



Biography

Mark E. Russell is vice president of Engineering, Technology and Mission Assurance for Raytheon Company. He assumed the position in July 2008, and was elected a company officer in June 2008. Raytheon Company (NYSE: RTN), with 2018 sales of \$27 billion and 67,000 employees, is a technology and innovation leader specializing in defense, civil government and cybersecurity solutions. Raytheon is headquartered in Waltham, Massachusetts.

Russell guides the company's vision and provides corporate leadership in the strategic areas of technology and research, engineering, operations, performance excellence, programs security, Raytheon Six Sigma™ and Mission Assurance. He is responsible for 45,000 world-class people working on more than 8,000 programs.

Prior to leading Raytheon's engineering organization, Russell was vice president of Engineering for Raytheon's Integrated Defense Systems (IDS) business. In this role, he was responsible for leading IDS' engineering activities, including the capture and management of technology and advanced programs; coordination of strategic architecture initiatives; development and production of advanced semiconductor products; continuous improvement of processes and tools; and product development.

Russell has worked in design engineering, operations, field testing, and project and program management for state-of-the-art radar, missile and communication systems including Patriot, Home Land Defense Area 1 (HLDA1), Wide Band Gap Semiconductor, Terminal High Altitude Area Defense (THAAD) system, Joint Land Attack Cruise Missile Defense Elevated Netted Sensor (JLENS), Sea-Based X-Band Radar (SBX), Cobra Judy Replacement, Upgraded Early Warning Radar and the DDG 1000 destroyer. He has managed production facilities, including the Advanced Products Center and Raytheon RF Components. He has also served as director of surface radar engineering, and the Radar Design and

Electronics Center for Raytheon's Electronic Systems business, and he has expertise in the development of microwave systems and components.

Russell has published 16 peer-reviewed papers on active electronically steered arrays and radar systems, missiles, photonic technology, solid-state transmitters and communications systems. He holds 36 patents in the areas of microwave and millimeter wave components, high-range resolution radar applications and missile seekers.

In 2016 Russell was appointed board member to the Defense Science Board, which provides independent advice and recommendations on matters relating to the Department of Defense's scientific and technical enterprise. In 2012 he was named an AIAA Fellow by the American Institute of Aeronautics and Astronautics and an IEEE Fellow by the Institute of Electrical and Electronics Engineers.

Outside of Raytheon, Russell serves on the Board of Trustees for Worcester Polytechnic Institute and the Joslin Diabetes Center, and he is past chairman of the board of directors for the National Action Council for Minorities in Engineering.

Russell earned a bachelor's degree in electrical engineering from the University of Massachusetts Lowell. Subsequently, while working at Raytheon, Russell earned his master's degree in electrical and computer engineering from the University of Massachusetts Amherst under the Raytheon Advanced Study scholarship program. Both universities have honored Russell for his career accomplishments with distinguished alumni recognition. In May 2012, Russell was awarded an honorary doctorate in engineering from the University of Massachusetts Amherst.

Russell has completed several Raytheon management programs, including the Executive Leadership Summit and Business Leadership Program, and is a qualified Raytheon Six Sigma Specialist.

Raytheon Six Sigma is a trademark of Raytheon Company.