

## Options for Future Mobility Systems



**Maximilian Fichtner**

Prof. Dr. Maximilian Fichtner is director at the Helmholtz-Institute Ulm (HIU) for Electrochemical Energy Storage, professor for Solid State Chemistry at the Ulm University and head of the department "Energy Materials" at the Institute of Nanotechnology, Karlsruhe Institute of Technology. He is a scientific director of CELEST (Center for Electrochemical Energy Storage Ulm-Karlsruhe) and spokesperson of the German Excellence Cluster on battery research, entitled "Energy Storage Beyond Lithium (POLiS)", with about 100 new employees. He is also a member of the core team of an upcoming European Large Scale Research Initiative (formerly known as "Flagship"), named "BATTERY2030+". His current research interest is on resource- and sustainability issues, novel principles for energy storage and the synthesis and investigation of related storage materials. He is author and co-author of more than 350 research-, conference papers and book chapters, 20 patent applications and editor of a book on magnesium batteries.

### **ABSTRACT**

While the discussion about climate change and CO<sub>2</sub> content in the atmosphere is governing international policies, an even stronger factor is already looming at the horizon: the depletion of fossil resources and its consequences. In the light of the actual numbers alternative options such as electromobility based on battery or hydrogen as storage media will be highlighted. The actual developments, challenges, and opportunities will be discussed of these options and a guideline will be given on how to deal with resources available in the future.