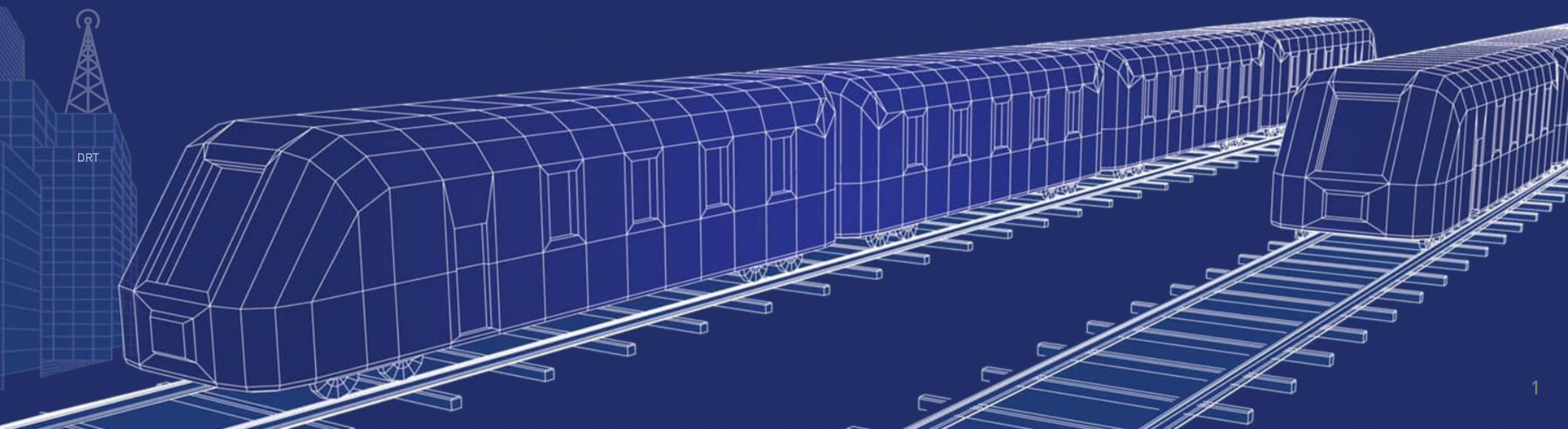
Addressing Rail Cybersecurity
Experience sharing on rail cybersecurity in Thailand

Department of Rail Transport

29 April 2024



Rail Transport Players in Thailand

Ministry of Transport

Office of Transport and Traffic Policy and Planning (OTP)
Formulate transportation plans in accordance with government policies

Rail Technology Research and Development Agency (RTRDA) Develop the national strategy for railway technology, focusing on research and development as well as human resource development.

Budget allocation and the establishment of regulatory policies.

State Railway of Thailand (SRT)
Construction management, concession contract oversight, and infrastructure ownership.
Operation and maintenance (O&M)

Mass Rapid Transit Authority of Thailand (MRTA)
Construction management, concession contract oversight, and infrastructure ownership.

Department of Rail Transport (DRT)

Railway Plan , Regulate Level of Service and Safety Ensure consistent and standardized rail transport nationwide.

OPERATORs Secure government contracts for railway operation and maintenance.

Bangkok holds a majority share of 99.98% and manages facilities and infrastructures within Bangkok.

Bangkok Metropolitan Administration (BMA)
Concession contract oversight, and infrastructure ownership.

Overview

Introduction to the Department of Rail Transport (DRT)

Northern / Eastern
Bangkok Monorail
NBM
EBM

Bangkok Expressway and
Metro Public Company Limited
BEM

State Railway of Thailand
SRT

(Operators)

Mass Rapid Transit
Authority of Thailand
MRTA

S.R.T. Electrified
Train Co., Ltd.
SRTET

Bangkok Mass
Transit System Public
Company Limited
BTSC

Asia Era One Company Limited
ERA1

(Railway Regulator)



DRT
Department
of Rail Transport



MOT
Ministry of Transport

Other Sectors

- Department of Airports
- Department of Land Transport
- Department of Highway
- Department of Rural Roads
- Marine Department

The DRT was established in 2019
to regulate and set the railway standards
in Thailand.

Overview Department of Rail Transport (DRT) mission

OUR MISSION

1. RAILWAY NETWORK PLANNING & DEVELOPMENT

To plan and develop railway network that passengers can
easily access.

2. STANDARDIZATION OF RAILWAY

To set the standards for railway construction, operation, and maintenance.

3. REGULATION

To regulate railway according to the standards, and make sure that the railway system is efficient, convenient, and safe for passengers.



4. RAILWAY FAIR & ECONOMIC INVESTMENT

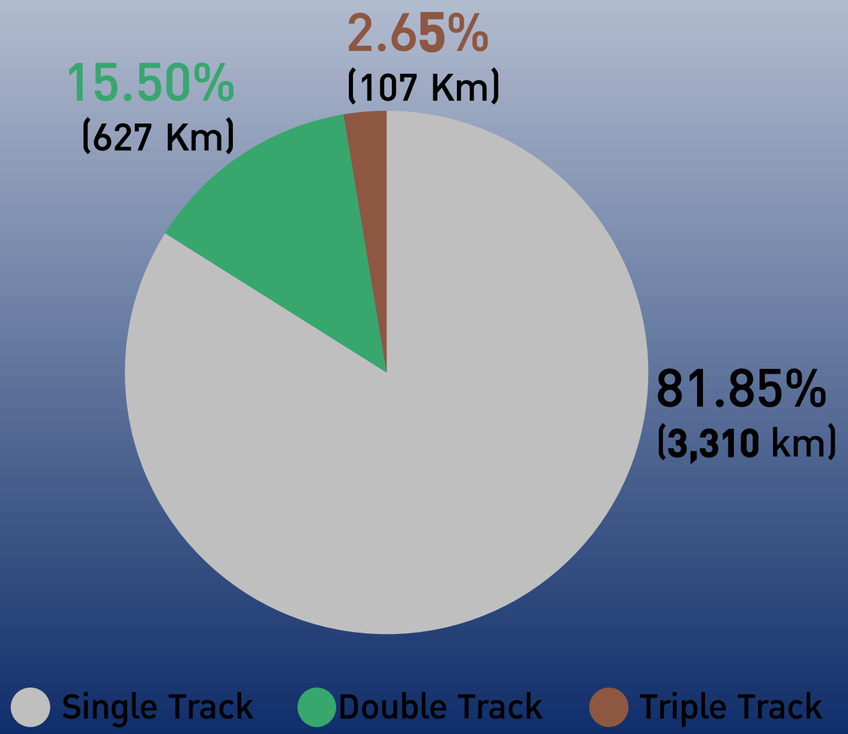
To study the appropriate railway fare and fee for rail transport.

5. EVALUATE

To check and mitigate issues on railway projects

Current Railway Network

4,044 km covering 47 provinces







North
781 KM

Northeast
1,094 KM

East
534 KM

Mae Klong
65 km

South
1,570 KM

BangkokMRT in service

13 Routes 276.84 KM

Green (Sukhumvit)

1 Mo Chit - Samut Prakan (37.10 KM)

Mo Chit - On Nut opened on 5 Dec.1999

On nut- Bearing opened on 12 Aug 2011

Bearing - Samut Prakan opened on 6 Dec. 2018

2 Mo Chit - Saphan Mai - Khu Khot (18.70 KM)

Mo Chit - Lat Phrao opened on 9 Aug 2019

Lat Phrao - Kasetsart U opened on 4 Dec. 2019

Kasetsart U - Wat Phra Si Mahathat opened on service 5 June 2020

Wat Phra Si Mahathat - Khu Khot opened on 16 Dec. 2020

Green (Silom)

3 National Stadium - Bang Wa(14 KM)

National Stadium - Taksin Bridge opened on 5 Dec. 1999

Saphan Taksin - Wongwian Yai opened on15 May 2009

Wongwian Yai - Bang Wa Open opened on 5 Dec. 2013

Blue

4 Bang Sue - Hua Lamphong (20 KM)

Opened on 3 Jul. 2004

(Bang Sue - Tao Poon 1.2 KM opened on 11 Aug. 2017)

5 Hua Lamphong - Bang Khae (14 KM)

Opened on 29 Sep 2019

6 Bang Sue - Tha Phra (13 KM)

Opened on 30 Mar. 2020

ARL

7 Phayathai-Suvarnabhumi (28.70 KM)

Opened on 23 Aug. 2010

Purple

8 Bang Yai-Tao Poon (23 KM)

Opened on 6 Aug 2016

Gold

9 Krungthonburi-Khlongsan (1.88 KM)

Opened on 16 Dec. 2020

Red (North)

10 Bang Sue - Rangsit (26.30 KM)

Opened on 29 Nov 2021

Red (West)

11 Bang Sue - Taling Chan (15.26 KM)

Opened on 29 Nov 2021

Yellow

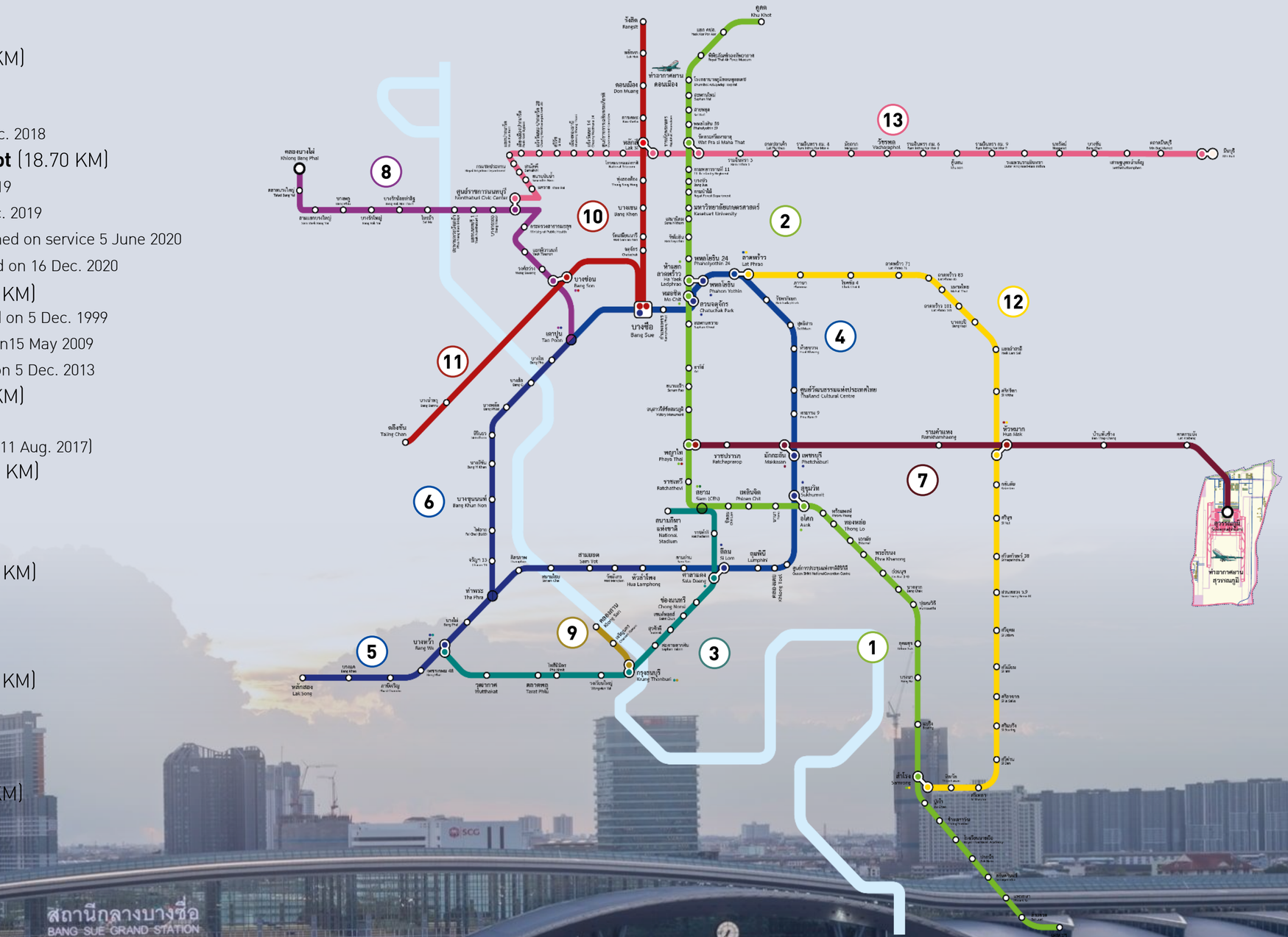
12 Lat Phrao - Samrong (30.40 KM)

Opened on 19 Jun 2023

Pink

13 Khae Rai-Min Buri (34.50 KM)

Opened on 21 Nov 2023



กรมการขนส่งทางราง
Department of Rail Transport

Cyber Security Act of 2019

The Cybersecurity Act B.E. 2562 (2019) in Thailand is a law that aims to govern cybersecurity activities to prevent and combat cyberthreats



หน้า ๒๐
เล่ม ๑๓๖ ตอนที่ ๖๙ ก ราชกิจจานุเบกษา ๒๗ พฤษภาคม ๒๕๖๒

พระราชบัญญัติ
การรักษาความมั่นคงปลอดภัยไซเบอร์
พ.ศ. ๒๕๖๒

พระบาทสมเด็จพระปรเมนทรรามาธิบดีศรีสินทรมหาวชิราลงกรณ
พระวชิรเกล้าเจ้าอยู่หัว

ให้ไว้ ณ วันที่ ๒๔ พฤษภาคม พ.ศ. ๒๕๖๒
เป็นปีที่ ๔ ในรัชกาลปัจจุบัน

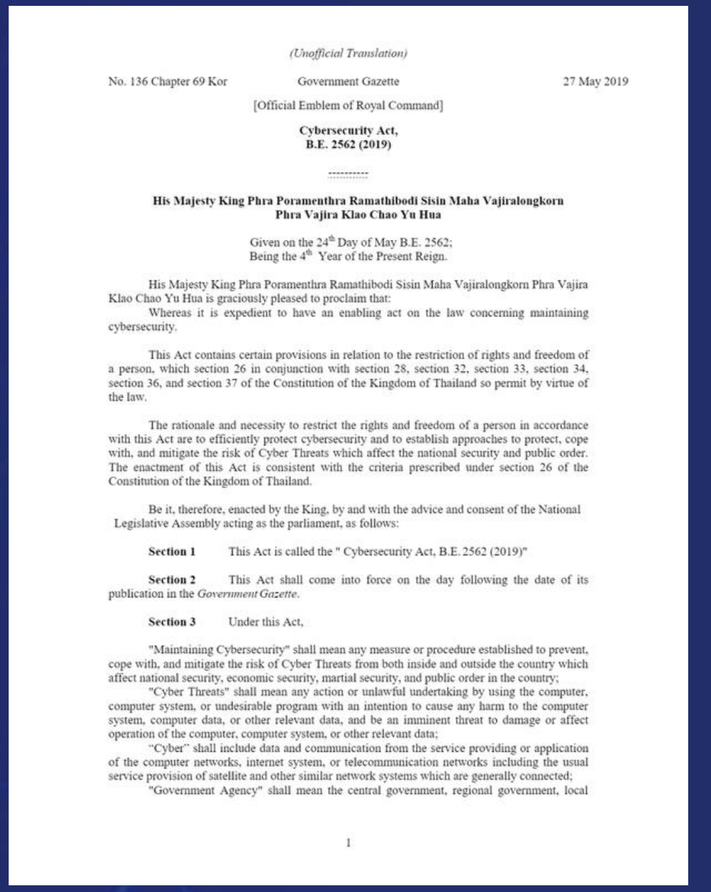
พระบาทสมเด็จพระปรเมนทรรามาธิบดีศรีสินทรมหาวชิราลงกรณ พระวชิรเกล้าเจ้าอยู่หัว มีพระบรมราชโองการโปรดเกล้าฯ ให้ประกาศว่า

โดยที่เป็นการสมควรมีกฎหมายว่าด้วยการรักษาความมั่นคงปลอดภัยไซเบอร์

พระราชบัญญัตินี้มีบทบัญญัติบางประการเกี่ยวกับการจำกัดสิทธิและเสรีภาพของบุคคล ซึ่งมาตรา ๒๖ ประกอบกับมาตรา ๒๘ มาตรา ๓๒ มาตรา ๓๓ มาตรา ๓๔ มาตรา ๓๖ และมาตรา ๓๗ ของรัฐธรรมนูญแห่งราชอาณาจักรไทย บัญญัติให้กระทำได้โดยอาศัยอำนาจตามบทบัญญัติแห่งกฎหมาย

เหตุผลและความจำเป็นในการจำกัดสิทธิและเสรีภาพของบุคคลตามพระราชบัญญัตินี้ เพื่อให้การรักษาความมั่นคงปลอดภัยไซเบอร์มีประสิทธิภาพและเพื่อให้มีมาตรการป้องกัน รับมือ และลดความเสี่ยงจากภัยคุกคามทางไซเบอร์อันกระทบต่อความมั่นคงของรัฐและความสงบเรียบร้อยภายในประเทศ ซึ่งการตราพระราชบัญญัตินี้สอดคล้องกับเงื่อนไขที่บัญญัติไว้ในมาตรา ๒๖ ของรัฐธรรมนูญแห่งราชอาณาจักรไทยแล้ว

จึงทรงพระกรุณาโปรดเกล้าฯ ให้ตราพระราชบัญญัติขึ้นไว้โดยคำแนะนำและยินยอมของสภานิติบัญญัติแห่งชาติทำหน้าที่รัฐสภา ดังต่อไปนี้



(Unofficial Translation)

No. 136 Chapter 69 Kor Government Gazette 27 May 2019

[Official Emblem of Royal Command]

Cybersecurity Act,
B.E. 2562 (2019)

His Majesty King Phra Poramenthra Ramathibodi Sisin Maha Vajiralongkorn Phra Vajira Klao Chao Yu Hua

Given on the 24th Day of May B.E. 2562;
Being the 4th Year of the Present Reign.

His Majesty King Phra Poramenthra Ramathibodi Sisin Maha Vajiralongkorn Phra Vajira Klao Chao Yu Hua is graciously pleased to proclaim that:

Whereas it is expedient to have an enabling act on the law concerning maintaining cybersecurity.

This Act contains certain provisions in relation to the restriction of rights and freedom of a person, which section 26 in conjunction with section 28, section 32, section 33, section 34, section 36, and section 37 of the Constitution of the Kingdom of Thailand so permit by virtue of the law.

The rationale and necessity to restrict the rights and freedom of a person in accordance with this Act are to efficiently protect cybersecurity and to establish approaches to protect, cope with, and mitigate the risk of Cyber Threats which affect the national security and public order. The enactment of this Act is consistent with the criteria prescribed under section 26 of the Constitution of the Kingdom of Thailand.

Be it, therefore, enacted by the King, by and with the advice and consent of the National Legislative Assembly acting as the parliament, as follows:

Section 1 This Act is called the " Cybersecurity Act, B.E. 2562 (2019)"

Section 2 This Act shall come into force on the day following the date of its publication in the *Government Gazette*.

Section 3 Under this Act,

"Maintaining Cybersecurity" shall mean any measure or procedure established to prevent, cope with, and mitigate the risk of Cyber Threats from both inside and outside the country which affect national security, economic security, martial security, and public order in the country;

"Cyber Threats" shall mean any action or unlawful undertaking by using the computer, computer system, or undesirable program with an intention to cause any harm to the computer system, computer data, or other relevant data, and be an imminent threat to damage or affect operation of the computer, computer system, or other relevant data;

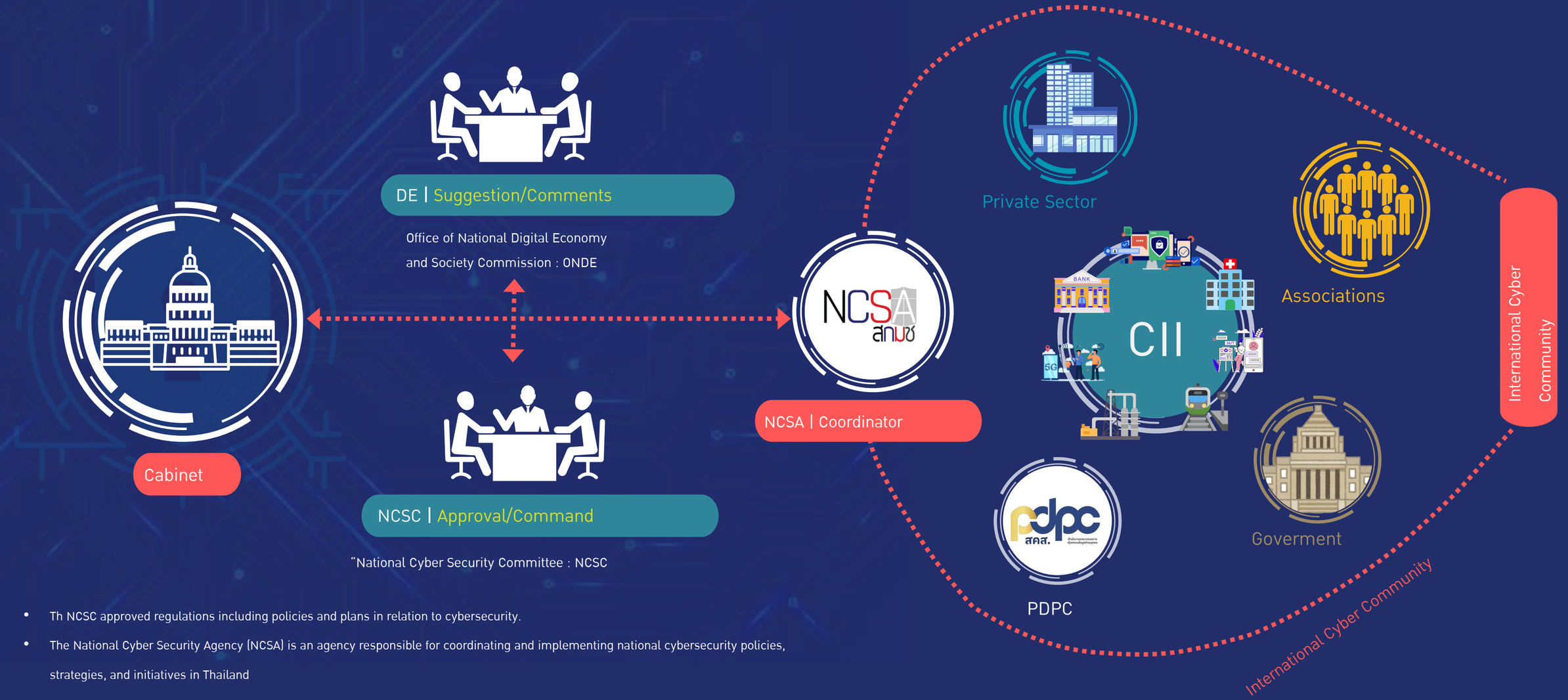
"Cyber" shall include data and communication from the service providing or application of the computer networks, internet system, or telecommunication networks including the usual service provision of satellite and other similar network systems which are generally connected;

"Government Agency" shall mean the central government, regional government, local

1

Cyber Security Act of 2019 (section 9(6),42(4))

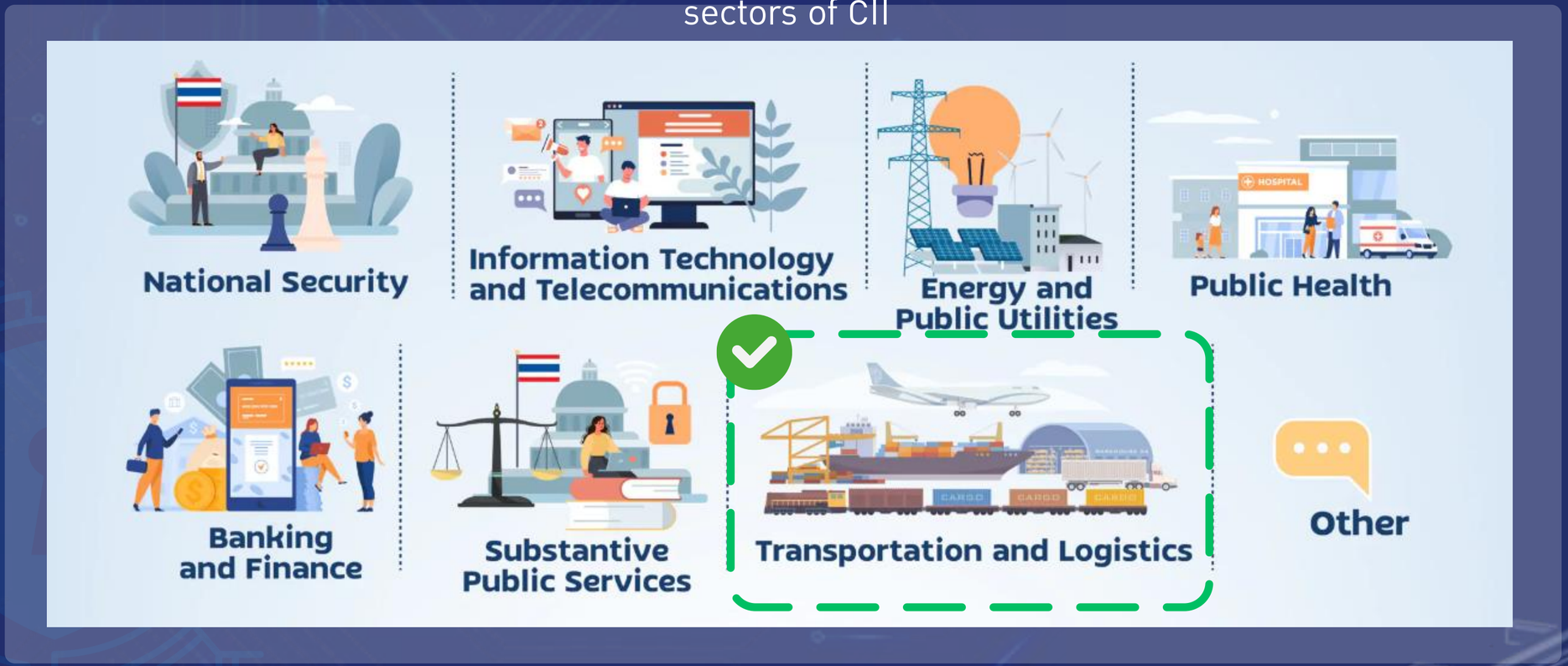
The mechanism for driving cyber security in Thailand



- Th NCSC approved regulations including policies and plans in relation to cybersecurity.
- The National Cyber Security Agency (NCSA) is an agency responsible for coordinating and implementing national cybersecurity policies, strategies, and initiatives in Thailand

Cyber Security Act of 2019 (section 49)

Transportation and logistics is considered a Critical Information Infrastructure (CII) in Thailand under the Cybersecurity Act B.E. 2562 (2019).



Cyber Security Act of 2019 (section 49)

The Department of Rail Transport is mentioned as a regulator under the Cyber Security Act of 2019

Characteristics of the organization	Critical services	Regulator
Point 2 which provides rail transportation services	1) Services related to centralized traffic control. 2) Services related to signal transmission, communication, and data transfer. 3) Ticket sales and seat reservation service. 4) Services related to control, supervision, and data collection.	**Department of Rail Transport**

Regulator

Control/supervision agencies within the railway sector to ensure robust cybersecurity practices.



Define the duties of the CII agency

Verify compliance with minimum cybersecurity standards

Conducting inspections of CII agencies at least once a year.

Draft : CYBER-SECURITY IN RAILWAY



Draft : Cyber-Security in Railway

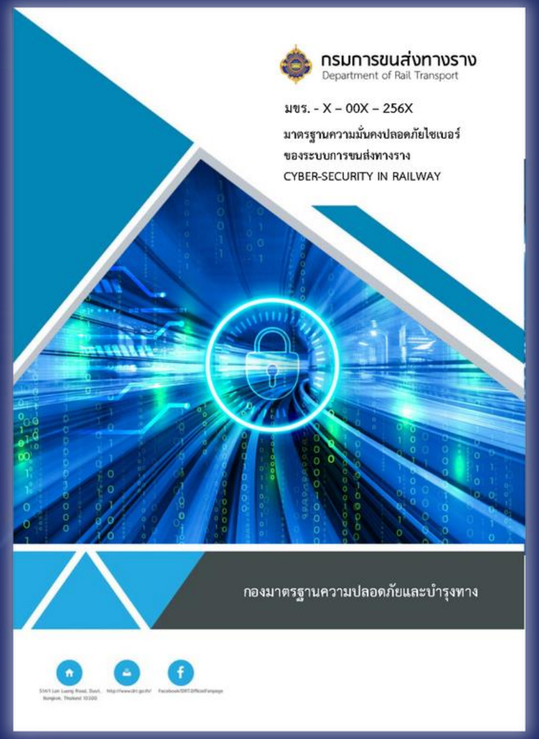
DRT develops a standard for cybersecurity in railways to comply with the Cybersecurity Act 2019 and the National Cybersecurity Committee (NCSC)'s announcement on compiling guidelines and standards for cybersecurity practices in government agencies and Critical Information Infrastructure (CII).

Draft : CYBER-SECURITY IN RAILWAY



(UIC) International Union of Railway

Guideline



Draft : Cyber-Security in Railway

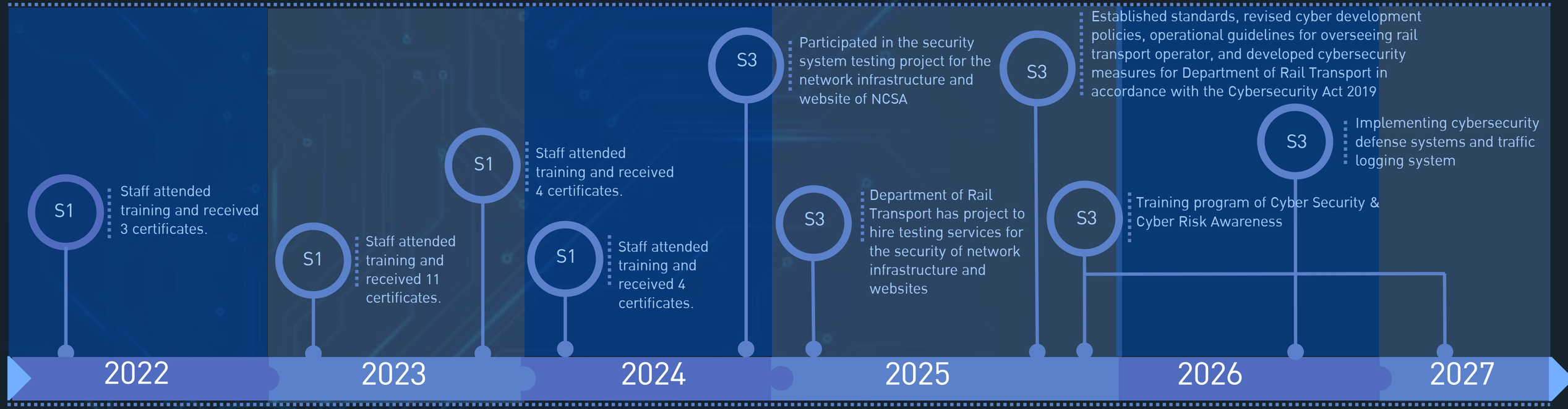
Cyber Security Policy and Action Plan 2022 – 2027

The Department of Rail Transport has been working hard to implement a comprehensive cybersecurity plan to protect its data and systems.

- Send staff to attend training and received certificates on cybersecurity and cyber risk awareness
- Established cybersecurity standards and related policies
- Developed cybersecurity measures for the Department in accordance with the Cybersecurity Act 2019
- Participated in a security system testing project
- Implemented cybersecurity defense systems



Implementation of the Cybersecurity Policy and Plan



Strategic 1 S1

- Strategic 1.1 Increase personnel with cyber skills
- Strategic 1.2 Cybersecurity awareness building by training staff
- Strategic 1.2 Cybersecurity awareness by participate in training courses of the NCSA

Strategic 3 S3

- Strategic 3.1 Establishing minimum cybersecurity measures for Critical Information Infrastructure
- Strategic 3.3 Implementing cybersecurity defense systems.
- Strategic 3.3 Vulnerability Assessment, Penetration Testing
- Strategic 3.3 Cyber management

Thank you

Department of Rail Transport

