



A ROADMAP TO A SMARTER GRID

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Vladimir Terzija is the **EPSRC Chair Professor in Power System Engineering** in the School of Electrical and Electronic Engineering, The University of Manchester, where he has been since 2006.

From 1997 to 1999, he was an Assistant Professor at the University of Belgrade, Serbia. In 1999, he was **Humboldt Research Fellow** at the Saarland University, Saarbruecken, Germany. From 2000 to 2006, he was with **ABB AG, Ratingen, Germany**, as an expert for switchgears and distribution automation.

His main research interests are switchgears, DSP applications in power systems, and application of intelligent methods to power system monitoring, control, and protection.



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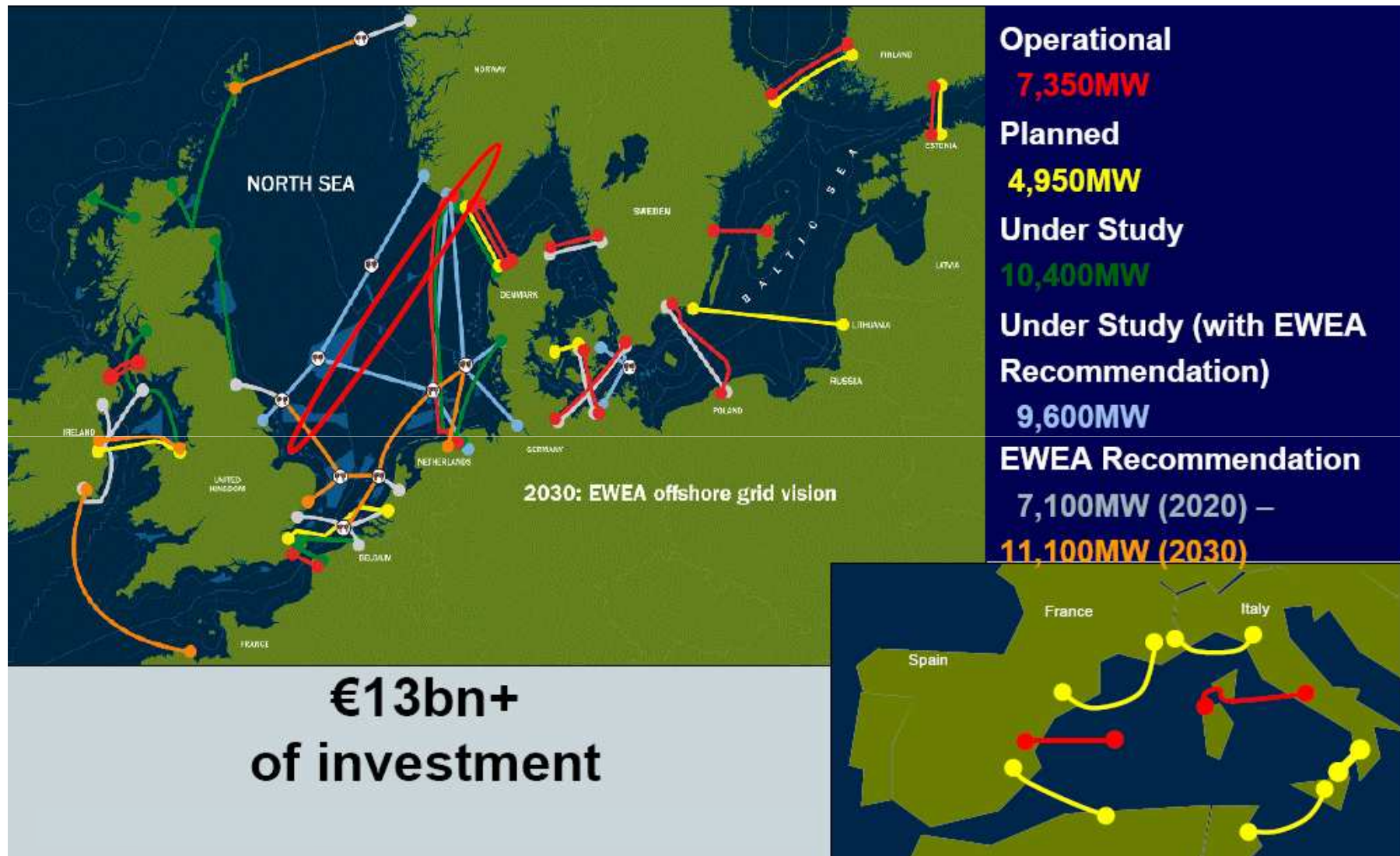
MANCHESTER
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Research Team led by Prof Vladimir Terzija

- 2 Postdoctoral Research Assistants
- 11 PhD students
- 2 Academic Visitors
- 8 MSc projects
- 5 Third Year projects



The European SUPERGRID



Conclusion:

In such a complex environment there is a very strong case to develop a Smart Grid based on ICT, novel sensors and new solutions.

Wide Area Monitoring, Protection and Control

Recently Published IEEE Journal Paper:

Spec. Issues of the Proceedings of the IEEE, (Invited Paper), January 2011

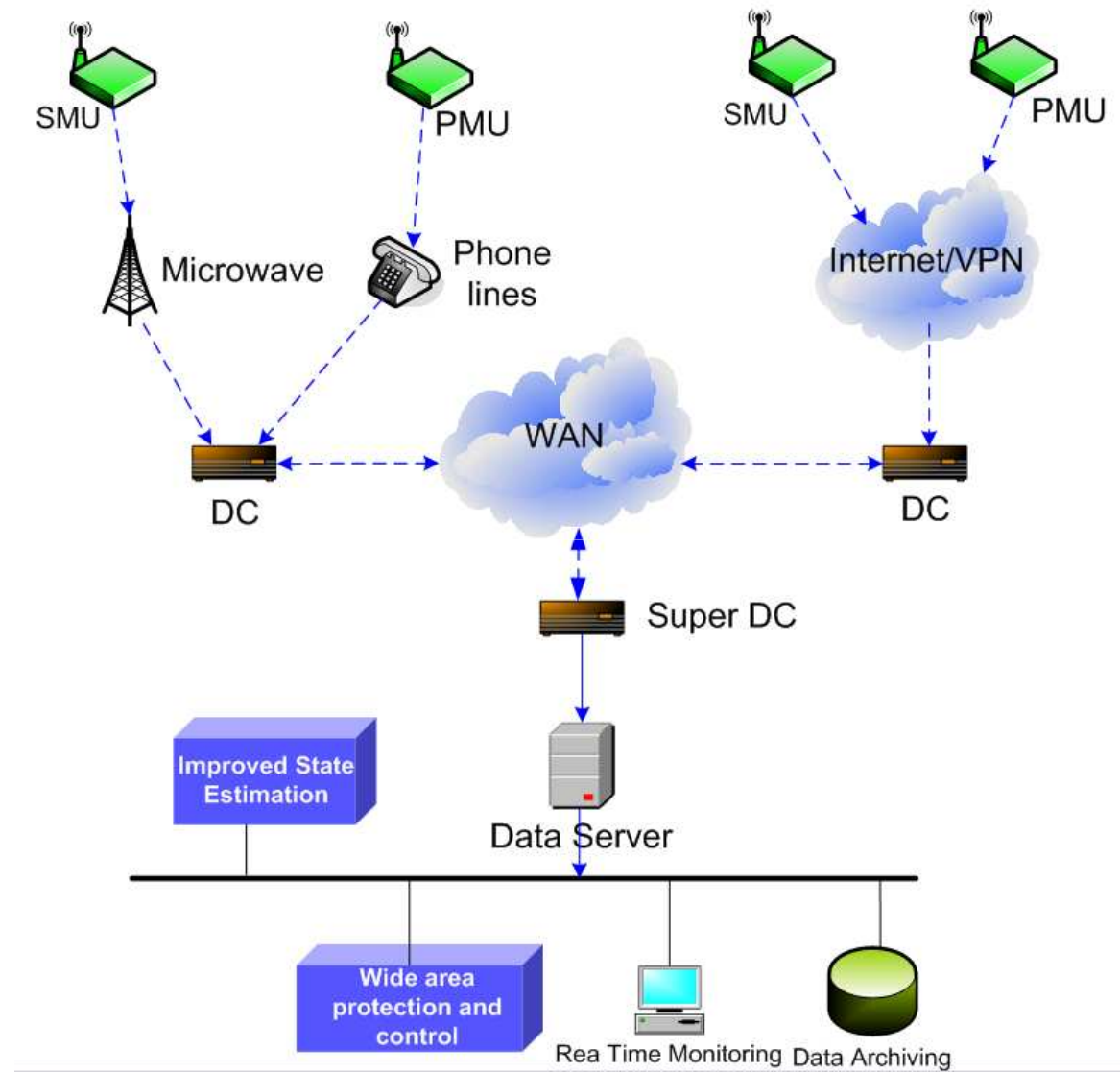


Wide-Area Monitoring, Protection, and Control of Future Electric Power Networks

The authors of this paper point out that data concentrators are now being designed and deployed and they explain why future networks should make use of synchronized measurement technology.

By VLADIMIR TERZIJA, *Senior Member IEEE*, GUSTAVO VALVERDE, *Student Member IEEE*, DEYU CAI, PAWEL REGULSKI, VAHID MADANI, *Fellow IEEE*, JOHN FITCH, *Member IEEE*, SRDJAN SKOK, *Member IEEE*, MIROSLAV M. BEGOVIC, *Fellow IEEE*, AND ARUN PHADKE, *Life Fellow IEEE*

A generic SM-based WAMPAC system



Summary

- 1. Blackouts prevention**
- 2. Optimal assets utilization**
- 3. Renewables integration**
- 4. Energy storage**
- 5. Emerging technology**

Conclusion:

- *The roadmap to a smarter grid must be developed through multidisciplinary efforts of a number of specialists having different skills.*
- *Emerging Technology helps.*