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# IEEE Future Directions Newsletter



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## Welcome

Welcome to our latest IEEE Future Directions Community newsletter.

You may already be a member of one or more IEEE Technical Communities. This newsletter highlights activities across all IEEE Technical Communities and initiatives, so you always know what's going on.

Visit each featured portal at the right for access to upcoming conferences, news articles, technical papers, related standards, professional organizations, and academic programs.

We invite you to join any of these communities at no cost. To learn more, contact [Future Directions](#), or visit our [website](#).

## Incubator Projects Showcase

The IEEE Future Directions Committee supports projects that explore new initiatives in emerging technologies with seed funding. Autonomous Technologies was an incubator project.

### Understanding the Societal Impact of Autonomous Technologies

By Raj Madhavan

Autonomous technologies have a bit of a Hollywood problem.

Movies and television shows have made it quite easy to talk about autonomous technologies such as robots, self-driving cars and unmanned aerial vehicles (UAVs). Hollywood has turned the topic into a dependable conversation starter in schools, in boardrooms, at dinner parties, etc., and that's definitely a good, helpful thing for researchers in the space.

Read the entire article on our [website](#).

## IEEE Future Directions Communities





## Technology Policy and Ethics

IEEE Future Directions considers the reflection of technology through the lens of social implications a key tenet of our work as we incubate and promote technologies. We are seeking submissions of original content, short articles of 800-1200 words on the social implications of technology, including but not limited to policy and ethics topics. If interested please email [FDPolicyEthics@ieee.org](mailto:FDPolicyEthics@ieee.org).

### End-to-end Security and Privacy by Design for IoT

by Jared Bielby, Ali Kashif Bashir, George Corser

Of the selected issues coming out of the [Experts in Technology and Policy](#) events chosen for further research and follow up, the question of "End-to-end Security and Privacy by Design for the IoT" has emerged as both timely and relevant to IEEE's goal of advancing technology for humanity. Hosted on the [IEEE Collabratec™](#) platform, the question has been posed to a selected team of experts and policy advisors for further engagement. Led by George Corser, whose research at Saginaw Valley State University examines location privacy and security protocols in Internet of Things, the team is currently working towards the completion of a collaboratively written white paper that proposes a set of definitions and best practices for "End-to-end Security and Privacy by Design for the IoT."

Read the entire article on our [website](#).

### Universal, Affordable Internet Access: From 'Why?' to 'How?'

by Karen McCabe

Not long ago, the focus of conversation about universal, affordable Internet access was 'why?' Why should extending access to billions more people around the world be considered a matter of much importance?

That argument is over. Conventional wisdom now largely acknowledges the linkage between universal, affordable Internet access and the wellbeing of people worldwide, and the proof is found in the shift in emphasis in the global conversation from 'why?' to 'how?' How do we make it happen, with about half of humanity still not connected?

Read the entire article on [Engadget.com](#).

## Current Activities in our Technical Communities

### IEEE 5G:

IEEE launched the IEEE 5G initiative with the introduction of the 5G web portal: [5g.ieee.org](http://5g.ieee.org). Join the IEEE 5G Technical Community to be kept apprised of all activities related to 5G at IEEE.

Visit the IEEE 5G [web portal](#).

### IEEE Big Data:

Metadata is "data about data." It is descriptive information about a particular dataset, object or resource, including how it is formatted, and when and by whom it

is collected. To learn more about metadata check out the [IEEE Workshop on Big Data Metadata and Management](#) at 2016 IEEE International Conference on Big Data. Visit the IEEE Big Data [web portal](#).

**IEEE Brain:**

A new brain implant currently in experimentation allows a man to feel touch on a robotic hand, *a la* Luke Skywalker from *Star Wars Episode V: The Empire Strikes Back*. Read more on [IEEE Spectrum](#). Visit the IEEE Brain [web portal](#).

**IEEE Cloud Computing:**

["Threats to Networking Cloud and Edge Datacenters in the Internet of Things"](#)

This *IEEE Cloud Computing* article explores how data analytics activities raise a new set of technical challenges in ensuring security and privacy of data as it travels to and from edge datacenters to a cloud datacenters. Visit the IEEE Cloud Computing [web portal](#).

**IEEE Cybersecurity:**

*IEEE Spectrum* Tech Talk: The Security Challenges of Online Voting Have Not Gone Away. Online voting is sometimes heralded as a solution to all our election headaches. Proponents claim it eliminates hassle, provides better verification for voters and auditors, and may even increase voter turnout. In reality, itâ€™s not a panacea, and certainly not ready for use in U.S. elections. Read full article on [IEEE Spectrum](#). Visit the IEEE Cybersecurity [web portal](#).

**IEEE Digital Senses:**

[Sign up](#) for this new IEEE Community to receive the latest information on Digital Senses. Visit the IEEE Digital Senses [web portal](#).

**IEEE Green ICT:**

Donâ€™t miss the Green Communications Systems and Network Symposium at Globecom 2016 in Washington D.C., 4-7 December 2016. [View](#) the program. Visit the IEEE Green ICT [web portal](#).

**IEEE Internet of Things (IoT):**

The 2016 IEEE 3rd World Forum on Internet of Things (WF-IoT) - IoT: Smart Innovation for Vibrant Ecosystems in Reston, VA, USA, 12-14 December 2016 is a unique event for industry leaders, academics and decision making government officials. Learn more and register on our [website](#). Visit the IEEE Internet of Things [web portal](#).

**IEEE Life Sciences:**

Read the latest issue of the [IEEE Life Sciences Newsletter](#), which includes these articles: "NASA GeneLab Commences Countdown to Combine Space, Data, Analytics" and "IEEE Life Sciences: Spotlight on Research in Biological Imaging." Visit the IEEE Life Sciences [web portal](#).

**IEEE Rebooting Computing:**

IEEE Rebooting Computing (RC) works from a holistic viewpoint, taking into account evolutionary and revolutionary approaches. It sponsors RC Summits and co-sponsors workshops and conferences on related topics. If you're interested in rethinking the computer "from soup to nuts," including all aspects from device to user interface, learn more and [join](#). Visit the IEEE Rebooting Computing [web portal](#).

**IEEE Smart Cities:**

*IEEE Sensors Journal* is organizing a special issue on Smart Sensors for Smart Grids and Smart Cities. The [call for papers](#) invites significant contributions in the field of sensors and sensing systems dedicated to smart grid, power networks and smart cities. The deadline for submission is 31 March 2017.

**IEEE Smart Grid:**

Check out the new [IEEE Smart Grid Resource Center](#).  
Visit the IEEE Smart Grid [web portal](#).

**IEEE Software Defined Networks (SDN):**

IEEE NetSoft 2017, the flagship conference of the IEEE SDN Initiative, will be held 3-7 July 2017 in Bologna, Italy. [View](#) the call for papers.  
Visit the IEEE Software Defined Networks [web portal](#).

**IEEE Transportation Electrification:**

Check out the [September issue](#) of the IEEE Transportation Electrification Newsletter.  
Visit the IEEE Transportation Electrification [web portal](#).

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## IEEE Future Directions Upcoming Events

[IEEE 3rd World Forum on Internet of Things \(WF-IoT\)](#)

12-14 December 2016, Reston, VA, USA

[IEEE 3rd Conference on Network Softwarization \(NetSoft 2017\)](#)

3-7 July 2017, Bologna, Italy

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