For website upload – November 2016

SMARTer2030 Action Coalition

Advance Digital Solutions for Energy and Climate

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OVERVIEW

This is a call to action. The world's political leaders have taken important steps to address the challenge of climate change with the entry into force of the Paris Agreement of the UN Framework Convention on Climate Change (UNFCCC) on November 4, 2016. A core part of this agenda is to de-link economic growth from resource use, especially energy consumption. The implementation of information and communications technology (ICT) is vital to the meaningful achievement of this agenda. In 2015, the Global e-Sustainability Initiative (GeSI), comprised of more than 40 leading global ICT multinational companies and partners, laid out a roadmap for doing just this with its SMARTer 2030 report – ICT Solutions for 21st Century Challenges. As business, government, and civil society mobilizes for COP22, the COP of action, we cannot – we must not – wait to begin to implement this roadmap now.

However, there are significant obstacles that need to be overcome to actualize the full benefits of ICT's enablement potential. If the world is to meet the challenge to keep worldwide temperatures below the 1.5/ 2°C limit, we must address:

(1) The lack of ICT infrastructure and financing across the globe and particularly in less developed countries;
(2) Differential rates of technology adoption in various industries such as building and construction, mobility and logistics, agriculture, manufacturing, energy, and organisational management;
(3) The inertia of continuing existing systems and processes that do not embrace smart, ICT-enabled capabilities;
(4) The lack of an enabling policy environment incentivizing ICT adoption and continued research and development; and
(5) The need for implementation of a fair, balanced and consistent regulatory approach to ICT that promotes innovation and investment, protects intellectual property rights and ensures consumer privacy and security.

The world has at its fingertips a wealth of accessible, innovative, digital solutions – enabled by ICT – with great potential to combat and adapt to the effects of a changing climate, but we will not realize this future vision if we do not take steps to overcome these obstacles systematically and collaboratively.

The Coalition pursues therefore two main objectives:

(1) To ensure that the world's growing use of ICT does not exacerbate carbon emissions by decoupling the global increase in connectivity from energy consumption. This will enable the world to enjoy the benefits from of ICT including its potential to drive forward a low-carbon economy
(2) To leverage the enabling potential of ICT to reduce CO2e emissions in a broad range of industry sectors while supporting overall economic growth.

THE COALITON

Mission

The mission of the SMARTer2030 Action Coalition is:

To realize the vision laid out in the GeSI SMARTer 2030 report[1], the Paris Agreement, and the Sustainable Development Goals (SDGs) through concrete actionable steps at the ICT industry level, business sector level, public policy level, and through public awareness, education, and mobilization.

[1] The SMARTer2030 report uses in-depth modeling, unprecedented in its range, into the potential for ICT to disrupt business as usual and to reshape radically the way we live, as well as reducing the impact that continuous economic growth has on the environment. It shows how ICT can help break the link between economic development and resource depletion, with emissions savings close to ten times those generated by the ICT sector itself. See: GeSI (2015), "#SMARTer2030: ICT Solutions for 21st Century Challenges."

Goals

(1) Implement the SMARTer2030 vision of ICT-enabled CO2e reduction of at least 20% compared to 2015 levels;

(2) Demonstrate over 2017-18 ICT's low-carbon enabling potential in two industry sectors: Energy efficiency in buildings and Mobility/transport (expanding to other sectors in subsequent years);

(3) Recognition of the ICT industry as a key sector in climate action on various mechanisms (reporting, solutions, dialogues, consultations), as well as of its central role in meeting the Paris Agreement;

(4) Through ICT enablement and transformation, contribute to keep worldwide temperatures below the 1.5/2°C limit;

(5) Secure a defined ICT baseline for the ICT sector in the Science-Based Target concept.

Principles

The following will inform the commitments and actions that members of the SMARTer2030 Action Coalition take:

- Engagement on promoting partnerships, projects, processes and policies that contribute to the realization of mitigating climate change while also contributing to positive economic and environmental outcomes;
- Support for the Coalition's mission and goals;
- Commitment to advance an action agenda that implements "smart" ICT-enabled solutions to advance a low-carbon economy. This will include efforts to:
    - Enhance the recognition of ICT's importance in global climate Action;
    - Enable the ICT sector to address its own responsibilities;
    - Advance solutions to harness the enabling potential of digital solutions across other sectors;
    - Advocate for policies on the global, national, and local level that support the effort to deploy low-carbon digital solutions;
    - Spread the word about the low-carbon potential of ICT;
- Monitor and report transparently on achievements.

THE ACTION AGENDA

We call on leading companies, governments, multilaterals, NGOs, thought leaders, and community-based organisations around the world with the passion and commitment to develop and apply innovative low-carbon solutions to join the SMARTer2030 Action Coalition. Partners engaged in the SMARTer2030 Action Coalition will take action to advance the following agenda.

1. Enhance the recognition of ICT's importance in global climate action

As business mobilizes globally to take action to contain global temperature increases below the 2°C threshold, the ICT sector will take a leading role in reducing its own carbon footprint, and in enabling and driving emissions reductions in other sectors.

ICT will improve lives and enable sustainable growth. 75% of the world's population will be connected to ICT services by 2030, according to the SMARTer2030 report (GeSI, 2015). Between 2015 and 2030, a potential of 12 Gigatonnes of CO2e emissions can be saved (20% of the global emissions), holding emissions at 2015 levels across all business sectors, e.g. energy, health, buildings, work and business, agriculture, education, mobility and logistics, and manufacturing. This is 11 times the amount of CO2e saved by the EU in the last 25 years.

Over $11 trillion in economic benefits per year can be realized by 2030 (e.g. equivalent to China's GDP in 2015). For example, smart agriculture improves crop yields by 30% or close to 900 Kg per hectare per year and reduces food waste; smarter agricultural practices can save over 300 trillion liters of water per year; e-work can save up to 100 hours of travel yearly per person leading to 67% less travel emissions. Smart metering in the home allows real-time energy monitoring, leading to energy savings. In other sectors such as health management, education, lighting and appliances and building efficiency, ICT also has tremendous potential to help reduce emissions.

2. Enable the ICT sector to address its own responsibilities

Even as technologies evolve and networks are deployed more widely leading to energy consumption increases, we see that according to the SMARTer2030 report, the ICT emissions footprint is expected to decrease to 1.97% of global emissions, compared to 2.3% in 2020. The ICT sector will take a leading role in reducing its own carbon footprint while enabling and driving emissions reductions in other sectors. GeSI, its members and the Coalition partners commit to reduce the carbon footprint of the ICT sector collectively and individually through programs and policies already in place, and by continuing to improve upon those in core markets. These include the following:

- Reaffirm the commitment to be 24% more efficient by 2030 and to reduce the industry's own footprint to be lower than 2% of the global emissions by 2030;
- Engage to move toward 100% renewables by 2030;
- Commit to achieve the 20% enabling potential by 2030.

In emerging markets, Coalition members understand that broadband deployment will be a fundamental and key piece to drive implementation, and will do their part to invest and build out this infrastructure.To support this work, the Coalition also agrees to build a transformational solutions implementation roadmap comprising a commitment to monitoring, verification and reporting (see Implementation Roadmap Annex).

3. Advance solutions to harness the enabling potential of digital solutions across other sectors

At the business sector level, over the next two years (2017-2018) the SMARTer2030 Action Coalition will support other industries by:

- Developing guidelines for adoption of low-carbon digital solutions;
- Sharing and promoting good practices for worldwide scale-up;
- Developing mechanisms in line with UNFCCC MRV (Measurement, Reporting and Verification) plans to track the impact on greenhouse gas emissions of low-carbon digital solutions; and

- Engaging in education for digitisation.

Though ICT has the potential to reduce emissions over multiple sectors, partners will establish a series of two-year action agendas that will focus on using digital solutions to reduce the emissions of 1 to 2 critical sectors as a start. The first 24 months will focus on energy efficiency in buildings and mobility/transportation. Subsequent years will address sectors such as energy, food, manufacturing, and work and business operations among others to be determined. Energy efficiency in buildings and mobility represent an opportune starting point:

- *SMARTer2030 Buildings Initiative*. Buildings account for one-third of CO_2 emissions worldwide.[2] Digital solutions such as smart buildings (connected into smart grids with energy management systems) will enable better insight and control, resource efficiency, and enhanced quality of life. Digital solutions present a highly cost-effective solution that can enhance energy efficiency in buildings at scale while delivering attractive paybacks and enhanced services for property managers;
- *SMARTer2030 Mobility Initiative*. Mobility/Transportation accounts for 14% of global greenhouse gas emissions worldwide.[3] By 2030, there will be about 2 billion vehicles on the road and a need for an additional 15 billion km of paved roads. Digital solutions such as smart mobility and logistics could significantly increase efficiency while reducing congestion, emissions, and resource consumption. Innovative technologies like electric vehicles, driverless transportation, connected transportation, and traffic control and optimization could make mobility more sustainable and efficient. In addition, intermodal transportation and vehicle sharing could help reduce congestion and miles travelled. Through the Internet of Things any product, vehicle or load unit can be connected to another, creating a system that enables products to be transported in the safest and most efficient way.

Partners will take action to:

- Collaborate to innovate digital solutions;
- Develop a support program to deploy digital solutions in at least 10 key countries/cities related to buildings and mobility that will incorporate into the Paris Agreement's Nationally Determined Contribution (NDC) for the period to 2030 and a Low-Emission Development Strategy (LEDs) to 2050 (Article 4); and
- Disseminate and build awareness that brings digital solutions to life for global policy-makers, business leaders, and civil society leaders. Plans could include a technology and innovation demonstration centre, an information clearinghouse, competition and awards, case studies, etc.

[2] Source: United Nations Environmental Program at http://www.unep.org/sbci/pdfs/SBCI-BCCSummary.pdf
[3] Source: United States Environmental Protection Agency (EPA) at https://www.epa.gov/ghgemissions/global-greenhouse-gas-emissions-data

4. Advocate for policies on the global, national, and local level that support the effort to deploy low-carbon digital solutions

At the public policy level, this agenda will promote policy measures necessary to ensure faster technological deployment. Broadband deployment in particular will serve as the essential backbone to drive support to the implementation of low-carbon digital solutions. The Coalition lead by GeSI will provide the necessary data to advance specific targets and policies that would include:

- Recognition of ICT in the framework of the UNFCCC as a relevant and fundamental industry sector to drive down carbon emissions as well as to support the UN Sustainable Development Goals Agenda (with attention to SDGs 7, 8, 9, 11, and 13);
- Achieve 80% global broadband deployment by connecting an additional 2.5 billion people by 2030, mainly in developing countries;
- In the Coalition's first two years (2017-2018), develop a framework of regulatory principles for countries and localities to adopt, to ease the adoption of digital solutions in the building and mobility/transportation sectors;
- Guidance for countries on ways to encourage integration of digital solutions in their LEDs;
- Guidance and supporting investment incentives in smart infrastructure deployment that supports digital solutions; and
- Guidance and adoption of a fair, balanced, and consistent regulatory approach for ICT and digital solution deployment.

5. Spread the word

The general public across many countries needs to be empowered and mobilized. Outreach to communities and stakeholder groups needs to be undertaken at multiple levels to promote and consolidate a cultural revolution. This means participants in the coalition need to undertake as much of the following as possible:

- Sharing testimonials and effective solutions and cases;
- Deploying spokespeople and representatives;
- Deploying approaches to gain earned media coverage
- Securing paid advertising and/or public service announcements;
- Communicating through social media;
- Engaging with relevant stakeholder groups;
- Sharing learning and good practices that can be rapidly replicated and scaled across cities, states, and regions;
- Demonstrating the enabling potential of ICT trials and pilots;
- Enlisting celebrities, sports figures, academics, and other figures with public stature; and
- Engaging with the general public one household at a time.

BACKGROUND

Since 2008, GeSI has been researching the role ICT can play in cutting global CO2e emissions and promoting a more sustainable society. As ICT has become faster, cheaper and more accessible globally, GeSI's research, #SMARTer 2030: ICT Solutions for 21st Century Challenges, highlights the potential of digital solutions to generate powerful environmental, economic and social benefits. The SMARTer 2030's major findings are listed throughout this document. In summary:

- The emissions avoided through the use of ICT are nearly **ten times greater** than the emissions generated by ICT deployment;
- Adoption and effective use of ICT hold the potential to avoid the trade-off between economic prosperity and environmental protection. ICT will promote shared prosperity in the developing and developed world through economic growth, while ensuring that we protect the interests of the planet and cut our emissions on a schedule to meet the 1.5/2°C trajectory.

Digital solutions are indispensable to meeting the goals to keep the world under a 1.5/2°C increase. They underpin cleaner energy for everyone, combating and adapting to climate change, enabling more livable and cleaner cities and improving the efficiency of buildings, mobility, and resource use. Digital solutions possess unique properties to transform the world with speed and impact.[4]

Digital solutions:

- **Can be diffused widely and accessibly**
  - There is a 23x higher adoption rate for mobile networks vs. grid electricity in Sub-Saharan Africa;
  - 90% of world's data was created in last two years;
  - "Big Data" can help deploy solutions to increase resilience to climate change;
- **Are people-centric**
  - There will be over 100 billion connected devices by 2030;
  - Wearable health devices are growing at triple-digit rates;
- **Drive new business models**
  - MKopa, delivering solar-based, off-grid lighting solutions in the developing world shows a 100% growth rate.

GOVERNANCE

The secretariat of this Coalition will need a strong ICT industry organization committed to sustainability. GeSI, in collaboration with partners, is willing and able to chair the Coalition and to facilitate a secretariat to drive its agenda.

The Coalition is open to any organization that understands and commits to its mission, goals and principles.

By creating this Coalition in November 2016, GeSI recognizes the leadership of Morocco as host of COP22, and the crucial role it played in its establishment.

[4] Source: GeSI and Accenture Strategy research, 2016

As part of its governance, the coalition would establish a small Executive Committee comprising GeSI, other associations, a select number of governments (preferably the one hosting each year's COP meeting as well as the previous and the subsequent ones to ensure consistency), representatives of selected companies and NGOs, and individuals who have demonstrated their drive and leadership in advancing the work of the Coalition (to be invited by GeSI). The Executive Committee will perform an advisory role and will:

- Review goals and related plans;
- Review the Coalition's performance;
- Suggest Working Committees and those that will participate on them;
- Advocate on behalf of the mission of the Coalition; and
- Reach out to invite partners and participants to join the Coalition.

As the host institution for the coalition, GeSI will reach out to other cross-sector stakeholders (such as WBCSD, IEA, IRENA, ITU, GSMA, WGBC, CTCN, SE4ALL, The Climate Group, CDP, WRI, United Nations Global Compact's Caring for Climate, ICLEI, C40, UN-Habitat, etc.) and to representatives of select international financial institutions in order to establish meaningful partnerships for the execution of the roadmap (see Annex 2);

Cross-sectorial working groups can be established to ensure solutions implementation. These would address:

(1) Industry solutions;
(2) Innovation and technology pathways discussion;
(3) Cross-sector collaboration;
(4) Policy development and advocacy; and
(5) Awareness, education, communications, and information sharing.

GeSI will also play a leading role in reaching out to other initiatives and coalitions that share the same purpose for greater collaboration and synergy (such as REBA: Renewable Energy Buyers Alliance, RE100, The European Innovation Partnership for Smart Cities, UNECE – United Smart Cities, the Connected Devices Alliance – CDA etc.)

All those joining will contribute to the Coalition via time and through voluntary financial contributions to achieve the Coalition's stated goals.

To find out more, please contact:

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[*Link to Coalition webpage incl. application form*]

ANNEX – ROADMAP

Roadmap, inputs from coalition partners [to be developed]