



Research and Development 20 for clean energy technologies
(RD20) conference, Sep. 30th 2020

Role of battery storage in the next generation energy system

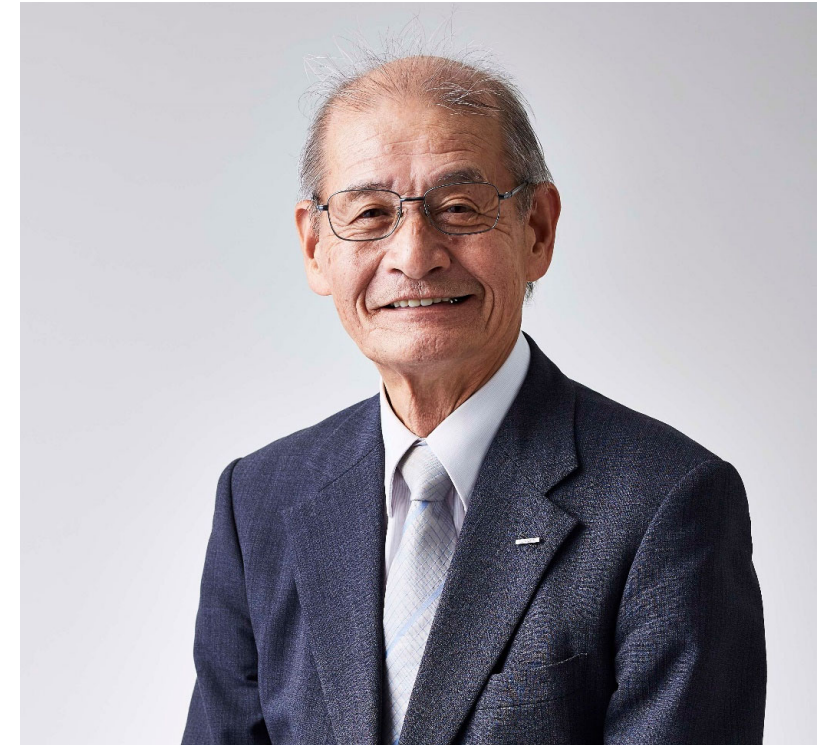
Dr. YOSHINO Akira

AIST Fellow

**Director, Global Zero Emission Research Center (GZR)
Department of Energy and Environment**

Profile

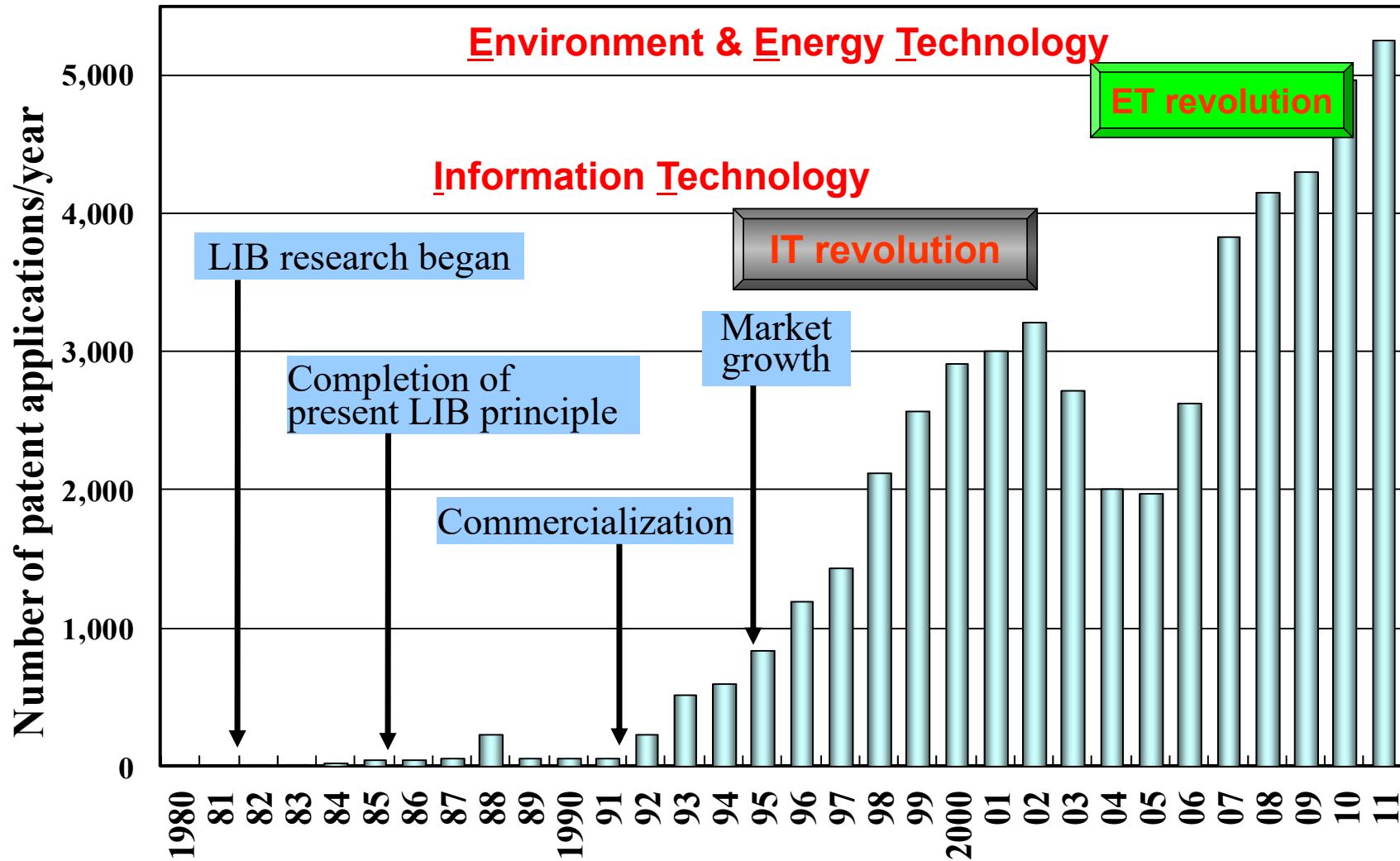
- Dr. Eng. 2005 from Osaka University
- Honorary Fellow at Asahi Kasei Corporation
- President at Lithium Ion Battery Technology and Evaluation Center
- Professor at Meijyo University
- Visiting Professor at Kyushu University
- AIST Fellow, Director at Global Zero Emission Research Center, AIST
- 2019 Nobel Laureate in Chemistry





Brief History of the Lithium-ion Battery (LIB) and social change

Development history of LIB and IT revolution

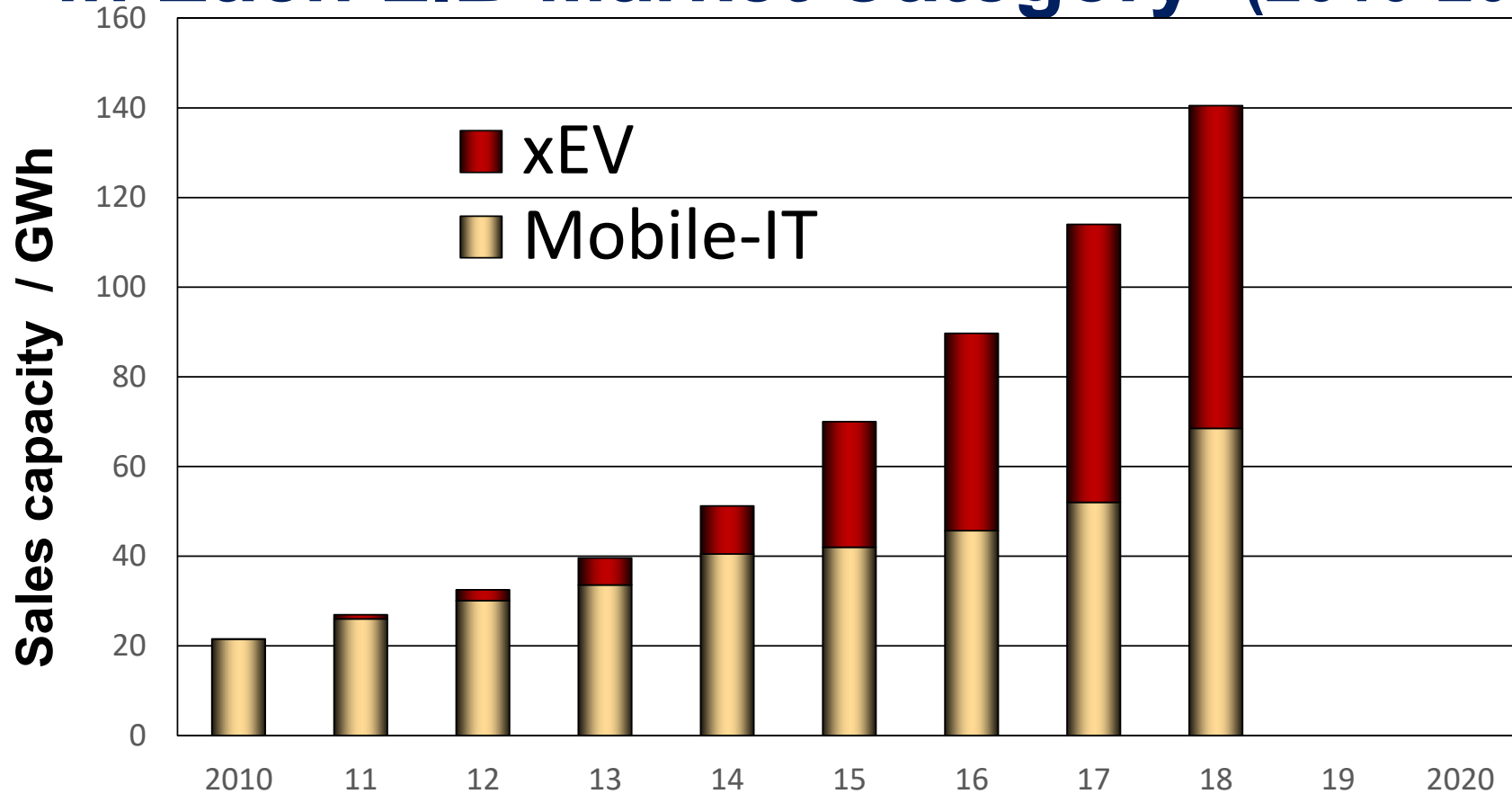




Two reasons for 2019 Nobel Prize in Chemistry

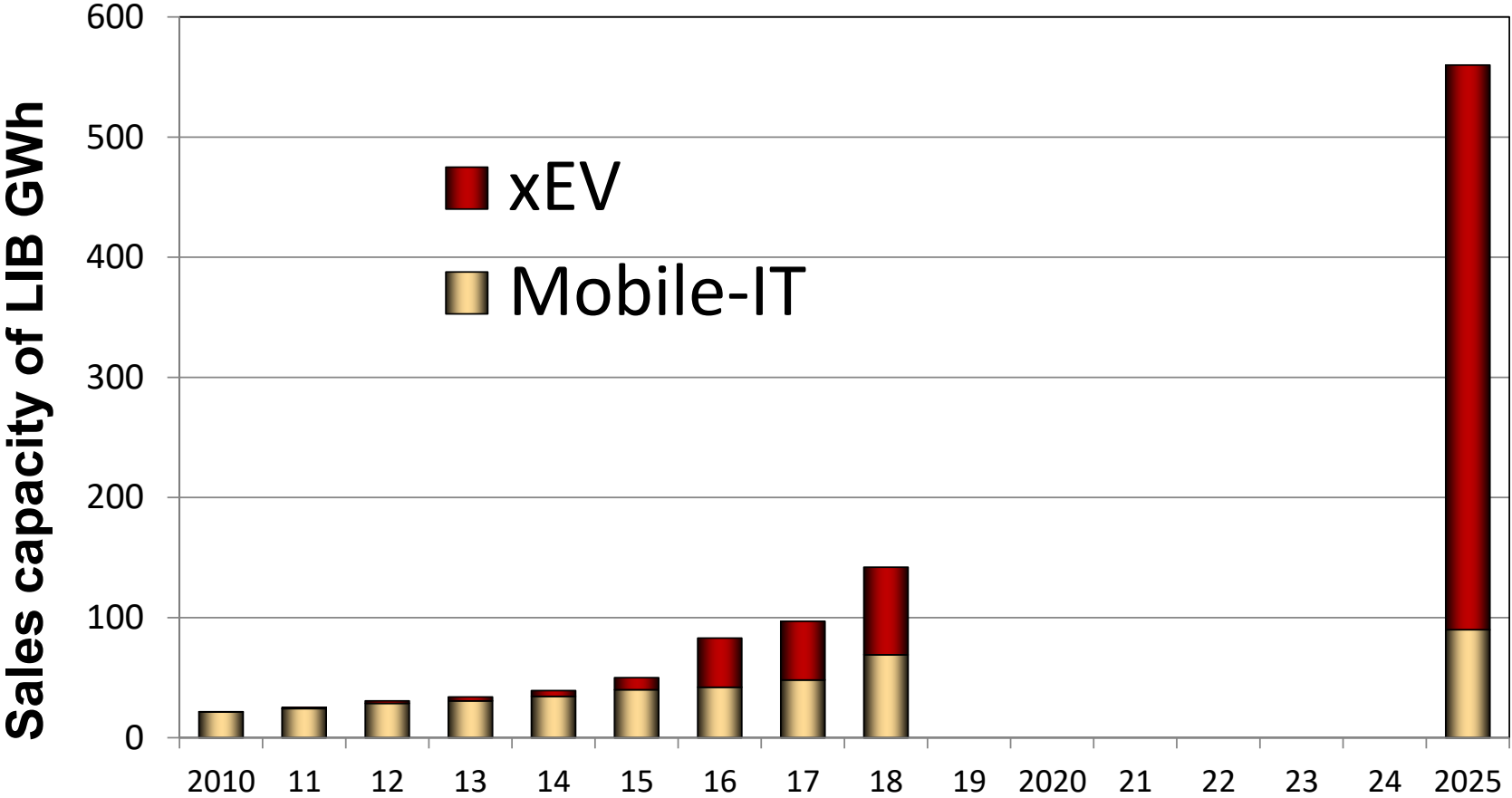
- 1. LIB made the mobile IT society possible.**
- 2. LIB is expected to contribute to sustainable society**

Capacity-based Market Scale in Each LIB Market Category (2010-2018)



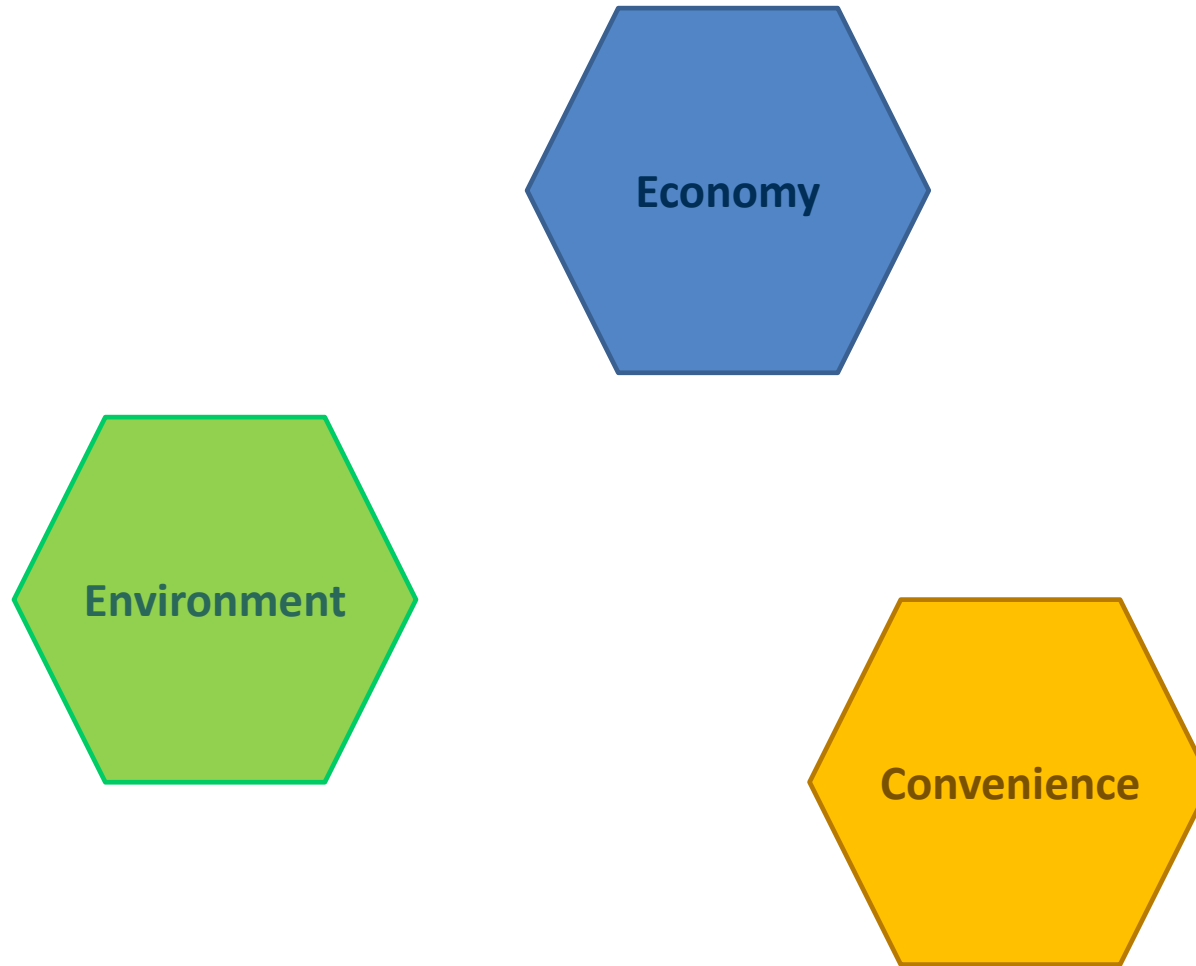
Source: B3 Corp. report

LIB market forecast (-2025)

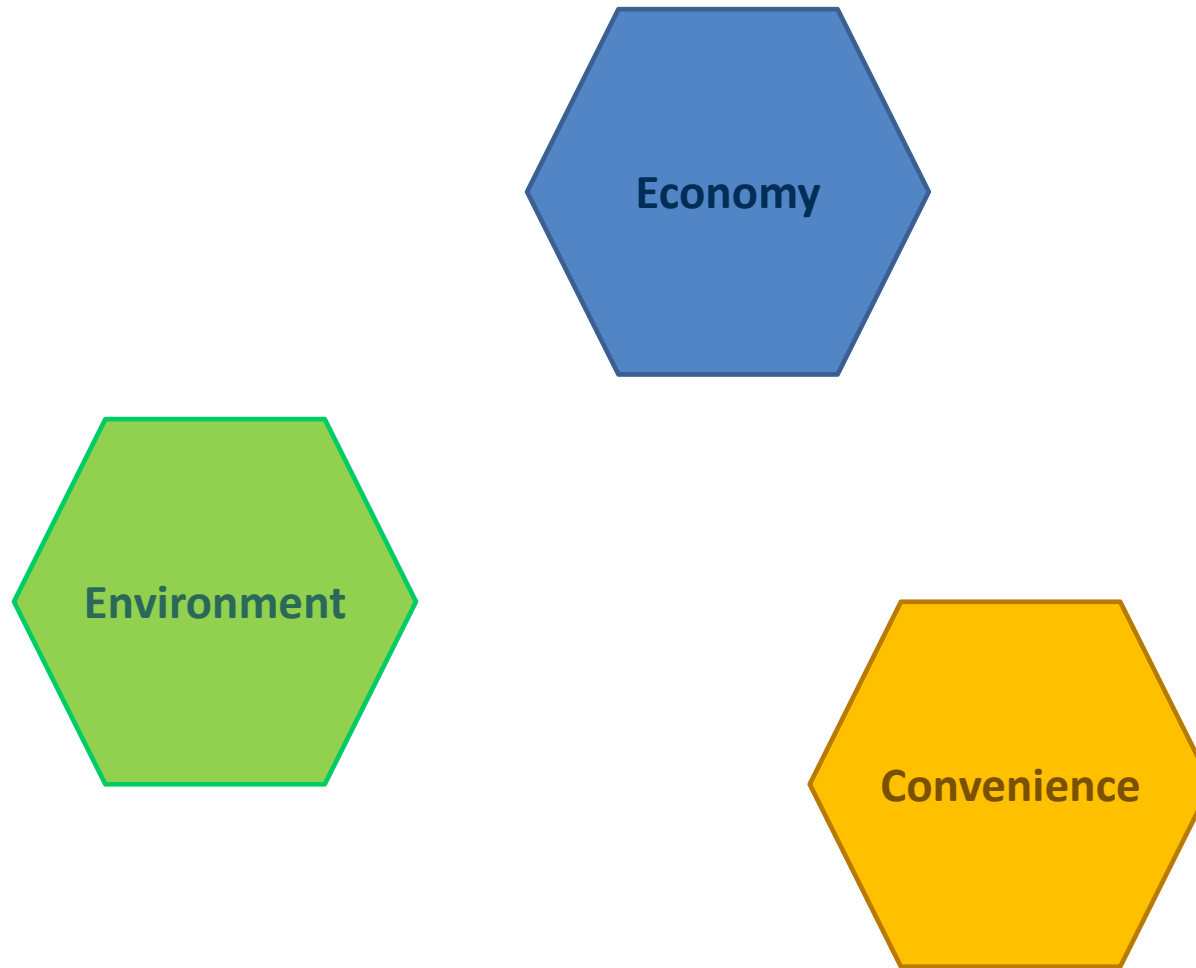


Source: B3 Corp. report

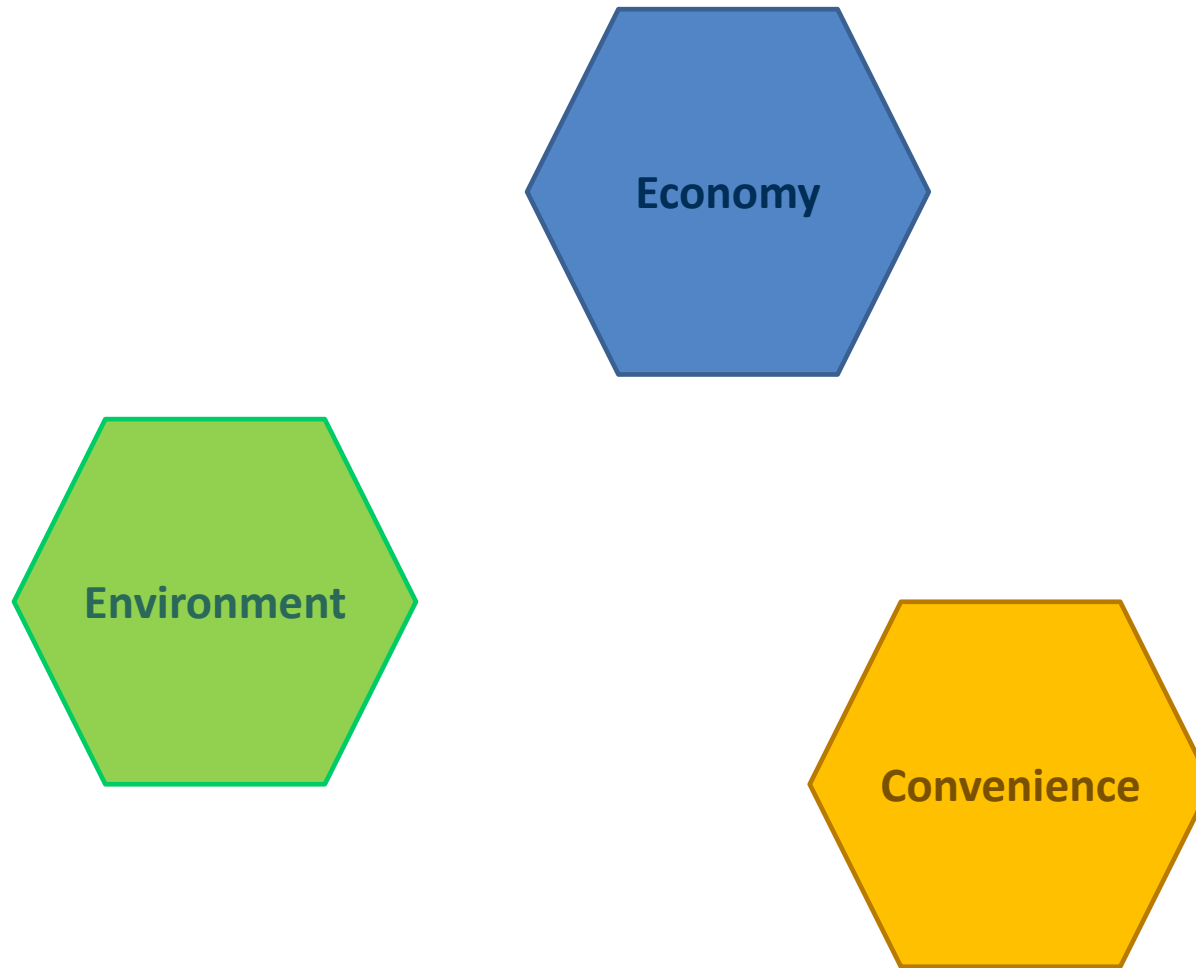
Trilemma



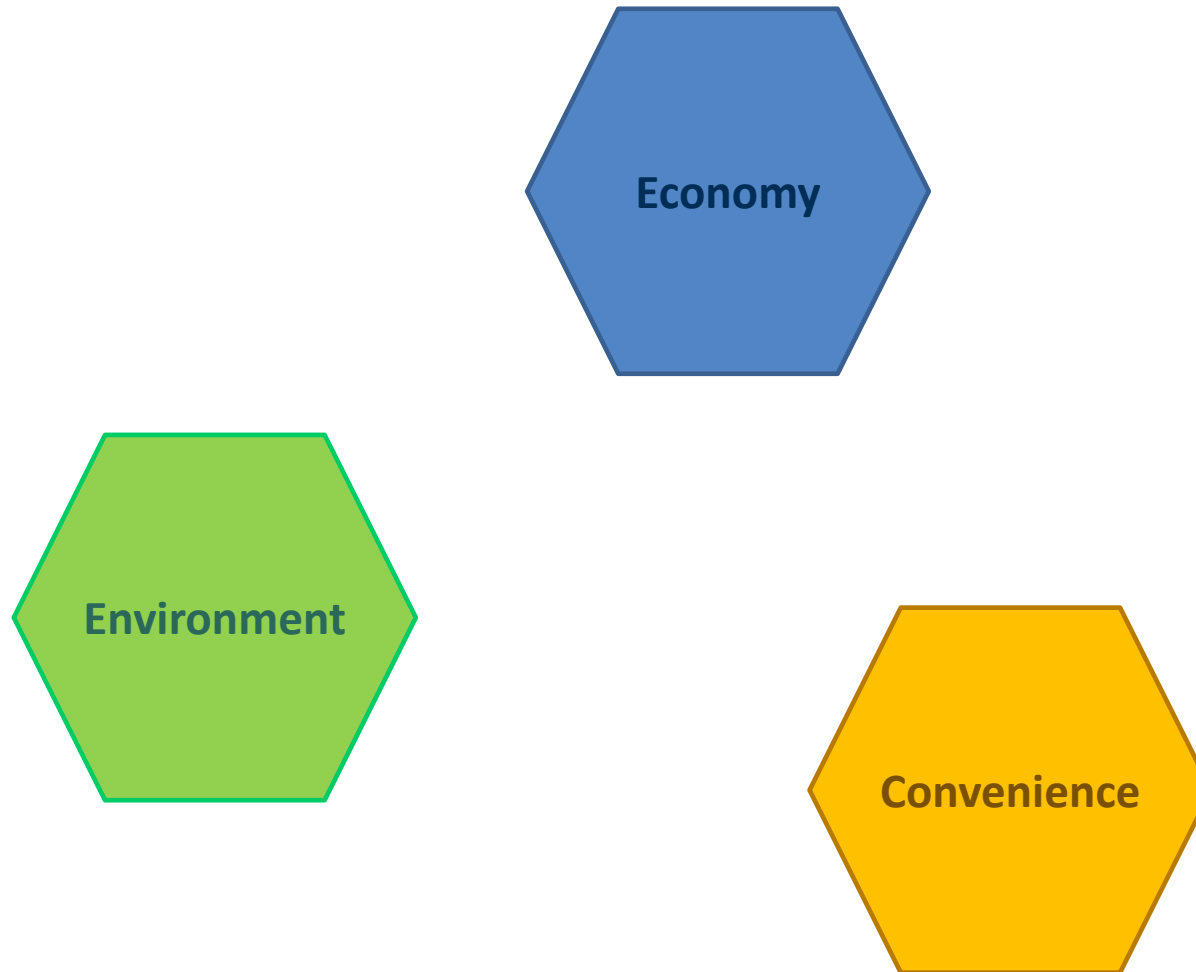
Trilemma



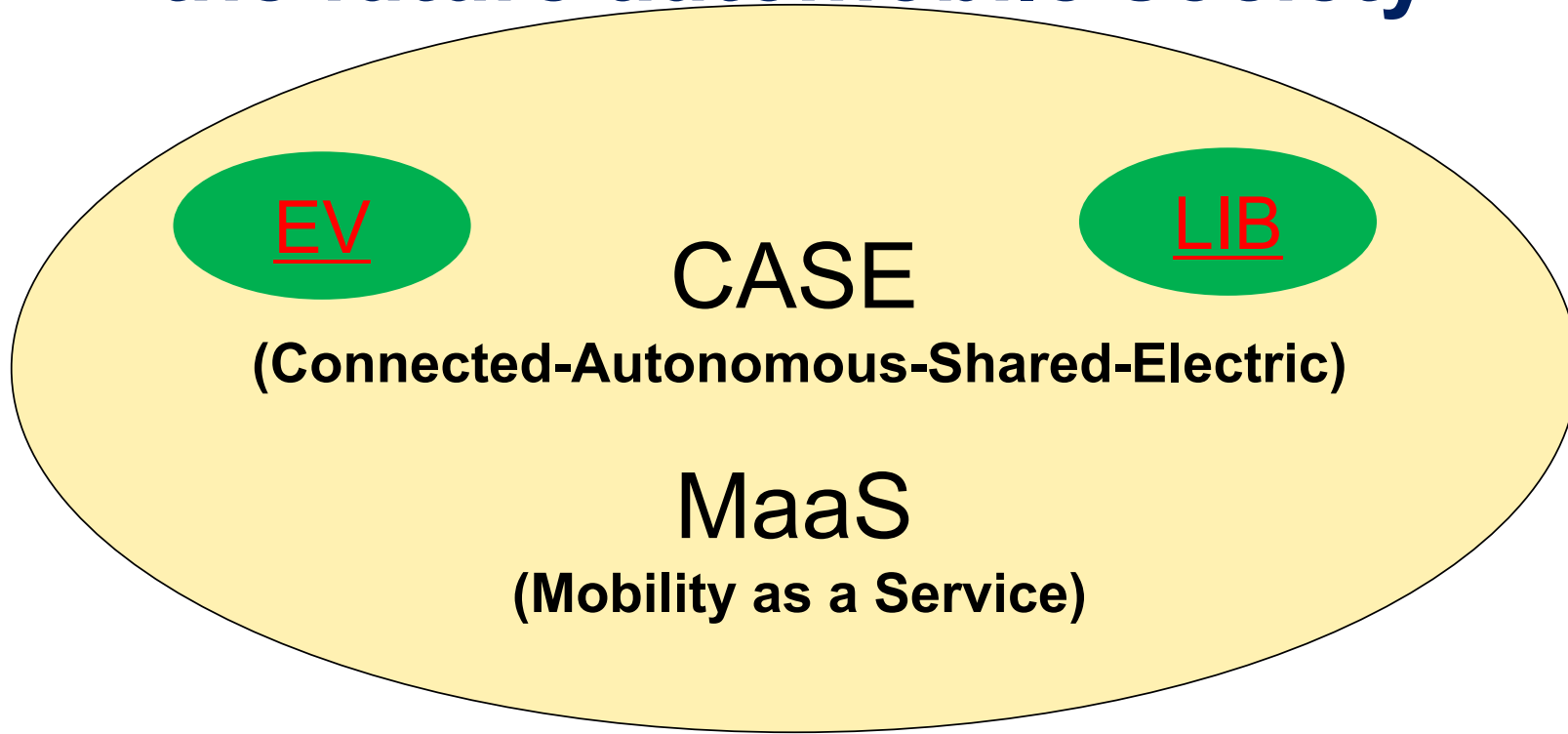
Trilemma



Harmony between Environment, Economy, and Convenience

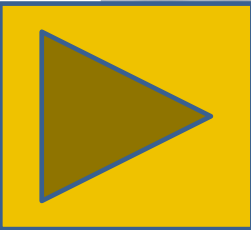


Two buzzwords to predict the future automobile society



AIEV
(Artificial Intelligence Electric Vehicle)

Glimpse of Sustainable Society



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3:38

This movie is released at KRI's website in Kyoto <http://kri-inc.jp/english/tech/dept/ecl.html>



My vision

Innovation all around will enable a sustainable society to be achieved very soon
The battery will play a central role

- Linkage of LIB technology with new technologies like AI, IoT, and 5G
- CASE and MaaS enabling automobile-dependent society to be sustainable
- The Environment, Economy, and Convenience balanced in harmony



Thank you very much
for your attention