

ECONOMIC, USEFUL ANODE CATALYST FOR USE IN A REDOX FLOW BATTERY (BIRAD)

[David Zitoun](#), Bar-Ilan University, Exact Sciences, Chemistry

The Problem

Current energy storage system batteries for stationary substation applications are extremely expensive.

The Solution

This innovation provides an anode catalyst having superior stability in a highly poisonous environment when operated in redox flow battery systems, while still exhibiting improved performance, and that is durable and cost-effective.

The Commercial Benefit

Our cutting-edge Hydrogen Bromine (HBr) RFB technology offers fundamentally:

- Economic storage solution,
- Fast kinetics,
- Reversible reactions,
- Low chemical costs.

The presented HBr has numerous advantages compared to solid-state electrolyte batteries:

- The possibility to scale the power input/output independently of the capacity of the system.
- The large-scale availability of both hydrogen and bromine.

Market Potential

The market for redox flow batteries will reach \$4 billion by 2027. The global market for flow batteries is expected to witness steady growth and the prospects for its growth will be driven by the rising utilization of flow batteries in various applications and government support such as funding and investment in R&D. Benefits such as its longer life cycle and discharge hours will result in its steady CAGR of more than 9% by 2020.

Target Markets/Industries

Electric vehicles

Team: Primary Inventor


Prof. David Zitoun

Prof. David Zitoun is Associate Professor in the Department of Chemistry and a member of the Nano-Energy and Nano-Materials Center at the Bar-Ilan Institute of Nano-technology and Advanced Materials (BINA).

Prof. Zitoun came to Bar-Ilan University from the University of Montpellier, France.

Zitoun's lab focuses on the chemical synthesis of materials to promote the renewable and green energies. The lab has a high expertise in the wet synthesis of nano and micro-scale materials with the accent on the transition metals, their complexes, organometallic, metallic, metal-oxide compounds.

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