Competency Model and Framework: BATAN

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NTC on Sarcon
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Introduction

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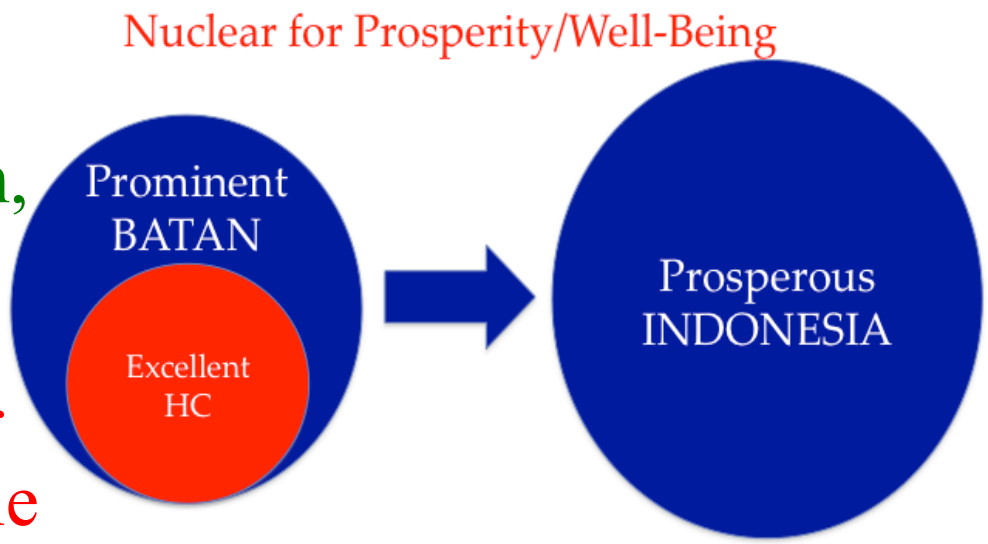
Introduction

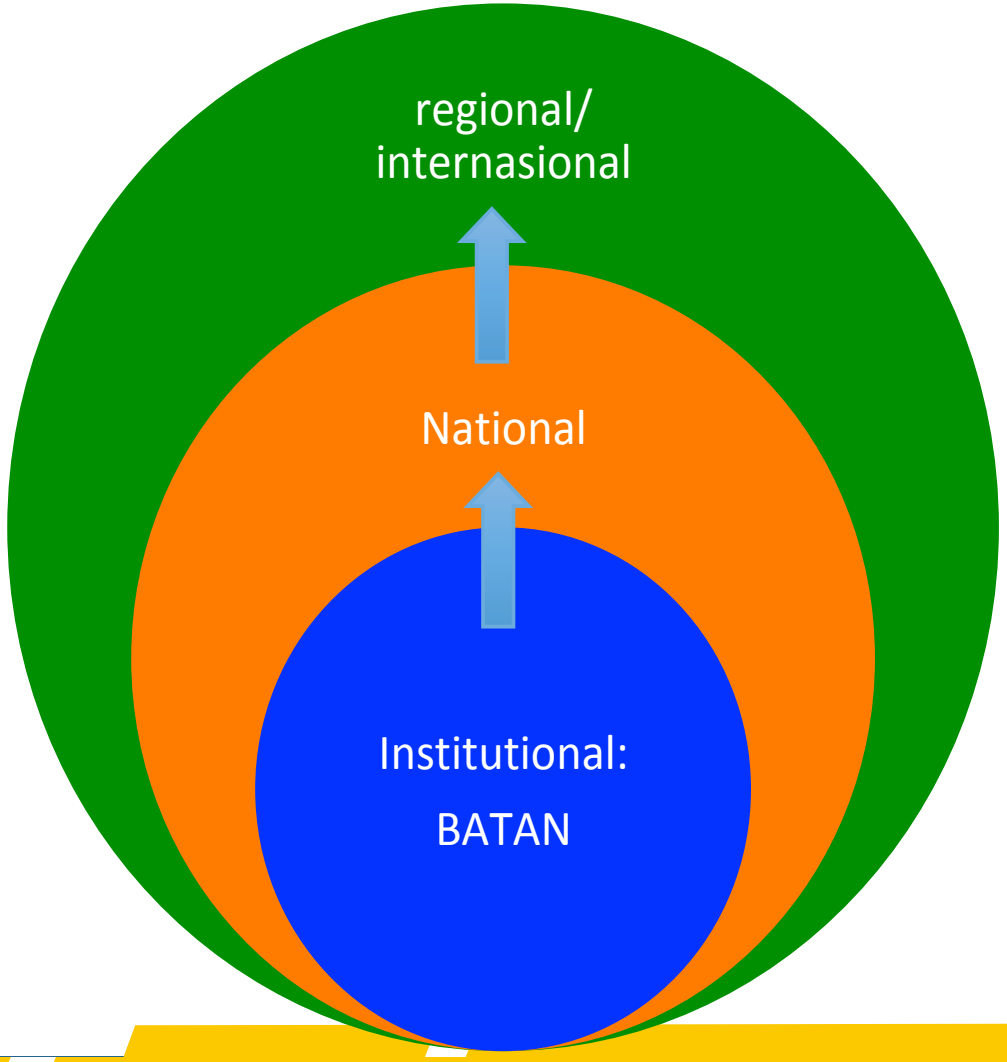
Human is the important element for BATAN to implement governmental functions/tasks on research, development, engineering and utilization of nuclear science and technology for the well-being of the people of the nation through the process of Plan, Do, Check, Act (PDCA)

- Safe, Secure, Sustainable
- Continuous improvement



Introduction

- BATAN holds roles of capacity building on institutional and national level, and may contribute to regional and international communities



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Government Policy:
- Act No. 5/2014
- GR 11/2017

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Government Policy on Capacity Building of Government employees

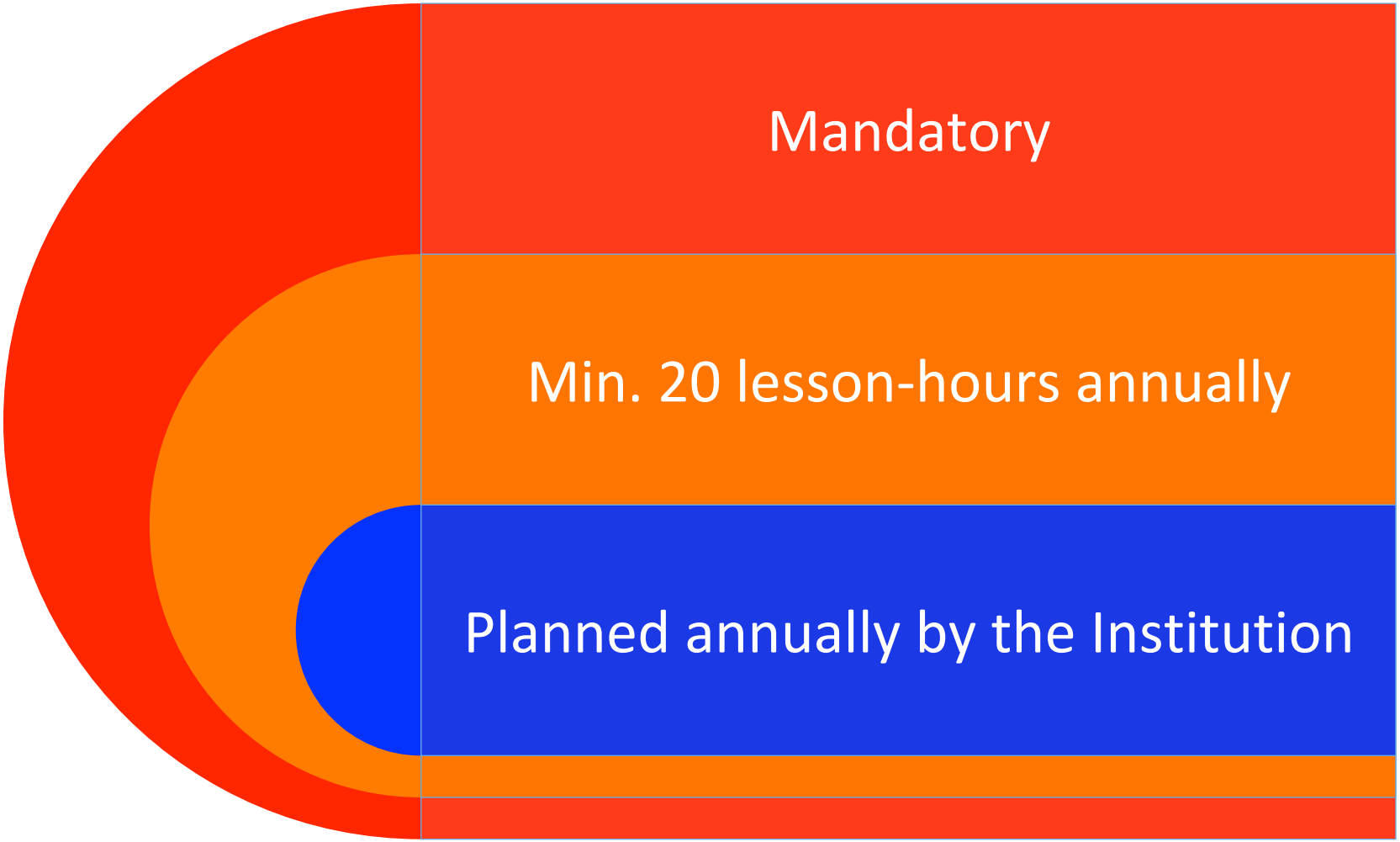
1. Integrated training for new recruits
2. Provision of Standard of Competence and Personnel Profile
3. The right of personnel for capacity building
4. Planning of Competence Building
5. Implementation of Competence Building
6. Evaluation of Competence Building Implementation
7. Report to Government

UU No. 5/2014; PP 11/2017

GR: Type of Competences

TECHNICAL	• Education • Function/technical trainings • Experiences
MANAGERIAL	• Education • Management training • Leadership experience
SOCIAL-CULTURAL	• plurality in social-cultural environment

GR: Competences Development



GR: Modalities for Competencies Development

Education

- Formal education
- Domestics/Foreign Universities

Training

- Clasical: Face to Face
- Non Classical: *e-learning*, mentoring, distance learning, coaching, etc.

3
Capacity Building

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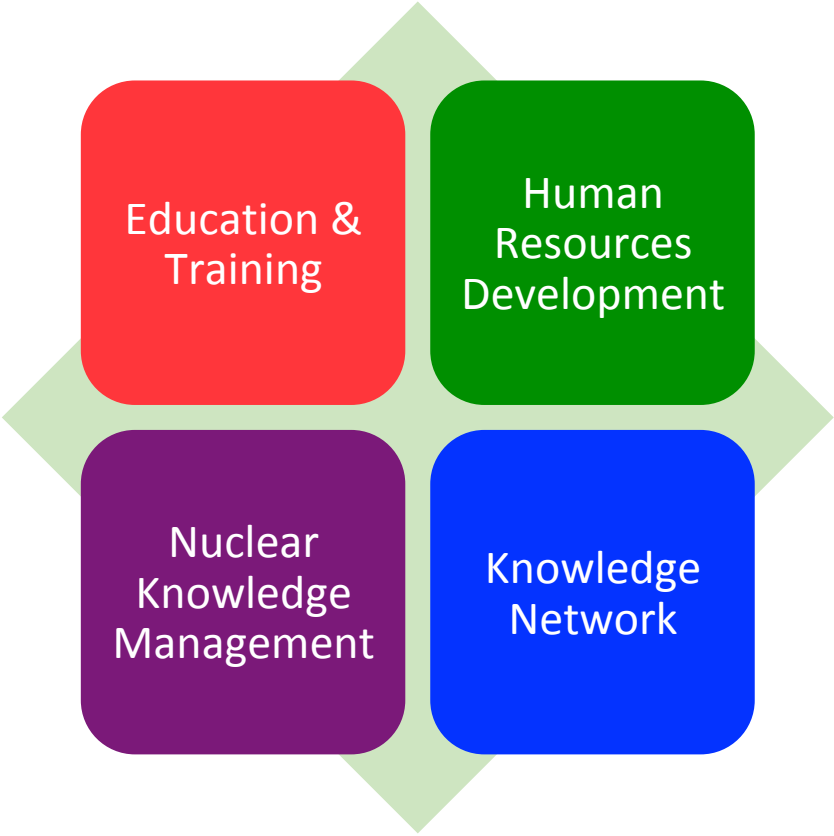
IAEA Capacity Building

- BATAN has been developing a comprehensive capacity building program to support national nuclear program in Indonesia based on the IAEA capacity building concept consists of education and training (ET), HRD, NKM, and nuclear network.



Capacity Building Objectives

Education & Training

- Building Competences
- Preserving nat. comp. on NST
- Public Outreach

Human Resources Development

- Effective Human Capital Management

Nuclear Knowledge Management

- Preserving NK
- Preventing NK loss
- Harvesting NK

Nuclear Network

- Building competences
- Stakeholders involvement
- Public outreach
- Increasing public support
- Teaching Material sharing
- Experst exchange

Capacity Building Activities of BATAN

E&T External

- PINT
- TC for stakeholders
- Information Sharing
- Public Outreach

E&T Internal

- System Improvement
- Method/ Modality diversification
- Infrastructure improvement
- Networking

HRM

- Information system Development
- Talent Management

NKM

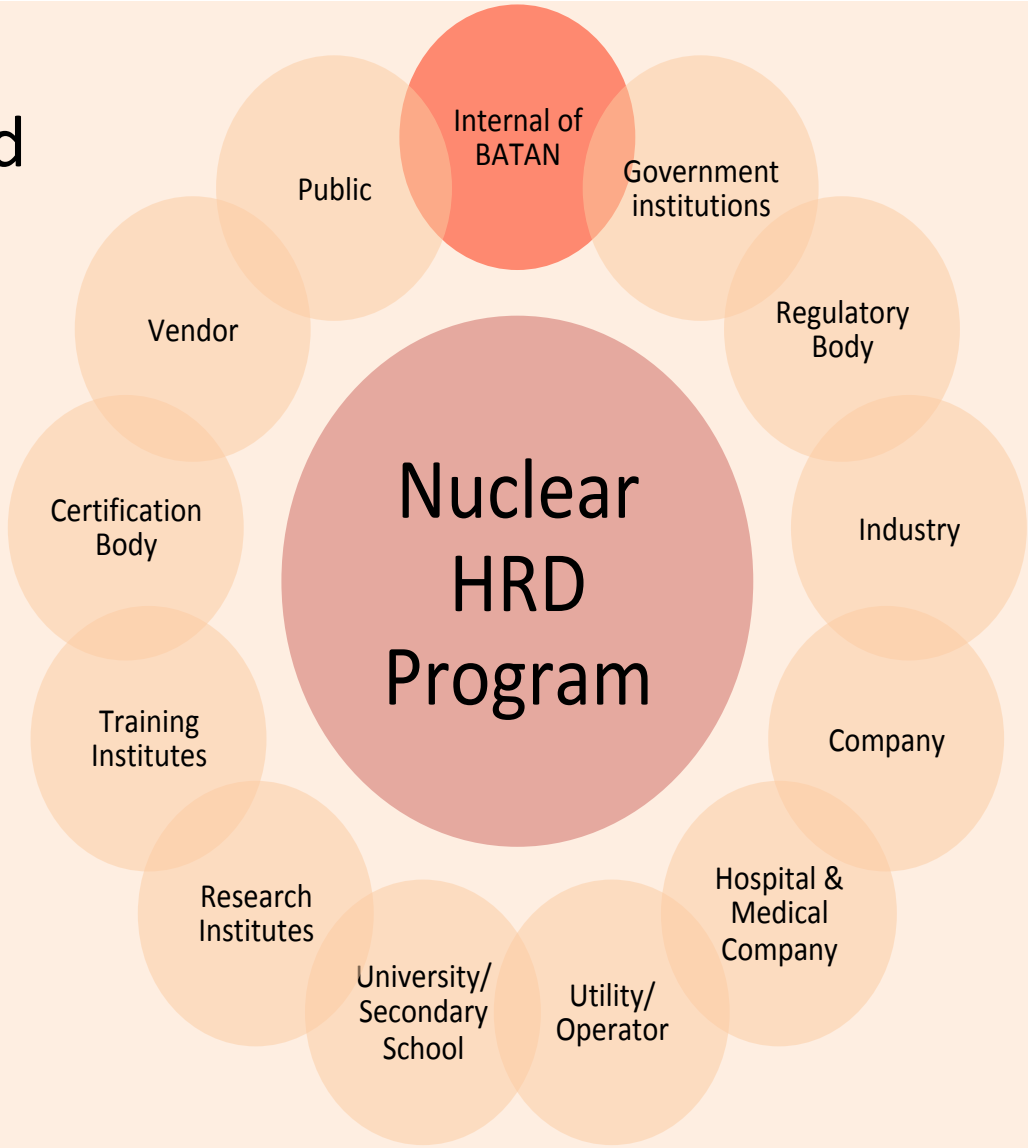
- System Enhancement
- Infrastructure development
- Self Assessment

Nuclear Network

- TC IAEA
- ANENT
- ANSN
- NSSC
- FNCA
- ICERR
- Stakeholders
- Foreign Univ.
- Domestic Univ.

Capacity Building: ET

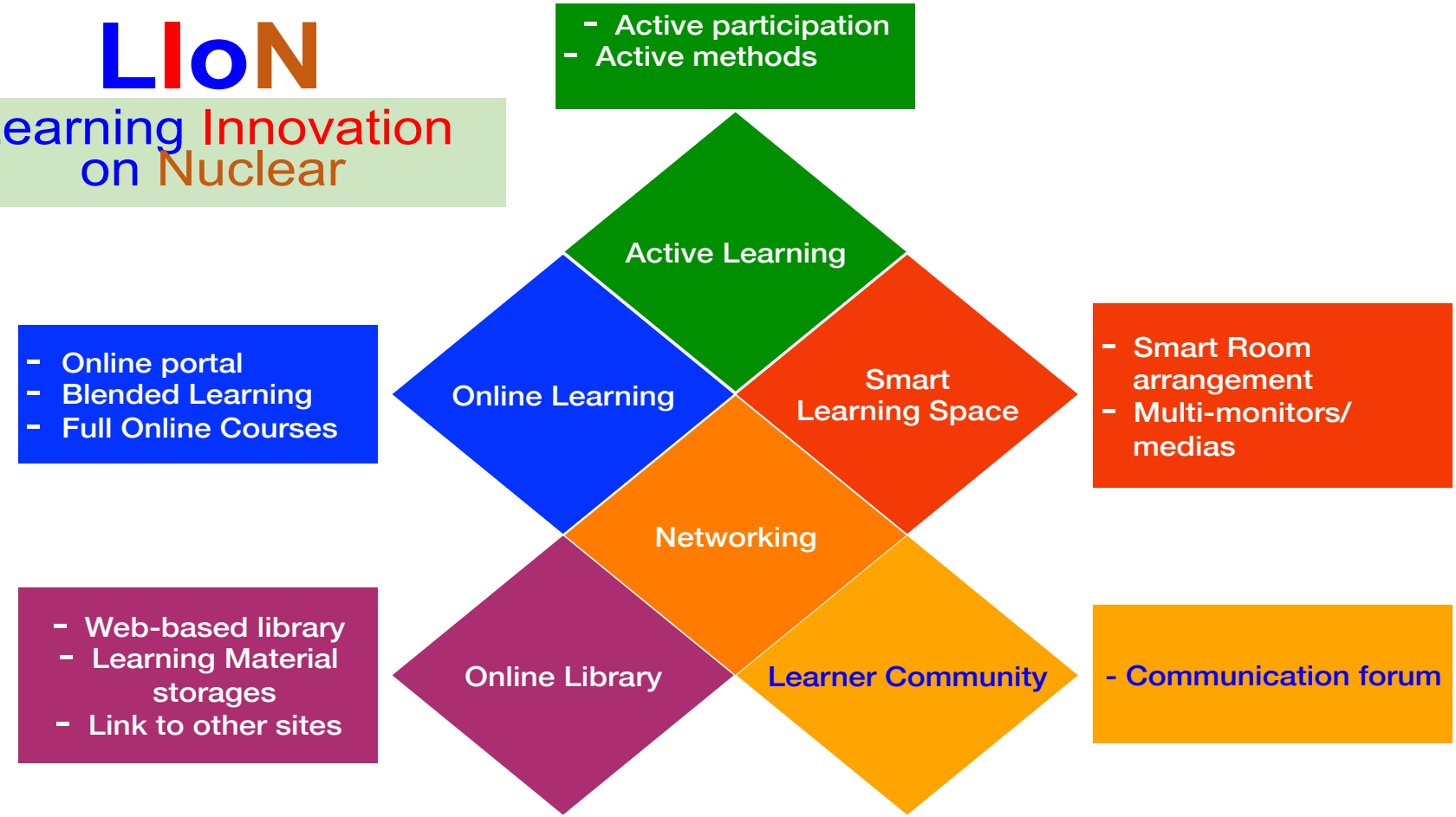
- ET is also aimed for improving knowledge and capacity of stakeholders that may consist of universities, government agencies or institutions, industries, hospitals, and public.



Capacity Building: ET

- ET incorporates various modalities and deliveries, teaching materials, repository, digital library, network of cooperation as well as learner community.

LIoN
Learning Innovation on Nuclear



Diversification of Training Modalities

Training

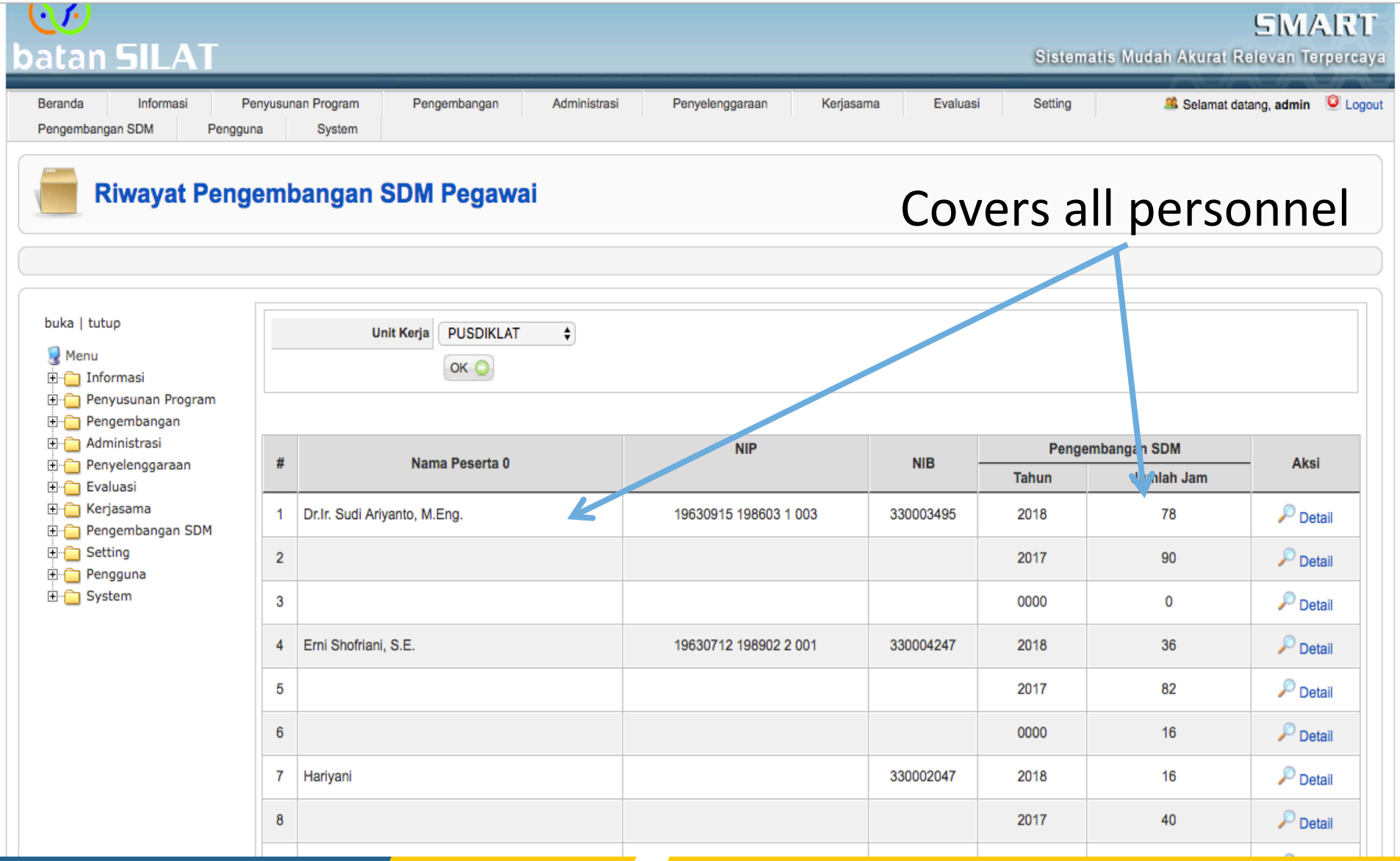
- Clasical: Face to Face
- Non Classical: *e-learning*, mentoring, distance learning, coaching, etc.
- Blended learning

Modalities for Training

Explicit Knowledge	Tacit Knowledge
Training: Internal & External providers	Coaching & Mentoring
Workshop: : Internal & External	Shadowing
Seminar	Knowledge Sharing
Developmental Assignment	External Internship/ OJT
	Internal OJT

No.	Program
1	Pendidikan
2	Pelatihan Luar BATAN
3	Pelatihan Reguler di BATAN
4	Seminar
5	Kursus
6	Penataran
7	Lokakarya/Workshop Eksternal
8	Lokakarya/Workshop Internal
9	Praktik Kerja/Pemagangan Eksternal
10	Praktik Kerja/Pemagangan Internal
11	Pelatihan Selingkung
12	Penugasan (*Developmental Assignment), Coacing&Mentoring, Shadowing*
13	*Knowledge Sharing*

Improvement of training IS



Improvement of training IS

Rekapitulasi Pengembangan SDM Batan

buka | tutup

- Menu
  - Informasi
  - Penyusunan Program
  - Pengembangan
  - Administrasi
  - Penyelenggaraan
  - Evaluasi
  - Kerjasama
  - Pengembangan SDM
  - Setting
  - Pengguna
  - System

Tahun Anggaran 2018

OK

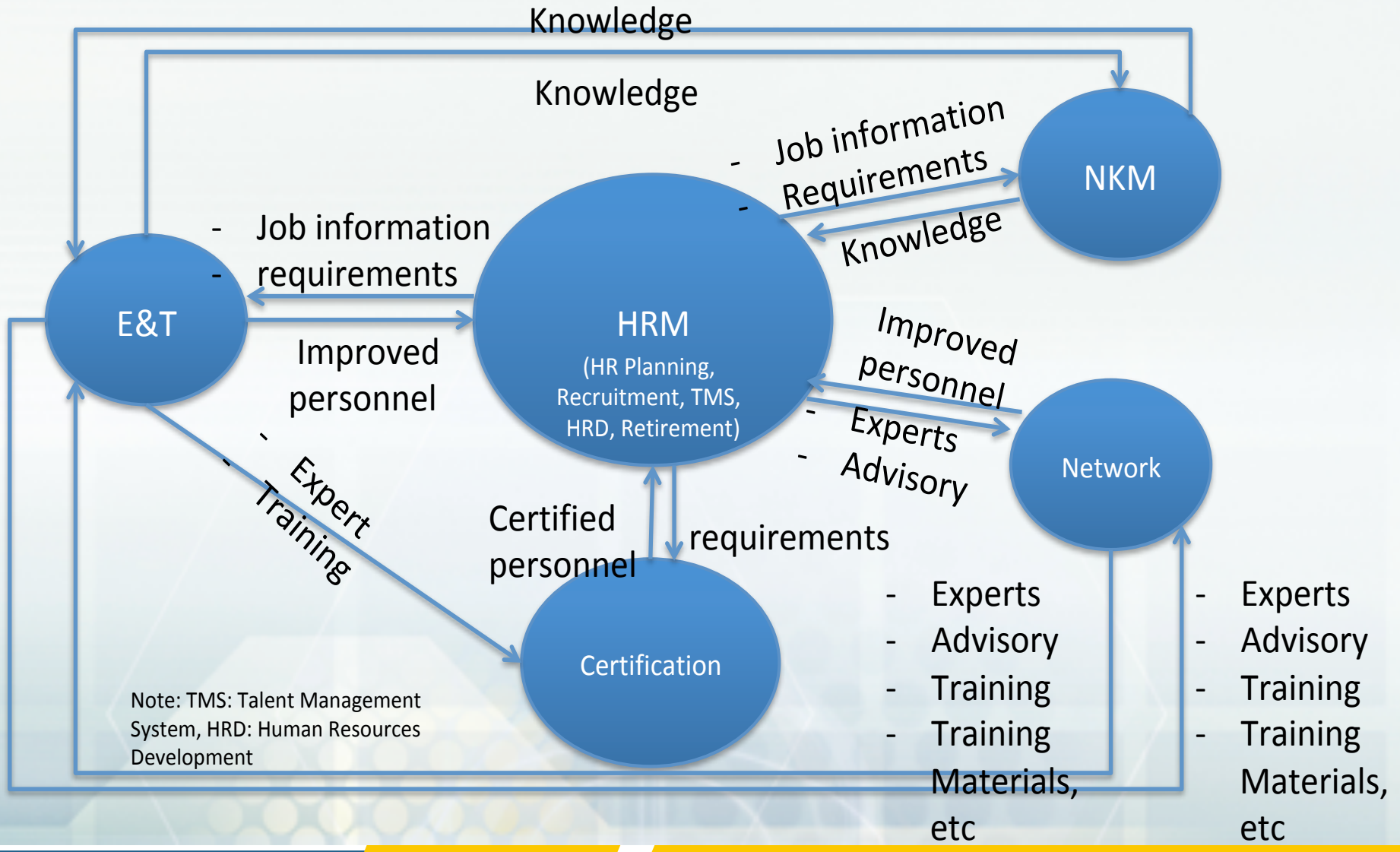
Covers all Working Units

Kode	Unit Kerja	Jumlah Pegawai	Jumlah Pegawai Telah Memenuhi Amanah ASN	Prosen
00	KA.BATAN	1	1	100,0%
10	SEKUT	1	1	100,0%
11	BP	38	9	23,7%
12	BSDMO	47	11	23,4%
13	BU	111	27	24,3%
14	BHHK	37	33	89,2%
20	Dep.SATN	1	1	100,0%
21	PSTBM	119	39	32,8%
22	PSTNT	137	64	46,7%
23	PSTA	205	87	42,4%
24	PTKMR	144	36	25,0%
25	PAIR	236	48	20,3%

Moodle-based LMS

- e-learning training & material collection
- possible linked to the IAEA e-Learning facility

Technology: Integration of IS



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Policies of E&T

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Education Policy

- Priority of education is set for
  - Implementation of national program
  - Critical Knowledge
- Thesis research contributes to fulfill the needs of BATAN
- Research may be implemented in BATAN facilities
- Submit papers/thesis to e-repository during study/ after graduation
- Utilizing various financing schemes

Training Policy

every personnel who works in nuclear research, development, engineering and application should be provided with adequate training in certain level of competence.

- SAT is used for training process/cycle,
- training program is prepared for all employees and all competences,
- grading model is used to set priority,
- modalities of classical and non-classical are blended,
- utilizing IT,
- utilizing network with partners.

Grading Model

Elements	Value
National Program	5
Required for Certification of Personnel	5
International Cooperation	4
Potential Loss of Knowledge	4
Program of BATAN	4
Program of Technical Centers	3
Program for Dissemination/Outreach	2
Others	1

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Recruitment Policy and Practice

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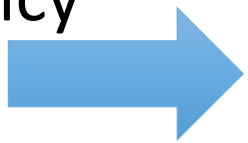
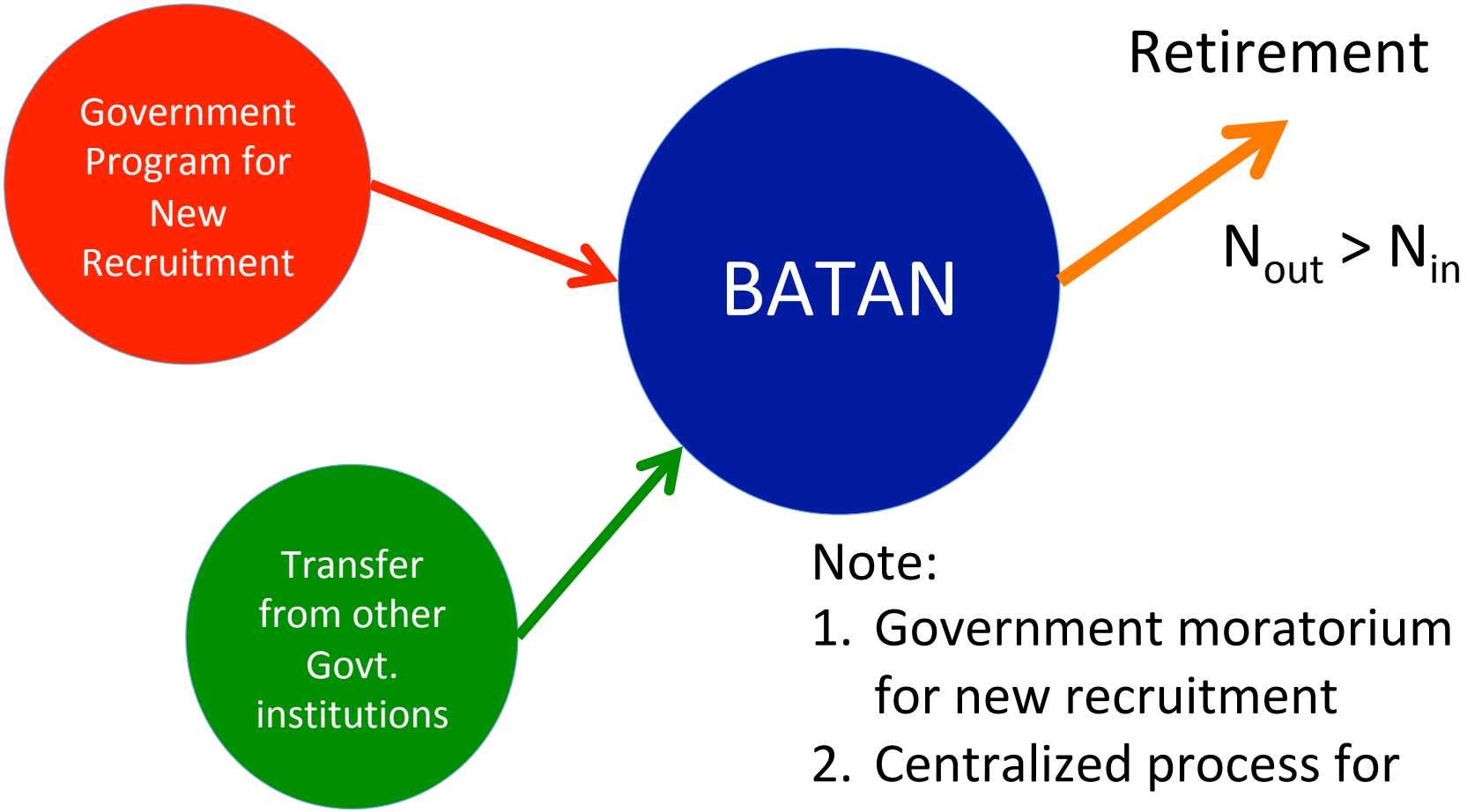
Continuum of Competence Building

Recruitment Policy



4 years		5 years
New Recruits	Employees	Pre Retirement

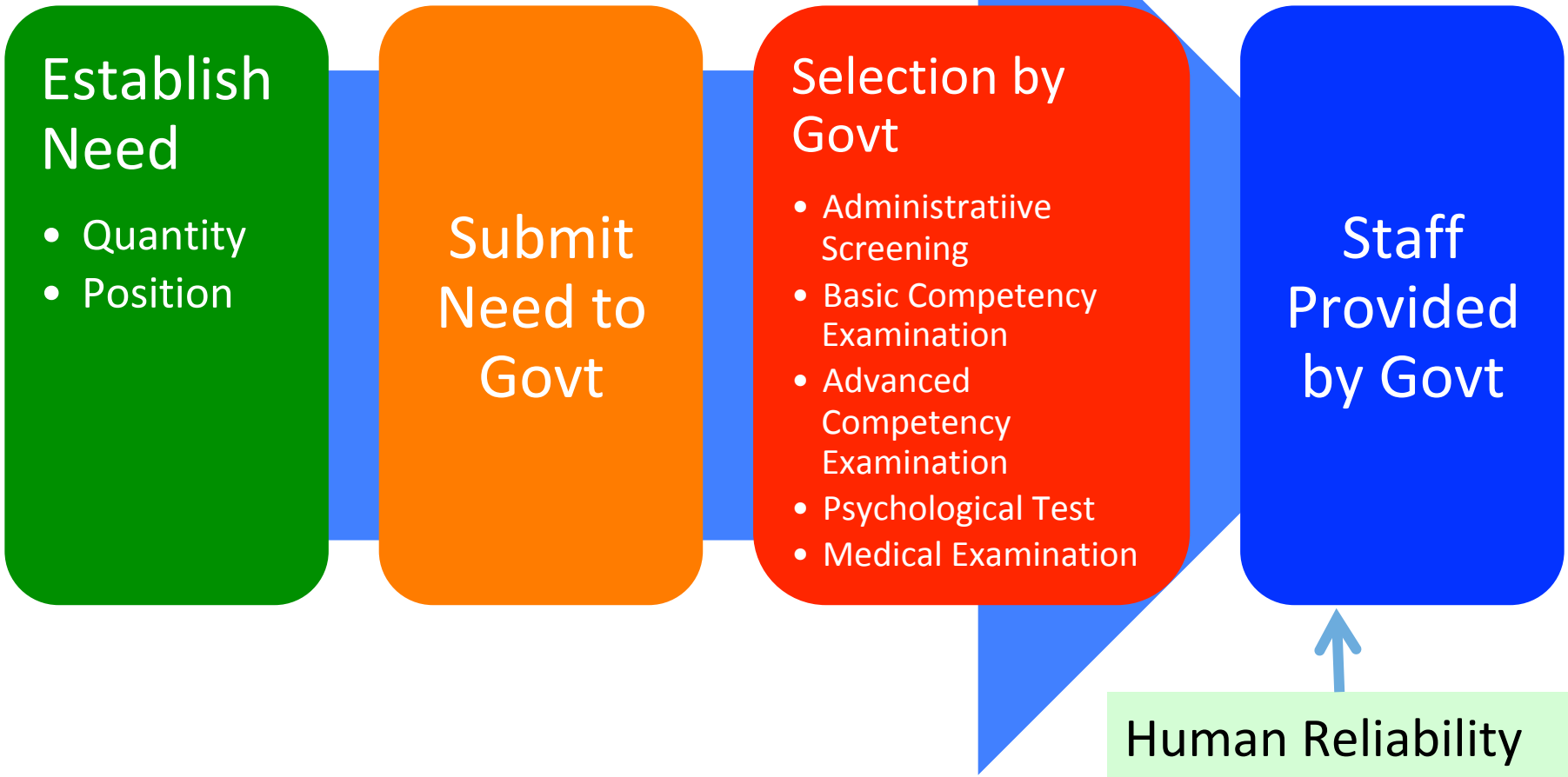
Recruitment Policy



Note:

1. Government moratorium for new recruitment
2. Centralized process for new recruitment

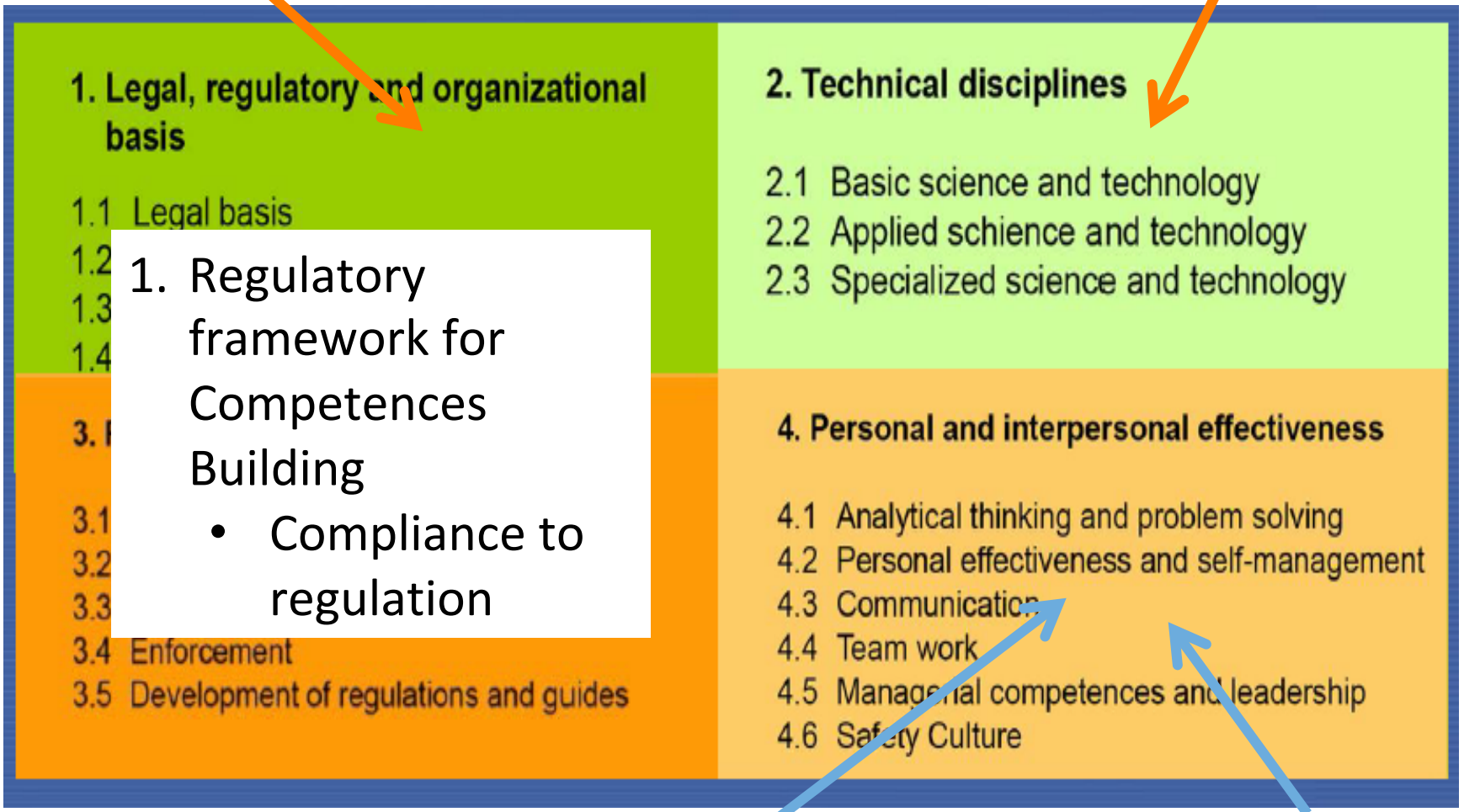
Practice of Recruitment



Competences Quadrant

BATAN Management System

BATAN Knowledge Taxonomy

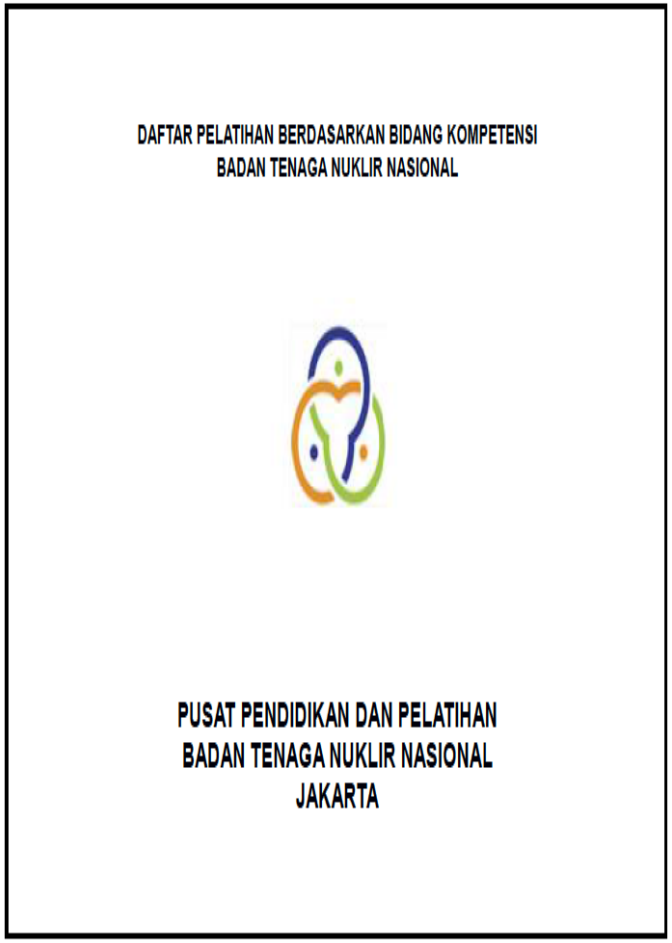


1. Regulatory framework for Competences Building
   - Compliance to regulation

BATAN Values

Social-Cultural Competence

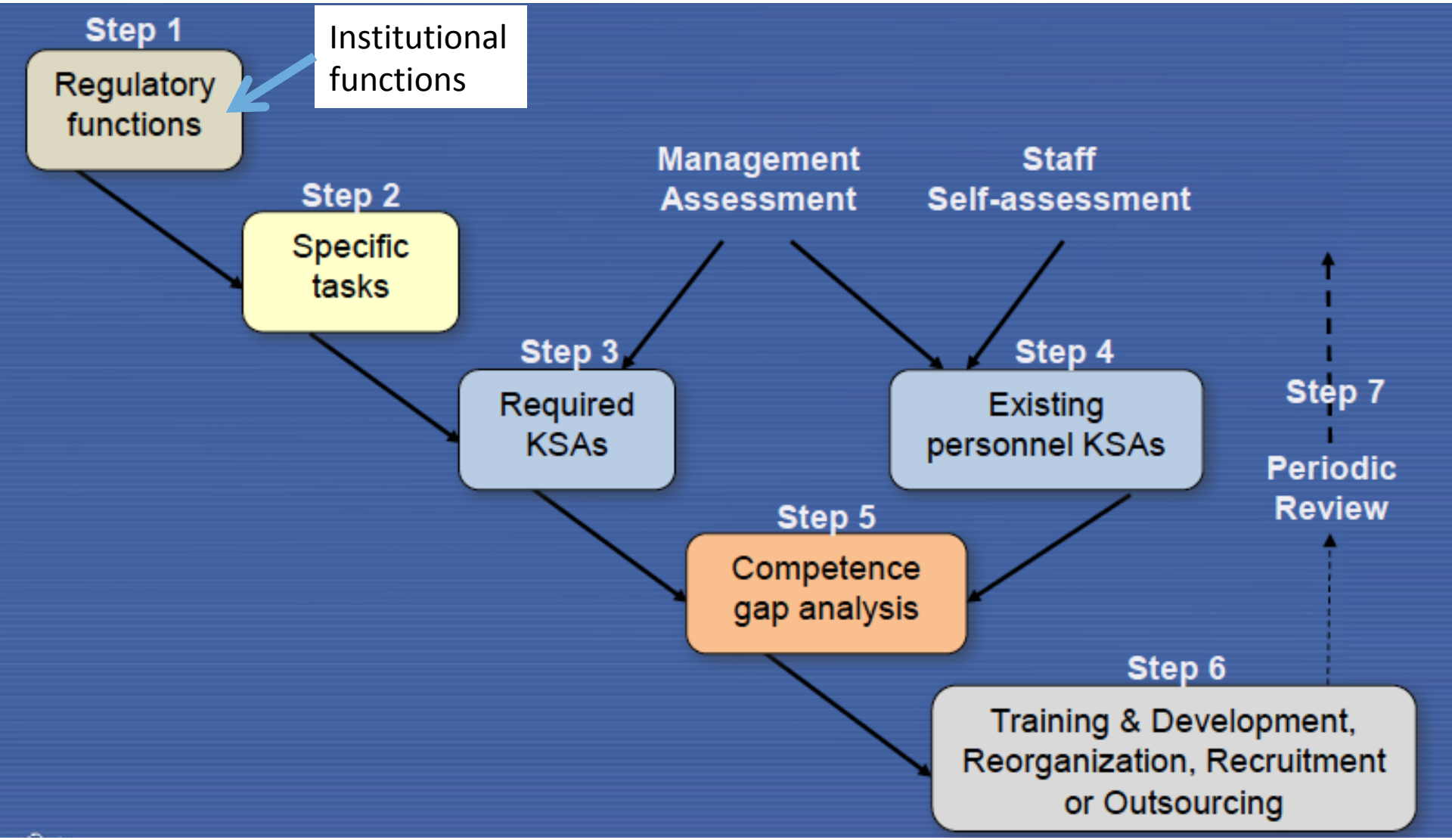
BATAN Knowledge Taxonomy


DAFTAR PELATIHAN BERDASARKAN BIDANG KOMPETENSI
BADAN TENAGA NUKLIR NASIONAL

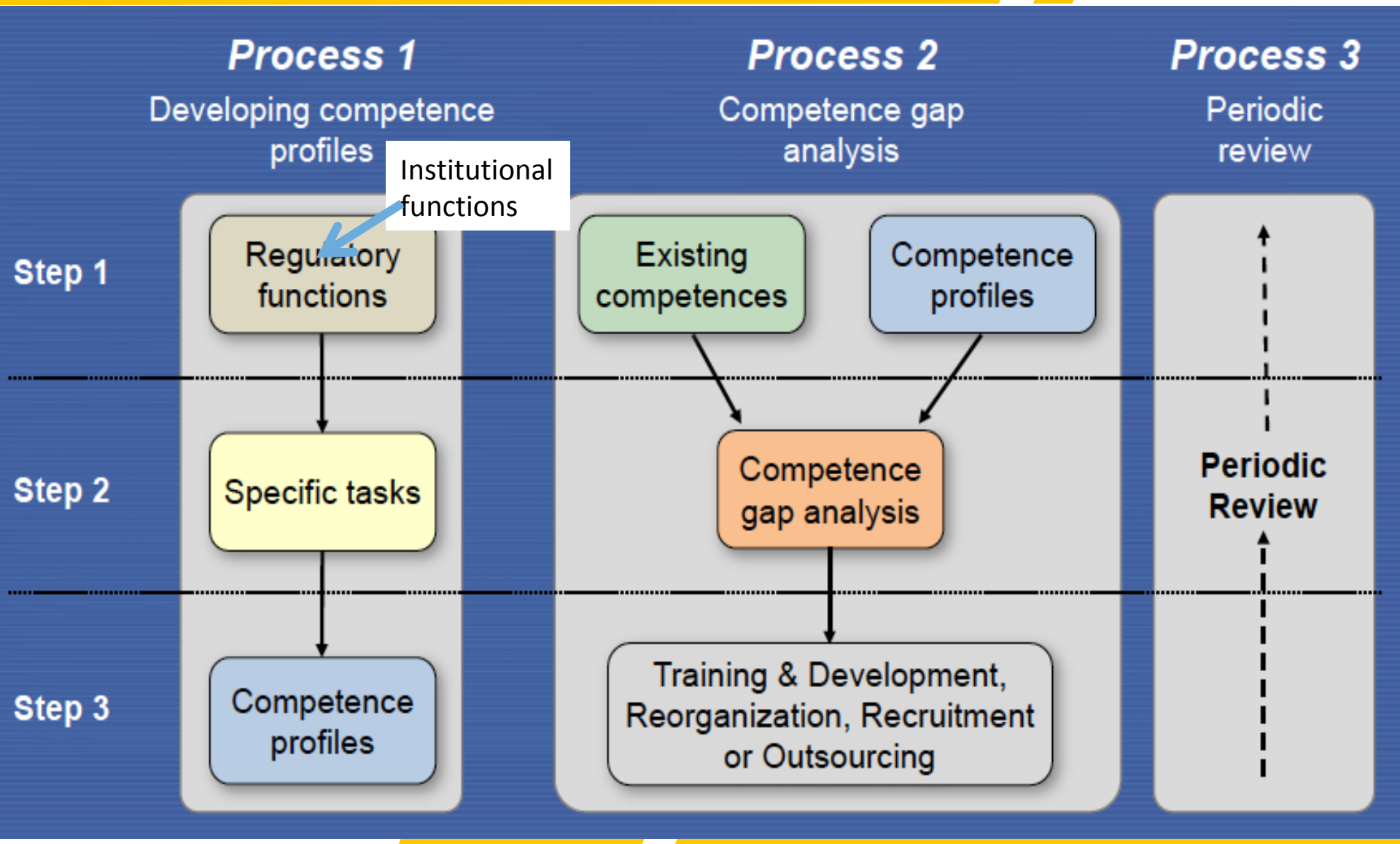
PUSAT PENDIDIKAN DAN PELATIHAN
BADAN TENAGA NUKLIR NASIONAL
JAKARTA

1. Isotope and Radiation
2. Nuclear Fuel Cycle
3. Engineering of Nuclear Devices and Facilities
4. Nuclear Reactor
5. Nuclear Safety and Security
6. Management

SARCoN Step-Based Approach



SARCoN Step-Based Approach



Institutional Gap Analysis

- Identification of critical knowledge and of potential of knowledge loss and development of mitigation program
  - Implement self-assessment

    - addressed four fundamental questions (NAMA):
      - What is needed? (Need),
      - What is available and adequate to meet the needs? (Availability),
      - What is missing or needs improvement in order to meet the needs? (Missing/gaps), and
      - What actions are needed? (Actions).
  - Priority: TC on knowledge with potential loss

Sample of Assessment Results for Research Reactors Personnel

RR	Critical Knowledge	Potential Knowledge Loss
A	Reactor core physics (Neutronik and Thermohydraulic Analysis), Radiation safety, Radiometric analysis, Process of radioisotopes (extraction of Tc-99m, Iodium-131, P-32, Br-82 etc.), Marked-substances production, Radiochemistry, Radiometric analysis, Treatment of TRIGA Instrumentation and Control Systems, Calculation of fuel burn-up	Calculation of reactor fuel burn-up, Neutron flux measurement, NDT for ageing management, Analysis and development of Neutronic and thermohydraulics, Nuclear Instrumentation
B	Reactor physics, Neutronic R & D, Reactor dosimetry, Core management, Reactor safety, Instrumentation and control, Reactor system technology, Operation and maintenance and utilization of reactor, Reactor technology, Reactor instrumentation and control.	Reactor Physics, Neutronic R & D, Reactor Dosimetry, Core Management, Reactor Safety, Instrumentation and Control, Reactor System Technology, Operation and Maintenance, and Utilization of Reactor Safety and security of radiation, nuclear and safeguard, Safety of transportation of radioactive substances and nuclear materials, Engineering of nuclear devices and facilities, Chemical process engineering
C	Accounting of nuclear materials and reactor irradiation services, Electrical, Mechanical, Instrumentation and reactor control, Waste control of reactor facilities, and Safety of reactor operations	Radioactive waste control of reactor facilities, Pre and post irradiation services

Actions for Preventing or mitigating potential loss of knowledge

- Training program is focused on the subjects of knowledge with potential loss.
- Knowledge capture program of personnel 5 years before retirement
- Knowledge sharing program by personnel 2-3 years retirement
- Managing coaching and mentoring on the subjects of knowledge with potential loss.
- Utilization of knowledge network with the IAEA, and other partners.

Terima Kasih

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