



Synchrophasor System Deployment Support

From Planning to Implementation

While it is widely recognized that synchrophasor technology can bring major benefits to power system operations, reliability, and resiliency, deploying such systems for wide-area monitoring, protection, and control (WAMPAC) is not a simple task.

Synchrophasor systems allow both control room operators and automated systems to make real-time operational decisions and take real-time protection and control actions, but these decisions and actions must meet stringent production system requirements, including NERC Critical Infrastructure Protection (CIP) Standards compliance. As with any critical operation technology, a systematic approach focusing on key processes is fundamental to the success of such a deployment.

The anticipated benefits should be explored with consideration for each entity's unique business drivers and needs in order to justify the implementation cost to stakeholders.

Service Offerings

Quanta Technology provides a suite of services to support successful synchrophasor system deployment, such as deployment plan development, procurement support, implementation support, and system expansion support.

- **Deployment Planning** includes a deployment roadmap and detailed deployment plan that includes business drivers, overall requirements definition, potential benefits calculation, a high-level conceptual system architecture, design resource/budget requirements, and a business case.
- **Procurement Support** begins with *procurement preparation*, including detailed system design, technical requirements specification, procurement documents preparation, and procurement process planning. This is followed by *procurement process support*, including procurement process management, vendors/evaluator instructions, answers to vendor questions, evaluation of vendor approach, vendor criteria and forms development, evaluation results analysis, final vendor selection, and contract negotiation support.
- **Implementation Support** includes project management support, technical support for vendor technical documents review and approval, factory and site acceptance tests, and other related tasks.
- **System Expansion Support** tailors our services to support the expansion planning and budgeting, system design update, business and technical requirements update, vendor/product selection, and implementation support for system expansions or addition of new functions.





Systematic Success

To successfully achieve the desired business objectives and benefits of WAMPAC synchrophasor system deployment, a systematic approach must be taken during development of its many processes. While bypassing certain steps of this process may seem cost-effective in the short-term, in the long-term, it could cost a lot more if the wrong products are selected or the system architecture design has major limitations. Given the criticality of real-time synchrophasor system operations, deployment requires the kind of breadth and depth of knowledge and expertise of synchro-phasor technology that Quanta Technology can uniquely provide.

Why Quanta Technology

Quanta Technology’s core team consists of well known industry experts, including several IEEE Fellows, with pertinent expertise and knowledge in various aspects of synchrophasor applications and production system deployment. Many of them are active in and have contributed to synchrophasor-related standards development. Our core team can provide end-to-end support for synchrophasor system deployment from the initial roadmap or detailed deployment plan development to implementation support and final system acceptance.

Quanta Technology has been assisting clients’ successful synchrophasor systems deployment for at least 10 years, and in this time, have generated a number of “firsts” including:

- The first comprehensive system design and technical requirement specification for a large-scale production control room synchrophasor system
- The first comprehensive system design and technical requirements specification for a synchrophasor-based wide-area situational awareness (WASA) system
- The first next-generation WASA system design and technical requirement specification
- Specifications for NASPInet Data Bus and Gateway

In addition to the development of synchrophasor roadmaps for a number of US-based and international utilities, Quanta Technology and its team have also led or supported:

- Project management for large-scale synchrophasor system deployment
- Open-bid procurement processes for both US and international customers
- Implementation of synchrophasor systems
- Testing of PMUs, PDCs, synchrophasor applications, and synchrophasor systems

Quanta Technology’s core team is supported by other experts with in-depth knowledge and expertise in power system protection and control, market operations, transmission systems, distribution systems, renewable resources, microgrids, storage systems, and smart grid technologies, among others.

About Quanta Technology

Quanta Technology is an independent technology, consulting, and testing company providing business and technical expertise, along with advanced methodologies and processes, to utilities and others in the power and energy industries. Our mission is to provide unparalleled value to our clients in every engagement across the value chain by using advanced software and hardware, laboratories, and custom tools for a holistic approach to practical service and the most insightful thought leadership in the industry.

For Additional Information Contact:

Northeast (USA) and Québec

Mike Longrie: MLongrie@Quanta-Technology.com

South/Southeast (USA) and Ontario

Diana Prkacin: DPrkacin@Quanta-Technology.com

Central (USA and Canada)

Evan Estes: EEstes@Quanta-Technology.com

West (USA and Canada)

Reza Nasri: RNasri@Quanta-Technology.com

International (outside USA and Canada)

David Elizondo: DElizondo@Quanta-Technology.com

Smart Solutions Practical Results

All product and company names are trademarks™ or registered® trademarks of their respective holders. Use of them does not imply any affiliation with or endorsement by them.



**QUANTA
TECHNOLOGY**