Abstract

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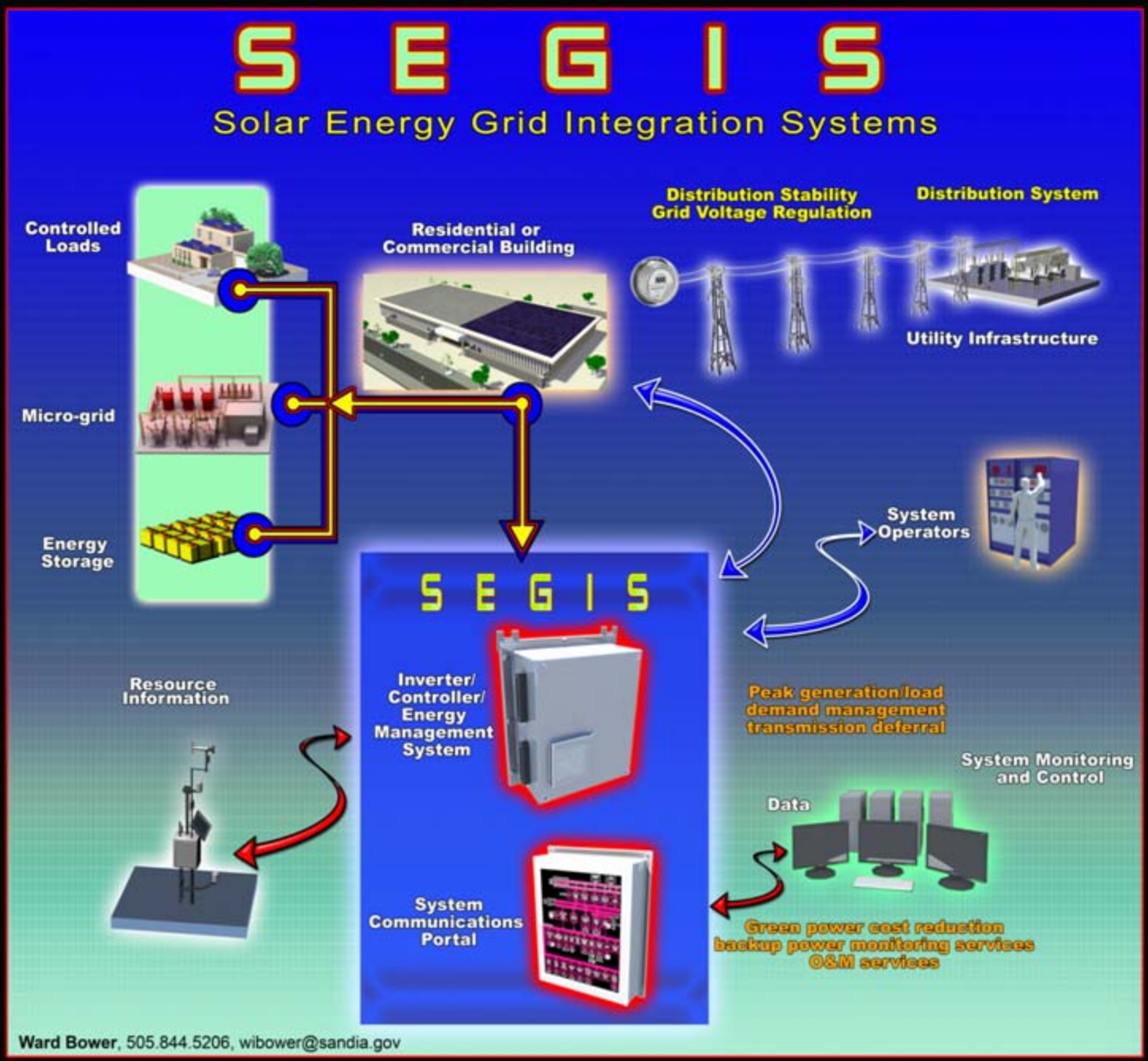
Development of highly integrated, advanced inverters, controllers and critical balance-of-system (BOS) apparatus and methodologies for residential and commercial solar energy applications are the primary goals of the SEGIS project. Advanced integrated inverters/controllers are incorporating intelligent electrical grid support features, energy management functionalities, a multiplicity of communication technologies and features that make PV and distributed energy resources more valuable to the utilities and owners. The SEGIS work focuses on grid-integrated systems, but advanced stand-alone energy management controls are used to enable implementation of full micro-grid functionalities. Portals for optimal energy flow and two-way communications enable system-interactive operations with today's legacy interconnect requirements and evolving intelligence to provide electrical grids with improved stability as higher penetrations of renewable energy become a reality.



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