Digitization is the decisive driver of change in the energy market. Decentralization and related models, such as crowd energy models, are the obvious effects that have already arrived in reality. Nonetheless, research goes on, be it on new hardware units for contactless power transfer, models, and implementations for the use of different kinds of renewable energy in smart environments, especially on the use of storage technologies and the coupling of different areas (e.g. vehicle-to-grid (V2G) or building-to-grid) and, most importantly, different sectors.

The blockchain technology is currently in the main-stream and, against the background of digital transition, has a disruptive character for the energy industry. Based on the blockchain technology, numerous new forms of decentralization and sustainable power supply will be implemented. Traceability and transparency as well as non-manipulability are the key words. However, there are also risks, both in terms of cyber security and management.

Energy-efficient technologies (EET) and renewable energy technologies have evolved from marginal innovations to a core component successfully competing with "conventional" technologies in different markets. The application of EET to create smart environments will focus on improving human well-being and reducing energy and resource consumption. To achieve this, the positive impetus of the “Crowd” for the implementation of smart environments should also be considered. The term “Crowd” has developed in the context of political and social-theoretical discussions and is often given a negative meaning. Nevertheless, various research projects have shown that the “Crowd” can also have positive connotations, e.g. in the form of collective intelligence or even the enabler of smart environments.

From this, it can be deduced that the sustainable design of smart environments has more than simply a technical dimension, but must also be discussed from a sociological, economic, and political point of view. A holistic approach in this sense seems to be the logical prerequisite for a successful digital transformation.

Thus, this Special Section on Energy Efficient Technologies—Crowd Energy Applications (EET-CEA) of Journal of Electronic Science and Technology is dedicated to presenting the latest research on EET-CEA. We have received numerous highly qualified submissions, from which we have accepted seven papers after a very careful and diligent two-stage review process.

The contributions cover the following topics:

- Receiver Power Allocation and Transmitter Power Control Analysis for Multiple-Receiver Wireless Power Transfer Systems;
- Technical Investigation on V2G, Sun to Vehicle (S2V), and Vehicle to Infrastructure (V2I) for Next Generation Smart City Planning;
- Blockchain in Future Energy Systems;
- Internet of Thing-Solar Energy Powered Smart Farm Irrigation System;
As the guest editor of this special section, I would like to express my sincere thanks to the authors for their contributions to this special section. I would like to express my honest thanks to all reviewers and supporters. Finally, personally, but also on behalf of the authors, I would like to express my gratitude to the editorial team for their efforts and their everlasting support throughout the process. Very special thanks to Dr. Xuan Xie for the extremely professional support of this project.

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