



Wrocław University
of Science and Technology

FlexiBIT

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Who are you, and what is your organization's area of expertise?

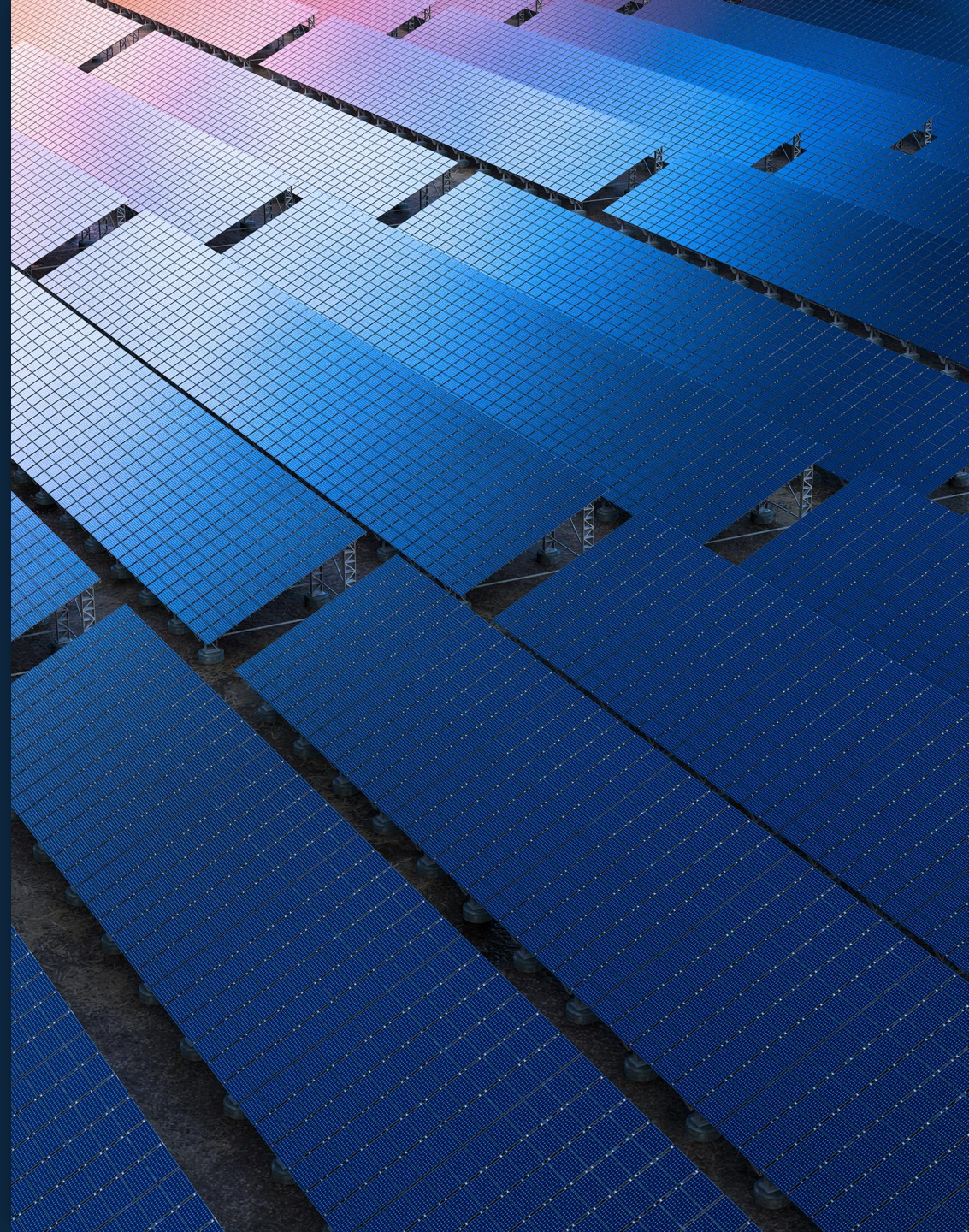
Prof. Tomasz Sikorski, Principal Investigator at Wroclaw University of Science and Technology (WUST).

At WUST, we identify the regulatory potential of generators and energy storage. We specialize in measurements and analysis of the integration and cooperation of these elements with microgrids. We participate in laboratory-scale studies as well as field tests.



What is your vision for FlexBIT?

Our vision in the project is to unlock and boost the flexibility of microgrid elements such as photovoltaics and battery energy storages as well as controllable loads. Full activation of their regulatory capabilities can have a significant impact on the flexible green energy transformation of residential, tertiary, and industrial buildings. This can also be a way to provide new auxiliary services for the distribution system operator.



What specific role does your organization play in FlexBIT?

Our team is responsible for creating a demonstration laboratory test bench to test the control capabilities of photovoltaic inverters and energy storage inverters/chargers. We are cooperating with the project partners on developing control algorithms for optimal energy management. We are also preparing for field tests and cooperation with the perspective stakeholders.



What are the key outcomes your organization hopes to achieve in FlexBIT?

Through laboratory tests, we will provide boundary characteristics of control capabilities and responses to given control algorithms. Together with other project partners, from Italy and Malta, the results obtained in the WUST laboratory tests will contribute to the creation of the digital twins of microgrid components. Participation in the field tests of the national demonstrator in Poland will provide data for the evaluation of the platform.



Why is FlexBIT important for Europe's energy transition?

FlexBIT takes an integrated approach to the energy transition aim. It first focuses on the end-user regulatory potential and then accumulates regulatory capabilities in the energy community. At the same time, it addresses new auxiliary services provided to the distribution system operator. The designed FlexBIT platform considers user heterogeneity, horizontal and vertical exchange, and scalability and flexibility.



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