Region 2 Technology Policy Issues

Report on Technology Strategy

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Technology Policy During Administration "Boot-Up"

▸ There is always a change in priorities regarding science and technology when the administration (and more importanly, the party in power) changes. Normally this simply means an uptick in one line of work played off against a reduction in another.

▸ The Trump administration, and the Populist turn in Congress has created (at least philosophically…) a greater-than-usual pressure to restructure large parts of the Government – significanly affecting US priorities regarding science and technology

▸ This brief, and the associated papers, call out important issues for IEEE Professionals to be aware of, and also established IEEE (and IEEE-USA) positions where they have been developed

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Current hot topic issues

▸ Federal R&D Budget

▸ H1B Visas

▸ Net Neutrality and Internet Freedom

▸ Drones

▸ STEM

▸ Evolving and New Standards

22-Feb-18

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Research and Development Investment
(Federal vs Commercial)

OUTSIDE of the IT realm, significant leadership roles exist with federal R&D.

Advanced component tech – While true that the US does remain competitive in some areas of advanced technology (e.g. advanced RADAR, 3-D LIDAR, highly integrated focal plane and processor assemblies) decisions made by US industry to outsource key foundry level components (e.g. IC chipsets, camera segments, etc.) will likely result in the current "US First" focus of the Administration being met with the international community increasing component prices and reducing availability. At this point, recovering advantage for basic technology will at least prove costly, if not impossible.

22-Feb-18

R&D Investment (cont'd)

Transportation - Advanced fuels, safer and more efficient engines, smart operating systems all rely on some degree of support and subsidy from DoE and DoT, both of which suffer under current administration policies, as they are overly focused away from renewables.

Meteorological prediction and amelioration - With the formal adminstration position being that climate change is illusory will come decreasing prioritization of technology critical for monitoring environmental situations and their impact. The power grid will be more likely to suffer from blackouts due to unanticipated overuse for weather patterns for which there will be less warning. For the IEEE, this brings the need to advocate for maintenance of the NOAA (GOES, POESS) and DoD (DMSP) Global meteorological monitoring systems to maintain predictive awareness of how the climate operates

See Also R&D Investment Article attached.

22-Feb-18

H-1B Visas

‣ The Trump campaign heavily emphasized the need to re-structure all forms of immigration.

‣ Many of the strategies are controversial and subject to active debate. One area where IEEE-USA has an established positon is in the use of visas to enhance the technology workforce – the H-1B.

‣ As currently instantiated, these visas offer foreign workers tech jobs at SUBSTANTIALLY lower wages than the US norm, resulting in reduced availabilty for proper paying employment for citizen engineers and scientists.

‣ While campaigning to change this profile, no action has been taken and there is no indication any will be without additional pressure by groups such as IEEE.

See Also H-1B Paper attached.

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Net Neutrality, Privacy and Internet Freedom

net neu·tral·i·ty
noun
the principle that Internet service providers should enable access to all content and applications regardless of the source, and without favoring or blocking particular products or websites.

▸ Legal actions taken by the new Federal leadership have established what they call a "Corporate Friendly" policy on the Internet and access.

▸ This policy removes the previously mandated controls on personal information in the hands of internet providers

▸ The Internet Privacy act of April 3rd rolls back widely accepted rules for content management and data release. Two papers are provided to give perspective on the challenges arising from the change.

See Net Neutrality article and Internet Privacy OpEd pieces attached.

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Drones

▸ The debate on privacy as applied to drones is intense, ongoing, and often based on apocryphal or poorly understood information about the vehicles and their capabilities (pro and con…)

▸ FAA is working to define safe flight rules for autonomous operations, and law enforcement communities at the local, State and Federal level are endeavoring to regulate rational and enforceable controls for operators and the hardware.

▸ Registration processes are evolving, and issues abound. The two provided papers give similar (but somewhat nuanced) perspectives.

See Drones and Privacy IEEE-USA Paper and Drone OpEd pieces attached.

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R&D Investment (cont'd)

Communications and data protection algorithms – Much of the actual infrastructure of the US is driven by properly maintained and secured communications and IT. Continual investment and new research is required to keep ahead of the cyberwarfare and cybercrime

These budgets are not well protected by administration warnings to support high tech, since the option on the part of the unit organizations is to protect ongoing programs favoring these over unproven research.

Specific attention to DARPA, IARPA, Military and DOE labs, and the Federal and State S&T Lobbies will be critical during the fiscal re-set.

Federal STEM Support

▸ In order to fund a $54B increase in FY2018 defense spending, the White House is proposing offsetting cuts in federal domestic discretionary spending that would have a severe impact on important federal R&D programs if implemented. IEEE-USA strongly recommends sustained, balanced support for research in science, technology, engineering and mathematics.

▸ IEEE-USA supports federal investments in both civilian and defense R&D, as well as policies designed to enhance the effectiveness of research expenditures, promote entrepreneurship and innovation, and help develop the skilled STEM workforce needed to ensure continued U.S. competitiveness, quality of life, and security.

Source: IEEE-USA

22-Feb-18

New Standards Issues

▸ Immersive / Augmented Reality

▸ Internet of Things

▸ Advanced encryption vs Legal access

▸ LTE4…5…6 and bandwidth/storage/ transport

Additional papers on these topics will be provided with the minutes of the Region Meeting.

22-Feb-18

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