



# Current Status and Challenges of Nuclear Applications in Thailand

THAILAND INSTITUTE OF NUCLEAR TECHNOLOGY  
[PUBLIC ORGANIZATION]

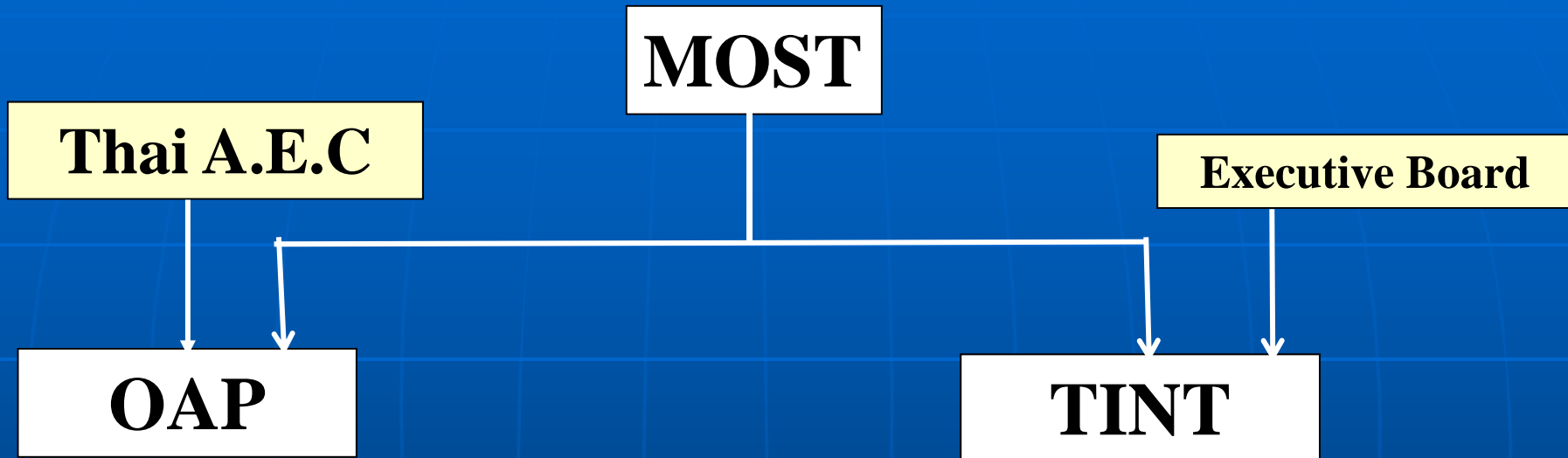
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# CONTENTS

- 1. Organization Structure
- 2. Linkage
- 3. Nuclear Application Statistics  
Medicine/Agriculture/Industry
- 4. Human Resource Development

# Organization Structure



- Thai Atomic Energy Commission (Thai A.E.C)
- Ministry of Science and Technology (MOST)
- Office of Atoms for Peace (OAP)
- Thailand Institute of Nuclear Technology (TINT)

# Office of Atoms for Peace (OAP)

**Office of the Secretary**

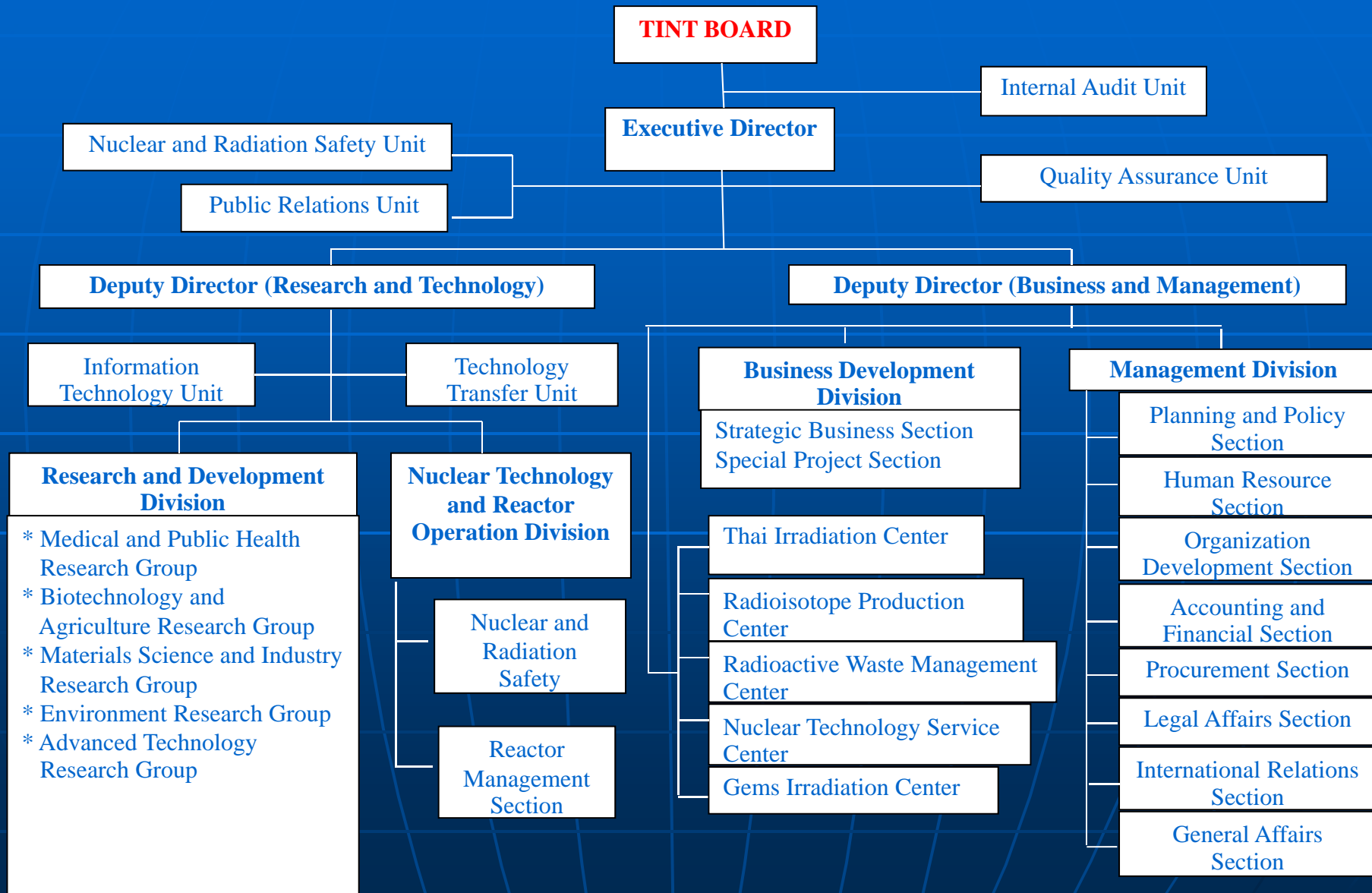
**Bureau of Radiation Safety Regulation**

**Bureau of Nuclear Safety Regulation**

**Bureau of Atomic Energy Administration  
and Management**

**Bureau of Technical Support for Safety  
Control**

# TINT Organization Structure



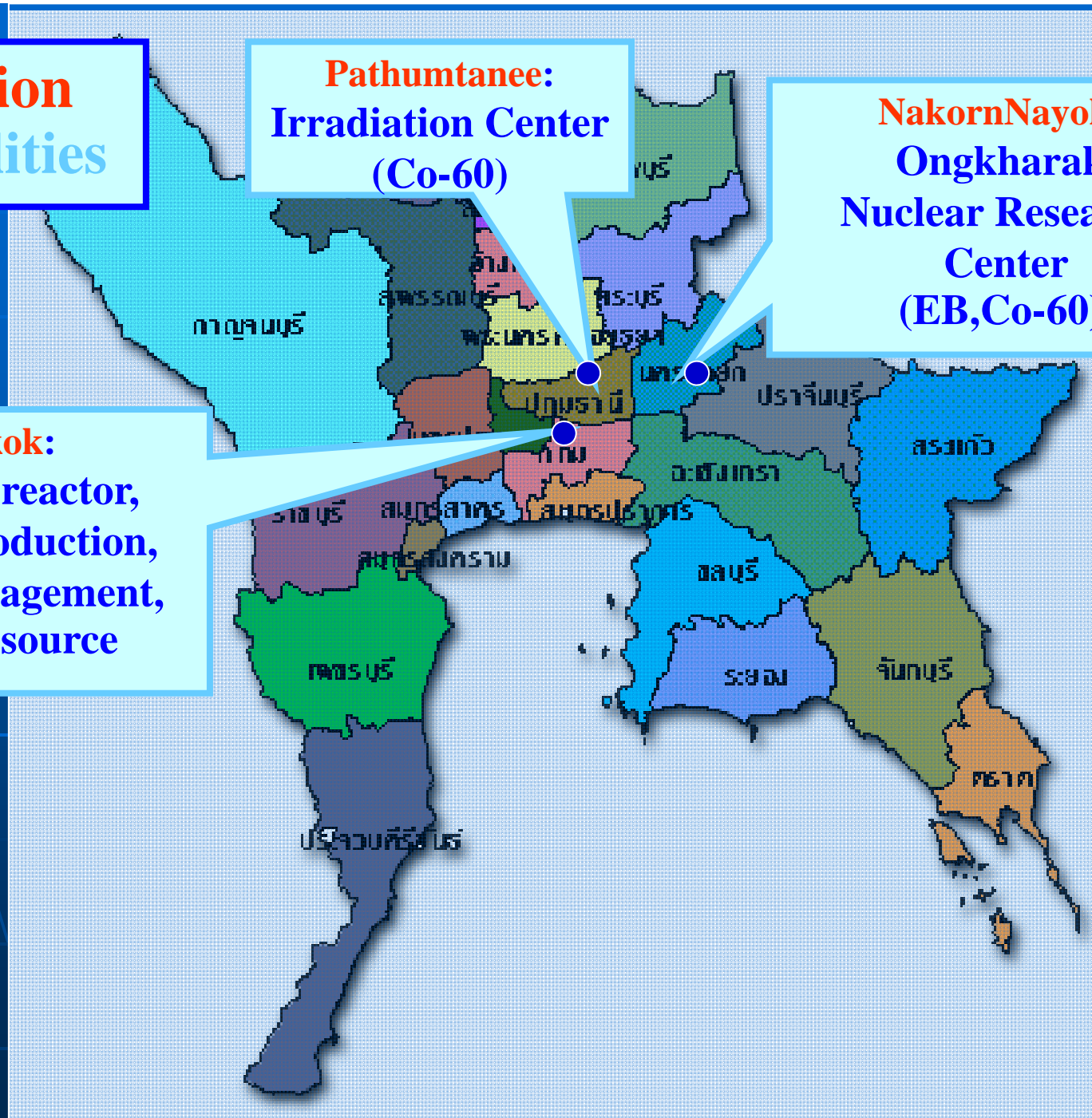


## Location & Facilities

**Pathumthane:**  
Irradiation Center  
(Co-60)

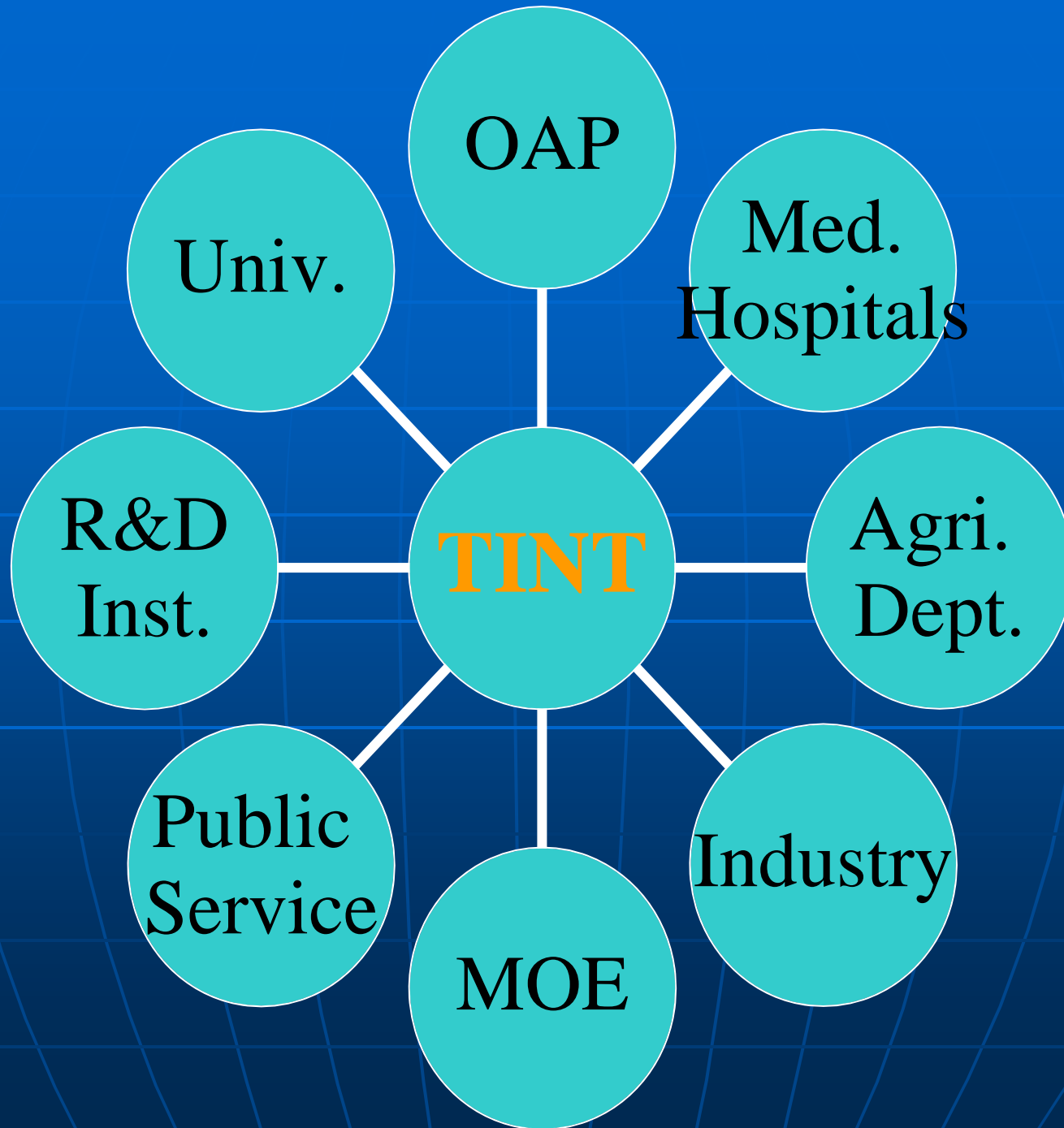
**NakornNayok:**  
Ongkharak  
Nuclear Research  
Center  
(EB,Co-60)

**Bangkok:**  
Research reactor,  
Isotope production,  
Waste management,  
Gamma source



# TINT: Vision

**To be a center of excellence  
in research and development,  
as well as applications of nuclear  
technology for sustainable  
development of Thailand**



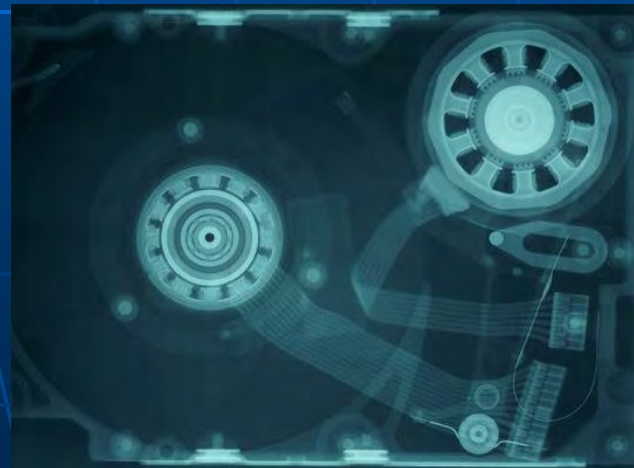
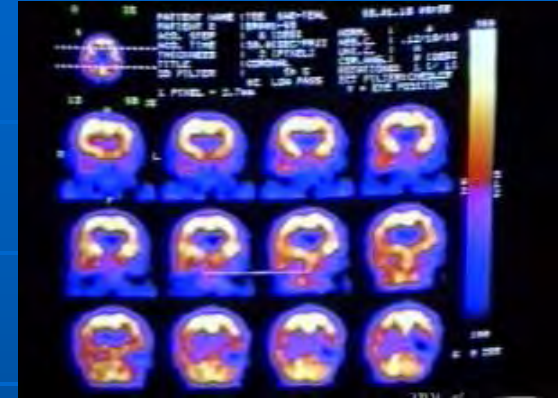


# Nuclear Application Statistics

- **Medicine / Hospital** 110 units
- **Industry** 350 units
- **R & D / Universities** 251 units
- **Building (Smoke Det, Lightning Rod)** 250 units
- **Radioisotopes** 25,000 items
- **X-Ray Machines** 2,000 units
- **Electron Accelerators** 15 units
- **Cyclotrons (18 MeV)** 2 units
- **Synchrotron (1 GeV)** 1 unit
- **Research Reactor (2 MW)** 1 unit

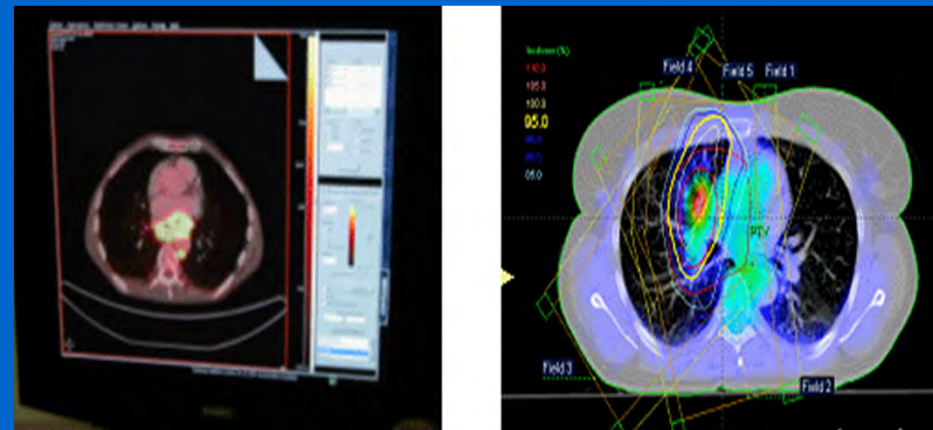
# Nuclear R & D

1. Medical and public health
2. Advanced Technology
3. Material science and industry
4. Natural resources and environments
5. Biotechnology and agricultures



# Radioisotope

- Radiopharmaceuticals
- Radionuclide imaging
- PET Positron Emission Tomography
- SPECT Single Photon Emission
- Computed Tomography
- Tc99m
- I131
- Sm153
- P32





# Use of Radiation for Crop Improvement

- Khao Dawk Mali 105 Rice
- Watermelon
- Okra
- Water Lily



# Use of Gamma Radiation to Eliminate Insect Pests And Pathogenic Microbes in Agricultural Products



Use of radiation to control the population of insect pests





# Thai Irradiation Center



Mango, Pineapple, Mangosteen , Rambutan, Longan, Lychees

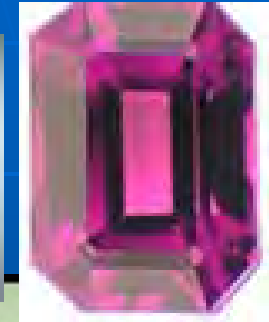
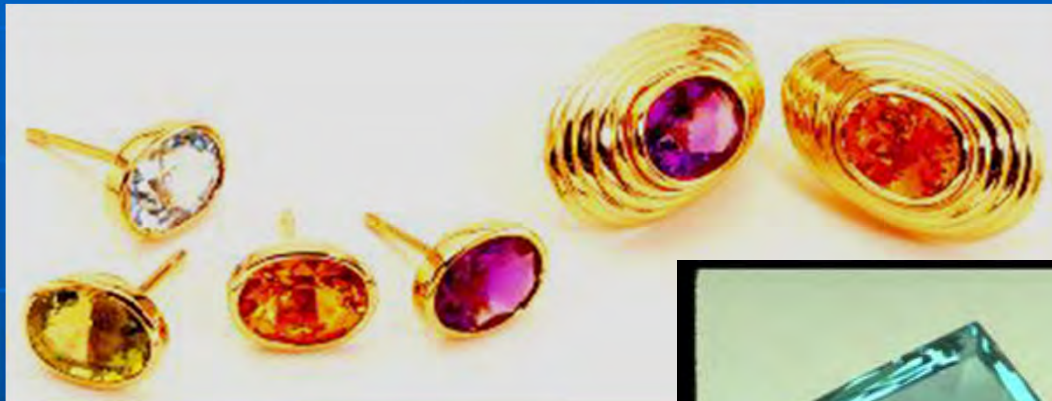
# Radioisotope in Industry

- **Non-Destructive Testing (NDT)**  
to analyze irregularity in distillation  
columns of oil refinery
- **Radiotracer**
- **Export Product**
- **Survey Meter**





# Gemstones Irradiation Center



Topaz, Tourmaline, Quartz

# Waste Management

- Radiation Safety System Monitoring Project
- Radiation Safety Analysis
- Personal Radiation Uptake Evaluation and Monitoring
- Radioactive Waste Management Program
- Radiation Safety Regulation





# Human Resource Development

- Seminar / Workshop / Training / Education
- Research Reactor
- Nuclear Safety and Security
- Radiation Protection
- Nuclear Applications (Medical, Agriculture, Industry, Environment)
- Emergency Preparedness





# Thank you



*Sawasdee*

THAILAND

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