Impacts -

At the Intersection … between the worlds of Consumer Electronics and Socio-Economics.

Editors Introduction – Peter Corcoran

In our last issue I wrote about how we'd planned to expand the scope and audience of CE Magazine. After all *Consumer Electronics* isn't just about the design and manufacture of electronic systems and products. These devices and their ecosystems have been changing and altering our lives since the introduction of the TV set in the 1950s & 1960s.

But in today's Internet age we are so interconnected that society and the economy respond at a much accelerated pace. Changes and disruption that would have taken years, or even decades back in the 1960's and 1970's can now spread in months, or even weeks.

And today their impacts are felt on a global scale, and not just in the developed world, but increasingly among those in the developing world.

As engineers we are the electronic architects of tomorrow, but the scope and scale of impact that our designs and architectures can have on society and on the economy - this places significant responsibility on our shoulders. We are all responsible to broaden our perspectives and consider how our work might impact on the lives of others. There is much for use to learn beyond the realms of pure Science and Engineering.

This section of our magazine, aptly entitled "Impacts", is introduced to help facilitate a broadening of our perspective on the world of CE and to learn more of the various impacts of CE on society. It is introduced in partnership with the IEEE *Society on Social Implications of Technology* (SSIT). And from this issue SSIT members will also be receiving a copy of CE Magazine increasing our distribution to IEEE members in other societies.

I'd like to express a big thank-you firstly to Stefan Mozar, President of CE Society for initiating this collaboration with SSIT and secondly to Katina Michael, the editor-in-chief of *Technology & Society Magazine* for working with me to put together this first "Impacts" section.

This is a first attempt but I think it's a pretty good start – at the same time I'd much rather hear what some of you think? So please feel free to contact either myself, or Katina, to give your feedback. And we'd welcome suggestions for topics or subject areas that should be addressed in future editions of "Impacts"?

Editors Introduction – Katina Michael

Consumer electronics have revolutionized the way we live and work. Most students that I know would rather forgo expensive clothing labels than do without their branded smartphone. In fact, some of them would forgo food altogether if it meant their phone could be "always on" and "always with them", clipped onto the belt buckle, strapped into a pants or jacket sleeve or increasingly into the open palm of their hand. Something happens when our basic needs as humans are overtaken by some other need that was once a distant want at best- plainly confusion in our ability to rightly determine what our priorities are as humans in any given context.

I have been around people who have lost or had their iPad or iPhone stolen. It's not a pretty sight to see a grown man or woman become frantic and then be reduced to tears over the loss of what is seemingly an inanimate object but in reality has become seamlessly integrated to every aspect of one's life. And lest I look 'all high and mighty', I had my own laptop stolen with invaluable unbacked PhD research on board, while working for Nortel Networks and visiting company headquarters in 1999. It took me personally months to recover from the ordeal, professionally, academically, and even mentally (and that was pre wireless broadband).

The Society for the Social Implications of Technology (SSIT) with its flagship Magazine, *IEEE Technology and Society*, does not only explore the obvious trends toward CE but those aspects that are not given enough attention on the externality spectrum of potential issues- the threat of ever increasing screen time for children at school and at home, the use of violent video games and exposure to different types of online media to everyday consumers, consider even the wide ranging topics that go into supporting the development of such an innovation, tracking its existence from conception to the end of its product lifetime.

Taking the smartphone analogy further, as a typical CE device that affects the global population and that has now saturated the consumer market- SSIT would consider everything from the sustainable design of mobile phones, to further investigation of the smartphone's posited harmful effects through the emission of electromagnetic fields or the potential to do damage to the wearer's inner ear if played on a high volume daily. The Society would also be interested in submissions on the manner of operational health and safety obligations and conditions of companies during the assemblage of the CE components into the finished product in developing nations. The privacy and security of the data on the smartphone would be an area of interest, as well as the ability to dispose of the device without producing ever increasing e-waste mobile phone dumping grounds with hazardous materials thrown into landfill.

But that is not all, SSIT's greatest focus is perhaps the economic, institutional and organisation infrastructure surrounding CE products. Aspects of this include how developing countries are adopting CE and their impact on equity and access to information toward international development out of the poverty cycle, the ability to offer remote healthcare and better access to health information services, the importance of public policy surrounding telecommunications in general and the laws, standards and regulations in existence to facilitate use, at the same time protecting the consumer. Herein it is important to weigh up the benefits of a CE such as a smartphone- on the one hand providing life-saving capabilities such as access to emergency services, as opposed to the potential to cyberstalk a stranger using mobile social media or even gather location data from a friend's phone to be used surreptitiously at a later date. Equally, we are interested in seemingly simple articles addressing functionality, such as the ability for human activity and condition monitoring from the dozen or so sensors in the smartphone, as well as the basic traditional applications of call patterns, texting and usage patterns, with respect to communities of practice online.

One thing for certain, is that IEEE SSIT shares some fundamental qualities with IEEE CE Society- that it is one of the most interdisciplinary societies within IEEE, and spans membership across disciplines with a wide spectrum of interests represented. We are actively seeking papers that are preoccupied with the social, environmental, economic, political, ethical impacts of CE on the world, and how the application of such technology can improve the world, but also how it may adversely affect the very users it was created to aid.

IEEE SSIT host an annual conference entitled the International Symposium on Technology and Society (ISTAS), and in 2013 the focus was wearable technologies, while in 2014 the focus will be on ethics and technology. The Society also supports and recognises engineering ethics, presenting the Carl Barus Award for Outstanding Service in the Public Interest. With active international chapters all over the world, IEEE SSIT provides a voice for topics that would otherwise not be addressed from all sides of the debate. It is this open discussion that makes IEEE SSIT and IEEE CE such vital societies as we continue with the explosion of emerging technologies in all aspects of our home and work life. CE affects everybody- from the newborn baby, to the employee, to the elderly. Viewpoints and cutting edge pieces on all these perspectives are not only welcomed but highly valued.