# Developing Our Software Human Capital

The articles in this issue of CROSSTALK discuss the human side of our software development processes, and are part of a very important dialogue. The DoD develops and delivers to our soldiers, sailors, marines, and airmen incredibly effective—but increasingly complex—weapons systems. Software has become such an integral part of these systems that it is virtually impossible to find a weapons system today that does not contain mission-critical software at its core.

As the complexity of our systems has increased, so has the need for effective systems and software engineering throughout the life-cycle. We face challenges in implementing robust system and software processes starting with requirements identification and analysis, through technology and architecture selection and assessment, analysis, and coordination of complex system design, development, and execution, to the delivery of rigorously tested production systems with a full complement of hardware and software capabilities. Our greatest challenges, however, may be in our approaches to building great people and teams: recruiting, growing, and maturing systems and software engineering professionals who will successfully deliver today and tomorrow's critical defense systems.

Current development programs are already challenged to find the highly skilled systems and software engineers we need, and numerous studies have raised concerns about our capability to meet our future human capital needs. The DoD is seeking to address this challenge in the near-term through improvements in the training, retention, and management of our workforce. New development methodologies, models, and tools offer promise in increasing the effectiveness and efficiency of our technical teams. Perhaps most importantly, we are continually looking at new ways to share our sense of excitement, purpose, and professional pride with the next generation of systems and software engineers.

The articles in this issue offer a range of viewpoints and thought-provoking insights about the human side of our software development and acquisition processes. They present a look at current challenges as well as innovative ideas while supporting a common theme: Managing the human side of our process is essential to delivering the best possible systems for the warfighter. I thank the authors for their ideas and hope readers find this issue of CROSSTALK interesting and informative.
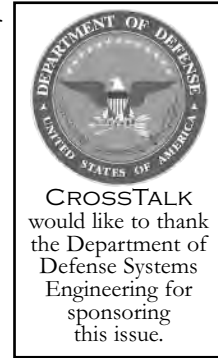
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