

## National Presentation

# VIETNAM

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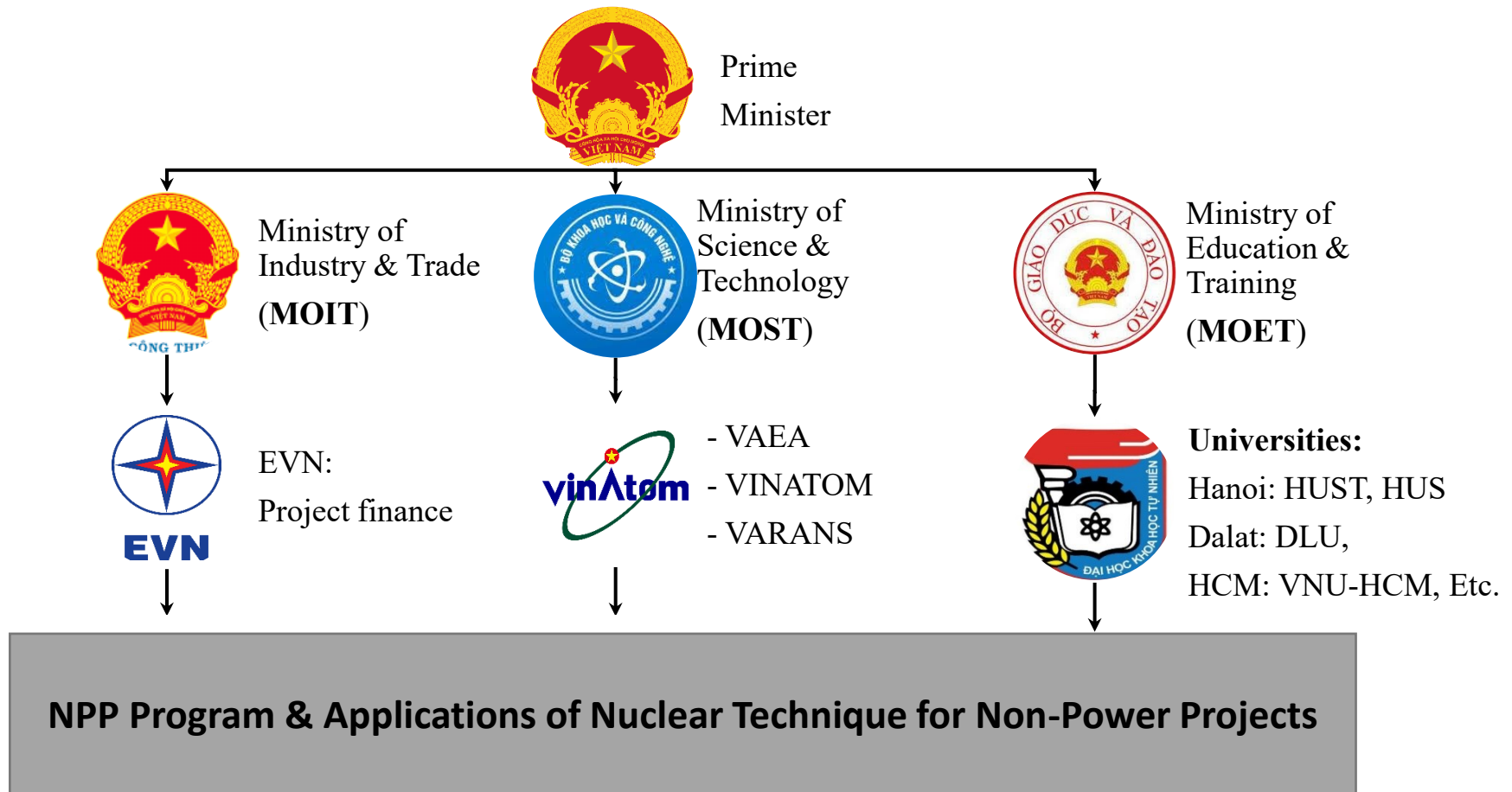
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Vietnam Agency for Radiation And  
Nuclear Safety

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# I. Main national institutions involved (1)



# I. Main national institutions involved (2)

Currently VARANS has **60 staff**:

- **2 Ass. Prof.**; **2 Ph. D**;
- **30 masters** and **30 engineers/ bachelors**.

Training courses on:

- TH calculations for RR
- Radioactive emissions assessment
- SA in design and operation of radiation & nuclear facilities

*Centre for Information and Training*

*Centre for Technical Support for Radiation and Nuclear Safety and Emergency Response*

**VARANS**

*Division of Administration*

*Division of Planning and Finance*

*Division of Legislation and Policy*

*Division of Licensing*

*VARANS Inspectorate*

*Division of Nuclear Security and Safeguards*

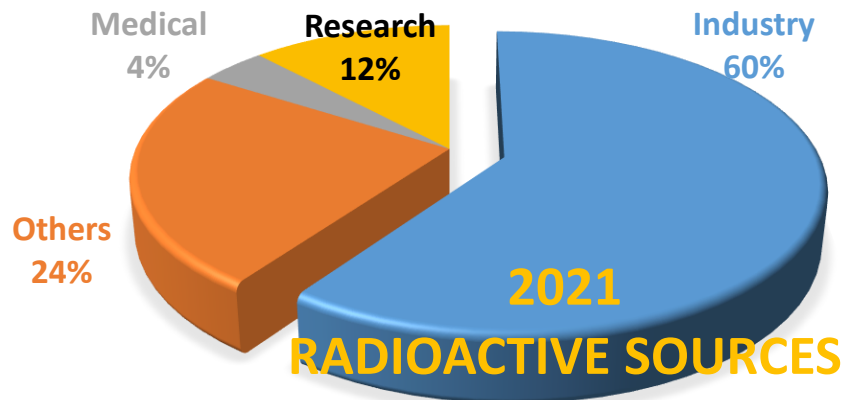
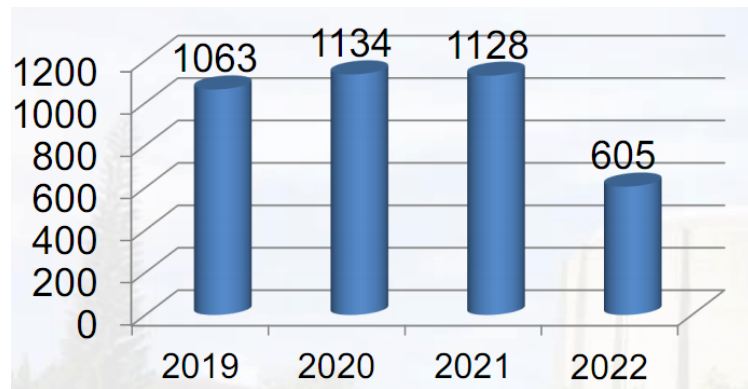
*Division of International Cooperation*

Emergency Response,  
Assessment of Da Lat RR SAR  
Nuclear safety assessment for NPP

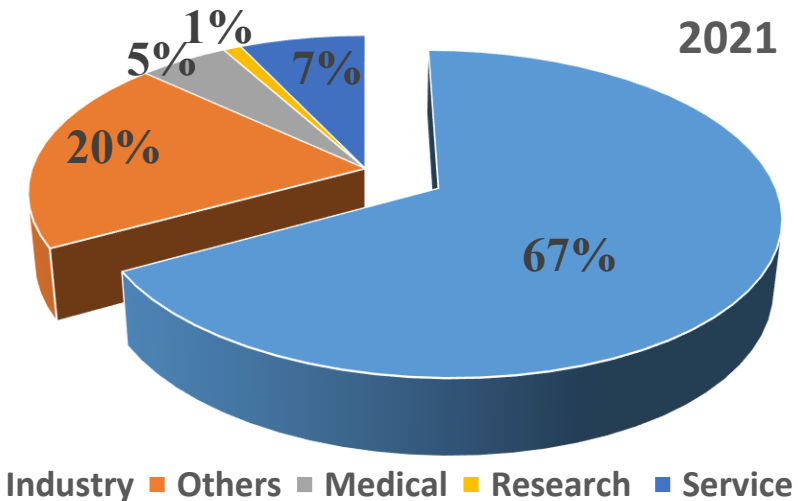
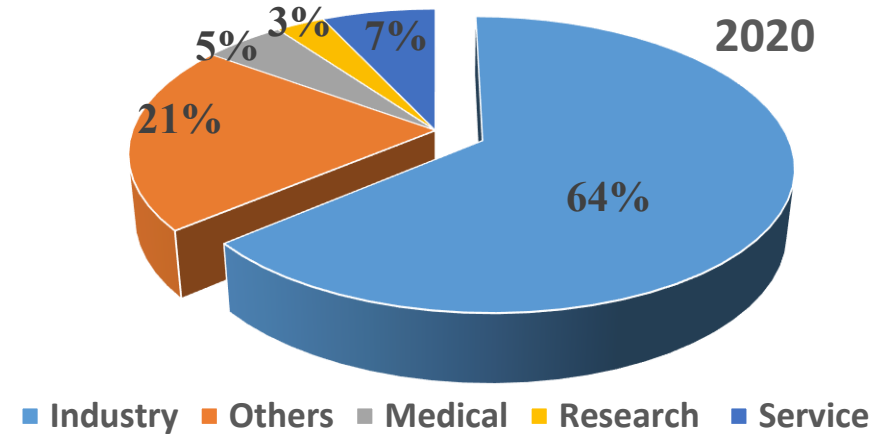
# I. Main national institutions involved (3)

## INSPECTION ON RADIATION AND NUCLEAR SAFETY

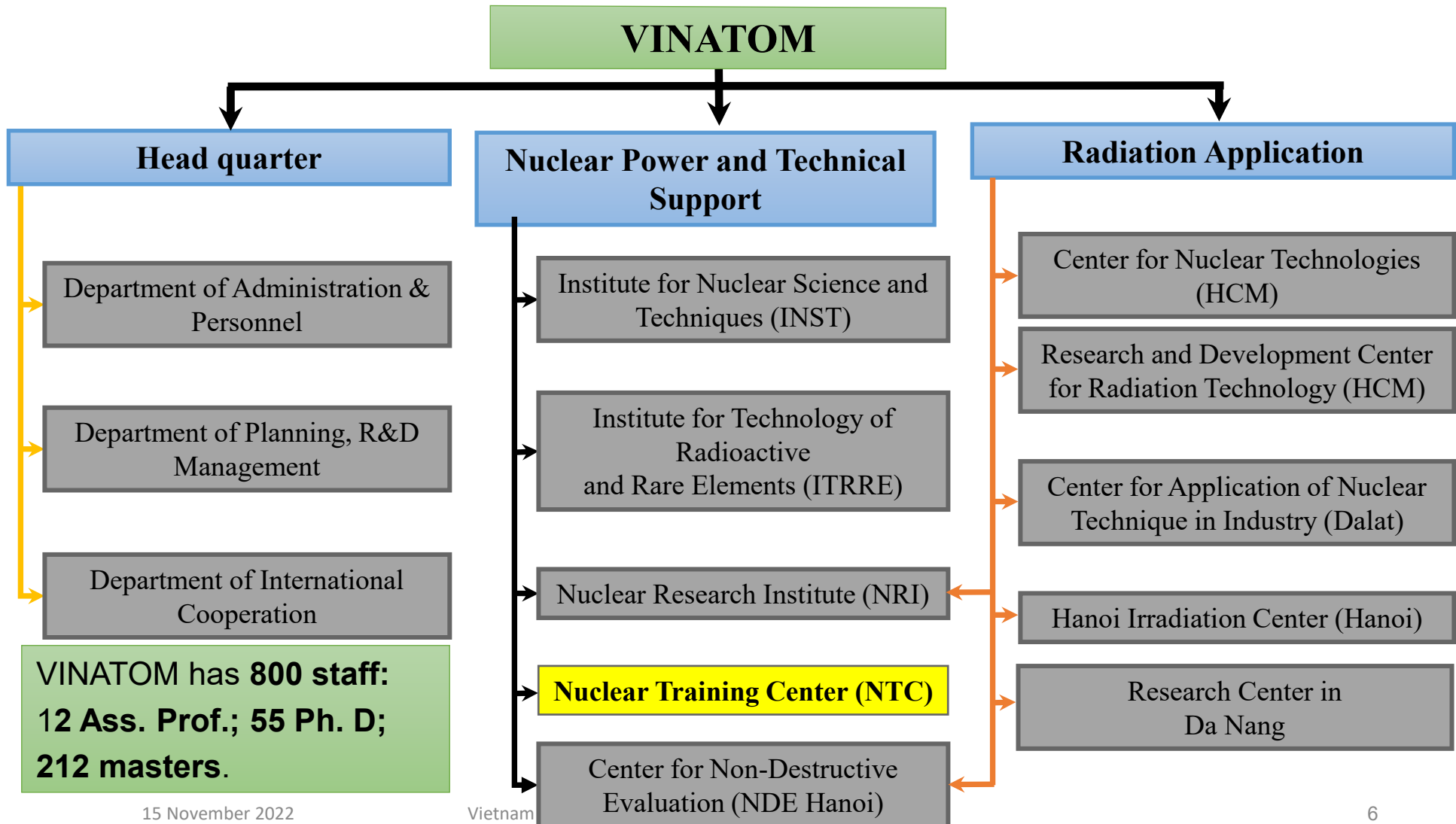
Radiation safety license up to July 2022



Percentage of inspected facilities by area



# I. Main national institutions involved (4)



# I. Main national institutions involved (5)

- Objectives, scope and main elements

- Assisting to establish a national strategy for E&T in nuclear and radiation safety
- Develop and maintain competence and skills of personnel in radiation safety

- Main national institutions involved

VARANS, VINATOM

- Responsibilities for the implementation

VARANS, VINATOM

- Funds for the implementation

Vietnamese government fund, IAEA fund, Bilateral funds

- Interesting activities, events, programs, ideas

1558  
/QD-TTg  
(2010)

- T&D HR in nuclear atomic energy
- Focus on undergraduate and graduate training

1756  
/QD-TTg  
(2015)

- Plan for training and retraining manpower for state management, research - deployment and technical assistance to 2020 for nuclear power development

## II. Training Centers at VINATOM (1)

**VINATOM consists of 8 R&D establishments:**

### Hanoi:

1. Institute of Nuclear Science and Techniques (INST);
2. Institute for Technology of Radioactive and Rare Elements (ITRRE);
3. Nuclear Training Center (NTC);
4. Hanoi Irradiation Center (HIC);

### Dalat:

1. Nuclear Research Institute (NRI);
2. Center for Applications of Nuclear Techniques in Industry (CANTI);

### Ho Chi Minh city:

1. Center for Nuclear Technologies (CNT);
2. Center for R&D of Radiation Technology (Vinagamma).

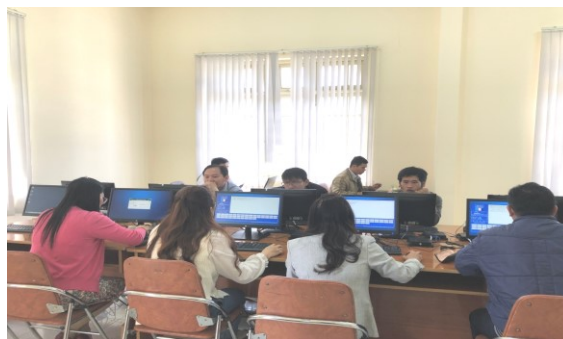




## II. Training Centers at VINATOM (2)

### Training Center – NRI (Da Lat)

- Radiation safety training for its staff and radiation workers in the country



Tests and Training program at TC of NRI

### NuHdRec – INST

- Radiation safety training
- VINATOM-JAEA Joint Training Course on Nuclear and Radiological Emergency Preparedness (13<sup>th</sup>) (Ha Noi)



Trainings at INST

### NTC – VINATOM:

- Ph.D. students (40/year)
- Short term training/ workshop
- Vietnam-Japan Forum (12<sup>th</sup>) (Ha Noi)



Vietnam



Trainings at NTC

## II. Training Centers at VINATOM (3)

- Conducting the short training courses for student (one week – one month)
- Conducting training for thesis preparation (3-6 months)

2021:

- Training for students: 60 students
- Training for workers: 60 workers
- Visitors: 82 visitors
- Radiation safety certification: 500 certifications

2022:

- Training for students: 150 students
- Visitors: 350 visitors
- Radiation safety certification: 1000 certifications



## II. VINATOM: Interesting activities (4)



International Exhibition on NPP 2010

International Exhibition on NPP 2012



Workshop & Exhibition on NPP Development in Ninh Thuan Province – 2015



## II. VINATOM: Interesting activities (5)

- “Science & Technology Festival” at HUST, financed by ROSATOM and run by HUST since 2016



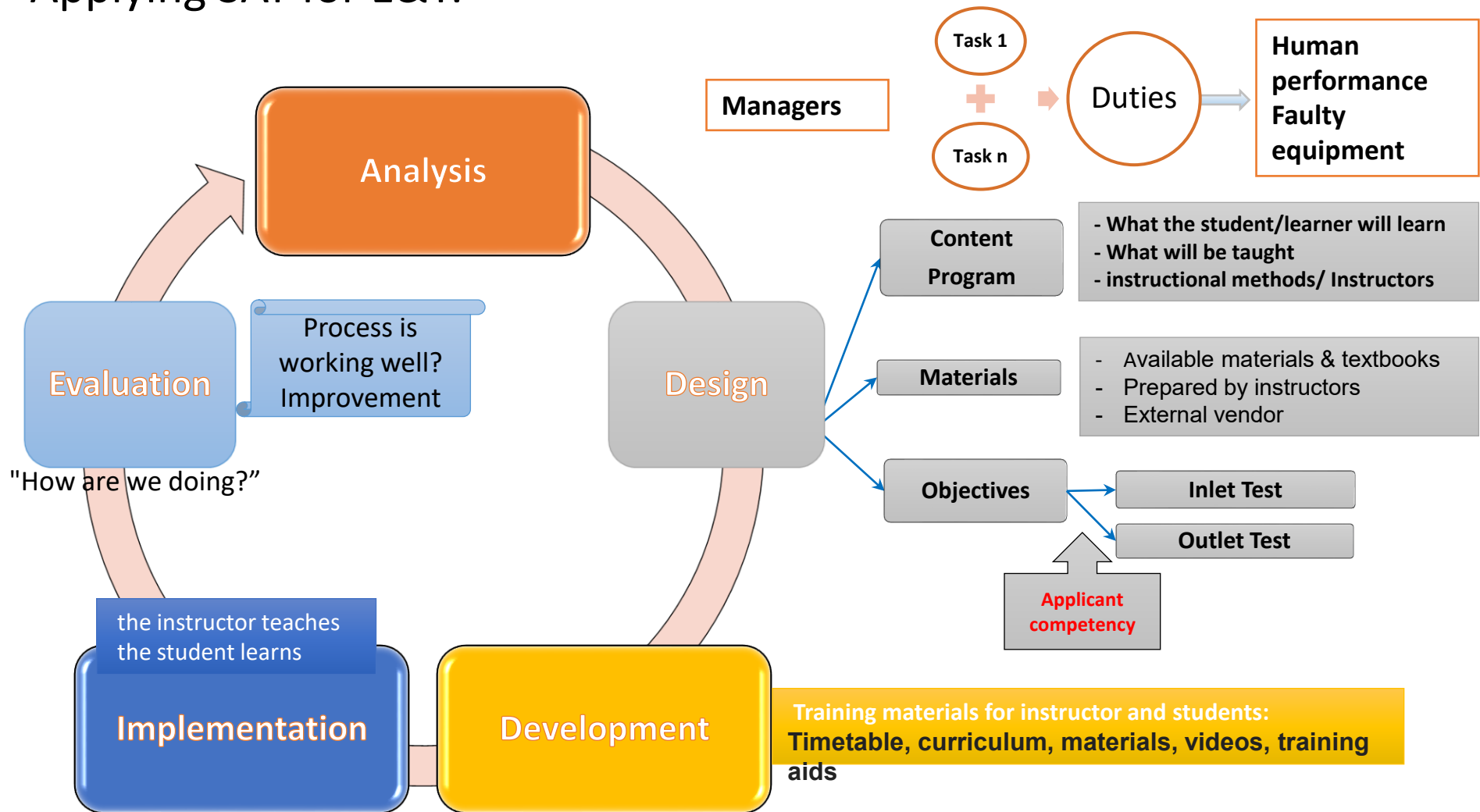
- STEM Festival programs to promoting Creation of Youth funded by MOST since 2015



- No. 370 Project of DOST (HA NOI Department of Science and Technology): supporting for High school Teachers and pupils on Nuclear Power at High School in Ha Noi 2016-2017

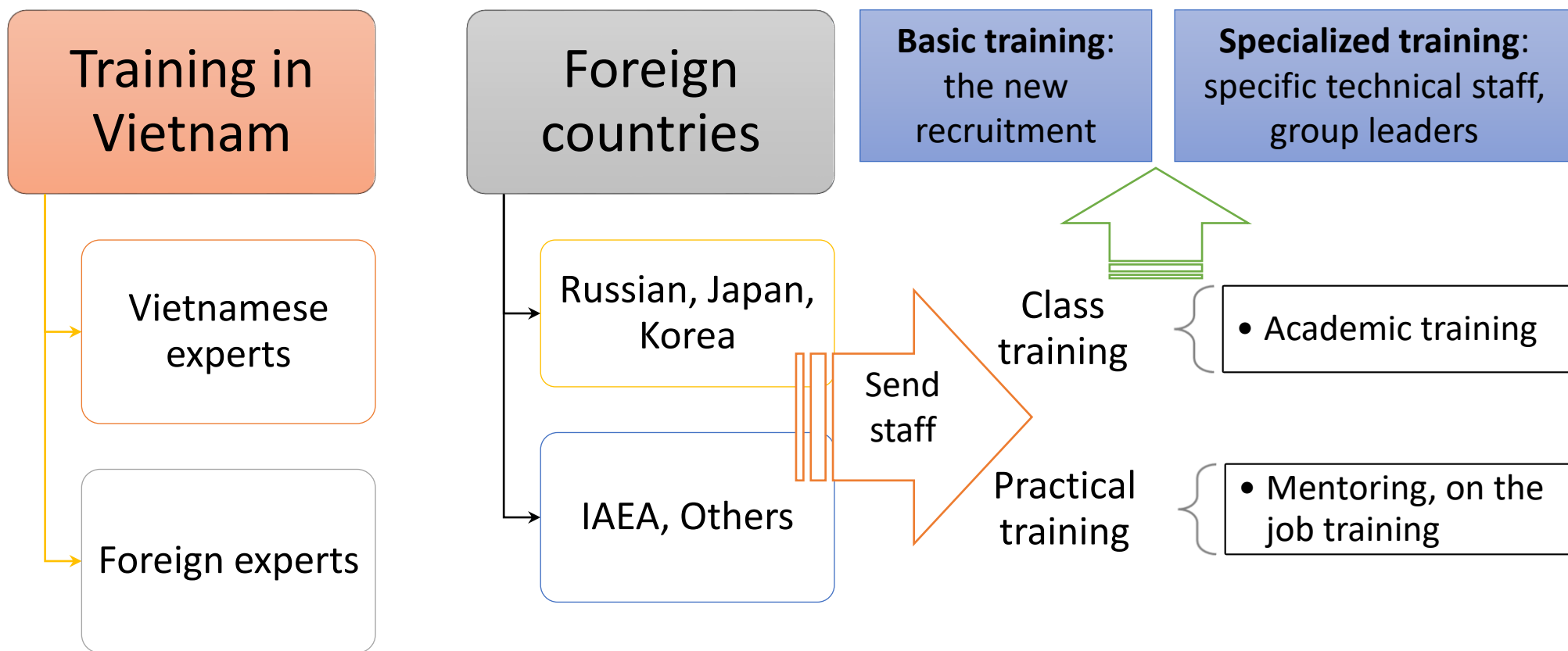
# III. Systematic approach to training (1)

- Applying SAT for E&T:



# III. Systematic approach: Training plan (2)

- To be deployed in two ways:



### III. Systematic approach: Training approach (3)

#### Retired experts



#### Work part time

- Working with young staffs
- Participate in projects
- Giving seminars

#### Being retired experts



#### Leader of one group

- Working with young staffs
- Participate in projects
- Giving lectures, seminars
- Writing books



### III. Systematic approach: Government Policy (4)

1558 /QD-TTg  
(2010)

- Undergraduate and graduate training for human resources development in the field of atomic energy (2400 engineers, 350 masters and PhDs)

1756 /QD-TTg  
(2015)

- Plan for training and retraining manpower for state management, research - deployment and technical assistance to 2020 for nuclear power development (400: 50 leaders, 150 performing professional tasks, 250 having basic knowledge and skills for job)

Decision 911  
/QD-TTg (2010)

- Training of trainers with a doctoral degree (10,000 PhDs abroad, 10,000 PhDs in Vietnam, 10,000 PhDs cooperation & joint training)

45/ QD-TTg  
(2014)

- The Regime Of Professional Incentive Allowances For Workers In The Unit In The Field Of Nuclear Energy (70% allowance: work directly & often exposed to radiation sources; 50% allowance: administrative workers are at risk of radiation contamination, 40% allowance: indirectly & often exposed to radiation sources, 50% allowance: administrative workers)



### III. Systematic approach: Training approach (5)

- Applying SAT for E&T at VINATOM:

Targets (yearly)	2013	2014	2015
Total staff	666	672	726
Needs	154	162	168
Results	140	151	160
Effectiveness (%)	91	93	95

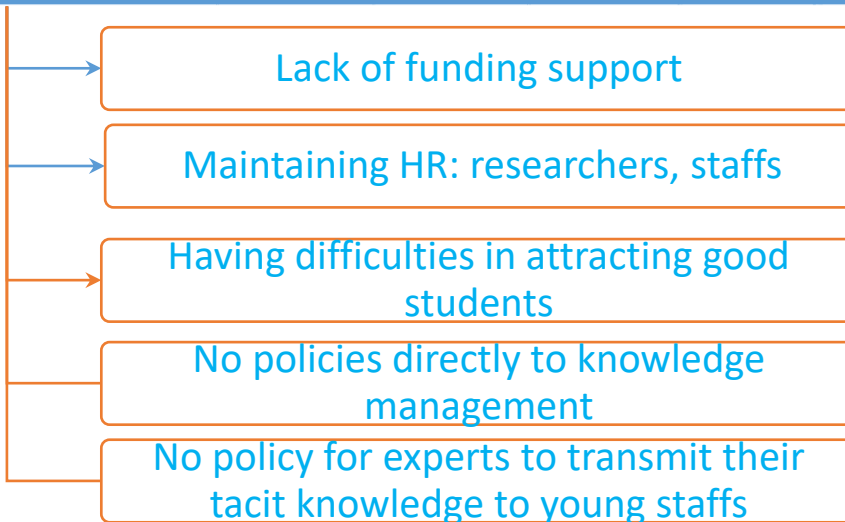
#### E&T need for working staff: 2015 - 2025

Duration	2015	2016	2017	2018	2019	2020	2022-2025
1 month	126	135	111	125	136	121	200
3 months	31	29	29	34	33	35	110
12 months	11	12	12	12	12	14	50
Sum	168	176	142	171	181	170	360

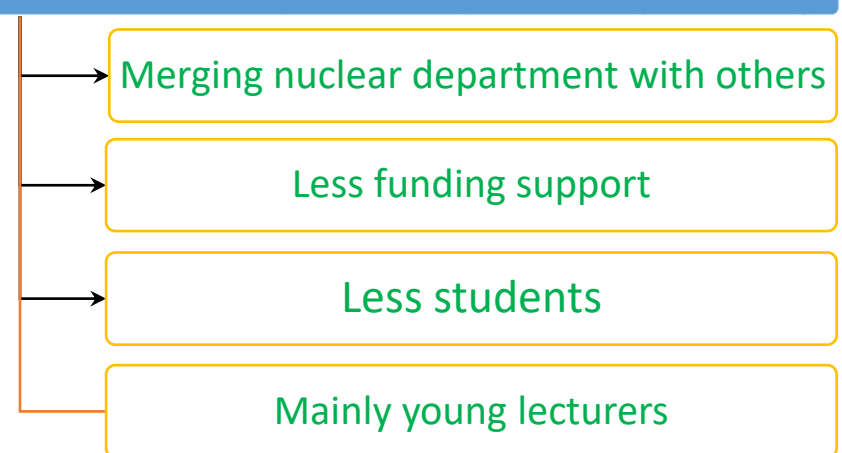
# IV. Challenges in education and training

- At national level, after delay of NPP project:

## Organizations

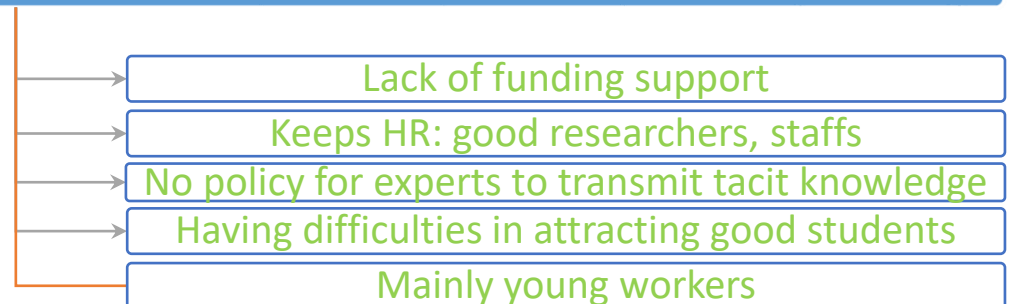


## Universities



- At organizational level:

## VINATOM, VARANS



# V. Networking and sharing in E&T

Readiness for networking:

- Websites: VINATOM, VARANS, Universities
- Social network for sharing in E&T: Facebook, Viber, Zalo.

• IT means for networking:

- Electronic libraries, online courses, conferences
- Software for training management,
- Multimedia teaching equipment: computer, projector,
- E – learning services

• Catalogue of training packages: **not available**

• Language of training packages: **not available**

The screenshot displays two web pages. The top page is the official website of the Dalat Nuclear Research Institute (VNRI), with the URL <https://nri.gov.vn/ke-hoach-dao-cao-atbx.html>. It features a header with the institute's name in Vietnamese and English, a navigation menu, and a main content area titled 'Kế hoạch Đào tạo ATBX'. The bottom page is the website of the Nuclear Training Center (NTC), with the URL <http://vi.daotaohatnhan.com.vn/2021/02/26/lich-dao-cao-an-toan-buc-xa-nam-2021/>. It features a header with the center's name in Vietnamese and English, a navigation menu, and a main content area titled 'LỊCH ĐÀO TẠO AN TOÀN BỨC XẠ NĂM 2021'. The NTC website also features a table with training schedules for 2021.

Tháng	Lịch đào tạo	Tháng	Lịch đào tạo
Tháng 1	-	Tháng 7	21 – 23/7/2021
Tháng 2	-	Tháng 8	25 – 27/8/2021
Tháng 3	24 – 26/3/2021	Tháng 9	22 – 24/9/2021
Tháng 4	27 – 29/4/2021	Tháng 10	27 – 29/10/2021
Tháng 5	26 – 28/5/2021	Tháng 11	24 – 26/11/2021
Tháng 6	23 – 25/6/2021	Tháng 12	15 – 17/12/2021

# VI. Future plans in E&T

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- **CNST:** to achieve the goal of developing Vietnam's atomic energy industry and contributes to the socio-economic and S&T development of Vietnam:
  - Fundamental and applied research,
  - Material science research and service,
  - Radioisotopes production,
  - Nuclear medicine,
  - And human resource training.
- Promote all resources, including internal and external resources to:
  - Increasing equipment
  - Upgrading the Institute's facilities;
  - Building in-depth projects for teaching and research

# VI. Future plans in E&T

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For VINATOM, VARANS:

- Develop and open new graduate codes that the Institute has strengths
  - Nuclear physics, Theoretical physics and mathematical physics, Inorganic chemistry, Analytical chemistry,
  - Medical physics
- Expand and improve the effectiveness of cooperation programs:
  - Domestic and international partners (enterprises, universities, institutes, IAEA, FNCA, ANSN, etc.).
  - Strengthen cooperation with other countries (Japan, Korea, Russia, USA,...)
- Develop an overall staff training and retraining plan

Asian Nuclear Safety Network Education and Training Topical Group  
Regional Workshop on the Management of Training Systems for Nuclear and Radiological  
Safety

14-18 November 2022

PNRI, Manila, Philippines

*Thank you for your kind attention!*

