



***Water Scarcity – How Technology Can Address  
Our Quantity and Quality Challenges***

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By 2050, the demands on the world's resources will increase significantly. As the global population grows to a projected level of over 9.7 billion people there will be a major constraint on the food and energy supply. Water, however, is the common and most critical resource that flows through the food and energy supply chain. While the strain on this essential resource due to demand is straightforward, the supply risks associated with the uncertain impact of climate change will be amplified.

In addition to the supply and availability of this essential resource being constrained, water quality is also under pressure. While we have known for decades that various ground water sources are naturally contaminated with arsenic and fluoride, impairment from industrial sources of organic and inorganic chemicals is increasingly more common. In light of the obstacles that these issues pose to the continued advancement and security of our world, technology can play a key role in resolving the water resource challenge. Innovations in material science, microbiology, micro-electronics and sensing, as well as advanced manufacturing processes have the potential to spur the development of advanced treatment technologies within the water sector and deliver real value to society. In this presentation, we will discuss these challenges, as well as the innovative solutions that are making a difference today and emerging innovations that will affect our future.