## DISCUSSANT FOR THE DISCUSSION SESSION

"The current situation and challenges concerning the development of research environments for advanced research equipment, etc. between Japan and ASEAN countries"

## NGUYEN VAN THUONG MINISTRY OF SCIENCE AND TECHNOLOGY No. 113 Tran Duy Hung Str., Cau Giay Dist., Hanoi, VIETNAM Online meeting date 24 February 2023

## 1. CURRENT STATUS AND CHALLENGES

- Population: around 100 millions
- S&T organization: around 2500 (including Institute, Universities, Colleges...)
- National Key Laboratory: 16 (budget from 2–5 millions USD/lab)
- Number of advanced research equipment: a lot, such as microscope (SEM, TEM, Optical..), Atomic absorption spectrometer, Optical emission spectrometry, cutting machine, Chromatography-mass spectrometry system, Fermentation system...
- The efficiency of using advanced research equipment is not high due to many reason such as:
  - + Lack of human resources (equipment operation, research on equipment..)
- + Lack of budget for equipment operation (raw materials, consumables, equipment repair and maintenance).
- + Lack of research projects in cooperation with Japan and ASEAN country. Haven't attracted many foreign scientists to work in laboratories.
  - + Implementation from the laboratory to the market is not good.

## 2. RECOMMEND SOLUTION

- The government increases operating funding for laboratories through research projects or research orders.
- Adjust operating regulations of laboratories, train and improve human resources for science and technology. Attracting foreign scientists to work and research in laboratories, effectively using advanced research equipment.
- Strengthen cooperation in science and technology with Japan and ASEAN countries. Building bilateral and multilateral research cooperation program, linking with laboratories of Japan and ASEAN countries.
- Encourage the establishment of science and technology enterprises in research institutes and in universities. Strengthening the relationship between research institutes -universities enterprises.
- Implement exchange programs of scientific researchers between Vietnam Japan ASEAN countries.