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Article:

Despins, CL, Elmirghani, J and Klein, T (2017) IEEE Green ICT Envisions a Smart and Sustainable Future. *Global Communications Newsletter*. pp. 2-4. ISSN 2374-1082

<https://doi.org/10.1109/MCOM.2017.8030476>

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IEEE Green ICT Envisions a Smart and Sustainable Future

By Charles Despins, ÉTS Université du Québec, Montreal, Canada, Jaafar Elmirghani, University of Leeds, UK, and Thierry Klein, Nokia, NJ, USA, IEEE Green ICT Initiative Co-Chairs

Currently transforming all spheres of human activity, at a level greater than the industrial revolution, the Information and Communication Technology sector (ICT) is emerging in the 21st century as the dominant driver of sustainability, with the potential to reconcile economic growth, environmental protection and societal benefits. It is a key tool in the fight against climate change as it can enable a 20 percent reduction in global greenhouse gas emissions by 2030. However, achieving such outcomes will require a holistic approach to the proper design, broad application, widespread adoption and social acceptance of ICT products and solutions. As such, this “green” potential of ICT requires a complete rethinking of how not only we design but also how we use ICT in a sustainable fashion. It is a huge challenge that can only be satisfactorily addressed by bringing together the research community, ICT equipment and solution providers, practitioners in various ICT vertical markets, the standards community, and public policy and regulatory influencers and decision makers.

As IEEE is the world’s largest technical professional organization dedicated to advancing technology for the benefit of humanity, the Green ICT initiative is committed to providing leadership on these issues. In this context, the mission of the IEEE Green ICT Initiative, launched in January 2015 by the IEEE Future Directions Committee and the IEEE Communications Society, has been defined as “build a holistic approach to sustainability by incorporating green metrics in various IEEE technical domains”. Viewed through the triple bottom line of sustainability (economic, environmental and social), the Green ICT Initiative offers a compelling opportunity for IEEE to demonstrate the full impact of the technology innovation it supports.

Huge efforts have been deployed over the past two and a half years by a dedicated group of initiative volunteers from academia and industry. Nine new IEEE Green ICT standards are currently in development within three working groups and are the result of inter-Society and multidisciplinary collaboration. New publication opportunities have been created and raising awareness of the Green ICT opportunity has been an initiative focus through events of various IEEE Societies. The Initiative is now extending this collaborative approach by reaching out to non-traditional IEEE communities within industry, governments and society at large.

THE GREENING THROUGH ICT SUMMIT: SMART MUST BE SUSTAINABLE

A strategic planning workshop was held last May in Paris between 25 invited stakeholders and Initiative members in order to prepare our October 3rd Greening through ICT Summit. Diversity was a key component of this core group, with representatives from academia, industry and the public policy arena from the Americas, Asia, Europe and Africa.

One of its recommendations was that the Green ICT initiative must emphasize even more the crucial role of ICT in building a sustainable future in both an environment-friendly and sustainable way. This ambitious goal can only be achieved through a cross-disciplinary and systematic approach requiring broad participation of stakeholders from different backgrounds.

The inaugural Greening through ICT Summit will be held in Paris, France, on October 3, 2017. The unique event, held under the theme “Sustainability in a Connected World”, will draw a diverse audience of ICT researchers, practitioners, technology providers, standards experts, and policy- and decision-makers, to collectively identify the technical, commercial and public policy challenges that must be addressed to achieve sustainability through ICT. Through unparalleled open discussions, networking and education opportunities, GtICT delegates will

explore solutions for overcoming challenges to achieving sustainability in today's increasingly connected world.

Smart technologies hold untold potential for enhancing the lives of millions around the world. However, as emphasized by initiative co-chairs Charles Despins, Jaafar Elmirghani and Thierry Klein, these innovations must drive disruptive change with minimal environmental consequence, and with an eye toward maximum sustainability. Moreover, recent major developments in the Paris Climate Change agreement have moved prominent world leaders to reiterate their commitments, and this further heightens the importance of IEEE's role and actions in the sustainable development sphere.

As ICT must be part of the search for climate change solutions and the adoption of related public policies, the Summit will stimulate a dialogue between those who design technology, those who use it and those who regulate it. These specialists will share their experiences and challenges that impact energy efficiency, greenhouse gas emissions, technology life cycle management, public policy and social issues. This conversation is key to humanity's

well-being in the 21st century and beyond. Designed to stimulate interaction in an impartial environment, the event will consider an array of topics and viewpoints, including:

- ICT as a driver of sustainability through digital economy strategies.
- Convergence of power grids with the Internet.
- Impacts of regulatory and adoption policies on climate change initiatives.
- Improved management of technology life cycles.
- Vertical market reactions to the ICT-driven paradigm shift.

The Summit will be conducted under a stimulating "World Café" approach in order to foster a productive, open dialogue in a relaxed and casual atmosphere. The event will culminate with a declaration of a "Green ICT Vision for the Future" driven by the day's discussions.

The IEEE Green ICT Initiative has just held its first IEEE Young Professional Green ICT Idea Competition. Aimed at harnessing the input of younger membership with IEEE, notably those who will live with the consequences of climate change, the competition encouraged young professionals to submit creative Green ICT ideas and solutions. Competition winners will have the opportunity to present their ideas at the Summit.

The IEEE GtICT's theme of smart, sustainable technologies will also be highlighted during Le Salon de la Ville et des Territoires Intelligents, Durables et Connectés, a smart city and smart grid exhibition taking place immediately after the GtICT Summit, October 4-5, 2017 at the Paris Porte de Versailles.

We are looking forward to seeing many readers at the October 3 Summit in the 9th arrondissement of Paris (Opera district). Registration is now open through the Initiative Web portal at <http://greenict.ieee.org>.