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Since the early days of the quality revolution, improvements and efficiencies have been in the forefront of developing engineering disciplines. Various standards, guidelines, and models have employed learned best practices from government and industry to continually evolve and change our methodologies, technologies and lifecycles. Exciting new trends are emerging in architectural solutions, lean concepts, agile development, business process models, etc.

In 1989, when Watts Humphrey published his book “Managing the Software Process,” it was widely perceived that software was considered more of an arcane art than an engineering discipline. He suggested that software should be managed like other engineering efforts and suggested a five-step maturation scale for software organizations. Fast forward to today’s set of practices where changes in processes and technologies have yielded the ability to manage software from concept to delivery in weeks utilizing agile methods that have moved from manifesto to mainstream. Our understanding of how processes are defined and utilized maximize our ability to produce high quality software in a fast-paced, ever-changing world.

In this issue of Crosstalk, we explore some of the technologies and techniques that continue to improve our capabilities. One great example is Wayne Abba’s examination of traditional earned value methods and how the concepts can still be utilized to great benefit, even in a more agile setting. Changes to the software lifecycle are imperative to support current development needs which Don O’Neill details in his article “In Search of a Modern Software Lifecycle.” Dr. Nary Subramanian’s treatise on improving and even automating of the software deployment process examines software improvements prior to delivery to the end user. Michael Elliott discusses the employment of modern software engineering techniques to critical systems, such as civil airborne systems. And the processes of process improvement are changing, as evidenced by Richard Turner’s examination of “The Impact of Agile and Lean on Process Improvement.” However, as a frequent Crosstalk contributor, Paul Kimmerly reminds us that change created by process improvement is not always simple in “Processes are Easy”.

This issue’s line-up of articles show us how far we have come through the expansion of our knowledge and the utilization of our technology to show just what we have – and can – achieve so far.

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