ITU News
MAGAZINE

04/2016

Meet the Spectrum Experts at the ITU Telecom World in Bangkok

© istock.com/thitivong

Smart Spectrum Solutions

Systems, Solutions and Expertise in
Spectrum Management, Spectrum Monitoring
and Radio Network Planning & Engineering.

Please visit us at
our booth no. 2630!

LS telcom
www.LStelcom.com

Encouraging more women and girls in ICT

Houlin Zhao, ITU Secretary-General

"Governments and enterprises need to be more proactive in helping women thrive in the ICT workforce."

Closing the digital gender divide is a pressing concern. There are more than 200 million fewer women online than men, and the gap is widening.

It is not just a moral imperative. It is a significant opportunity for growth in today's digital economy. And it is an essential pathway for progress on United Nations' Sustainable Development Goal No. 5: to "achieve gender equality and empower all girls and women."

All stakeholders must work together to give women equal access to information and communication technologies (ICTs). We must also provide women better chances to pursue careers in the ICT sector, which is clearly showing a large and growing skills shortage.

Part of the answer lies in education, and promoting girls' increased engagement in science, technology, engineering and mathematics (STEM) subjects. Governments and enterprises also need to be more proactive in helping women thrive in the ICT workforce.

There's been some progress in these areas, but we must strive to do more.

That's why ITU holds the international **Girls in ICT Day** every year in April with the main goal of making girls and young women aware of the vast possibilities offered by ICTs and to give them the confidence to pursue ICT studies and careers.

It is also why we recently joined forces with UN Women to launch **EQUALS**, a diverse partnership of global stakeholders focused on three core areas of action for digital gender equality: access, skills, and leaders. The Equals partnership builds off the success of our **Gender Equality and Mainstreaming (GEM-TECH) Awards**, which commend individuals or organizations that demonstrate a commitment to advancing gender equality and women's empowerment through ICTs. The next GEM-TECH Awards 2016 will soon be handed out at ITU Telecom World, on 15 November, in Bangkok, Thailand.

In this edition of ITU News Magazine you will learn more about ITU's efforts to promote ICT gender equality and also gain insight from a variety of Thought Leaders on how women can reach the top in the tech world.

We at ITU continue to help change the current landscape of gender imbalance in ICTs. Please enjoy this special edition on closing the digital gender divide, and see how you too can help.

"Closing the digital gender divide is a pressing concern."

Houlin Zhao

Shutterstock

(Contents)

How can we close the digital gender gap?

(Editorial)

1 **Encouraging more women and girls in ICT**
Houlin Zhao, ITU Secretary-General

(Thought Leadership)

5 **We must bridge the digital gender divide**
By Doreen Bogdan-Martin
Chief, Strategic Planning and Membership, ITU

11 **How ICT gender equality can boost growth**
By Mats Granryd
Director General, GSMA

14 **Digital equality: Here's what worked for Finland**
By Anne Berner
Finland's Minister of Transport and Communications

17 **Why the world needs Africa's developers**
By Wambui Kinya
Chief Strategy Officer, Andela

(ITU Special Envoy)

20 **Message from Geena Davis**
A new tool to combat gender inequality in media

(Success Stories)

22 **Forging my path in ICT: Three key lessons**
By Karmini Murthy

25 **Perspectives from Pakistan – Women in ICT Engineering**
By Erum Irfan

27 **Gender and the Russian ICT sector's development**
By Gulnara Abdrakhmanova

30 **Girls in ICT Day**
A view from the Arab States

(GEM-TECH Awards)

33 **GEM-TECH Awards: A catalyst for change**

36 **Paying tribute to Magaly Pineda (1943–2016)**
Former GEM-TECH award winner – truly committed to gender equality and closing the digital gender gap

Cover photo: Shutterstock

ISSN 1020–4148
itunews.itu.int
Six issues per year

Copyright: © ITU 2016

Editor-in-Chief: Matthew Clark
Art Editor: Christine Vanoli
Editorial Assistant: Angela Smith

Editorial office/Advertising information:
Tel.: +41 22 730 5234/6303
Fax: +41 22 730 5935
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.

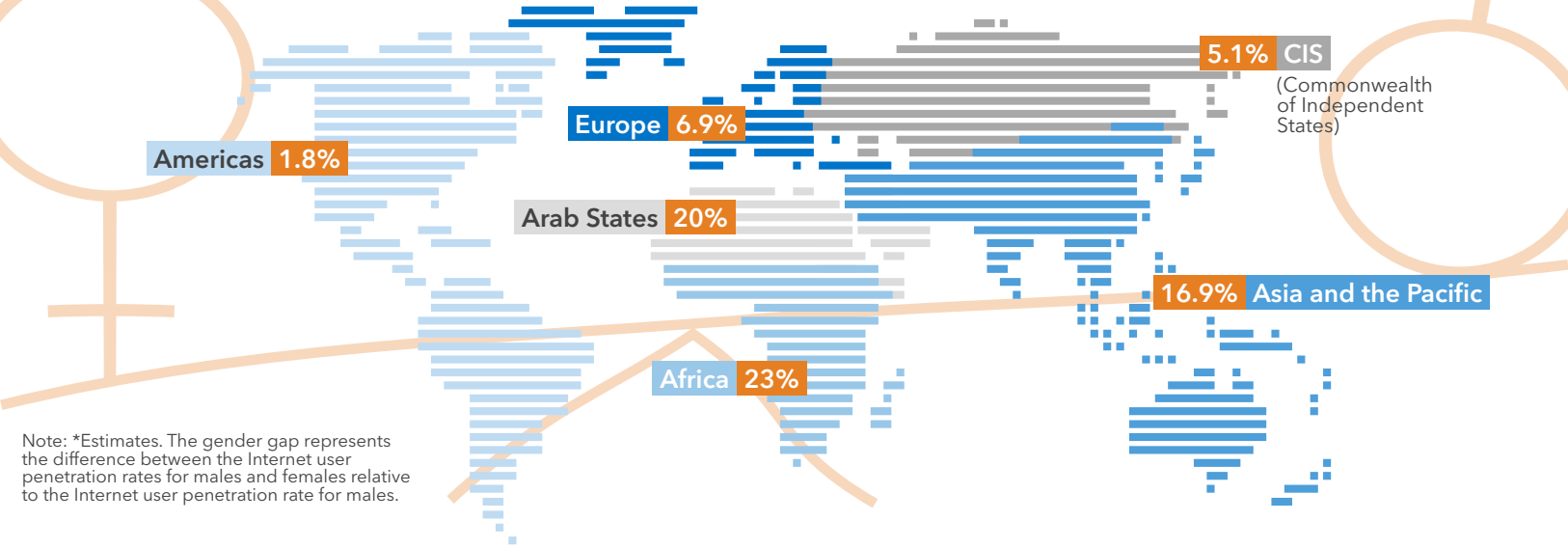
Information and Communication Technology access for gender equality

Enhancing the use of ICTs ...

... can help to close the digital gender gap ...

... and empower women.

The 2016 global Internet user gender gap* is 12%



Note: *Estimates. The gender gap represents the difference between the Internet user penetration rates for males and females relative to the Internet user penetration rate for males.

Structural inequalities in

- Literacy
- Education
- Employment
- Income level

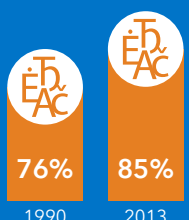
Have contributed to

Gender inequality and the Digital gender gap

- 31% Least-developed countries
- 16.8% Developing countries
- 2.8% Developed world

Literacy

The adult literacy rate has risen to 85% from 76% in 1990



But women account for **over 60% of the world's illiterate**

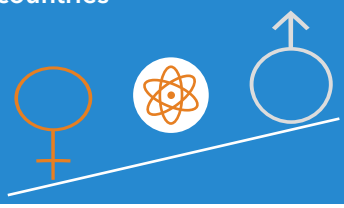
Adult literacy rate (women) in 2013

- 99% Developed countries
- 77% Developing countries
- 53% Least-developed countries

Education

All developing regions have or have almost achieved gender parity in primary education

But the gender disparity widens at the secondary and tertiary school levels in many countries



What can you do to help close the digital gender gap?

Sources: ITU/UN Women

We must bridge the digital gender divide

By Doreen Bogdan-Martin

Chief, Strategic Planning and Membership, ITU

In the 21st century, gender equality and gender empowerment are more important than ever – and with the near ubiquity of information and communication technologies (ICTs) all around us, that makes it essential that we bridge the digital gender divide.

> ***"We face many challenges in bridging the digital gender divide, but together we can achieve it."***
>
> Doreen Bogdan-Martin

This is clearly recognized in the United Nations Sustainable Development Goals (SDGs), and in particular SDG 5, "Achieve gender equality and empower all women and girls", but it goes much deeper than this, because – just as ICTs are crucial to the achievement of all 17 SDGs – so are gender equality and gender empowerment.

As well as seeing more women connected, we also need to see more women in positions of leadership, and more women actively contributing in the tech sector.

At the moment, however, we still have far to go. After several years of progress in terms of increasing female leadership of the world's biggest companies, 2016 has seen a reversal, with only 21 female CEOs now running Fortune 500 companies (down from 24 in 2014 and 2015), and of the 29 new companies that joined the Fortune 500 in 2016, only one has a female CEO. It is telling that women now only run three of the tech companies in the Fortune 500 – IBM, Oracle and Xerox.

The picture is equally dismal concerning women working in the tech sector, with **only 6%** of app developers being women, and **under 6%** of software developers identifying as women, according to recent surveys. This is a great pity, given that companies with a minimum of 30% female participation in management positions **could increase profitability by up to 15%**, according to a survey of almost 22 000 companies from 91 countries, and Intel has estimated that bringing 600 million additional women and girls online could boost global GDP by USD 13–18 billion.

A persistent – and widening – digital gender divide

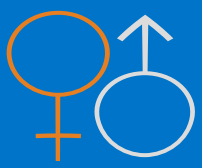
Concerning the Internet user gender divide, it appears to be widening, not narrowing, according to the latest figures published by ITU, growing from 11% at the end of 2013, to 12% at the end of 2016, with more than 250 million fewer women now online globally than men.

Internet user penetration rates (the number of Internet users as a percentage of the total population) are higher for men than for women in all regions of the world with the smallest gaps observed in the Americas and the CIS regions, at 1.8% and 5.1% respectively. The largest gaps are found in the Asia-Pacific (16.9%), the Arab States (20%), and Africa (23%). But the gap is widest of all in the 48 UN-designated LDCs, at 31% – up from 29.9% three years ago.

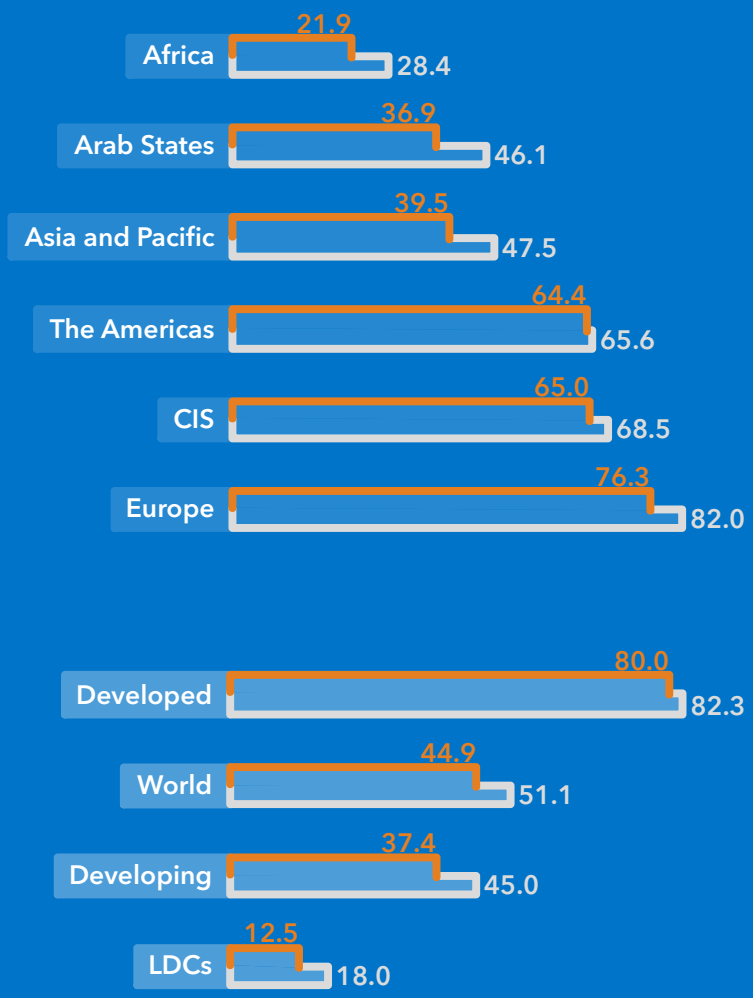
There is an interesting distinction here between gender equality, where the Americas is the clear leader, and gender empowerment, where Europe has easily the highest percentage of women online of all regions, at 76%. This compares to just 22% of women being online in Africa, and less than 13% of women being online in LDCs.

So we clearly need to work on both areas if we are to achieve gender equality – we need to bridge the divide, but we also need to get greater absolute numbers of women online, too.

Internet penetration rates for women and men, 2016*



Internet penetration rates are higher for men than for women in all regions of the world.



Source: ITU

Note: *Estimate. Penetration rates in this chart refer to the number of women/men that use the Internet, as a percentage of the respective total female/male population.

CIS refers to Commonwealth of Independant States.

LDCs refers to Least-Developed Countries.

ITU's response

ITU is working in a number of areas to address these issues – from International Girls in ICT Day, to the annual GEM-TECH Awards, to supporting the Broadband Commission's Working Group on Gender, to our latest initiative with UN Women, the Global Partnership for Gender Equality, '**EQUALS**'.

International Girls in ICT Day, spearheaded by ITU's Telecommunication Development Bureau (BDT), is a global effort to raise awareness on empowering and encouraging girls and young women to consider studies and careers in ICT. It takes place on the fourth Thursday of April each year, and since its launch in 2011, it has been celebrated in 160 countries around the world, with more than 7200 events, and empowered over 240 000 girls and young women. In 2016 alone, more than 66 000 girls and young women took part in over 1900 celebrations of International Girls in ICT Day in 138 countries worldwide.

The annual **Gender Equality & Mainstreaming Technology (GEM-TECH) Awards**, launched in 2014, and jointly organized by ITU and UN Women, celebrate personal or organizational achievements and innovative strategies to advance gender equality and mainstreaming in the area of ICTs. The awards provide a platform for advancing women's meaningful engagement with ICTs and their role as decision-makers and producers in the technology sector.

Broadband Commission's Working Group ...

The GEM-TECH Awards were celebrated for the first time at ITU's Plenipotentiary Conference in Busan, Republic of Korea, in October 2014. Building on the success, 2015 welcomed 150 nominations from individuals, civil society, the public and private sectors, the UN system and international organizations from over 50 countries, for three categories reflecting different dimensions of advancing digital equality of women and girls.

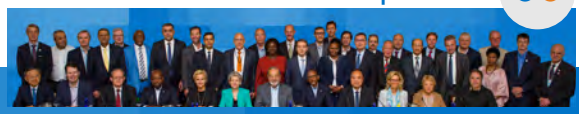
The award ceremony was hosted in December 2015 by UN Women and co-hosted by the Mayor's Office of the City of New York. The GEM-TECH Awards 2016 ceremony will be held in Bangkok, Thailand, during ITU Telecom World, in November. (**See why the GEM-TECH Awards are a catalyst for change**.)

ITU has also joined the **Geneva Gender Champions** initiative, which is a network of senior leaders working to advance gender equality in the executive management of their institutions and their programmatic work through concrete and measurable commitments. ITU Secretary-General, Houlin Zhao, joined the initiative as a Gender Champion, and has announced concrete commitments to advance gender equality within ITU and in programmatic work.

These commitments include adopting positive measures to improve gender balance among ITU staff by amending ITU recruitment procedures to ensure that a minimum target of 33% of all candidates moving forwards to the next level are women. They also include encouraging gender balance among delegates attending ITU conferences and meetings – and ITU held its first female delegates training session ahead of the 2015 World Radiocommunication Conference.

We are also pleased to be supporting the work of the **Broadband Commission's Working Group on the Digital Gender Divide**, which was set up earlier in 2016 under the leadership of UNESCO and GSMA, and which held a face-to-face meeting in New York on 17 September. The working group aims to: facilitate the sharing of information and experience within the Broadband Commission; put together Broadband Commission recommendations for consideration by governments, commercial entities and other stakeholders in order to address the digital gender gap; develop an implementation plan to help put the Broadband Commission's recommendations into effect; and advocate endorsement of these recommendations.

See more photos on



on the Digital Gender Divide

EQUALS

How can you take part in the Equals movement?

Have someone take a photo of you doing the EQUALS sign – you can be on your own or with friends.

This sign visually represents your support for equality.

Then, share the photo via social media (Twitter is best) using the #beEQUALS hashtag and tagging @ITU @Equals.

Last but not least, ITU and UN Women are pleased to be leading **EQUALS**: Global Partnership to Ensure Gender Equality in the Digital Age, a ground-breaking partnership that brings together private companies, civil society and governments to ensure that we achieve the Sustainable Development Goal of Gender Equality in the area of ICTs. The partnership was launched during the UN General Assembly in September, and the first physical meeting of partners will be held in Bangkok, Thailand, during ITU Telecom World 2016, in November.

Time to be positive

We face many challenges in bridging the digital gender divide, but I am absolutely certain that together we can achieve this.

Indeed, in some countries – such as Brazil and the USA – there are already more women online than men, so if the Internet user divide can be bridged there, then surely it can be bridged everywhere. Progress on that key metric is an important part of the broader aim to achieve gender equality in the digital age.

EQUALS

GENDER EQUALITY IN THE DIGITAL AGE

JOIN THE MOVEMENT

ACCESS

Achieve equal access to digital technologies

SKILLS

Empower women and girls with skills to become ICT creators

LEADERS

Promote women as ICT leaders and entrepreneurs

#beEQUALS

@equals

#SDG5

UN WOMEN

ITU

Equals is a global movement dedicated to acting on gender equality; an initiative of ITU and UN Women.

How ICT gender equality can boost growth

By Mats Granryd

Director General, GSMA

Much has been made of the role that new technologies can play in creating equal opportunities; however a persistent gender gap remains, both in the number of women working in the information and communication technology (ICT) industries and in their use of mobile devices.

> *"It is important for boosting economic growth that we address this challenge and ensure gender equality in the workplace."*
>
> Mats Granryd

GSMA

The workforce gender gap

Last year the **GSMA** published a report that looks at the important issue of gender diversity in the telecommunications sector. The report highlights that women are widely under-represented as employees in the telecommunications sector, and this gender gap becomes more pronounced with seniority.

It is important for boosting economic growth that we address this challenge and ensure gender equality in the workplace. It has been well documented that companies with a more gender-diverse workforce perform better. For instance, companies that are gender-diverse and utilize female talent effectively are 45 per cent more likely to report improved market share and 70 per cent more likely to report capturing new markets.

Additionally for profitable firms, a move from no female leaders to 30 per cent representation is associated with a 15 per cent increase in the net revenue margin (**Peterson Institute, 2016**).

The digital gender gap

This gender gap is replicated in the use of mobile phones. When the GSMA examined the ownership and use of mobile phones in its report '**Bridging the Gender Gap**' we found that 200 million fewer women than men own a mobile phone across low- and middle-income countries. Even when women own a mobile phone, they are far less likely than men to use it, especially when it comes to the more transformational services like mobile Internet and mobile money services.

This represents a significant lost market opportunity. Our research shows that closing the gender gap in mobile phone access and usage in low- and middle-income countries could unlock an estimated cumulative revenue opportunity of USD 170 billion for the mobile industry from 2015–2020.

Outside of pure market opportunity, the mobile phone also has a large role to play in achieving the United Nations Sustainable Development Goals (**SDGs**), by providing access to information and life-enhancing opportunities, such as health information, financial services and employment opportunities.

Recognition and resolutions

At the GSMA we have seen some initiatives to address the gap in the workplace and through our research have highlighted a number of best practices including:

- Tailored job descriptions, gender-balanced applicant quotas and balanced recruitment panels;
- Initiatives perceived as added value for both men and women, such as flexible working arrangements;
- Formal succession planning, sponsoring mentor programmes, unconscious-bias training and gender-specific training;
- Returnships (return-to-work internships) and phase-back programmes to fill the talent pipelines, particularly at management levels; and
- Awareness and outreach programmes to equip young girls and women with the skills and inspiration needed to pursue a career in STEM (science, technology, engineering and maths) and relevant qualifications.

While these initiatives and best practices are crucial, a holistic strategy focused on transforming the company culture and mindset is essential to cultivating wider change.

Shutterstock

The need for industry efforts

In order to motivate more women to work in the telecommunications industry, we as an industry must make real efforts to start from the ground up. This means giving girls and young women the opportunities and guidance to pursue STEM subjects, and this must include practical experience, such as internships in the field.

The GSMA, for instance, hosts a "Girls in ICT Day" event each year, to help school-age girls learn about mobile technology and the careers that could be available to them in this area. If every company took similar steps to connect with local schools and implement learning days, it would not be long before we saw the benefits across the industry as a whole.

Turning again to the use of mobile phones, the telecommunications industry is starting to work more closely in order to close the digital gender gap. In February, the GSMA launched its **Connected Women Commitment Initiative**, which seeks to address the gender gap by working with operators across the globe. These commitment partners have pledged to take actions that will measure and close their mobile Internet and/or mobile money gender gap in a specific market. We encourage other operators to join us in these coordinated and concerted efforts that will connect millions more women across the globe.

Next steps

Cooperation across all groups including governments, policymakers, industry stakeholders and operators is vital in ensuring both complete access to ICT employment opportunities and to the transformational benefits of a mobile phone. True collaboration is the only way we will guarantee that we will close these gaps, deliver new market opportunities, and ensure that half the world's population is no longer left behind.

Digital equality: Here's what worked for Finland

By Anne Berner

Finland's Minister of Transport and Communications

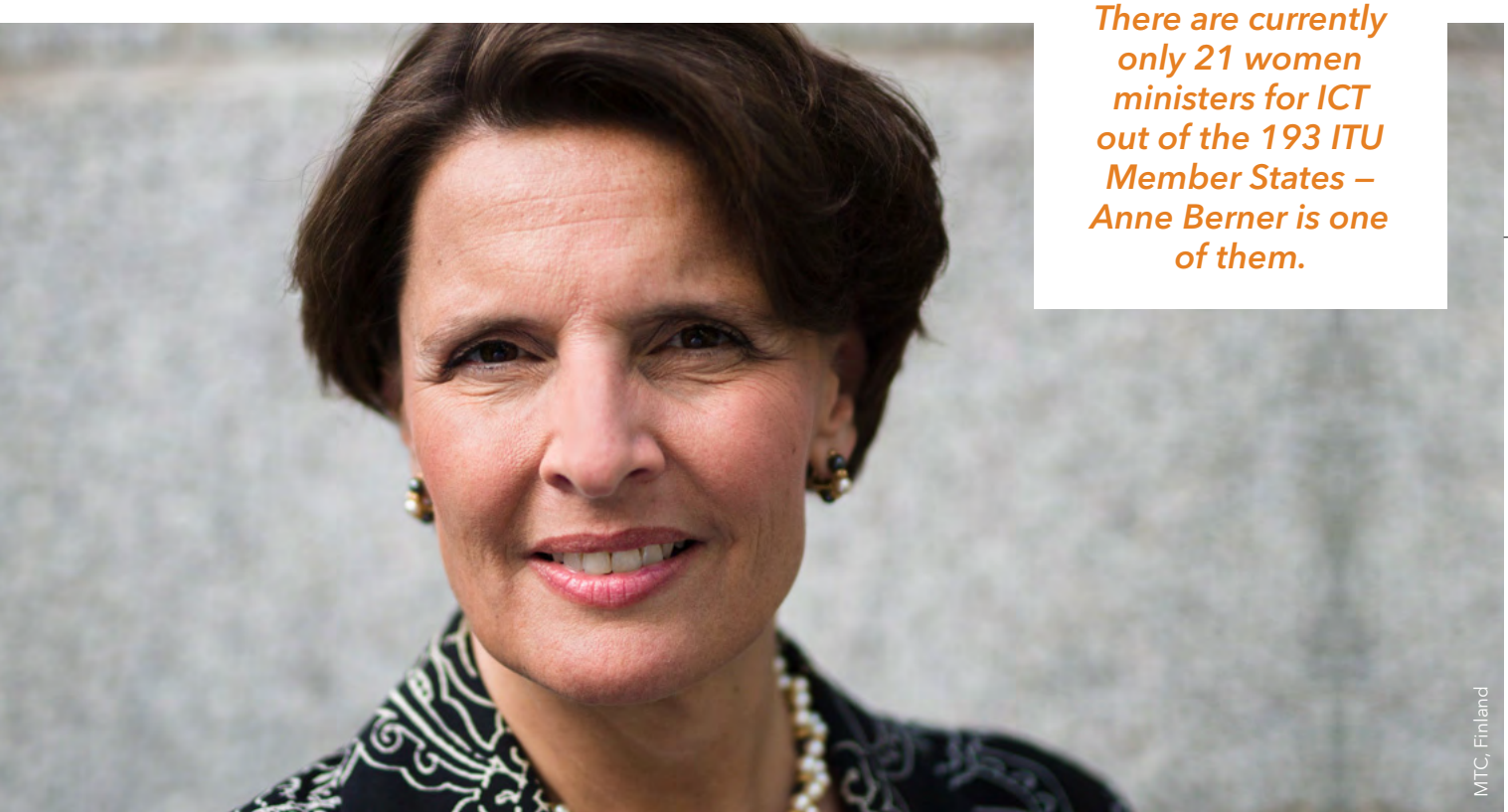
Finland is one of Europe's most sparsely populated countries. The population is distributed unevenly geographically: the majority of Finns live near the coast in the country's south and southwest. In spite of this, nearly all Finns are within the scope of communication networks regardless of their age, gender, where they live, or their status.

Finns are also avid users of the Internet and digital services. That includes men and women, children, young people, adults and the elderly.

Did you know?

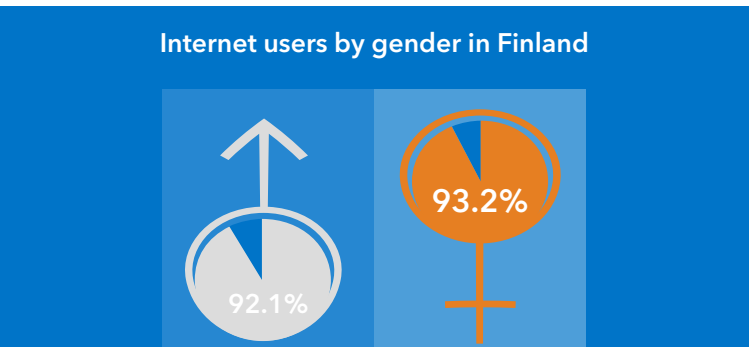
In 1906, Finnish women became the first in the world to receive the full right to vote and the right to stand as candidates in parliamentary elections.

There are currently only 21 women ministers for ICT out of the 193 ITU Member States – Anne Berner is one of them.



MTC, Finland

According to ITU's statistics, 92.1 per cent of men and 93.2 per cent of women in Finland use the Internet. Globally, the ICT gender gap has grown from 11 per cent to 12 per cent in favour of men. Finland is, therefore, in a very good position in terms of ICT gender equality.



What is the reason for this? The question should be viewed from a broader perspective.

There are likely no specific reasons, but one premise has been general gender equality, which applies in education, work, societal impact as well as family life.

Gender equality – a core value for Finns

Gender equality has been a core value in Finnish society for over a century. In 1906, Finnish women became the first in the world to receive the full right to vote and the right to stand as candidates in parliamentary elections.

For even longer than this, women have had equal access to free education of a high standard, which in turn has helped them fully participate in working life. Today, Finnish women are among the most educated in the OECD countries – 44 per cent of working-aged women have a tertiary-level education.

Women's paid employment and the financial independence this affords have been held as the traditional cornerstones of equality in Finland and the other Nordic countries. Women's participation in the labour force is more common here than elsewhere in the world. Approximately half of wage-earners in Finland are women.

The reasons listed above, however, are not enough to explain fully Finland's situation.

Legislation and services – key to achieving gender equality

Infrastructure, services, incentives for use of these services and the right general attitudes, are all essential to ensure the use of digital services.

Finland's communication networks have optimal comprehensive performance, and their use is highly affordable, compared to many other countries. We can say in good conscience that every Finn, regardless of where they live, is within reach of communication services.

> ***"We can say in good conscience that every Finn, regardless of where they live, is within reach of communication services."***
>
> Anne Berner

We have achieved this by implementing a consistent and advanced network policy. The gradual opening up of the telecommunications market began over 30 years ago. Now, we can enjoy a competitive market, good quality and future-oriented technological development.

For example, we want to be a global trendsetter in the use and development of the 5G network.

Digitalization is a pervasive theme in the present government programme: the promotion of electronic services that function on an infrastructure platform in both the business and the public sector.

The government's objective is to promote the potential of digital business activities with the methods it presently has in its use and to facilitate the provision of new services based on digital data. Additionally, a growing number of public services must be available digitally, and they must be user-friendly.

The above is a description of the operating environment that has been built with legislation, the government's objectives and political decisions. The last piece of the puzzle is attitudes. How can we encourage citizens to use digital services?

Services must, for example, make life easier, be easy to use, be affordable or preferably free, even be entertaining, and they must help in eliminating unnecessary routines.

Accessibility – the last threshold of equality

There is one issue that applies to and benefits us all. That issue is accessibility. Accessibility exemplifies equality, and gender equality, to a great extent, as it makes services easier to use independent of a user's characteristics.

Accessibility may be the last threshold of equality, which will facilitate the broader use of digital services, not just among men and women, but genuinely regardless of the user's age, status, and characteristics, or where they live.

Why the world needs Africa's developers

By Wambui Kinya

Chief Strategy Officer, Andela

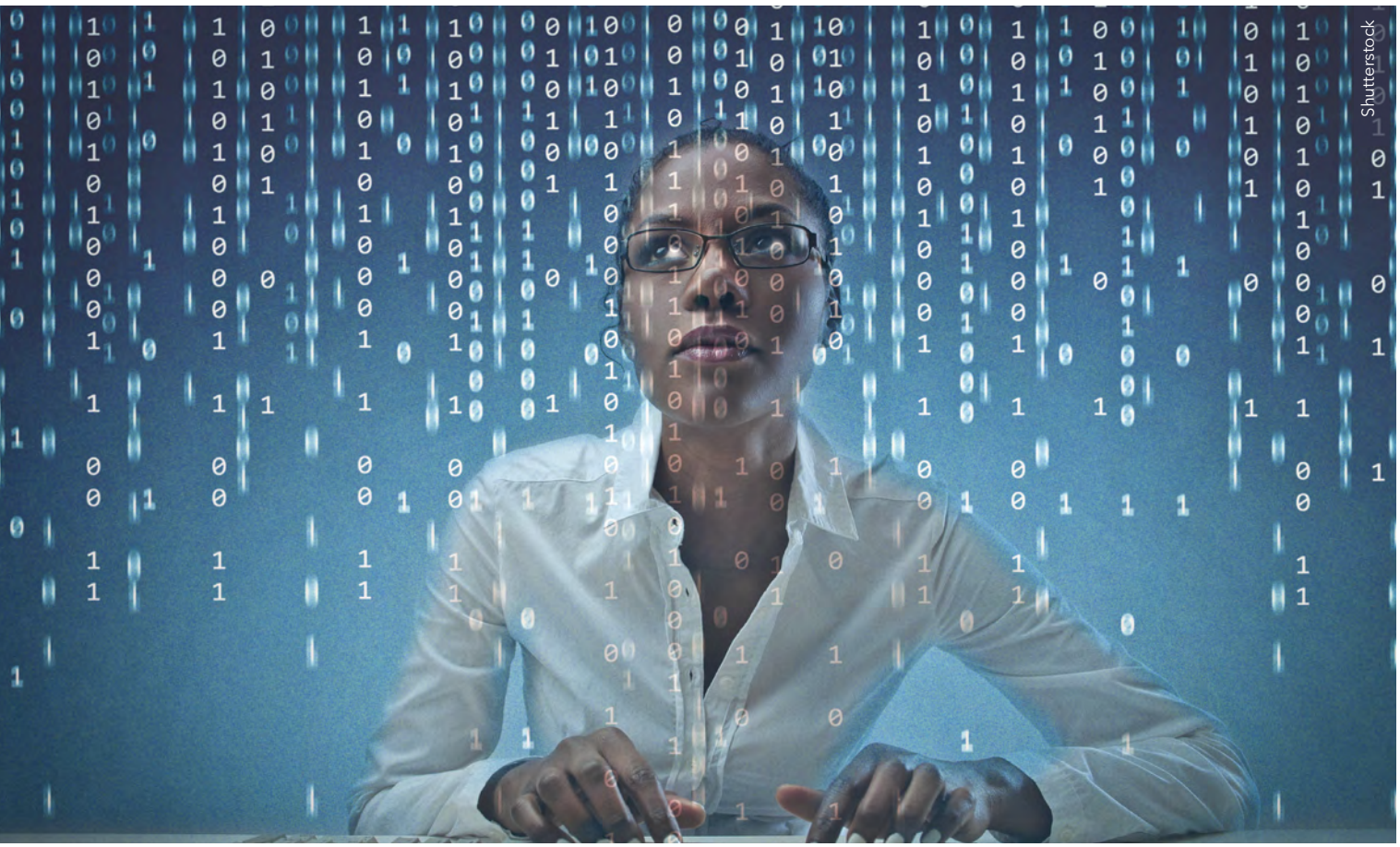
Andela

As an African woman who studied and worked in the United States for fifteen years, I am fortunate to have worked for leaders committed to gender inclusion. This allowed me to start as a developer and grow through the ranks to eventually serve on leadership teams of top multinational technology companies.

> ***"What about the millions of young African women who could be rock-star developers and IT leaders?"***
>
> Wambui Kinya

Now, as Chief Strategy Officer for Andela, I'm helping to build the next generation of global technology leaders. But my story is all too rare.

What about the millions of young African women who could be rock-star developers and IT leaders? How can they get a better shot at success? And how can the world benefit from the ICT innovation they could unleash?



Consider that there are five open jobs for every software developer looking for one in the United States. Africa, meanwhile, has the youngest, fastest-growing population on Earth, with more people joining the labour force over the next twenty years than the rest of the world combined.

Recognizing this potential, Andela launched two years ago to create an enabling environment for Africans to learn, innovate and access the right tools to do so.

About

Andela is helping to build the next generation of global technology leaders by recruiting talented developers on the African continent, and placing them with companies from Microsoft and IBM to high-growth startups.

Grooming Africa's finest

Andela recruits the most talented developers on the African continent, shapes them into technical leaders, and places them as full-time team members with companies that range from global enterprises such as Microsoft and IBM to dozens of high-growth startups.

With offices in Lagos and Nairobi, we already see the power of collaboration across borders and the possibilities to apply thought leadership to support how regional industries mature, innovate and disrupt the status quo.

We recognize technology can breed privilege and thus drive a business model built to expand the access to knowledge.

Andela operates a self-funding model of education. Instead of charging tuition, we enable our developers to finance their own education through their work.

As a result, Andela attracts and selects top talent based on proven methodology that evaluates one's propensity to learn even if they have never written a line of code before.

This is why it gives me great pride to realize what I always knew to be possible, and now experience, as part of Andela. We are proving that it is possible to unlock opportunities at a growing scale all while providing real business value for some of the world's leading technology companies.

It's not Andela's mission that leads more than 90 per cent of our company partners to ask about bringing on additional developers from Nigeria and Kenya within the first six months of working with us – it's the raw talent, incredible drive, and passion to change the world through technology that these young men and women possess.

Big opportunity

Andela is committed to driving change for women in technology – not just because closing the ICT gender gap is the right thing to do, but also because it is a tremendous economic opportunity.

According to a recent **report** published by the McKinsey Global Institute, if "every country narrowed the gender gap at the pace of the fastest improving country in its regional peer group the world could add USD 12 trillion to the annual gross domestic product in 2025." The report states this would be 11 per cent higher than if those countries continued with the status quo.

At Andela we believe there is no excuse for having fewer female software developers. Based on open source research, aptitude assessments, and the satisfaction of our clients, we know that talent is gender neutral. Currently, one in four of our developers is a woman – nearly four times **Stack Overflow's** estimated global average of 5.8 per cent female developers. Yet we still have work to do, which is why Andela has launched initiatives like She Loves Code to recruit all-female cohorts, mentor young women in tech, and ensure a safe, secure, and fair work environment.

Andela is one organization in a much larger ecosystem working on what often feels like a nebulous task: to ensure that girls and women do not lose out on opportunities, but instead that they are given the support to grow and thrive. A lot more still needs to be done in solidarity for what is right in equity and parity but if that does not inspire, hopefully the untapped potential to enhance innovation and growth by including the gender that comprises the largest population of the consumer base does.

Let's see how we can work together to accelerate what is possible.

CV

Geena Davis is the Founder and Chair of the **Geena Davis Institute of Gender in Media**. She is an Academy Award®-winning actor and advocate, the **ITU Special Envoy for Women** and Girls in ICT, and an official partner of **UN Women**.

Message from Geena Davis

A new tool to combat gender inequality in media

As ITU's Special Envoy for Women and Girls in ICT, I am very pleased to see that technology is continuing to offer large-scale opportunities to empower women and girls. ICTs can also now help us analyse gender inequalities faster and with more precision than ever before. This is crucial if we are to make progress, which is why the Geena Davis Institute on Gender in Media at Mount Saint Mary's University just launched a ground-breaking new automated software tool to monitor gender inequalities in media content.

The Geena Davis Inclusion Quotient (**GD-IQ**), which was funded by Google.org and incorporates Google's machine learning technology and the University of Southern California's audio-visual processing technologies, can analyse massive amounts of data to determine how often women appear on screen and how much they talk compared to their male counterparts.

"The GD-IQ is an extraordinary tool that gives us the power to uncover unconscious gender bias with a depth that had never been possible to date..."

Geena Davis

“…Our hope is that we can use this technology to push the boundaries of how we identify the representation imbalance in media. Media that is more representative of our society not only fosters a more inclusive industry, but by increasing the number and diversity of female leaders and role models on screen, content creators are affecting the ambitions and career aspirations of young girls and young women everywhere. If she can see it, she can be it.”

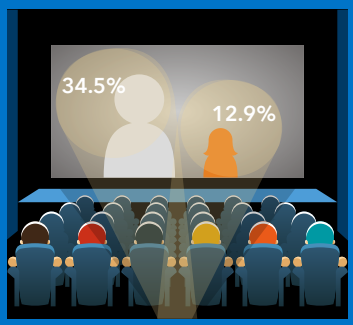
Geena Davis

The GD-IQ has revealed that when women are present, they have far less screen time and speaking time. This means that simply adding more women into films is not enough. To truly address gender inequity, female characters need to be seen and heard as often as their male counterparts.

Below is a summary of the GD-IQ key findings. For more information read our report: **The reel truth: Women aren’t seen or heard**.

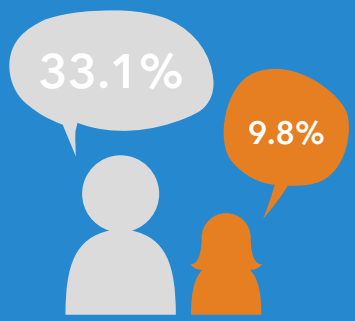
Summary of key findings

Screen Time



- **Male characters received two times the amount of screen time as female characters in 2015 (28.5% compared to 16.0%).**
- **In films with a male lead, male characters appeared on screen nearly three times more often than female characters (34.5% compared to 12.9%).**

Speaking Time



- **Male characters spoke two times as often as female characters (28.4% compared to 15.4%).**
- **In films with male leads, male characters spoke three times more often than female characters (33.1% compared to 9.8%).**

Box Office

- **Films led by women grossed 15.8% more on average than films led by men.**

Forging my path in ICT: Three key lessons

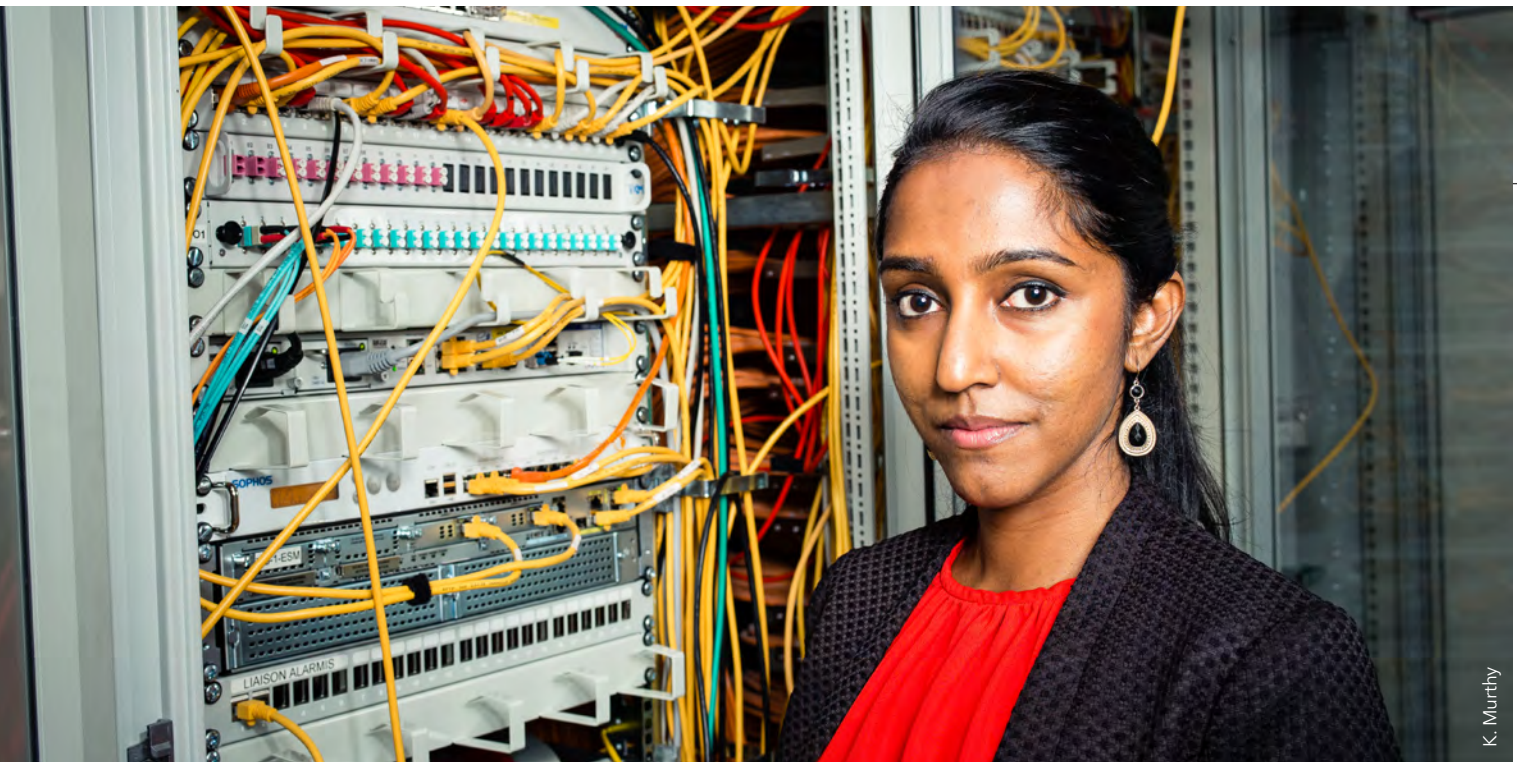
By Karmini Murthy

IT Transformation Officer, European Stability Mechanism

I was the first person in the meeting room and as it gradually filled with the 20-odd participants, I noticed that I was once again the only woman. The meeting chairman walked around the table greeting everyone with a handshake but walked right past me without any acknowledgement.

As a network operations engineer in a large telecommunications company in my home country of Malaysia, I had experienced many such instances.

> ***"Gender discrimination wasn't really intentional, most of it was cultural and, thus, even socially accepted."***
>
> Karmini Murthy



K. Murthy

While troubleshooting equipment in cramped server or Subscriber Distribution Frame (SDF) rooms, the male field technicians would ask if I preferred to wait outside. When doing site visits or field work, the men would freely decide to climb ladders or enter manholes while the handful of women were advised that it was not suitable. These situations were commonplace yet they were subtle enough to be easily disregarded. Gender discrimination wasn't really intentional, most of it was cultural and, thus, even socially accepted.

Finding the right balance

I chose not to concede to these social norms that I did not believe in. When I was overlooked at a meeting, I would stand up when speaking, commanding the attention I deserved with my body language. When I was asked not to "crowd" a cramped up server room, I would sit underneath or inside empty racks or shelves, so that my colleagues did not have to worry about invading my personal space. When I wanted to learn how to jumper cables in the exchange, I would change from my heels into my work shoes (I love high heels and unapologetically wear them everywhere!) and climb the ladder myself.

I made a conscious effort to accommodate the "expected behaviours" of my male colleagues without compromising on my own intents and desires. Reflecting upon my experiences years later, I realized that that was perhaps the biggest lesson I learnt.

As my career progressed to more challenging leadership and change management roles, I faced more engagements where I needed to overcome stereotypical expectations. There were three things that helped me the most.

Three key lessons

1 Firstly, I learnt to work alongside or around the differences, instead of battling them head-on. Change is difficult, especially when related to ingrained beliefs or unconscious biases. I once had to convince a pilot project team of experienced field technicians, most of whom were many years my senior, to try a different way of working. I realized that despite the accuracy and certainty of my method, hearing it from a young, minority woman – someone so relatively dissimilar on so many levels – was almost unnatural for them. Instead of pushing my agenda squarely on them myself, I decided to work with a respected peer of theirs, who championed my ideas and jointly promoted them with me. As people discovered that I actually knew all the technical procedures, from Main Distribution Frame (MDF) jumpering to Digital Subscriber Line Access Multiplexer (DSLAM) configuration, they were able to look past their clichéd expectations of me and collaborate professionally.

2

That led to my second key lesson: show results and let the work speak for itself. Instead of simultaneously striving to have my voice heard, my new ideas implemented and my job responsibilities expanded, I learnt the proverbial art of picking my battles. When others were fighting for spots to present to the CEO, I fought to lead a project which eventually earned me the opportunity to present to the entire C-suite. Being someone for whom patience was not quite a virtue, this was not easy. I had many moments where I resented some of my colleagues who appeared to believe that some things were rightfully theirs while I endeavoured to prove myself. Nevertheless, if you're good at what you do and enjoy hard work, the long-term gains far outweigh the momentary struggles.

3

Lastly and perhaps most importantly, have a mentor who supports and advocates for you. I am fortunate to have had a couple of great coaches and an amazing mentor throughout most of my professional career. I was introduced to one of the C-level executives by a consultant with whom I was working. As a good coach himself, this consultant was keen to support the professional growth of the clients he worked with. The executive was open to giving junior-level, hitherto unrecognized employees opportunities to be part of large-scale initiatives he was implementing. He was and still is a great believer in my abilities and never entertained the idea that being female had any bearing on what I could and could not do. He is always aware of the difficulties I face being in predominantly male environments but he also always encourages me to think through my approaches and then execute them with conviction.

My career has since progressed across different roles, job functions, organizations and even geographic locations, and these lessons have remained relevant, and applicable. While I currently do not have a woman as a personal mentor, I have tried to pay it forward by being one myself. And my greatest reward yet was when my very talented mentee told me: "You have been a good mentor and I have much to learn from you."

Shutterstock

E. Irfan

Perspectives from Pakistan – Women in ICT Engineering

By Erum Irfan

Engineering student

I was asked the question by one discouraging voice "Why are you wasting your time and money on engineering? All you'll ever be is a housewife". Another spoke softly, "You poor soul, engineering isn't for women." A professor in my first year of engineering studies said on multiple occasions that she didn't want to 'waste' a lot of time trying to explain complex engineering concepts to us on the grounds that they were far too 'technical' for girls.

In my experience as a female engineering student in Pakistan, I have found that the gender bias still exists in the discouraging attitudes towards girls in engineering.

In a country where a little over 50% of the population is female, it's crucial for women to shape our country's future in the engineering industry alongside men. Sure, there are working women with a background in engineering in Pakistan; but the male-to-female ratio in this field is unsatisfactory. It hurts our nation socially and economically to have such a large portion of our population not contribute to its development.

The government, and NGOs such as Women Engineers Pakistan, are working to help women in engineering and encourage young girls to pursue their dreams of being STEM students.

In addition, Girls in ICT Day events have been taking place in many schools and colleges around Pakistan to help girls get involved in careers in ICTs.

Most notable is the work of Anusha Rehman Khan, our Minister of State for IT and Telecommunications. As a result of her efforts, the IT Ministry partnered with Microsoft Corporation to introduce a programme called 'ICTs for Girls' which launched 50 ICT labs all over the country for the education and empowerment of women.

Likewise, the organization 'Women Engineers in Pakistan' has been focusing on career counselling for young girls, as well as a forum of support, working to provide job prospects to women in the field of engineering.

Lastly, we are seeing more Girls in ICT Day events in Islamabad, such as the Computer Logic Competition held at Al Farabi School and College, which gave prizes to winning projects in coding and knowledge platforms.

The Pakistani government is constantly working on providing more chances to girls in engineering, while women's empowerment organizations are working to change the mindset of the people and are helping young girls pursue engineering careers. The way I see it, both movements are equally important for the economic and social development of our country. I truly hope that our generation of female engineers will pave the way for a Pakistan where women stand shoulder to shoulder with men in STEM fields.

Did you know?

Minister Khan was recognized as a GEM-TECH Award Global Achiever 2015 by ITU and UN Women, and is a commissioner of the Broadband Commission for Sustainable Development.

Shutterstock

Gender and the Russian ICT sector's development

By Gulnara Abdrakhmanova

Head, Centre for Statistics and Monitoring of Information Society,
Institute for Statistical Studies and Economics of Knowledge,
National Research University Higher School of Economics (HSE), Russia

In Russia and the Commonwealth of Independent States (CIS) countries, gender equality policies have been in place for some time.

Data indicates that while Russian women actively participate in developing the information society and digital economy, both as users and producers of information services, and that information and communication technologies (ICTs) have become an integral part of their everyday life, there is a gender imbalance in the telecom industry workplace.

ICT development trends in Russia

ICTs in recent decades have affected production processes, promoted the emergence of new industries, and transformed communication competencies in Russia.

The most significant changes have been noted in ICT infrastructure, with projects being implemented that have led to impressive results in mobile communications and broadband Internet penetration. In 2015, the country achieved one of the highest mobile communication penetration rates in the world: 194 subscriber units per 100 inhabitants, according to data from the Ministry of Telecom and Mass Communications of the Russian Federation (2016) [Mobile-cellular telephone subscriptions per 100 inhabitants /Statistics of the industry (**in Russian**)]. The Higher School of Economics (HSE) estimates that the Russian mobile penetration rate is one quarter higher than in developed countries (151 and 123 active subscribers per 100 inhabitants in 2014, respectively), and two thirds higher than in developing countries (151 and 91), according to ITU's Mobile-cellular telephone subscriptions per 100 inhabitants [**Key 2005–2016 ICT data indicators**].

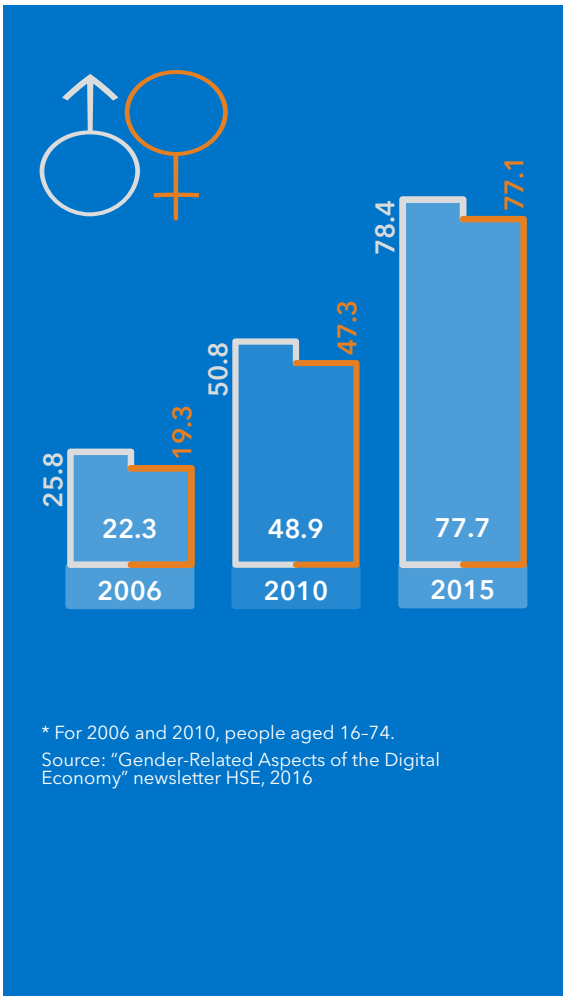
Changes in the telecommunication sphere have promoted further development of data transfer equipment and networks, including wireless Internet access, which has created opportunities for meeting the global challenge of providing ubiquitous ICT-based access to information. The wide proliferation of ICTs and sufficient level of relevant skills have become not only necessary conditions for stimulating sustainable economic growth, but an integral aspect of quality of life.

Yet, differences have been noted regarding women's and men's participation in various ICT-related practices.

Internet use in Russia

In 2015, 77.1% of women aged 15–72 used the Internet. The figure for men in the same age group was only 1.3 percentage points higher, at 78.4% (see figure). In 2006 this gap amounted to 6.5% percentage points (19.3 and 25.8%, respectively).

Internet use in Russia
(% of all individuals aged 15–72)*



* For 2006 and 2010, people aged 16–74.

Source: "Gender-Related Aspects of the Digital Economy" newsletter HSE, 2016

The gender gap between the numbers of active (daily) Internet users is also insignificant. Overall, Russian women are practically on a par with men (55.0 and 55.3%, respectively), and in rural areas, women are ahead of men (44.8% against 42.7%)*.

Thus, in terms of adjusting to the information environment, women are active users of ICTs. However, the same cannot be said about their participation in developing these technologies.

Women's ICT employment and education

The ICT industry in Russia (like in the OECD countries where the share of women employed by the ICT sector doesn't exceed 30%) has traditionally been male-dominated. Only 19% of professionals employed by the ICT sector are women; for top-level professions the figure is 18%, for the medium-level ones – 21%. The most "male-dominant" top-level profession is programmer (the share of female programmers doesn't exceed 17%). For electronics engineers, communications and instrumentation engineers, computer systems developers and analysts, the relevant figure varies between 20% and 22%. For medium-level ICT occupations, the highest share of female workers is noted for technicians and equipment operators in radio and TV broadcasters and telecommunication companies – 34%. The average gender gap for ICT professionals is four-fold, varying for specific occupations between 2 and 7 times*.

Salaries also vary. In 2013 the average wage gap in telecommunications companies was 1.6 times (23.8 thousand roubles for women versus 38.7 thousand roubles for men)*.

Education statistics suggest that there are no significant changes expected of women's positions in the field of ICT in the near future. In 2014, with the average share of women in the total number of university graduates being 58%, for mainline ICT-related professions it was 30%. Specifically, for "Informatics and Computers" the relevant figure was 24%, for "Electronic Equipment, Radio Engineering, and Communications" – 21%, "Applied Mathematics and Informatics" – 41%.

The highest shares of women were noted for ICT-related occupations in education, medicine, and economics. In particular, 54% of graduates in "Informatics" and "Applied Informatics" were women; the relevant figure for "Medical Cybernetics" was 73%, and for "Business Informatics" – 49%*.

* Source: "Gender-Related Aspects of the Digital Economy" **newsletter HSE, 2016** (in Russian).

Girls in ICT Day

A view from the Arab States

Did you know?

In 2016, more than 66 000 girls and young women took part in over 1900 celebrations of International Girls in ICT Day 2016, in 138 countries worldwide!

International **Girls in ICT Day** is celebrated around the world on the 4th Thursday in April every year. It is dedicated to hosting events in which girls and university students are invited to spend the day at the office of ICT companies and government agencies so they better understand the opportunities the ICT sector holds for their future.

This article highlights a number of inspiring Girls in ICT Day events that were organized in 2016 in the Arab States region.

Alfa Telecom, Beirut, Lebanon, organized a celebration for girl students from nine high schools to visit Alfa and see how women work in the ICT domain. They also took part in activities about Internet security, a competition which included research and a presentation about the Internet of Things (IoT).

DATA Nagaa Khamis, Luxor, Egypt, celebrated in collaboration with the Information Technology Institute (ITI) by holding a training session for girls that lasted for three months on how to create Web applications using open-source software.

How to ?

Here's how to organize a Girls in ICT Day event.

Our toolkit can help you with ideas.

Alfa Telecom, Beirut, Lebanon, organized a celebration for girl students from nine high schools

Rafik Hariri University (RHU), Meshref, Damour, Lebanon, organized its first "Girls in ICT Day" in the Grand Theater on the RHU campus.

The University College of Applied Sciences (UCAS), Gaza, Palestine, celebrated by announcing five winners from a competition launched one month earlier. Women ICT leaders shared their stories to encourage the new young generation to enhance their careers in ICT disciplines. Tech workshops also took place.

The General Information Authority in Tripoli, Libya, celebrated its first Girls in ICT Day for Libyan secondary school girls and members of the Girl Guides.

Visual presentations were delivered on the upgrading of the national information system, designed to create a smart environment for information and e-services provided by women engineers. Field visits also took place during which participants learned about the role, position, experience and expertise of Libyan women in ICT.

The Higher Colleges of Technology (HCT), United Arab Emirates, (the first in UAE to become an ITU Academia member), through its female campuses spread across UAE, enabled and encouraged girl students to experience technology in a highly interactive, fun and experiential manner by hosting a wide range of highly successful and popular events, such as PC build-a-thons, Mobile App development displays and workshops, robotics workshops, quizzes, panel discussions, programming competitions, guest speakers and final-year projects.

UAE: Events at the Higher Colleges of Technology-PC build-a-thons, Mobile app development displays and workshops

du, United Arab Emirates, celebrated Girls in ICT Day this year, as part of du's partnership with Zayed University (ZU), and the launch of the second du Multimedia Lab. du challenged ZU students to deliver a concept which would highlight this support in a creative and engaging manner, with the chance of seeing this campaign brought to life.

As part of a competition, the winning group of ZU students created a campaign consisting of a short video featuring a group of young girls discussing what trends meant to them, how today's trends are predominantly technology related, and how technology is enhancing the popularity of these trends.

University College of Bahrain, Manama, Kingdom of Bahrain, celebrated the 6th Girls in ICT Day at the UCB Auditorium with an event aiming to raise awareness and inspire young girls and women to utilize technology and consider careers in the ICT field.

ICT gender equality in the region

According to ITU's recent statistics, the Internet user penetration rate gender gap is currently 20% in the Arab States. There is therefore still a lot to do to achieve ICT gender equality in the region. What can you do to help?

To celebrate Girls in ICT Day all stakeholders are encouraged to organize events with the vision to empower and encourage girls and young women to consider studies and careers in the growing field of ICTs.

The next International Girls in ICT Day will be celebrated on

27 April 2017

GEM-TECH Awards: A catalyst for change

The Gender Equality and Mainstreaming (GEM-TECH) Awards 2016 will soon take place, at ITU Telecom World, on 15 November, in Bangkok, Thailand.

Co-organized by ITU and **UN Women**, the annual GEM-TECH Awards commend individuals or organizations that demonstrate a commitment to advancing gender equality and women's empowerment through information and communication technologies (ICTs).

This year's GEM-TECH Awards will focus on three categories:

- Apply Technology for Women's Empowerment and Digital Inclusion
- Promote Women in the Technology Sector
- Develop Gender-Responsive ICT Governance, Policy and Access

The GEM-TECH Awards play a valuable role in raising the profile of important and inspiring projects, people and initiatives. They also help ensure that role models, good ideas, programmes, projects, and best practices can be shared, replicated and scaled up globally.

The GEM-TECH Awards ceremony itself is a chance for celebration and reflection. Awardees have the opportunity to present and discuss the importance of their work and their achievements. The event involves gathering and sharing experiences, which can be a very powerful means of encouragement, and can serve to motivate others.

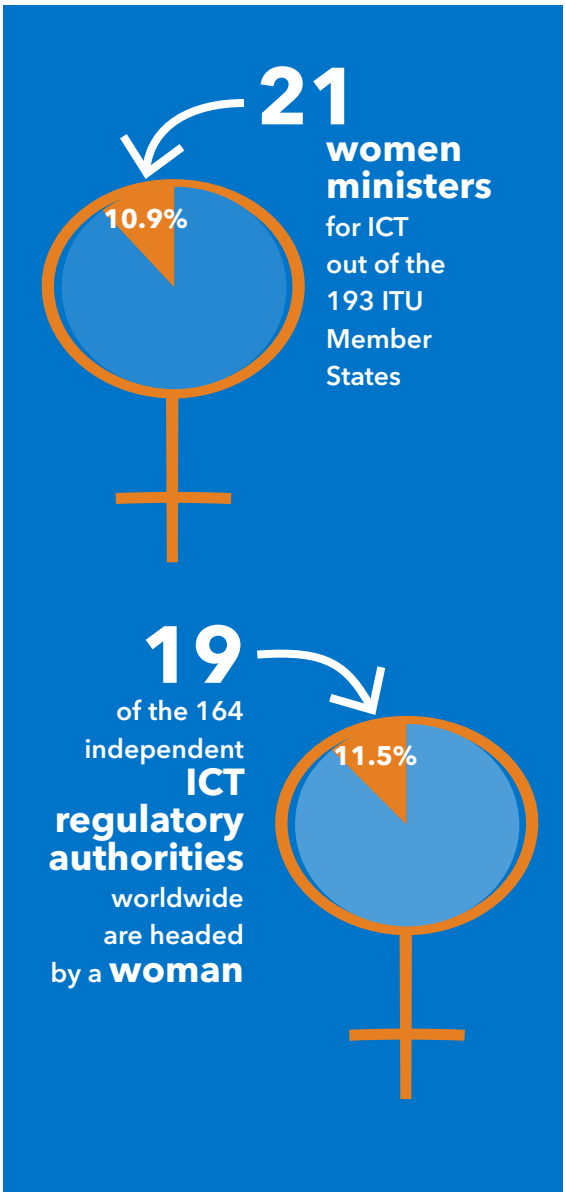
The current reality of the growth in ICT jobs, coupled with a lack of women working in the ICT field, makes global gender equality and mainstreaming initiatives such as the GEM-TECH Awards all the more necessary.

The ICT field needs more women, and more women leaders

ITU has estimated a significant **global skills shortfall** of ICT jobs in the coming years. There is a global lack of women entering the ICT field. With digital technologies now pervading every business sector, girls and young women who learn coding, apps development and computer science will have a significant advantage over their non-tech-trained peers, regardless of the field they eventually choose to work in.

There is also a lack of women in ICT leadership roles. Considering the public sector alone, there are currently only 21 women ministers for ICT out of the 193 ITU Member States, and only 19 of the 164 independent ICT regulatory authorities worldwide are headed by a woman.

The root of the problem often lies at the basic education level, an area where the GEM-TECH awards have helped lead to marked improvement.



An example success story

The recent success of a 2014 GEM-TECH Award winner provides a good example of how the awards can be a catalyst for change in the area of education.

In 2014, the Research Center for Feminist Action (CIPAF) in the Dominican Republic won one of the first GEM-TECH Awards for the "*E-Chicas*" and "*Supermáticas*" science, technology, engineering and maths (STEM) clubs for girls that they helped set up under the direction of Magaly Pineda (see "**Paying tribute to Magaly Pineda**").

The clubs are committed to building girls' self-esteem and leadership skills, and they include training in robotics, electronics, and coding. Still, CIPAF faced challenges persuading education centres to permit the development of pilot STEM clubs: only 1 in 3 agreed initially, Ms Pineda told UN Women in an interview last year.

But now there are around 1400 students attending 92 clubs, according to the Ministry of Education of the Dominican Republic (MINERD), which announced this year its commitment to foster the clubs due to their success. MINERD has allocated funding to further implement the clubs in primary and secondary schools throughout the Dominican Republic with an extended school day programme.

"With the formation of these clubs, great efforts are being made to close the digital gender divide in this country," said Claudia Rita Abreu, General Director of Computer Education.

Learn more

The **2016 GEM-TECH Awards** received 311 nominations from 81 countries from a wide and diverse array of stakeholders.

Take a look at this year's **finalists video**.

Don't miss the **winners announcement on 15 November**.

Read more about last year's GEM-TECH Awards ceremony and the celebration that took place on 14 December 2015 at New York's Civic Hall: **GEM-TECH Awards finalists-2015.**

To see the first edition of GEM-TECH Awards in 2014 in Busan, Republic of Korea, click **here**.

To have a GEM-TECH winner be supported, recognized and promoted by a government department – to ensure and help bolster a project so that it can begin to scale up – is one of the ultimate aims of the GEM-TECH Awards.

A key success factor of the GEM-TECH Awards is the number of collected stories shared by different stakeholders who have then been able to connect and discuss successful strategies for promoting women's empowerment in and through technology. With the aim of scaling up similar successful stories, programmes and initiatives, ITU and UN Women recently launched **EQUALS**: The Global Partnership for Gender Equality in the Digital Age – a global coalition to promote women's empowerment through ICTs.

Paying tribute to Magaly Pineda (1943–2016)

Former GEM-TECH award winner – truly committed to gender equality and closing the digital gender gap

wgnrr.org

On 29 March 2016, the world lost a champion for closing the digital gender divide when Magaly Pineda passed away.

Thousands of young girls and women worldwide will be thankful for the work done by Pineda throughout her lifetime as a key feminist figure in Latin America.

Pineda's legacy lives on, not least in the form of several initiatives to close the digital gender gap in her home country of the Dominican Republic – programmes that earned her the **ITU's prestigious Gender and Mainstreaming (GEM-TECH) Award in 2014**.

The Dominican Republic's 'mother of feminism'

In 1980, Pineda founded the Research Center for Feminist Action (CIPAF) in the Dominican Republic, where she was very well known since the 1960s as the "mother of feminism" and a defender of women's human rights across Latin America and the Caribbean.

In 2012 CIPAF – the country's first research centre for feminist action, and one of the first in Latin America – undertook studies in the digital gender divide that found that contrary to popular belief, girls had actually achieved better grades at school than boys in mathematics.

This led to CIPAF organizing the Gender and ICTs: Equality and Equity in E-Dominican project (supported by the UN Women's Fund for Gender Equality), with the aim of overcoming stereotypes, promoting interest in mathematics among girls, and reducing the digital gender divide in the Dominican Republic.

By 2012, women already represented 61 per cent of the university population in the Dominican Republic and yet, barely 11 per cent of these students were studying for careers in science and technology.

While more women are entering universities, women are generally still absent from key areas of the economy. "The ICT [information and communication technology] sector is the fastest growing in the country, but women represent only 33 per cent of the labour market and most of them in support tasks," said Pineda in 2012.

'E-chicas' and 'Supermaticas': Making a difference

To address this reality, under the direction of Magaly Pineda, CIPAF created science, technology, engineering and mathematics (STEM) clubs called "E-chicas" and "Supermaticas." The STEM clubs for girls and young women ensure that they are not excluded from areas of knowledge because of their gender, while helping fill the gap in professionals in studying mathematics, science, engineering and technology, which affects the Dominican Republic's competitiveness in the world economy.

In November 2014, ITU and UN Women recognized CIPAF and Pineda's work towards closing the digital gender divide with a very well-deserved **GEM-TECH prize for category No. 4: Enabling Girls to Become ICT Creators**.

In 2016, the Dominican Republic's Ministry of Education (MINERD) announced the integration of CIPAF's "E-chicas" and "Supermaticas" in primary and secondary schools.

"This year is a very important one for us," said Claudia Rita Abreu, General Director of Computer Education, "because this is one of the legacies left by Magaly Pineda".

There is still work to be done in the Dominican Republic and Latin America and the Caribbean as a whole, to achieve gender equality and close the digital gender gap. Pineda's passing earlier this year is a reminder that the enormous enthusiasm, and tireless efforts she undertook to strive for gender equality, and to close the digital gender divide, need to be continued, and also replicated in other parts of the world.

ITU NEWS NEWSLETTER

...Stay current.
.Stay informed.

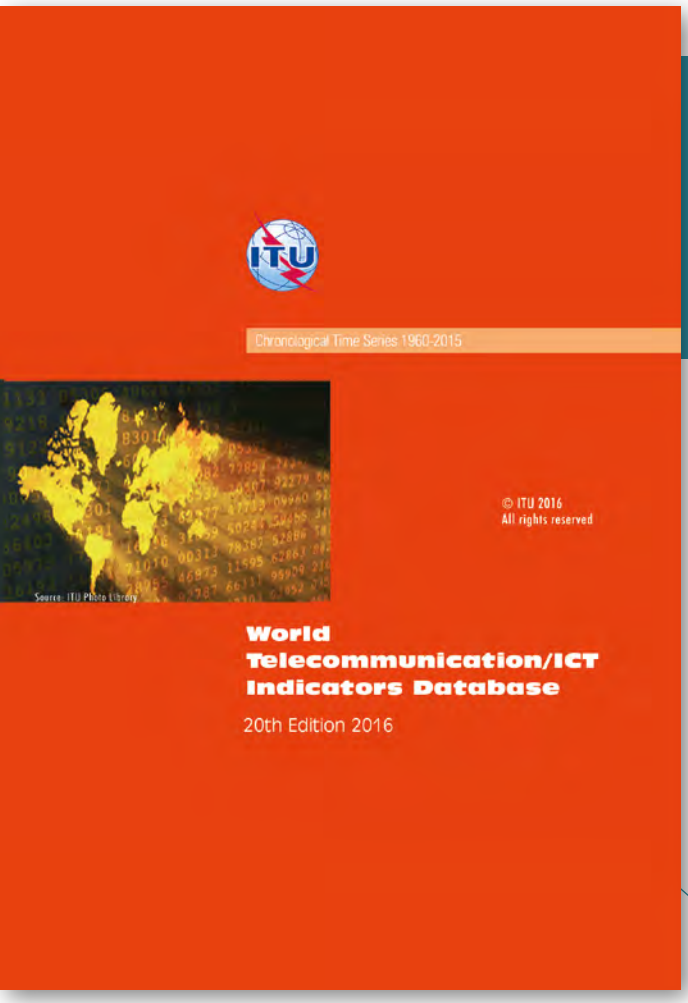
The weekly ITU Newsletter keeps you informed with:

- Key ICT trends worldwide
- Insights from ICT Thought Leaders
- The latest on ITU events and initiatives

Sign up today!

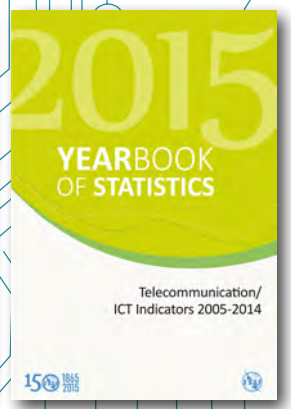
BOOKshop

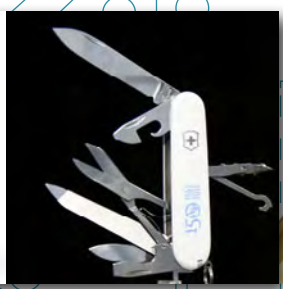
One-**STOP** data **SHOP**

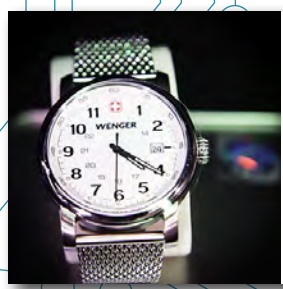


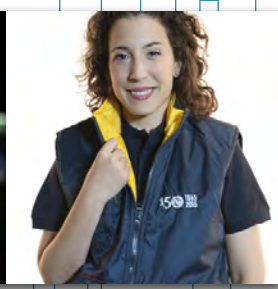
Order now at **http://www.itu.int/en/publications/Pages/default.aspx**

For more information, please contact sales@itu.int









ITU TELECOM WORLD '16

Bangkok 14–17 November

BETTER SOONER

Accelerating ICT innovation to improve lives faster

ITU Telecom World 2016 is the global platform to accelerate ICT innovations for social and economic development. It's where policy makers and regulators meet industry experts, investors, SMEs, entrepreneurs and innovators to exhibit solutions, share knowledge and speed change. Our aim is to help ideas go further, faster to make the world better, sooner.
Visit telecomworld.itu.int to register your interest.

#ituworld
telecomworld.itu.int