



# Competing for the New Workforce (Part 3): Challenges Faced and a Roadmap to Success

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Meet the Author:

An IEEE Fellow, electricity industry visionary, and leader, Dr. Mani Vadari delivers strategic services to a global set of utilities, vendors, and service providers seeking deep subject matter expertise in setting the business and technical direction to develop the next-generation electric/energy system. As a Business Architect, Dr. Vadari has been delivering solutions focusing on Transmission/Distribution/generation operations, Energy markets, and Smart Grid for over 35 years. In addition, he is an Adjunct Professor at Washington State University and an Affiliate Professor at the University of Washington. He has published two popular books, "[Smart Grid Redefined: Transformation of the Electric Utility](#)" and "[Electric System Operations – Evolving to the Modern Grid, 2nd Edition](#)", in addition to over a hundred industry papers, articles, and blogs. His books are serving as textbooks at several universities in the US and around the world

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In 2006, a leading utility industry magazine stated "Assuming only nominal growth, by 2010 the industry will need to hire some 10,000 new skilled workers each year." This statement included both utilities and their vendors, who are beginning to actively look to hire new workers. What makes this process complex however is a host of social and market factors that are constraining the supply of skilled workers. The main challenge for a utility workforce has become doing more with less, and doing it with new faces. Making this process complex is a host of social and market factors that are constraining the supply of skilled workers.

Enter the intelligent utility workforce. The intelligent worker of the future is a technology-enabled worker with new assets and new tools to support the necessary changes in mobility and computational power as they work.

Where are these workers coming from? Given that in many cases, our need is immediate and our universities and trade schools are not yet producing enough graduates with the right set of skills, these people are coming from other affiliated industries such as computer hardware/software, communications, manufacturing and so on.

It is important to note that these new entrants bring a lot of key and much-needed skills that our industry sorely needs. There are however, equally important sets of skills and competencies that they severely lack. There are several skills gaps, mainly around utility/power systems, smart grid, and business analysis. These deficiencies may apply to industry veterans as well. Vendor or utility, these gaps are important to fill as soon as possible.

But I believe there is a roadmap to success here for both utility and non-utility personnel. At Modern Grid Solutions, we've been successful in educating workers by introducing the key elements for smart grid training with the following structure:

- Step 1: Introducing business and technology key topics of interest based on the targeted audience. Focusing on power systems, electric utilities, and the rate-making process that are needed for the non-utility audience.
- Step 2: Provide detailed training on one or more of these dimensions of the Smart Grid: Distributed Energy, Energy Storage, Microgrids, Smart Meters, Data Analytics, Communications, Electric Transportation, Privacy and Cyber Security.
- Step 3: Providing training on specific focus areas:
  - Distribution Management Systems
  - AMI/Smart Meter
  - Microgrids
  - Distribution & Transmission Automation
  - Demand Response
  - Distributed Energy
  - Smart Cities

These trainings provide a deeper into the specific systems and also prepare for implementation challenges, while increasing an employee's state of readiness.

Experienced and inexperienced people are entering the electric utility industry both as utilities and vendors. The right kind of training is important to ensure they understand the new environment well enough to face the challenges of today and prepare to deliver on the visions of tomorrow.