunication  
Development Bureau

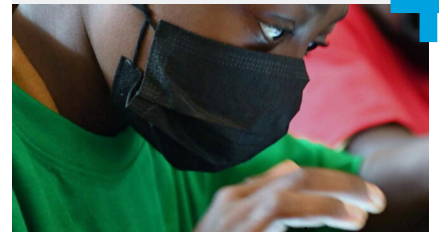
## Aligned with UN imperatives

First announced on 25 June during the 2021 Global Symposium for Regulators ([GSR](#)), the partnership embodies digital transformation, multilateralism and international cooperation – three of ten interrelated imperatives for action recently outlined by the UN Secretary-General, António Guterres, as he began his second term.

Teaming up with ITU – the UN specialized agency dedicated to digital transformation – can heighten the impact of UK development programmes in promoting conducive regulatory frameworks and investment environments.

The joint project aims to leverage ITU's technical expertise and extensive stakeholder and partner network through initiatives like [Giga](#) (Connecting every school to the Internet) and Decent Jobs for Youth ([Boosting decent jobs and enhancing skills for youth in Africa's digital economy](#)).

Collaboration with the UK's FCDO is equally critical from ITU's perspective, as a means to address young people's urgent needs for digital knowledge, school connectivity and digital skills training.



## About Giga

Giga is a global initiative to connect every school to the Internet and every young person to information, opportunity and choice.



Learn [more](#).

## Creating jobs and empowering Africa's youth

Under the aegis of the Global Initiative on Decent Jobs for Youth, the International Labour Organization and the International Telecommunication Union, with the support of the African Union, have initiated a programme to create employment and enhance skills for youth in Africa's digital economy.



Learn [more](#).

Check out the [brochure](#).





## School connectivity equips learners for education, work and life

Of the 3.7 billion people around the world who still lack access to the Internet, millions are under 25 years of age.

Many children still leave school each year without any digital skills, limiting their access to employment opportunities and to a wealth of information online. The chasm separating digital “haves” and “have-nots” prevents those children from reaching their full potential.

But solutions are in sight thanks to new technologies, innovative business and finance solutions, and growing international cooperation to expand school connectivity.



### Mapping school connectivity globally

Project Connect aims to map real-time connectivity of every school in the world. This will serve as a foundation to work with governments and service providers to connect every school to the Internet.



Access the [map](#).

The Giga initiative confirmed in October that it had mapped the connectivity levels of one million schools across 41 countries to date, as part of its ongoing push to connect every school worldwide.

When the COVID-19 pandemic struck, more than 90 per cent of children in 190 countries were affected by school closures by mid-2020, as classes worldwide moved primarily online, the challenge of educating the world's 1.6 billion students was thrown into stark relief.

Many lacked access to the digital tools they would need to succeed in the immediate situation, not to mention in future endeavours.

### Financing meaningful connectivity

More than ever before, closing the digital divide calls for global investment, partnerships and technological innovation.

But financing the necessary infrastructure for connectivity remains a vital, and often overlooked, step.

New research by the Boston Consulting Group (BCG) and the International Telecommunication Union (ITU) identifies sustainable funding models that could cover the bulk of investments to connect every school worldwide.

A combination of such models, including community contributions and one-off government subsidies, could finance around 90 per cent of the capital and operational costs required for school connectivity, the study finds.

"When carefully planned and adequately resourced, sustainable business models for connectivity can equip learners with independence and digital skills not only for education, but also for work and life," said Franck Luisada, BCG's Managing Director, Senior Partner, and Global Sector Leader for Telecommunications.

BCG was engaged as an ITU Knowledge Partner under Giga – a global initiative to connect every school to the Internet and every young person to information, opportunity and choice.

The Giga initiative – launched by ITU and UNICEF two years ago – advises governments on subsidizing market creation costs, incentivizing private investment, and adopting affordable, sustainable country-specific models for finance and delivery.



*When carefully planned and adequately resourced, sustainable business models for connectivity can equip learners with independence and digital skills not only for education, but also for work and life. ”*

Franck Luisada

Managing Director,  
Senior Partner,  
Global Sector Leader for  
Telecommunications, BCG



The new report, “Meaningful school connectivity: An assessment of sustainable business models”, explores potential funding models in Brazil, Honduras, Indonesia, Kenya, Nigeria, Rwanda and Sierra Leone.

“The school connectivity operating models presented in this report, unique to each country’s typology and based on the experiences in Giga countries, will help drive sustainable development by delivering digital infrastructure to schools everywhere and represent a key element to school connectivity,” said Doreen Bogdan-Martin, Director of the ITU Telecommunication Development Bureau.

## Making it measurable

The report outlines six main ways for countries to boost school connectivity in a sustainable manner:

- 1 Optimize locally:** Divide countries into homogeneous areas to find optimal funding models.
- 2 Combine funding models:** Apply multiple funding models where possible to minimize funding gaps.
- 3 Merge electrification and connectivity:** Provide Internet and electricity together to increase revenues streams and share costs.
- 4 Affordability and demand stimulation:** Ensure schools (and communities) can sustainably pay for connectivity.
- 5 NGOs empower communities:** Non-governmental organizations (NGOs) play important roles in training and mentoring communities.
- 6 Reforms enable sustainability:** Reforms are necessary in many countries to promote long-lasting transformation.

The report advises governments and other stakeholders on ways to ensure sustainable school connectivity.

Building on previous [ITU](#) and [Giga](#) research, BCG helps to expand the initiative’s knowledge, expertise, and global presence. Giga aims to establish a minimum connectivity speed of 10 megabytes per second (Mbps) at every school on Earth by 2024.



Read the full [report](#).



*The school connectivity operating models presented in this report, unique to each country’s typology and based on the experiences in Giga countries, will help drive sustainable development by delivering digital infrastructure to schools everywhere and represent a key element to school connectivity. ”*

Doreen Bogdan-Martin

Director, ITU  
Telecommunication  
Development Bureau

# Digital skills insights 2021

- Digital skills for the post-COVID world
- Future skills for the digital ecosystem
- How training can assist communities in crisis situations
- Case studies on policies, programmes and initiatives from around the world

From  
connectivism  
to connectivity:  
Digital skills in  
the COVID-19  
context

Skillsets  
required due  
to the digital  
transformation

Learning  
and skills  
acquisition in a  
post-pandemic  
digital future

Digital skills  
development  
for equitable  
and dignified  
humanitarian  
assistance

Tamsu  
Smart Qatar:  
Digital skills  
as a pillar for  
transformation

Capacity  
development  
for indigenous  
communities of  
the Americas  
region

Digital  
literacy for a  
digital India

Best practices  
in distance  
education  
learning:  
Mexican  
experiences



**Download the free report.**







## 200 girls and women in ICT share their stories

Despite the growing demand for information and communication technology (ICT) professionals, women still trail their male counterparts in terms of pay, leadership roles, and representation in the digital sector.

The World Economic Forum's [Global Gender Gap Report 2021](#) suggests that only 14 per cent of those working in cloud computing, 20 per cent of engineers, and 32 per cent of data and artificial intelligence professionals are women.

These disparities are concerning, not least because technology-related careers arguably dominate today's job market.

Moreover, the underrepresentation of women means their voices are absent from decision-making when it comes to designing our digital society.

Barriers blocking gender equality in the technology sector arise early in life, with the lack of visible female role models in the ICT field playing a key part.

## Breaking barriers

Many of the causes of the imbalance stem from social norms, stereotypes, and values cultivated in childhood and adolescence. Barriers blocking gender equality in the technology sector arise early in life, with the lack of visible female role models in the ICT field playing a key part.

A report from [UNICEF](#) (the United Nations children's fund) and the International Telecommunication Union (ITU), [Towards an equal future: Reimagining girls' education through STEM](#), finds that globally, only 18 per cent of girls in tertiary education are pursuing science, technology, engineering and mathematics (STEM) studies – compared to 35 per cent of boys.

In a similar vein, only 3 per cent of female students would consider a career in technology as their first choice, according to the joint report.

As we move further into the information age, women and men need to be equally represented as shapers of our increasingly digital world. One way to inspire and empower girls and young women is to showcase success stories.

The [Talking Tech: Girls and Women in ICT](#) interview series, for example, helps to counteract the "othering" of girls and women in the sector.

Today, there is nothing they cannot achieve in this fast-evolving field.

## Overcoming othering

The term "othering" describes a pattern of exclusion and marginalization based on attributes such as race, age, gender or disability, which may differentiate the individual from perceived norms in a given context. In the workplace, othering can bar those outside the dominant culture from access to opportunities. Launched In April 2020, Talking Tech challenges the gender stereotypes that contribute to women's minority status in the technology sector.

Over a year on, the series celebrated the milestone of 100 interviews, with over 200 tenacious girls and women challenging stereotypes and sharing their stories of personal and professional growth.



**Towards an equal future: Reimagining girls' education through STEM.**



Download the ITU/  
UNICEF [report](#).



## Intergenerational interviews

The intergenerational interview series supports the Girls in ICT Day initiative and the [EQUALS Global Partnership](#). Run by ITU with the United Nations International Computing Centre ([UNICC](#)) and the UN Secretary-General's Envoy on Youth, it enables aspiring ICT professionals to interview and be interviewed by role models who are leaders in their field.

Participants range from experts in artificial Intelligence (AI) to electronic sports (esports), astronauts to leaders of UN agencies, and ambassadors to corporate executives. In the interviews, women and girls from around the world share achievements and challenges, exchange advice and network with one another – all to inspire others with evidence that every girl can fulfil great potential in the ICT sector.

## Evidence of empowerment

One young aerospace engineer – Inspired by her Talking Tech experience – launched her own [podcast](#), in which she interviews professionals in the space sector. Another young woman called her interview for the series a “mind-changing experience for career-starters like myself”.

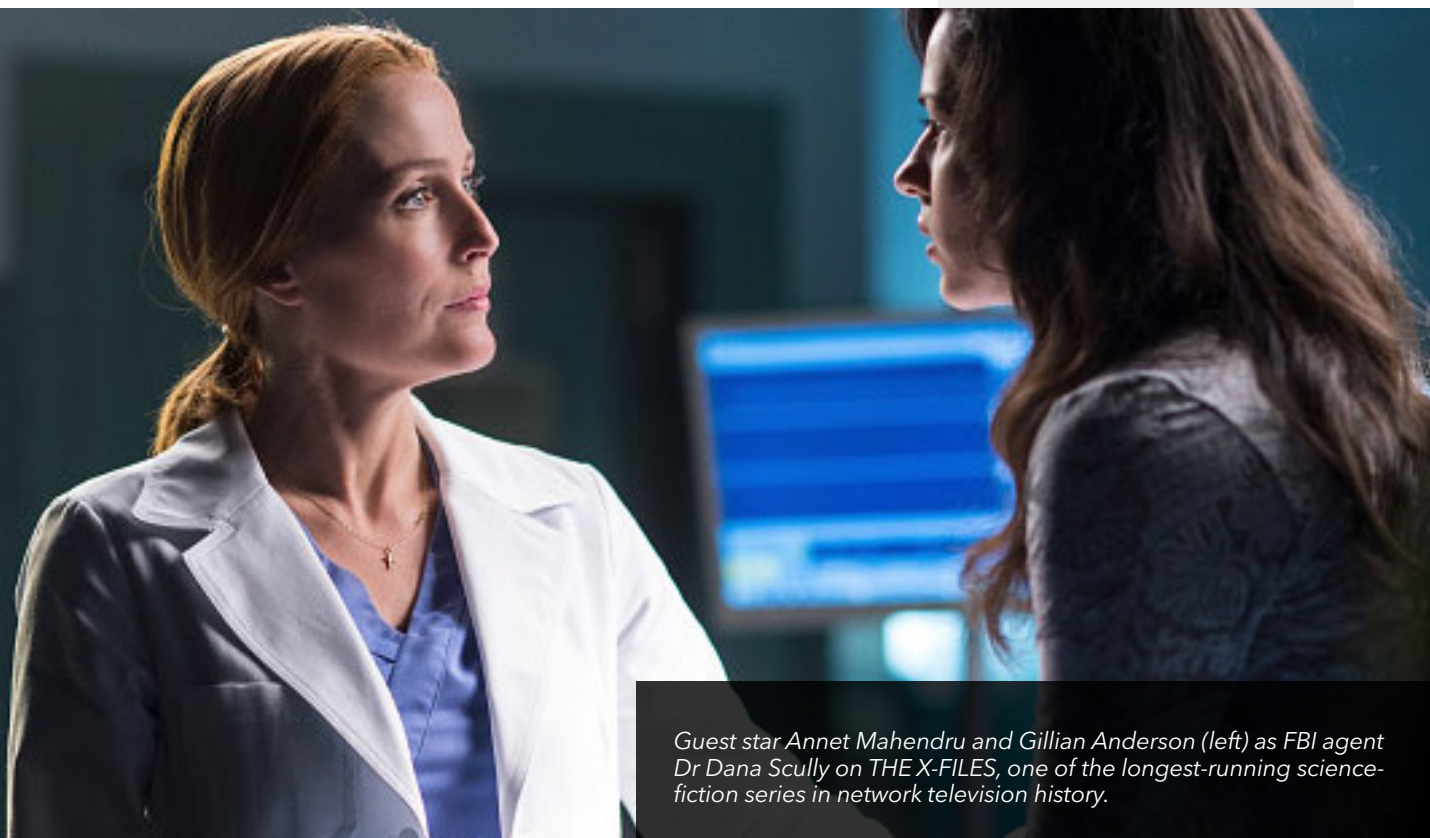
Not only does Talking Tech engagement help girls and young women build confidence. It also provides valuable networking opportunities – essential to build a career in today's interconnected world.

In some cases, interviewers have been hired or offered internships at the interviewee's companies. For interviewees, Talking Tech sometimes marks the beginning of a mentorship.

“I love the video,” one executive said after an interview session. But even more, she welcomed “the process of getting to know [my interviewer] and her objectives,” and was “looking forward to a long relationship with her as she navigates her career and life.”

The organizers feel gratified by such positive outcomes.

“We could not be prouder of this community of over 200 ladies committed to supporting one another,” said Anastasia Bektimirova, part of the Talking Tech team at ITU. “Envisioning how many more minds have been inspired and growth opportunities have been triggered by the project is deeply gratifying and shows how digital initiatives and partnerships can make a tangible, positive difference in people's lives.”



Guest star Annet Mahendru and Gillian Anderson (left) as FBI agent Dr Dana Scully on *THE X-FILES*, one of the longest-running science-fiction series in network television history.

## 'Scully effect' entices women and girls into STEM careers

ITU News caught up with Geena Davis, the Academy Award-winning Hollywood actor, co-executive producer of current television and social media series *Mission Unstoppable*, ITU Special Envoy for Women and Girls in information and communication technology (ICT), and founder of the Geena Davis Institute on Gender in Media (@gdim).



© Geena Davis Institute on Gender in Media



Only a quarter of scientists and engineers in the United States are female in real life, and we know that media plays a contributing role. ”

Geena Davis

ITU Special Envoy for  
Women and Girls  
Founder, Geena Davis  
Institute on Gender in Media

***Reports from your institute look at film and television representations of women working in science, technology, engineering and mathematics (STEM). Has the situation of women STEM characters started changing, and why does the portrayal of women as scientists and engineers matter?***

🌟 **Geena Davis:** Only a quarter of scientists and engineers in the US are female in real life, and we know that media plays a contributing role. For example, STEM characters are rarely featured in leading roles – and [those are more likely] men than women.

When girls in their formative years don't see female characters on screen as biochemists, software developers, engineers or statisticians, they are less likely to imagine – or pursue – those career paths.

However, when girls do see women in STEM in media, it has a significant impact. Increasing media depictions of women in STEM is easy to do, and it provides a big bang for the buck.

***What's the most rewarding thing for you about having created this institute?***

🌟 **Geena Davis:** We've been doing it about 15 years now, and we can measure progress. There's a lot of progress that needs to still be made for characters of colour or with different abilities. And age is another factor. But I'm very excited that we are seeing progress.

***Do you see a conscious effort in film and media to change the numbers and images of women characters as scientists and engineers?***

🌟 **Geena Davis:** Well, yes. Based on our research, there is a solid movement to improve overall representation.

We have [since 2019] achieved gender parity for female lead characters in the top-grossing family films and top kids' TV shows.

We've seen more TV shows being developed with STEM characters, but obviously we need many more.



*Increasing media depictions of women in STEM is easy to do, and it provides a big bang for the buck. ”*

Geena Davis

***In what ways can media portrayals of women as science professionals influence and inspire, as well as help to inform, girls for future professional roles?***

🌟 **Geena Davis:** We don't have enough real-life female STEM role models to saturate the minds of young girls. We really need them in fiction; these characters have proved to be incredibly influential.

In a study on the character [Dana] Scully in [1990s TV series] The X Files, 58 per cent of [US] women currently employed in STEM fields cite her as the reason they went into those fields.

***Tell us about Mission Unstoppable.***

🌟 **Geena Davis:** Mission Unstoppable is more than a television series. It's a social media movement – meeting these young girls in the places they're most likely drawn to, such as Twitter and Instagram and TikTok and Twitch.

The content ranges from meet-and-greets with women role models in STEM, to how scientists use hormones to be able to tell if someone is in love, and even experiments in making temporary hair dye or lava lamps at home. Girls are responding incredibly to it.

***What do think would have a greater impact- increasing the numbers of women STEM characters, or improving how women STEM characters are portrayed?***

🌟 **Geena Davis:** What happens on screen can play out in the real world. So, using fictional media to inspire girls' curiosity about STEM is one way. And of course, building a pipeline, engaging more girls and women to pursue STEM education and careers, is equally important.

***What concrete actions can content creators put in place to support and promote strong female characters and role models?***

🌟 **Geena Davis:** Clearly, infusing their content with STEM characters and thinking more creatively about STEM.

STEM characters [usually appear] when it's a medical show or a crime show. But there are opportunities for STEM characters in pretty much any situation, comedy, drama...



*We don't have enough real-life female STEM role models to saturate the minds of young girls. ”*

Geena Davis



*Building a pipeline, engaging more girls and women to pursue STEM education and careers, is equally important. ”*

Geena Davis



***If you were to go back and talk to yourself as a girl, what advice would you give yourself with regards to the future of technology and how to engage with it?***

🌟 **Geena Davis:** I don't think any of us had any idea. I certainly didn't, at least about where technology was going to take us. It's quite incredible and impressive. And it's changed our lives so, so utterly.

I guess I would just have to say:

"Be prepared for something very, very important to come along that will change the way you look at everything."

But, you know, back then there was such little interest in educating girls in STEM or inspiring them to pursue those careers.

***Finally, would you be looking at taking on any roles that that might encourage girls to take on STEM careers, in your role as an actor?***

🌟 **Geena Davis:** Well, I haven't got any currently lined up but it's a big goal of mine.

I have an idea for a character for me in the Transformers movies as a scientist, and I think I'm going to pitch that idea. (laughs)

[Watch](#) or [listen](#) to the full interview.



“

Back then there was such little interest in educating girls in STEM or inspiring them to pursue those careers. ”

Geena Davis



# Empowering women and girls through sport and technology

By **Sylvia Poll**, Head, Digital Society Division,  
ITU Telecommunication Development Bureau

Sport and information and communication technologies (ICTs) have something surprising in common: both are drivers of gender equality and women's empowerment.

By teaching teamwork, self-reliance, and resilience, sport and ICTs can provide women and girls with the social connections they need to build self-confidence and create strong communities.

Unfortunately, sport is plagued by many of the same gender inequalities seen in the wider world. Issues such as unequal pay, gender-based violence, and negative stereotypes are disconcertingly common, while not enough investment is targeted at female athletes.

“

*As sport moves further into the digital age, the need to ensure equal representation for women and girls can no longer be ignored.”*

Sylvia Poll

Head, Digital Society  
Division, ITU  
Telecommunication  
Development Bureau

As sport moves further into the digital age, the need to ensure equal representation for women and girls can no longer be ignored.

That means making sure girls and women receive the necessary education, training, and encouragement to engage, and succeed, in sport.

The same is true for ICTs and all kinds of opportunities in our increasingly digital world.

### Celebrating girls in ICT – and sport

As a former Olympic athlete, I have experienced firsthand the potential of sport to bring people from diverse backgrounds together in the spirit of peace and development.

This year, perhaps more than ever, as the world prepared to watch the Olympic Games remotely with the aid of digital connectivity, the global community needed to collaborate to further maximize the potential of sport and ICTs for all.

In sporting events female athletes need to be featured more prominently. As the saying goes, “If you can see it, you can be it.”

This requires concerted efforts to increase visibility, not only for female athletes, but also for women working in all aspects of sport for development. We must also – especially through social media – model a culture that reflects equality, respect for diversity and non-violence.

This is a special year for another reason, too: the [10th anniversary of International Girls in ICT Day](#), celebrated on 22 April. The theme for 2021, “Connected girls, creating brighter futures”, reflects a year-round commitment to the girls who will help shape our global future.

Through online access, skills education, digital tools training, and showcasing women as role models, we can equip girls and young women with the necessary skills, opportunities, and tools to empower them in their future careers and lives, both within and beyond the world of sport.



*In sporting events, female athletes need to be featured more prominently. ”*

Sylvia Poll

## Safety in sport – online and offline

Empowerment depends on a safe environment both online and offline, so that girls and young women can strengthen their skills, including those related to trust-building, collaboration, emotional intelligence and responsibility. For some girls and women, sport provides a vital refuge from domestic or community violence. All too often, however, sport communities themselves are beset by gender violence and other abuse.

Together with the SCORT Foundation, the [ITU Child Online Protection initiative](#) and its partners have embarked on a journey to understand online risks and harms facing children in sporting environments. The ITU-SCORT collaboration, launched on the International Day on Sport for Peace and Development, aims to empower and protect children online and offline, both in sport and through sport.

The initiative will support clubs and associations in the integration of child online protection in their corporate policies, measures and initiatives, with stakeholders ranging from management, coaches and trainers, to parents, educators, and even children themselves.

The powerful combination of sport and ICTs must be harnessed to advance equality.

The next generation of girls should grow up knowing that they can excel at the highest levels in both.



*The ITU-SCORT collaboration, launched on the International Day on Sport for Peace and Development, aims to empower and protect children online and offline, both in sport and through sport. ”*

Sylvia Poll

## WSIS thematic workshop: ‘Girls in ICT and Sport’

The [WSIS Thematic Workshop](#) discussed, shared and encouraged gender equality and women’s empowerment in sport and ICTs.



Watch the [recording](#).





# WSIS Forum 2021



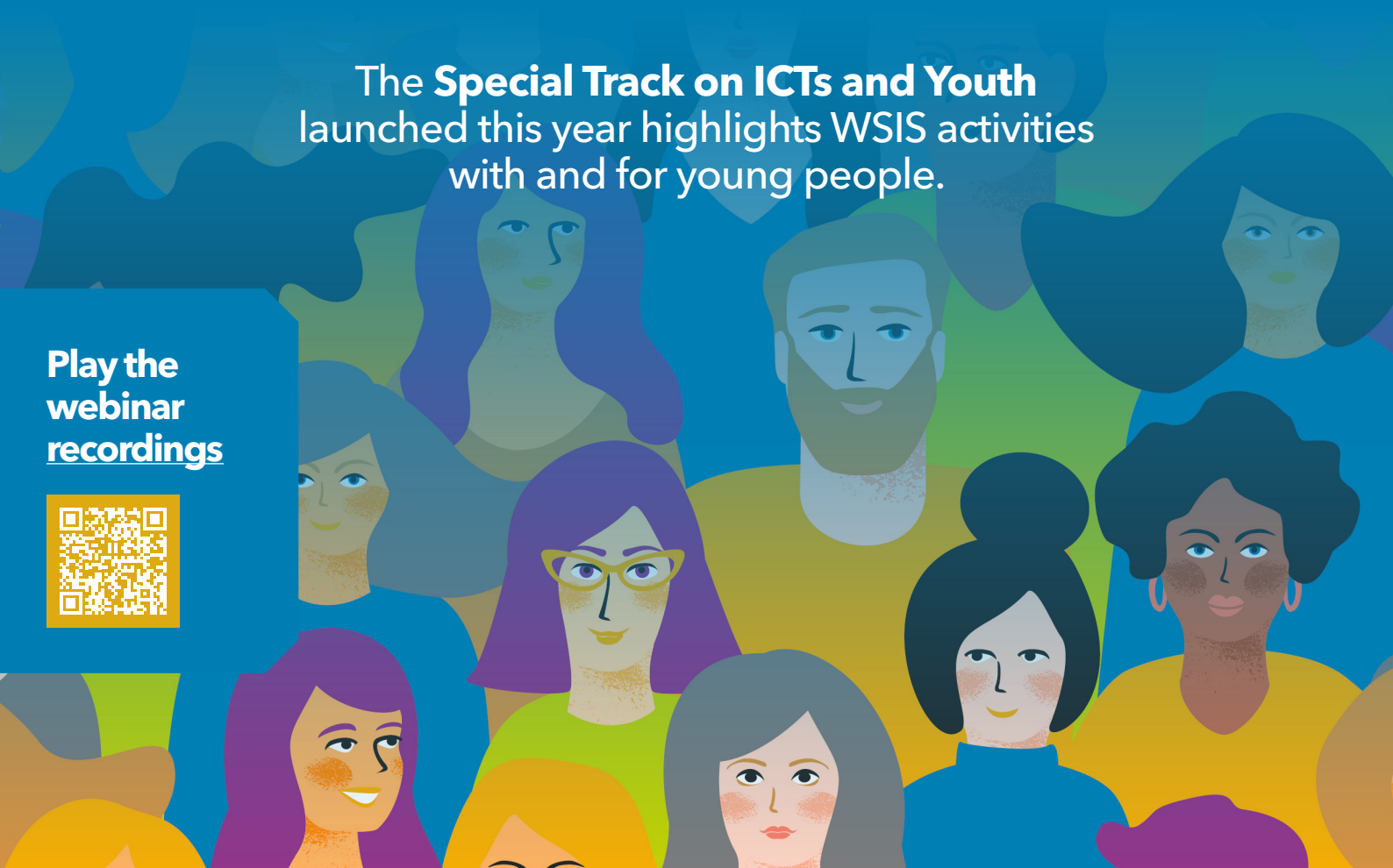
## Working with and for young people

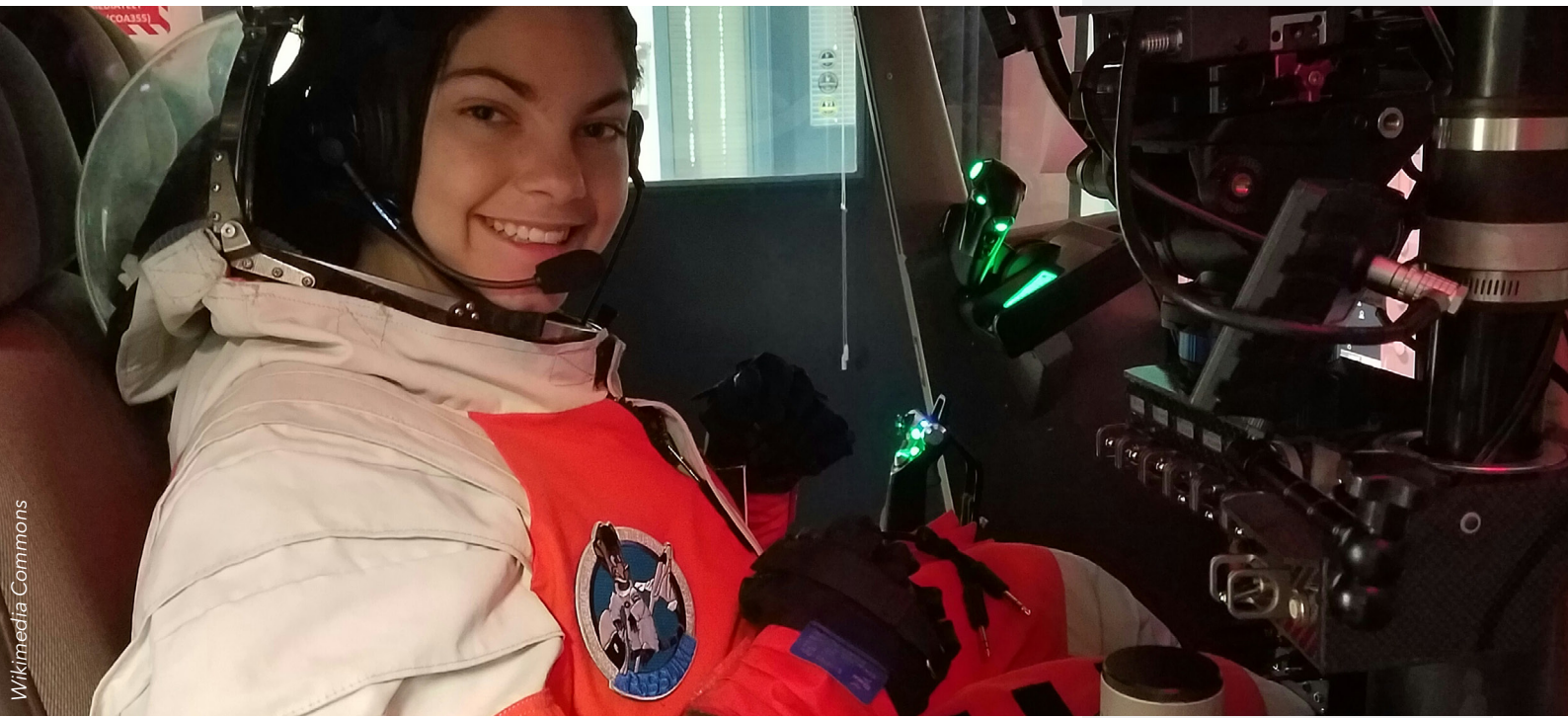
This year's World Summit on the Information Society (WSIS) Forum, in accordance with WSIS Action Lines aimed at achieving the United Nations Sustainable Development Goals, promotes

**information and communication technologies  
(ICTs) for inclusive, resilient and sustainable  
societies and economies**

The **Special Track on ICTs and Youth** launched this year highlights WSIS activities with and for young people.

Play the  
webinar  
recordings





## Aspiring astrobiologist aims for Mars

ITU News caught up with Alyssa Carson, a 20-year-old astrobiology student with ambitions to become an astronaut and eventually perform research on Mars.

### *Tell us more about yourself!*

🌟 **Alyssa Carson:** I am currently a 20-year-old college student studying astrobiology, but I have always had hopes of working in the space industry.

Along with my studies, I have been researching different areas of space, such as microgravity, flight, spacesuit testing, and getting any [experience] I can to eventually apply to the astronaut selection process.

### **Who are some of your mentors or people who have inspired you?**

🌟 **Alyssa Carson:** Any astronaut was automatically cool. I met one in particular, Sandra Magnus, when I was nine.

She was a female shuttle astronaut who taught me that it doesn't matter the age you decide what you want to do.

You can continue to work hard and still turn it into a reality.

### **What kind of projects you are working on right now?**

🌟 **Alyssa Carson:** I am currently in my junior year, so studying takes up a good bit of my time.

But I am also an intern with [Jacobs Space Exploration Group](#) on their International Space Relations team. I am helping companies and space agencies around the world partner with Jacobs.

[Project PoSSUM](#), is a research organization I'm a part of, and we're going to be doing some underwater spacesuit testing.

### **What kind of training have you already done?**

🌟 **Alyssa Carson:** The different research campaigns I'm able to do with Project PoSSUM are not directly training, but I like to think of it as very similar. For example, underwater spacesuit testing is what astronauts do [to train] for Mars; they go underwater at the Johnson Space Center and run through missions. Of course, it's not directly working with NASA or any big agency.

We have a lot of partners, and we're kind of able to do our own research, and also [practice] skills that are very similar to what astronauts do, like microgravity flights, learning how different spacesuits work or learning to fly. Learning all these skills will be important in the long run.

### **You often refer to yourself as being a part of the "Mars generation." What does that mean to you?**

🌟 **Alyssa Carson:** The Mars generation refers to the people who are going to be able to witness people getting to Mars.

We have enough capabilities; we are totally able to make it happen.

So in our lifetime, we're going to either be a part of it, on the mission or helping the mission, or maybe just watching it on television.



*She was a female shuttle astronaut who taught me that it doesn't matter the age you decide what you want to do. ”*

Alyssa Carson  
Astrobiology student



*We have a lot of partners, and we're kind of able to do our own research, and also practice skills that are very similar to what astronauts do. ”*

Alyssa Carson

### **What about actually flying to Mars? Is that still your aspiration?**

🌟 **Alyssa Carson:** Yeah! Being able to do my career of astrobiology in space would be the ultimate goal.

Being in college I am able to discover which area of science I like the most. Right now I'm learning about micro bacteria and space microbiology.

I would like to work with different bacteria, see how they are affected in space and then tie it into what's happening right now with Perseverance, looking for signs of bacterial life on Mars. Testing soil samples and actually classifying those bacteria would be really cool.

Of course, starting on the ground, hopefully I'll be able to do some of that in space one day.

But if I am selected as an astronaut, I can't pick and choose where I get to go. Mars would be fantastic and work perfectly with the kind of research that I want to do. But I'm staying open-minded.

### **Why Mars?**

🌟 **Alyssa Carson:** I think the ultimate goal of Mars would be for future generations to have another place, maybe to live with more resources. But I like to think that everything in space always does come back to Earth. For example, if we are trying to figure out this crazy thing like turning Mars into a second Earth, one of the biggest things we're going to have to do is "clean up" Mars' atmosphere. It's mostly carbon dioxide.

So if we figure that out on Mars, we could also clean up Earth's atmosphere.

At the same time, if we learn to grow food on Mars with Martian soil, which is very different, maybe we can also grow food in areas on Earth that are struggling with agriculture.

Although it does seem disconnected, a lot of the things that we do in space always come back in some way for us to continue using those technologies.



*Being able to do my career in astrobiology in space would be the ultimate goal. ”*

Alyssa Carson



***This year's World Space Week theme celebrated women in space. What are your thoughts on getting more women into the space industry?***

🌟 **Alyssa Carson:** It takes thousands of people to send one astronaut into space. It isn't a small task. A lot of different positions are super important.

The next step is getting more women into all those jobs, and not necessarily just as astronauts.

When I think of all the people that make it happen, I'm sure there is still some department that has one woman working in it!

When you think about space, you think astronauts, scientists, engineers... and that's about it. But there are lots of really cool jobs that kids have the option to go into, especially with how fast space is adapting and changing right now.

And there's going to be even more job opportunities within the industry. As we are talking to little girls of the next generation, I think we need to make sure they know all the options they have.

***What has your experience been like?***

🌟 **Alyssa Carson:** Growing up, when I was going to space camps, they were always several girls. So I didn't really understand that the science and space industry was male-dominated. But then I went to college and couldn't find another girl with my major. My university is very male-dominated because it is a STEM-specific school. Especially with my major, I was struggling a good bit. I now know a few, so, you know, we're growing.

But besides school, I was always exposed to amazing and powerful females in the STEM and space industries.

In Project Possum there were always women professionals doing cool things and people to look up to. I had those female role models. It wasn't until I started getting more involved that I began noticing the disparities.

Although the female [STEM] community is smaller, it's strong. And I do think that the women involved in space are doing as much as they can to encourage the next generation.

“

*There are lots of really cool jobs that kids have the option to go into, especially with how fast space is adapting and changing right now.*”

---

Alyssa Carson

“

*Figure out what it is you want to do and what you're passionate about.*”

---

Alyssa Carson

### ***What advice would you give to fellow aspiring astronauts?***

🌟 **Alyssa Carson:** Figure out what it is you want to do and what you're passionate about.

There's no one way to be an astronaut.

Apply to some sort of master's degree and get some work experience, ideally in the STEM industry. Look for opportunities, big or small. It could be a club in your local area. Or a small event, maybe a robotics competition that's happening in your town to see if you like robotics. Maybe it's an online seminar about science.

And definitely don't be afraid to talk about your dreams and your goals. Tell people what you're interested in because you never know where that [conversation] could lead. In the STEM community, we want more people and would be more than willing to help and support you!

### ***In your view, what can international organizations like ITU do to ensure that space is used for the benefit of all people?***

🌟 **Alyssa Carson:** It is so important that we always remember the international side of space. And I think that we are opening space up to more people. Space is for everyone, so I think that the international side will continue to grow.

For kids in countries that don't have a space agency, now is definitely the time to keep your interests up and stay involved because there are many opportunities coming up, especially with the private side of space.

We are used to government space agencies, but private space companies also want the best of the best. So, if you're interested in space, don't be afraid to look into them!

Anyone internationally: stay open because a lot is happening in space.



*In the STEM community, we want more people and would be more than willing to help and support you! ”*

Alyssa Carson



Watch the [ITU interview](#).





## Empowered youth for inclusive digital futures

Today's decision-makers increasingly recognize an important role for young people in helping to solve the most formidable challenges now facing humanity. This is especially true in the mobilization of digital technologies to ensure a prosperous, equitable and sustainable future.

"Young people will inherit a world that's been dramatically reshaped by today's technological advances," says Doreen Bogdan-Martin, Director of the [Telecommunication Development Bureau](#) at the International Telecommunication Union (ITU). "Engaging in a dialogue of equals is going to help each generation understand the challenges that the other faces."

Youth inclusion in planning and decision-making, she adds, should "ensure that digital remains a positive and catalytic force in building the world that we want."



*Engaging in a dialogue of equals is going to help each generation understand the challenges that the other faces. ”*

Doreen Bogdan-Martin

Director, ITU  
Telecommunication  
Development Bureau

## Resource empowerment

Youth are often called “digital natives” or natural adopters of technology. Yet, **2.2 billion children and young people** under the age of 25 lack an Internet connection at home, points out Jayathma Wickramanayake, the United Nations Secretary-General’s Envoy on Youth and member of ITU’s **Generation Connect Visionaries Board**.

“Without having the resources to get connected, young people will not be able to take part in discussions around digital development, developing digital solutions, pursuing opportunities online and expanding their knowledge and skills,” she says.

According to Sinead Bovell, Founder of **WAYE** (Weekly Advice for Young Entrepreneurs – a platform helping young people build careers in technology) and Generation Connect Visionaries Board member, failing to prioritize digital resources and access “will have rippling effects for generations to come.”

As the world becomes more digitally dependent, those who remain disconnected could face increasing exclusion, warns Tijmen Rooseboom, Ambassador for Youth, Education and Work at the Ministry of Foreign Affairs of The Netherlands. “Without decisive action, the digital divide can become the new face of inequality.”

## Engaging marginalized youth

Roman Gojayev, a member of the Youth Rights experts group at the European Youth Forum and Generation Connect Visionaries Board member, calls for more attention to youth who are still offline, and for recognizing their access to the Internet and digital technologies as a right.

Devshi Mehrotra, CEO of JusticeText, adds: “One of the most incredible aspects of technology is that it can equalize access to opportunity and wealth. But even to this day, many tech organizations are not inclusive of the needs of racial minorities and those from low-income communities.”

Many governments are working with the private sector to avoid marginalizing younger citizens.



### Visionaries Board

Part of the ITU Youth Strategy to further champion the voices of youth to advance digital development



Learn more [here](#).



*Without decisive action, the digital divide can become the new face of inequality. ”*

Tijmen Rooseboom

Ambassador for Youth,  
Education and Work,  
Ministry of Foreign  
Affairs, The Netherlands



In Saint Kitts and Nevis, for example, the government has partnered with telecom companies to provide free Internet access to youth across the island State's 17 community centres, which have provided crucial connectivity to those without Internet connections at home during the pandemic.

"Within our national ICT centres, we established innovation hubs," explains Akilah Byron-Nisbett, the country's Minister of Health, ICT, Entertainment, Entrepreneurship and Talent Development. "We see them as cradles of digital creativity and position them to deliver training in emerging and ubiquitous digital tools."

Many youth organizations welcome the idea of innovation and community hubs as enablers of digital inclusion, where youth get connected first.

When connectivity is limited, shared terminals may provide valuable interim access, notes Ahmad Alhendawi, Chair of Global Youth Mobilization and Secretary General of the World Organization of the Scout Movement.

"The solution to digital inclusion is not binary," he says. "I don't think we have to wait for full connectivity for everyone in their homes."

## Equipped for the future

Securing access to the Internet alone is not sufficient to equip youth for a future in which digital technologies will underpin every industry and society. Young people need to develop the skills and know-how to navigate and leverage the digital world.

Another crucial piece of the puzzle is to make funds available for young people to pursue tech entrepreneurship.

"There's a lot of mentorship available to us, but not enough people who are willing to take a bet on us, our abilities and our ideas," notes Mehrotra. "Universities can start off by giving just a small grant to help kick things off. The amount of confidence that gives young people is absolutely invaluable."



*Within our national ICT centres, we established innovation hubs. ”*

Akilah Byron-Nisbett

Minister of Health,  
ICT, Entertainment,  
Entrepreneurship and  
Talent Development,  
Saint Kitts and Nevis



*Universities can start off by giving just a small grant to help kick things off. ”*

Devshi Mehrotra

CEO, JusticeText

## Seats at the table

The most overlooked element of empowering youth – though arguably just as important – is involving them in decision-making processes.

“It often felt like the future was coded by seven people in a room that I couldn’t access,” Bovell reflects. “And when I further looked at who was in those decision-making rooms, none of them looked like me, none of them had similar experiences to mine.”

According to Kevin Frey, CEO of Generation Unlimited, young voices can be heard by current decision-makers if youth representatives are positioned strategically in the governance and staffing structures “where decisions get made and where resources get allocated.”

Technology holds the promise of unlimited potential for young people, Frey notes. The question for today’s decision-makers is whether they will seize the opportunity to connect children and youth who currently remain offline, giving the next generation access to world-class digital learning and skills.

## Generation Connect Youth Summit

**Generation Connect** aims to engage global youth and encourage their participation as equal partners alongside the leaders of today’s digital change, empowering young people with the skills and opportunities to advance their vision of a connected future.

As part of this initiative, youth representatives from around the world will have an opportunity to engage and exchange with today’s decision-makers at ITU’s Generation Connect Youth Summit ahead of the next World Telecommunication Development Conference ([WTDC](#)).

ITU’s discussion series leading up to the next WTDC included a [Partner2Connect meeting](#) in September on the margins of the United Nations General Assembly.



Empowering young people with the skills and opportunities to advance their vision of a connected future



Discover [more](#).



The Road to Addis – Youth2Connect highlights [video](#)



# Generation Connect

## Youth Summit

**Connecting the  
unconnected to achieve  
sustainable development**

preceding the next  
World Telecommunication  
Development Conference  
(WTDC)

**Co-designed with youth**

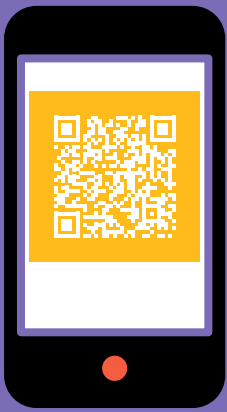
**About the  
Youth Summit,  
and how you can  
get involved.**



# Stay current // // Stay informed

// Key ICT trends worldwide // Insights from ICT thought leaders //  
// The latest on ITU events and initiatives //

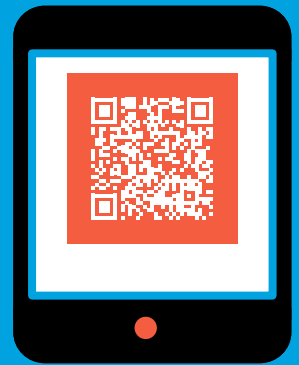
## Sign up to:



//  
*Bi-weekly*  
//



//  
*Regular blogs*  
//



//  
*Six editions per year*  
//



//  
*Timely interviews*  
//



//  
*Get up to date*  
//

*Join ITU's online  
communities on your  
favourite channel*