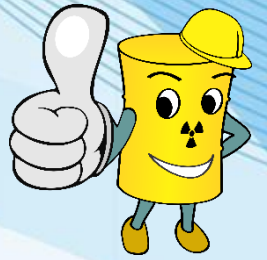




BRIN
BADAN RISET
DAN INOVASI NASIONAL



Radioactive Waste Management in Indonesia

1. Sumarbagiono
2. Ajrieh Setyawan
3. Sigit Nugroho Pamungkas

IAEA & TINT
25-28 October 2022
Bangkok Thailand

- Radioactive waste management in Indonesia is carried out centrally in the radioactive waste treatment installation owned by the National Research and Innovation Agency (BRIN).
- The facility was previously under the National Nuclear Energy Agency (BATAN), but in 2021 BATAN has been merged into BRIN
- Policy:
 - to re-export DSRS to the origin country whenever applicable, or managed them in BRIN facility.
 - to re-export SNF to the country of origin or store it in interim pool storage of the reactor or in ISSF.
Spent fuels originated from the United States (US) were returned to US, while spent fuels from other than US were stored in the site prior to disposal into an adequate facility.

Operator of Radioactive Waste Management

Before 2021



National Nuclear Energy Agency (BATAN)

Center for Radioactive Waste Technology:

- Research & Development on radioactive waste management
- Radioactive waste management services
- Providing technical and educational guidance for waste producer and public

After 2021



National Research and Innovation Agency of Indonesia (BRIN)

Research Center for Nuclear Fuel Cycle and Radioactive Waste Technology:

- Research & Development on radioactive waste management

Directorate of nuclear facilities management:

- Radioactive waste management services
- Providing technical and educational guidance for waste producer and public

Origin of Radioactive Waste



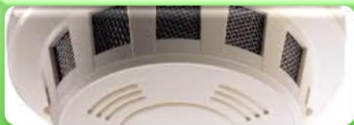
Hospital



Industry



Research



Consumer Product



Nuclear Installation



Radioactive Waste Treatment Installation
located in South Tangerang, Banten Province



Radioactive Waste

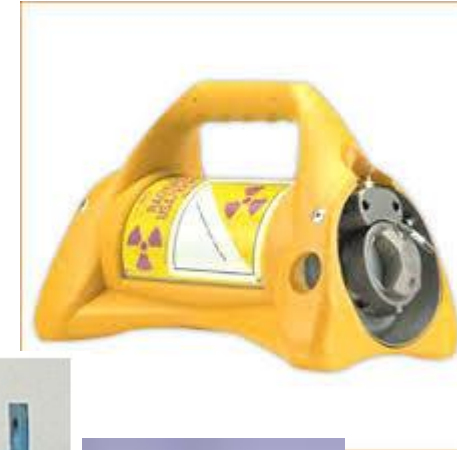


Cesium 137

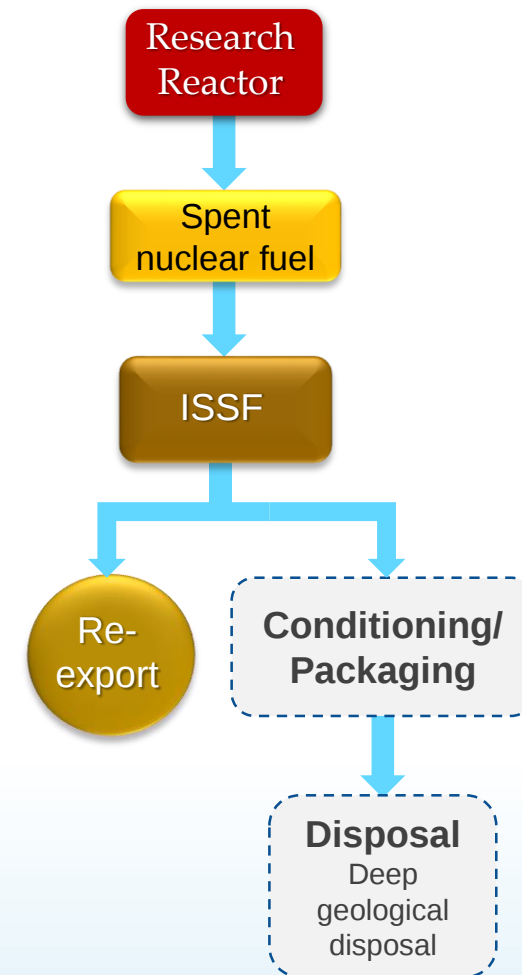
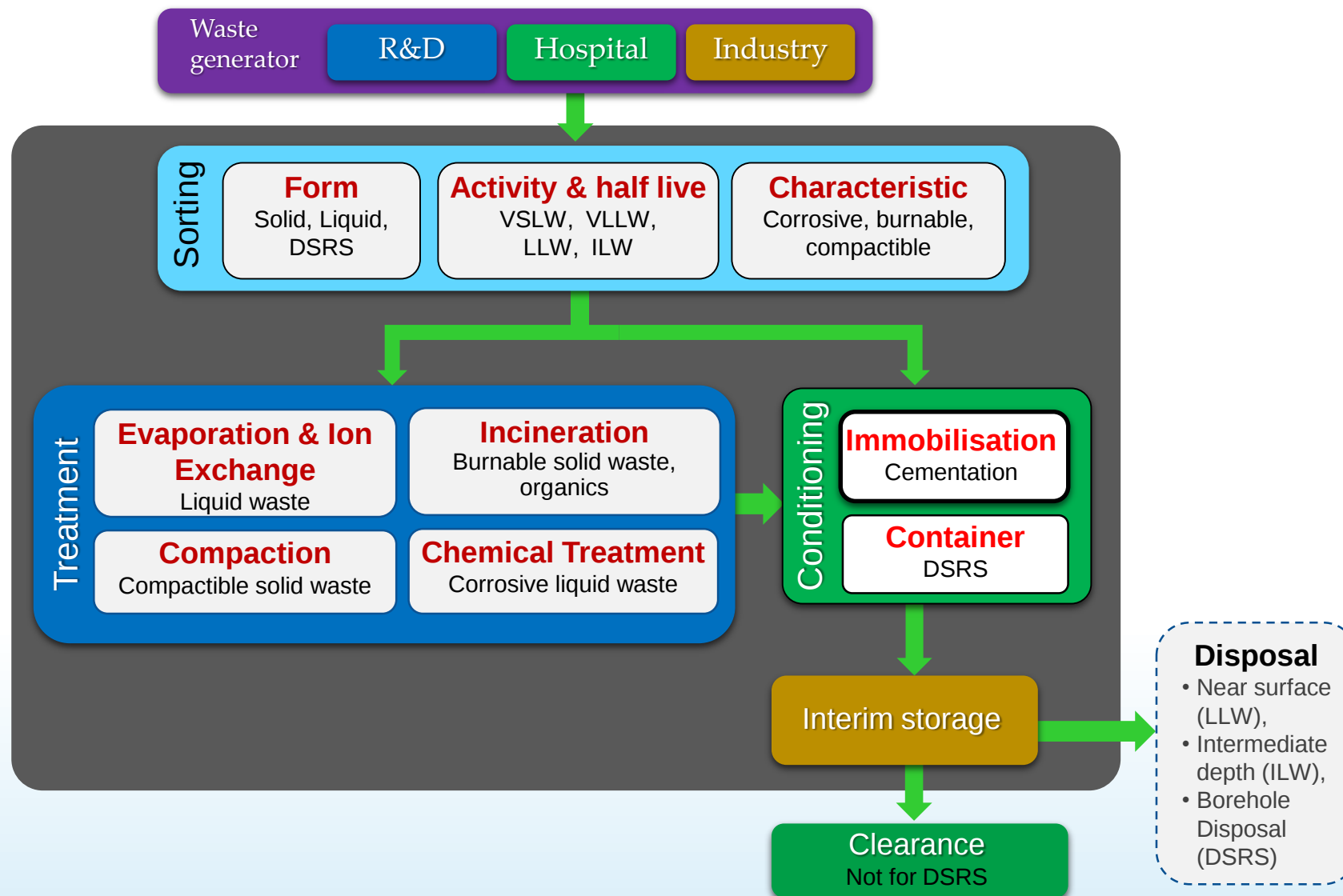


Radium 226

Iridium 192



Radioactive waste & SNF management



Incinerator System



Compaction System



Cementation System



Immobilization System



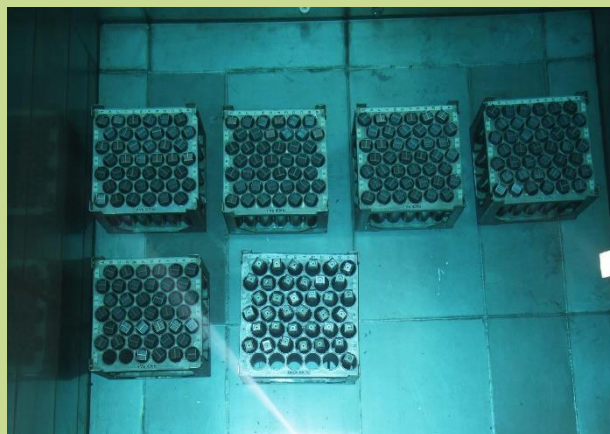
Interim Storage



Interim Storage for
High Exposure sources



Interim Storage for Spent Fuel



Interim Storage



Organisations/Stakeholders Involved

1. Waste producers (industry, hospital, research institutes, universities)
2. Public
3. Nuclear Energy Regulatory Agency (BAPETEN)
4. College students

1. Providing technical guidance for radioactive waste producers
2. Providing educational guidance for academics, especially students who will later work in the field of utilizing radioactive substances and radioactive waste
3. Conducting consultations with stakeholders in determining service standards of radioactive waste management
4. Conducting annual meeting between radioactive waste management operator, waste producers and the nuclear energy regulatory agency
5. Providing consultations on radioactive waste management services through social media (whatsapp and Facebook)

Communication & Consultation in 2021



Educational guidance



Technical guidance for radioactive waste producers



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TEMU PELANGGAN PELIMBAHAN TAHUN 2022

InaRI expo
Indonesia Research & Innovation Expo 2022

27 Oktober 2022
Gedung ICC
KST Sukarno
(Gibong Science Center)

"Keberhasilan Riset dan Inovasi dalam Layanan Pengelolaan Limbah Radioaktif di Indonesia"

Pembicara :

- Asep Setiawan, M.Si
Pengalaman Re-use Limbah Sumber Radioaktif untuk Pesawat Kalibrator Co-60
- Dr. R. Mohammad Subekti
Layanan ELSA B ELIRA dalam Pelimbahan Radioaktif
- (Ishak, M.Si)
Layanan Batis 2.5 dalam Perizinan Limbah Radioaktif

Moderator :

- Moch. Ramli, S.ST, MKKK
- Adi Wijayanto, S.T, M.Sc

G20
INDONESIA
2022

27 Oktober 2022 Waste Customer Meeting

Layanan Pengelolaan Limbah Rad x +

← → ↻ elira.brin.go.id

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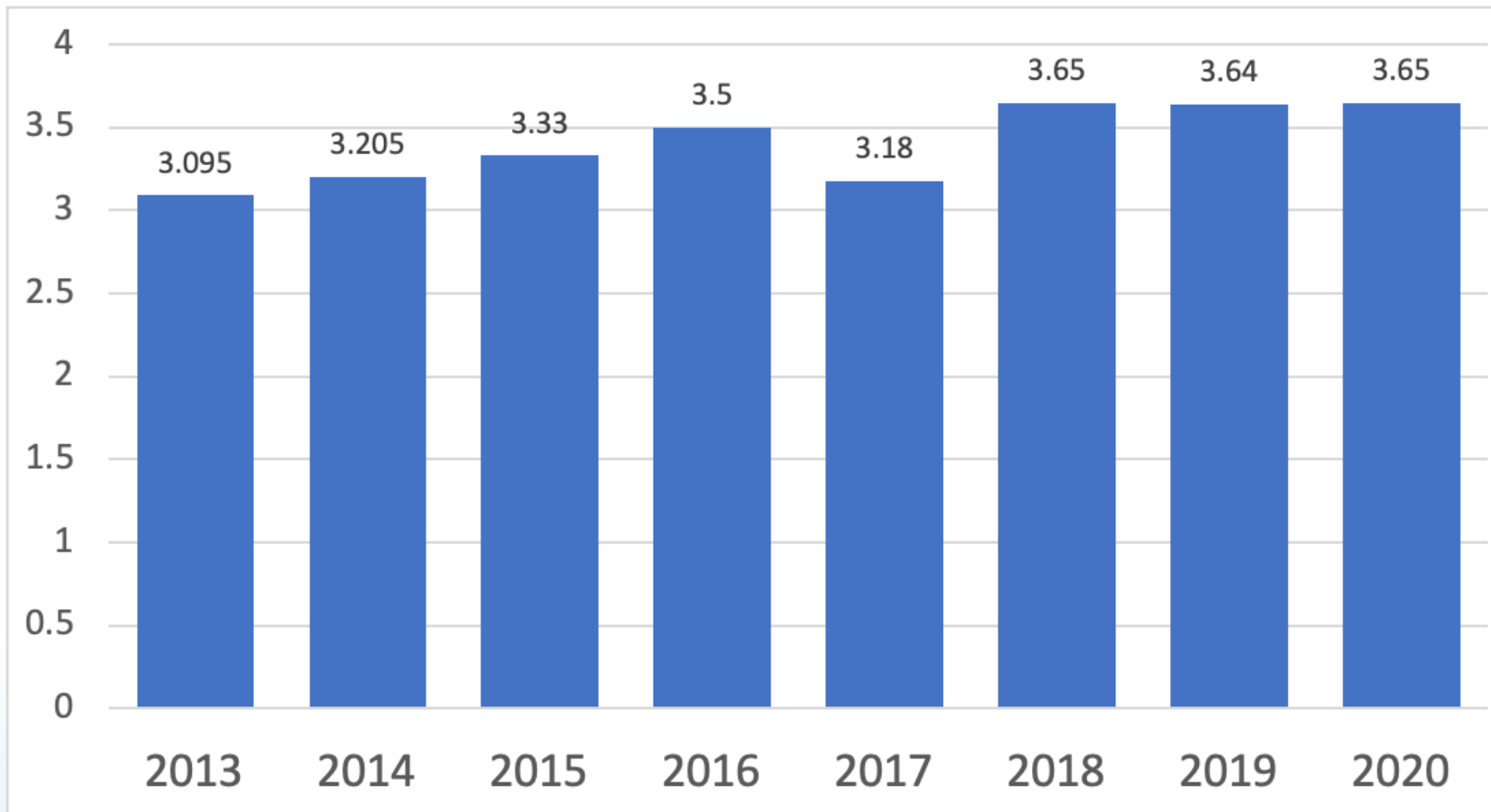
Layanan Administrasi Elektronik Pengelolaan Limbah RAdioaktif

Instalasi Pengolahan Limbah Nuklir
Direktorat Pengelolaan Fasilitas Ketenaganukliran
Badan Riset dan Inovasi Nasional

[Panduan](#)  DPFK-Limbah Radioaktif

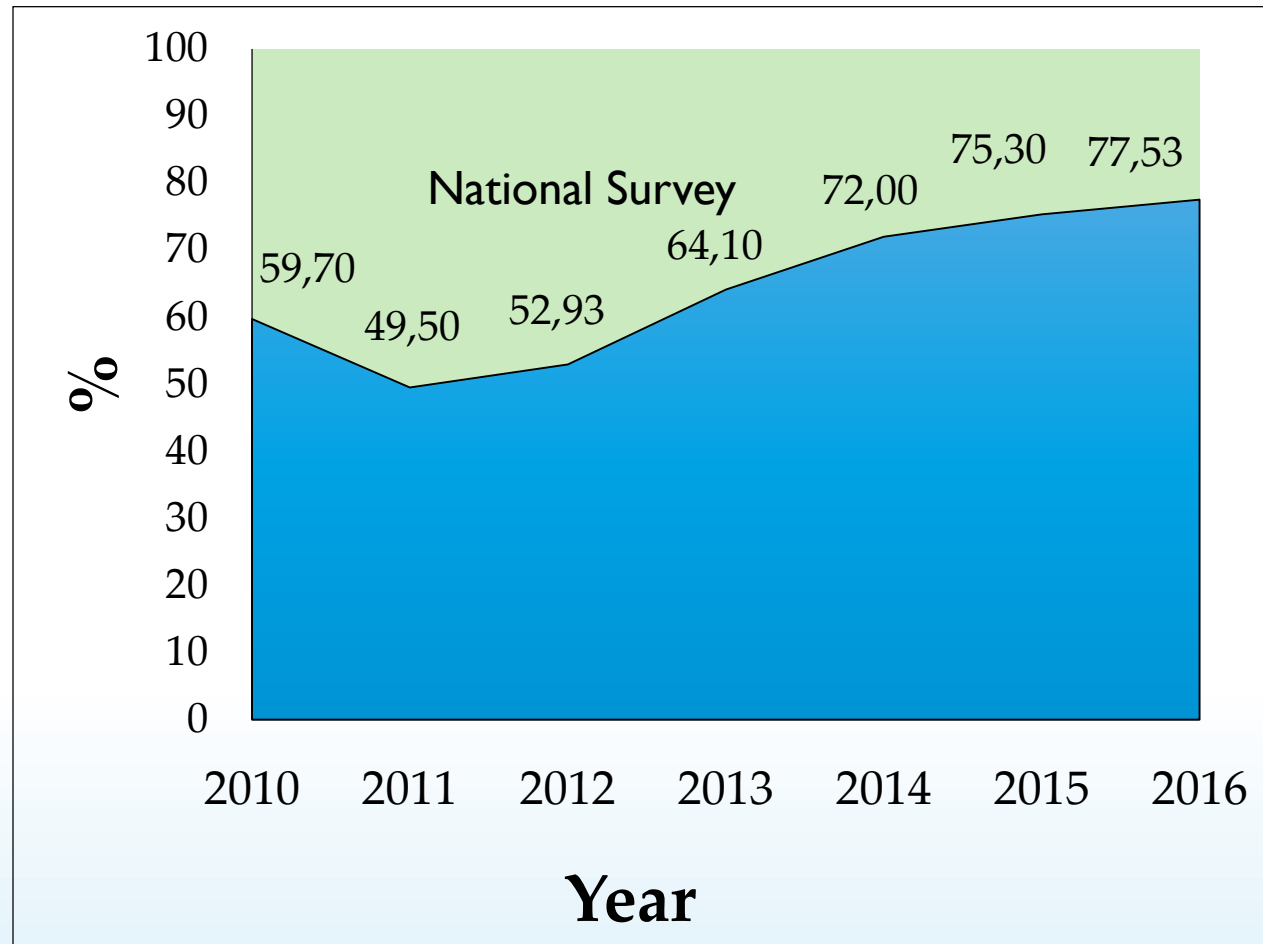


Public Satisfaction Index for Radwaste management Service



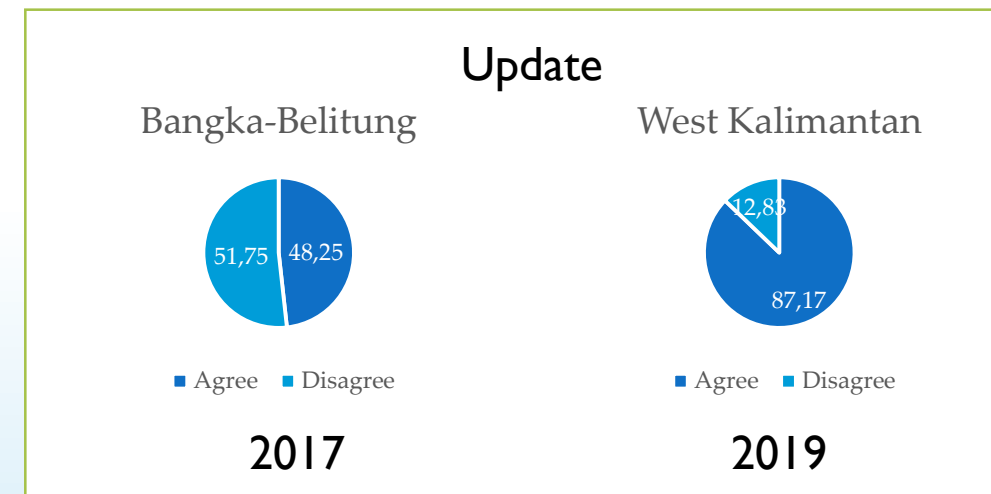
No	TAHUN	INDEKS KEPUASAN MASYARAKAT
1.	2013	3,095
2.	2014	3,205
3.	2015	3,33
4.	2016	3,50
5.	2017	3,18
6.	2018	3,65
7.	2019	3,64
8.	2020	3,65
9.	2021 Sem. 1	3,57

Survey of support for the NPP program



Bangka-Belitung Survey

Year	Result (%)
2011	35
2012	28
2013	42.3
2014	56.5



Challenges in RWM

1. Aging of waste treatment facilities
2. Lack of competent human resources
3. The waste interim storage space is nearing full
4. Decommissioning nuclear facilities will result large volume of waste
5. There is no disposal facility yet
6. DSRS re-export financing issues
7. Limitations of waste characterization equipment for waste clearance.

Plans to address future problems

1. Revitalize aging radioactive waste treatment facilities
2. Consistently implement Knowledge Management in the field of radioactive waste management
3. Building a new facility for the temporary storage of radioactive waste
4. Creating regulations governing the DSRS re-export funding mechanism
5. Provision of adequate equipment for clearance

Purpose of the workshop

1. Sharing experiences in communication and consultation regarding radioactive waste management
2. Improving competence on how to communicate and consult effectively with stakeholders



Thank You

Badan Riset dan Inovasi Nasional
National Research and Innovation Agency



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Jl. M.H. Thamrin 8, Jakarta 10340, Indonesia



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