

Japanese Innovation History  
from  
“One Step on Electro Technology”

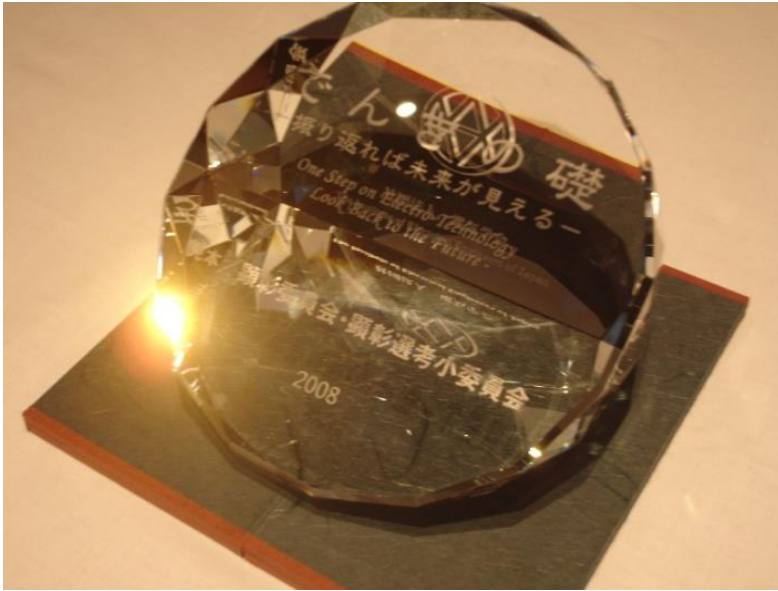
Yuki Hasegawa, Saitama University

Kouichi Katsukawa, Mitsubishi Electric Corp

Hiroshi Suzuki, Japan University of Economics

IEEE Life Fellow, Member of EAJ

# “One Step on Electro Technology” — Look Back to the Future —



- In October 2008, honoring system of electrical technology started the operation as part of the Institute of Electrical Engineers of Japan founding 120 years anniversary.
- Up-to-now 52 items have been awarded.

# Objectives of the “One Step on Electro Technology”

Significant progress of electro technology in the 20th century, which played a major contribution to social life is looked back. “One Step on Electro Technology” is honoring these achievements.

This makes people to know the importance, attractiveness and value of electro technology.

It contributes to the development of the future of electrical technology.

# Study on Japanese Innovation in 20 Century

Collecting the “One Step on Electro Technology” of all 52, we consider the characteristics of Japanese innovation, and contribute to the electrical technology development.

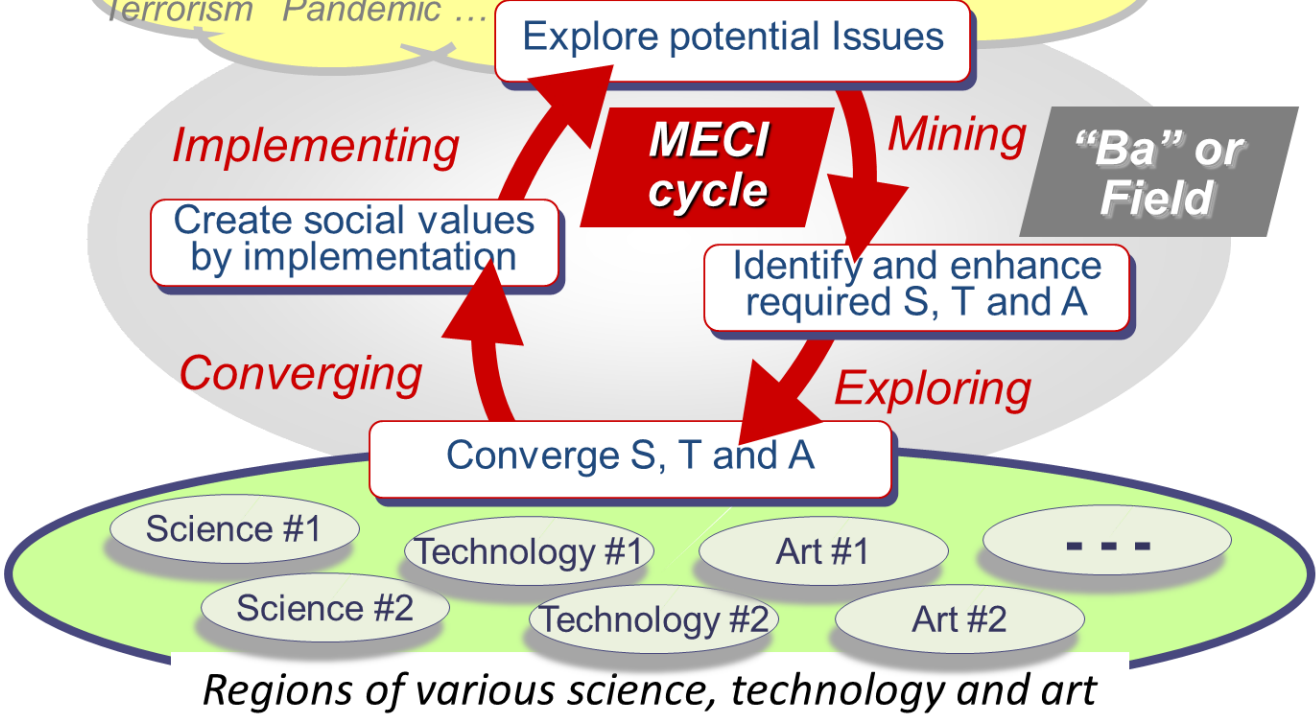
- By category, by region, and by field (society) separately, the tendency of the “One Step on Electro Technology” so far.
- It is organized by age, considered in light of the historical background.
- Meta Engineering process is adopted to analyze.

# MECI Process of Meta-Engineering

## META-ENGINEERING MODEL

### Global issues

*“Survival of the humankind and preservation of the global environment”*  
Sustainability Peace Safety Health Population explosion Anti-aging  
Environment Climate change Education Natural resources  
Terrorism Pandemic ...



# Categories of “One Step on Electro Technology”

“Thing” : machine, device, system, etc.  
→ 38 items.

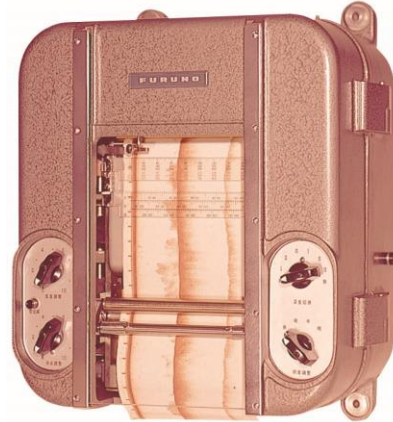
“Location” : site , building, etc.  
→ 9 items.

“Matter” : technology, etc.  
→ 23 items.

“Human” : engineer, scientist, entrepreneur,  
etc.  
→ 11 items.

# Category “Thing”

- Fish Finder, 1948



- Quartz watch, 1969  
(IEEE Milestone)



- WALKMAN, 1979



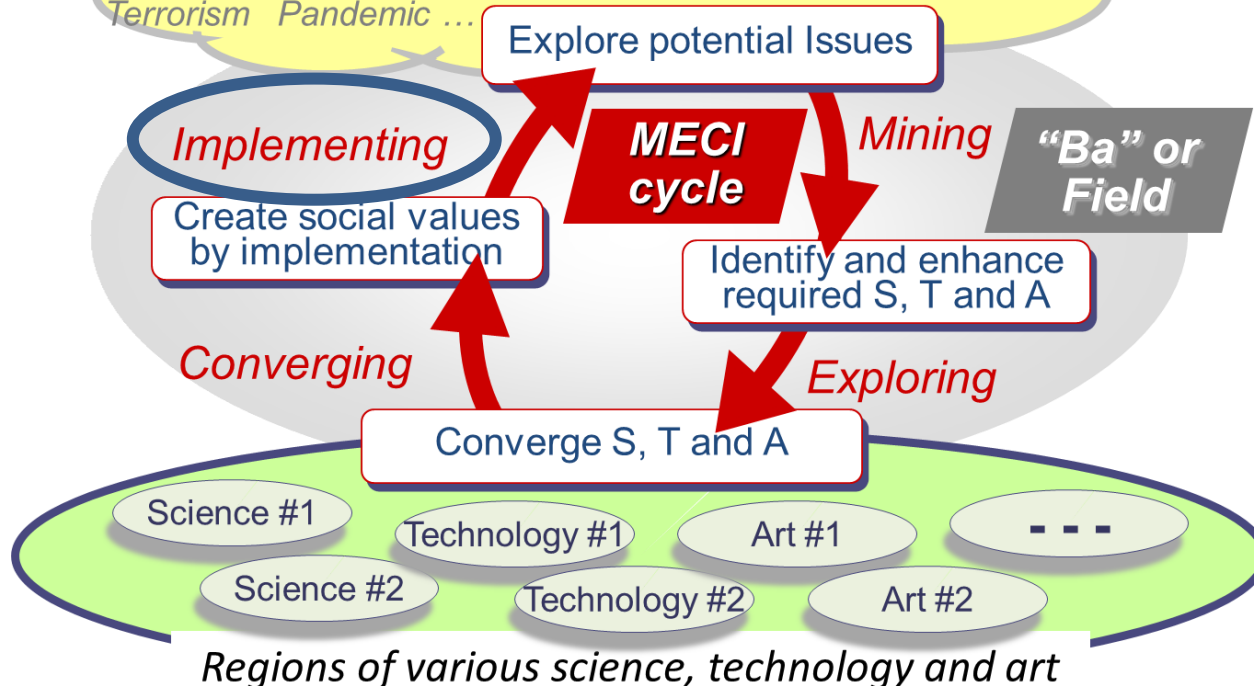
# MECI Process of “Thing”

## META-ENGINEERING MODEL

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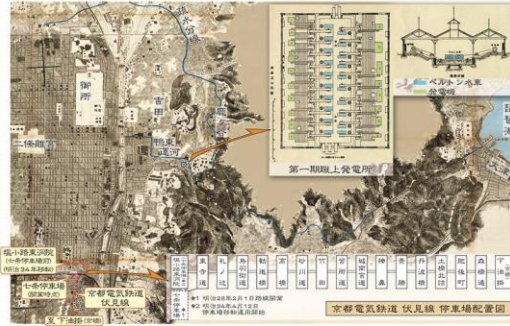




# Category “Location”

- Electro Vestiges of first Stage Spread at Kyoto in Meiji Era, 1891

(IEEE Milestone)



- Akihabara, 1960



- Kurobe River No.4 Hydropower Plant, 1961 (IEEE Milestone)



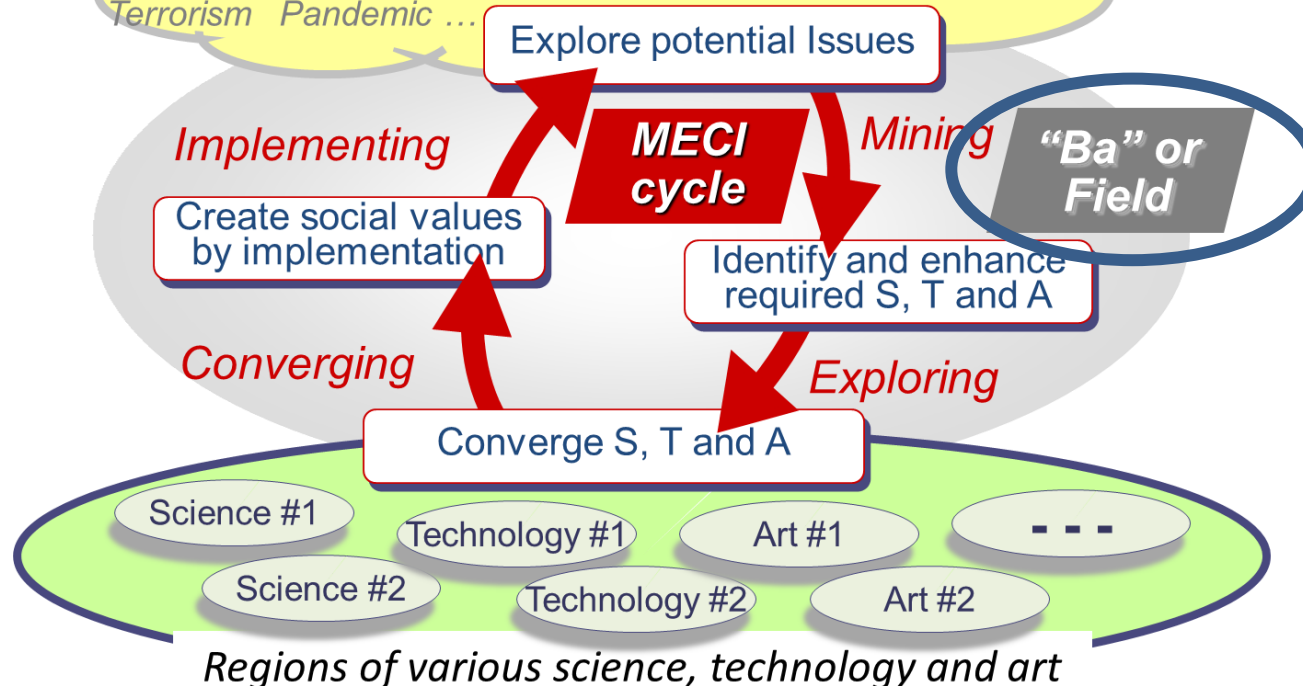
# MECI Process of “Location”

## META-ENGINEERING MODEL

### *Global issues*

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# Category “Matter”

- pin Diode, Static Induction Transistor and Thyristor, 1950
- Shinkansen Railway System, 1964 (IEEE Milestone)
- Map based Automotive Navigation System, 1981



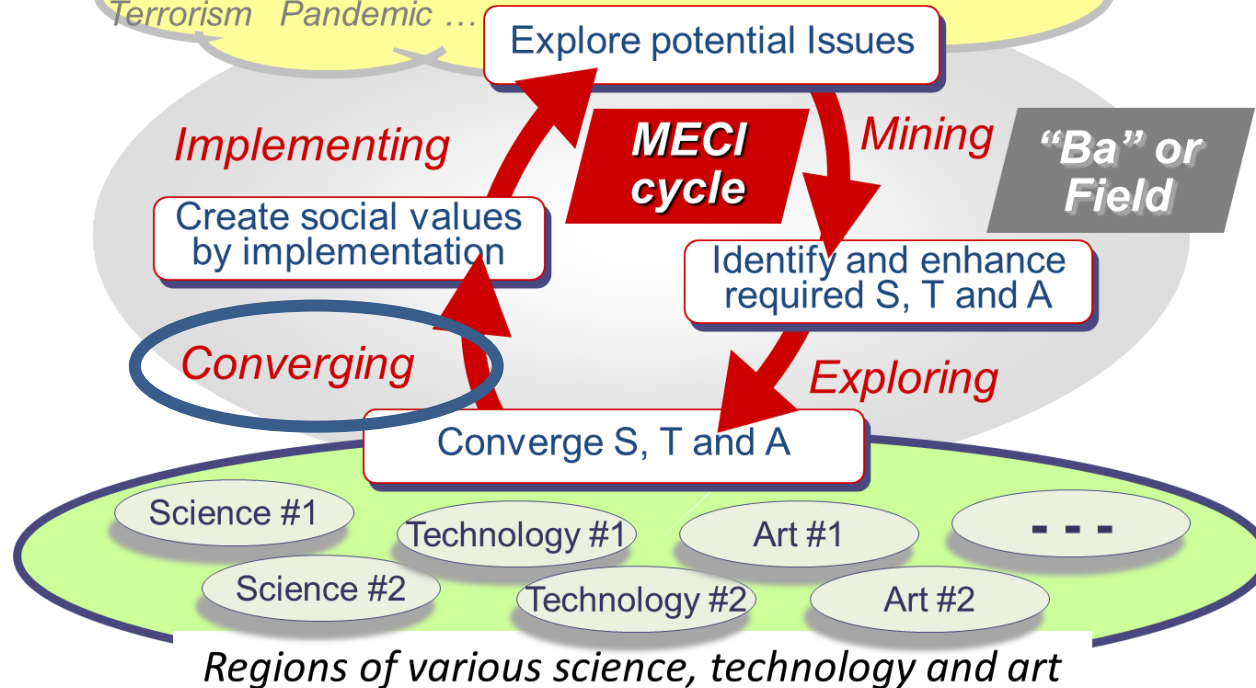
# MECI Process of “Matter”

## META-ENGINEERING MODEL

### *Global issues*

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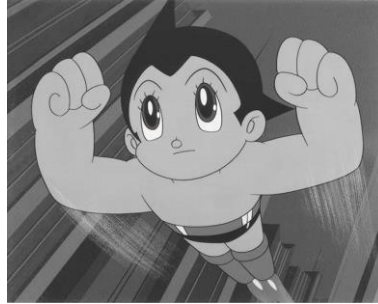


# Category “Human”

- “Hoashi & Millman’s Theorem” found by Takeji Hoashi, 1927



- Astro Boy: The First Animated TV Series in Japan, 1963



- Yai Sakizo, 1887



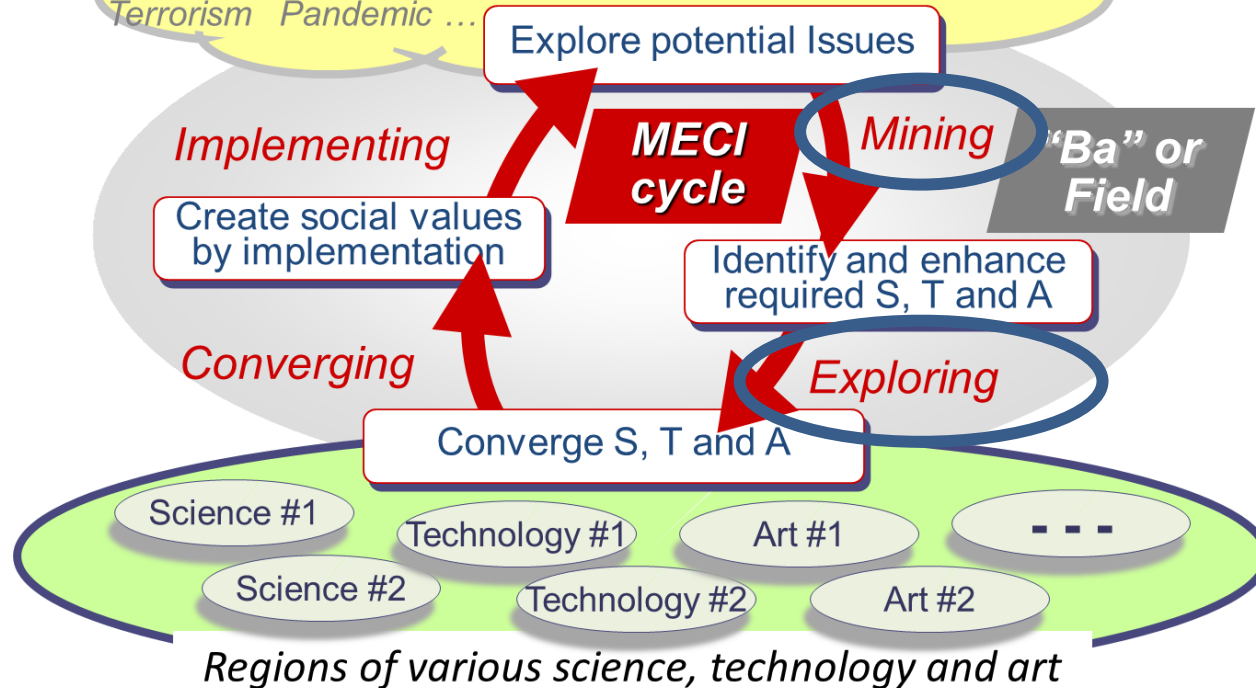
# MECI Process of “Human”

## META-ENGINEERING MODEL

### *Global issues*

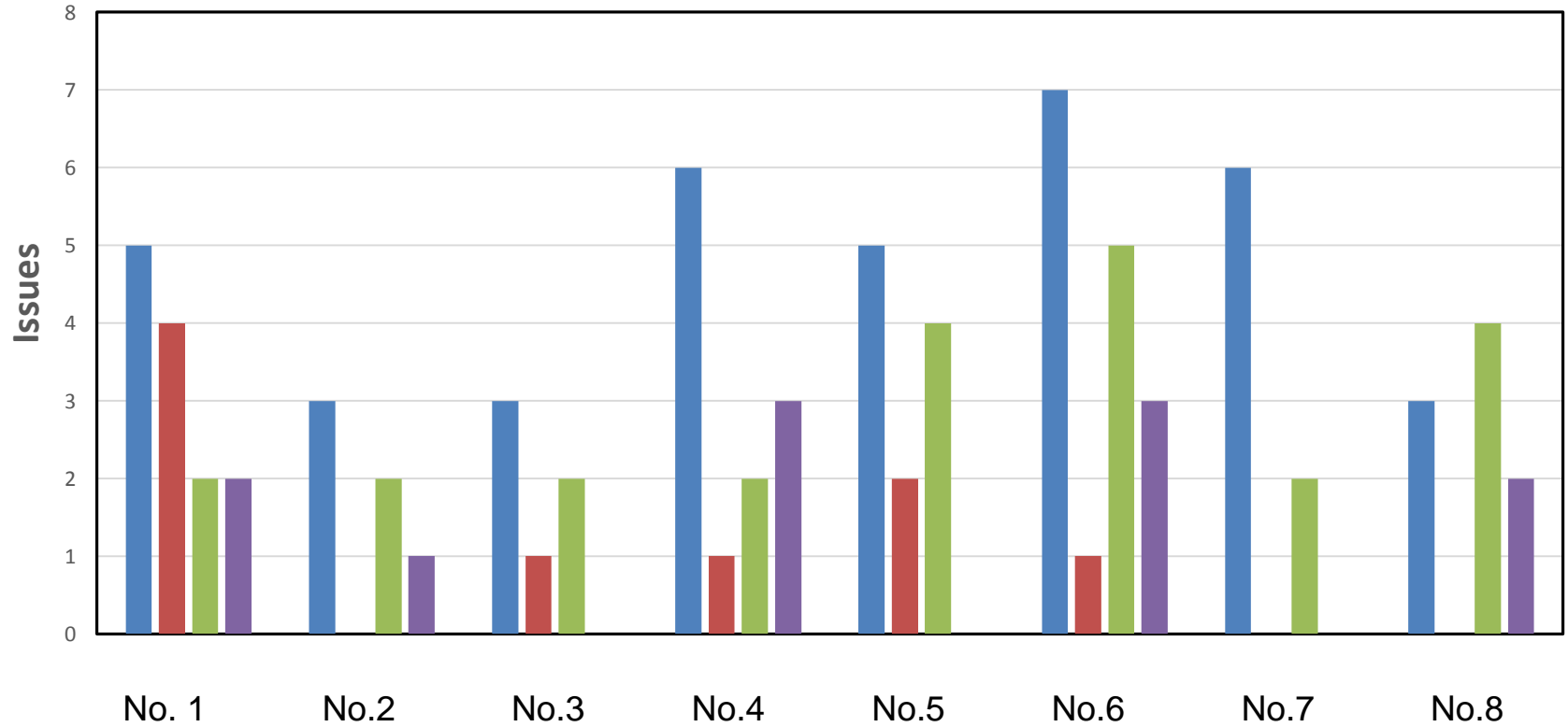
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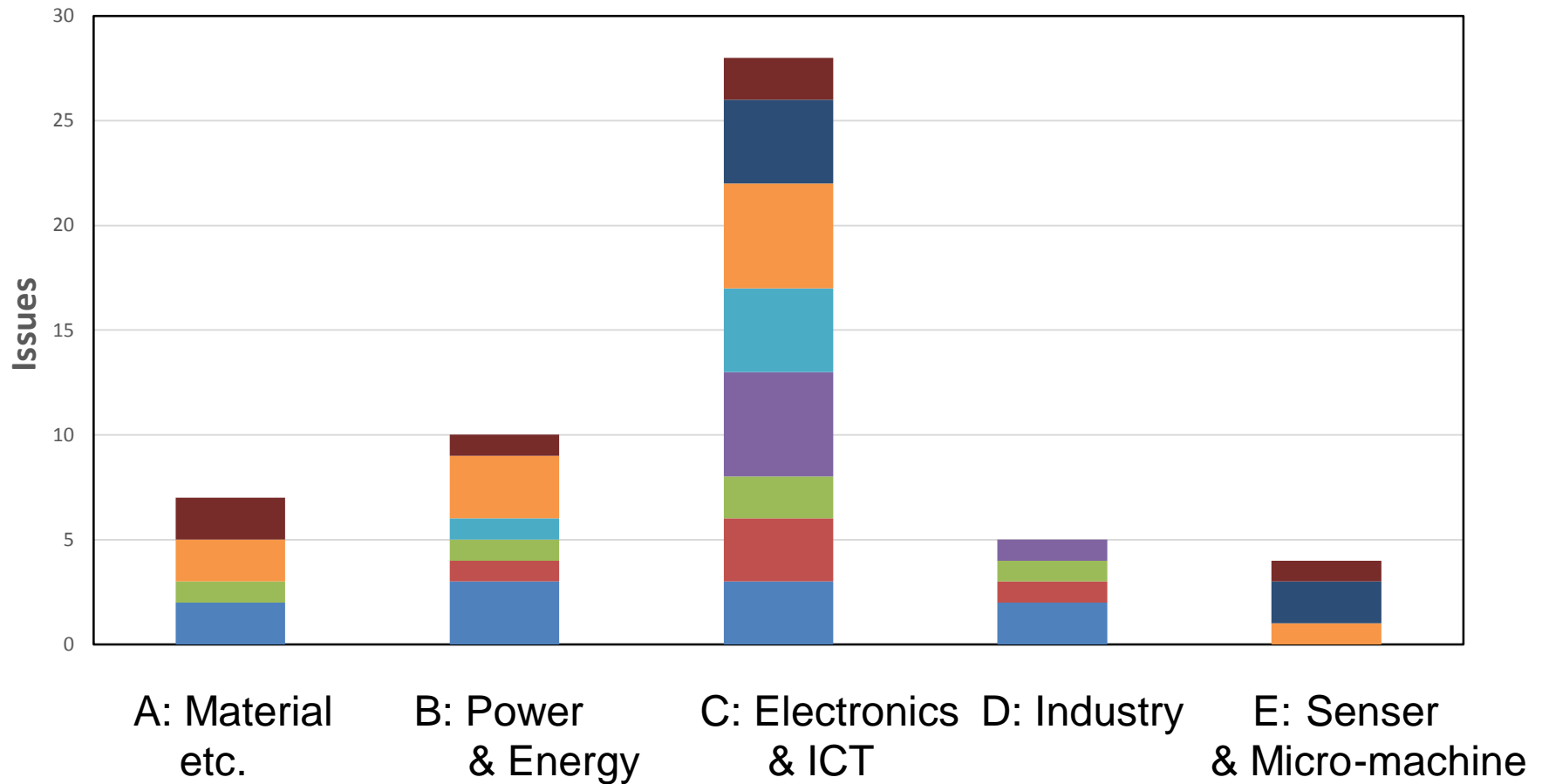


# Categories

■ Thing ■ Location ■ Matter ■ Human

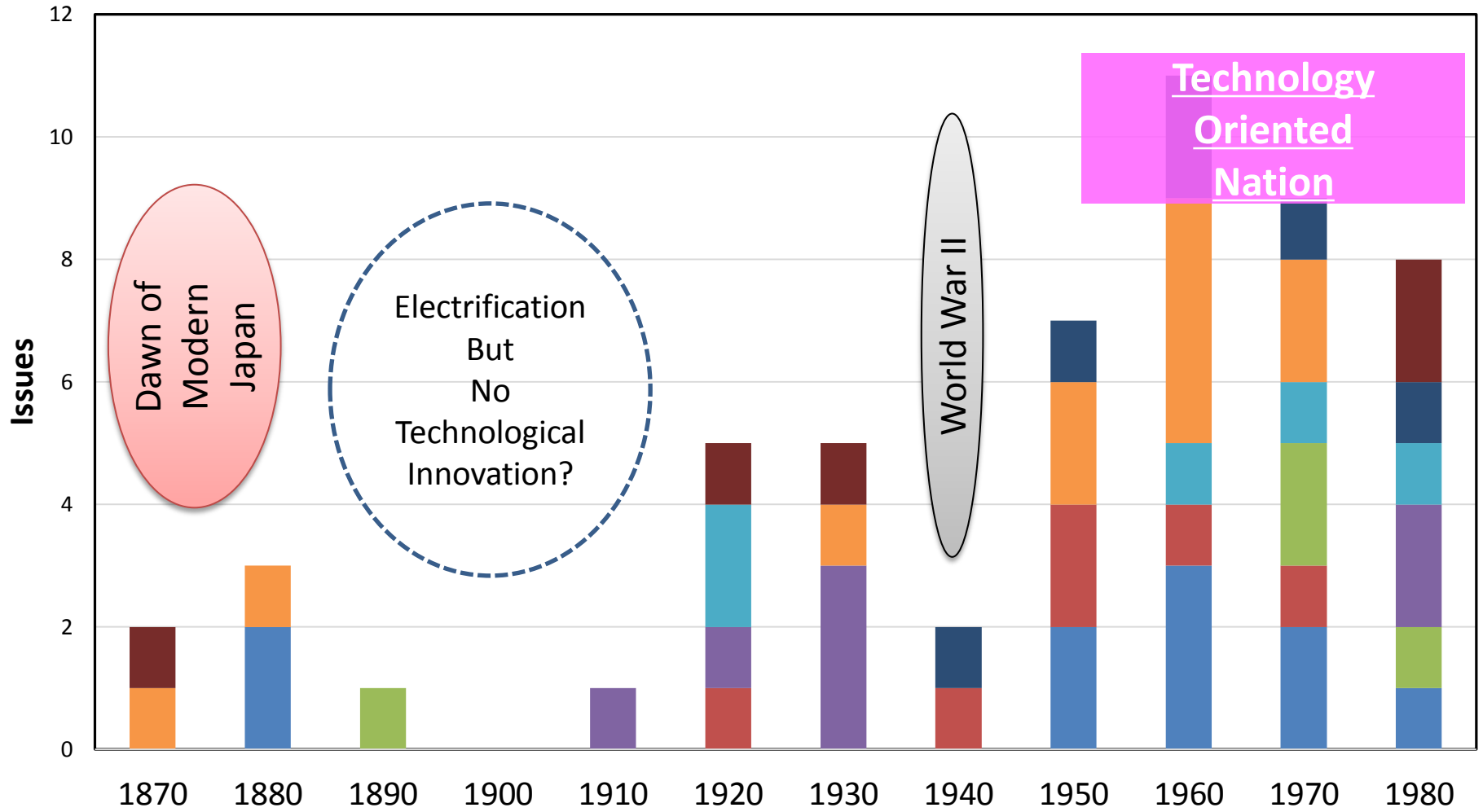


# Categorized by Societies





# History of Issues



# Japanese Innovation History from “One Step on Electro Technology”

- Many technologies born of Japan. It is apparent that electro technology has evolved. In addition, the mechanism for things to spread was created and environment of innovation was cultivated in 20 century. They accelerated the wellness of our lives.
- Without relying on other countries technology proprietary technology was developed independently.
- We can learn from the “One Step on Electro Technology” that Japanese innovation is visible and we expect the future of electric technology development.
- Meta-Engineering based analysis is promoted.