

GTRI Tutorial at GOMACTech 2020

Monday, March 16, 2020

1:00 – 5:00 PM

Town and Country Resort, San Diego, CA

Microelectronics Technology Impact on Modern Electronic Warfare

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Electronic Warfare (EW) is the battle for effective use of the electromagnetic spectrum for military objectives. This involves using electronic support (ES) and electronic attack (EA) to exploit and deny an adversary's use of the spectrum and using electronic protection (EP) to preserve full use of the spectrum for own-force objectives.

The rapid expansion of digitally enabled sensor, communication, and EW systems has increased the requirement for ever more capable microelectronic technologies that can help make EW systems more versatile, adaptive, interconnected, and intelligent.

Additionally, modern EW system designs are focusing on multi-function aperture and processor architectures to allow rapid software-based reconfiguration which further drives requirements for these technologies. Examples of such technologies include power amplifiers, broad-band isolation or active cancellation circuits, tunable radio frequency filters, low-latency/high-throughput processors, system-on-a-chip architectures, and multi-gigabit transceivers (MGTs).

The tutorial will provide an overview of basic and advanced EW concepts and will give examples of how critical microelectronic technologies can potentially enable significant advances in EW system capabilities.