



# 2021 PTTEP

# Annual SSHE Performance

May 2021



# Contents

Executive Summary

1

SSHE Vision and Missions

2

SSHE Policy

3

Summary of 2021 PTTEP SSHE Performance

4

SSHE Performance by IOGP Function

14

SSHE Performance by Location

19

Incident Analysis

24

SSHE Activities and Achievements

29

Glossary

36

Editors

42

# Executive Summary

This 2021 PTTEP Annual SSHE Performance Report provide a summary of SSHE performance data as of December 2021. The following key performance indicators (KPIs) will be benchmarked with the International Association of Oil & Gas Producers (IOGP) SSHE Reported data, i.e. Lost Time Injury Frequency (LTIF), Total Recordable Injury Rate (TRIR), Loss of Primary Containment Rate (LOPCR), Spill Rate, Motor Vehicle Accident, and Vessel Accident.

Based on **36,651,193** work hours



## Lost Time Injury Frequency (LTIF)

- 0.16 (6 cases)
- Increased 23% from 2020



## Total Recordable Injury Rate (TRIR)

- 0.74 (27 cases)
- Increased 131% from 2020



## Loss of Primary Containment Rate (LOPCR)

- 0.11 (3 cases)
- Decreased 31% from 2020



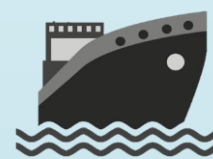
## Spill

- Spill Rate : 0.0201 (8 cases)
- Spill Amount : 0.4643 tonnes
- Decreased 76% from 2020



## Motor Vehicle Accident

- 0 (0 case)
- Decreased 100% from 2020



## Vessel Accident

- 0 (0 case)
- No change from 2020



# Vision

“ **Zero incident organization** ”



# Missions

- Prevent all incidents through proactive personal and process safety management.
- Embed SSHE mindset and leadership at all levels toward a generative SSHE culture.
- Recognize SSHE as a foundation towards competitive performance and innovation for long term stakeholders value creation.



# SSHE POLICY

Safety, Security, Health and Environment (SSHE) is fundamental for PTTEP's sustainable business. We put in place and adhere to an effective SSHE management system in order to ensure the safety and health of everyone involved in our operations and communities where we operate, environmental protection and the security of our people and assets.

To achieve our vision of being a zero-incident organization, PTTEP shall:

- Work to achieve and sustain a generative SSHE culture through accountable leadership and involvement of all employees and contractors. Fundamentally SSHE performance is a line management accountability.
- Set measurable SSHE objectives, key performance indicators and targets that are used for continuous improvement for top quartile performance and achievement of applicable sustainable development goals (SDGs).
- Fulfil compliance obligations with all applicable SSHE laws, regulations, national and international standards as well as internal requirements of the PTTEP SSHE management system.
- Manage SSHE risks by identifying, analyzing, evaluating and treating them to As Low As Reasonably Practicable (ALARP) throughout PTTEP business lifecycle.
- Promote health of employees and contractors as part of an effective health management system.
- Reduce environmental footprints in alignment with low carbon pathway, circularity concept, and positive environmental value creation.
- Assess, monitor, and manage security risk and situation at all locations.
- Plan and prepare for emergencies and crises by providing resources, training, and holding regular drills and exercises.
- Apply Management of Change principles to operational, organizational, administrative, and regulatory changes to ensure that the risk is identified, assessed, and controlled.
- Empower and reinforce employees' and contractors' right to use of the Stop Work Authority (SWA).
- Enforce zero drugs and alcohol programs in workplace to all employees and contractors.
- Improve SSHE performance continuously by workforce participation and consultation, learning from incidents, audits and reviews.

The successful implementation of this Policy requires total commitment from PTTEP employees and contractors at all levels.



# Summary of 2021

# PTTEP SSHE Performance



# Work Hours



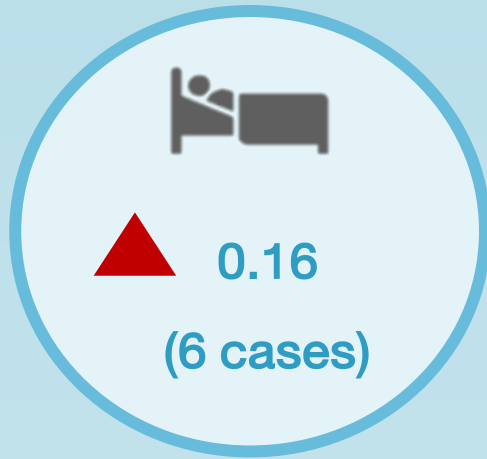
- 2021 work hours was 36,651,193 (approx. 18% higher than year 2020)
- Company 10,744,897 work hours (approx. 29%)
- Contractor 25,906,296 work hours (approx. 71%)

Table 1: Number of work hours (2017 – 2021)

PTTEP Work Hours (MMhrs)					
	2017	2018	2019	2020	2021
<b>Company</b>	8.55	8.48	9.41	10.01	<b>10.74</b>
<b>Contractor</b>	21.01	19.57	19.43	21.16	<b>25.91</b>
<b>Overall</b>	29.56	28.05	28.84	31.17	<b>36.65</b>

# SSHE Performance

LTIF



TRIR



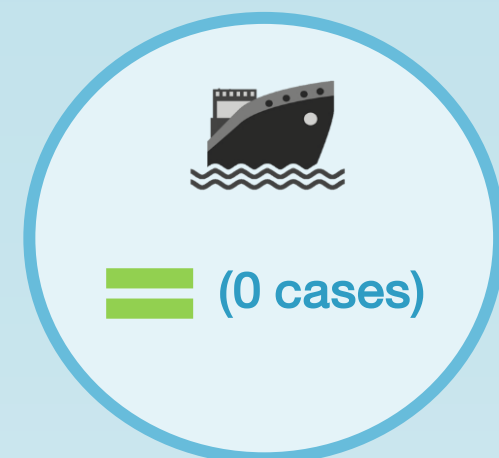
LOPCR



Spill Rate



Motor Vehicle



Vessel

SSHE Indicators	Unit	2021 KPIs Target		
		Low	Base	Stretch
Lost Time Injury Frequency (LTIF)	No./MMhrs	0.26	0.13	0
Total Recordable Injury Rate (TRIR)	No./MMhrs	0.96	0.69	0.38
Loss of Primary Containment Rate (LOPCR)	No./MMhrs (Production + Drilling)	0.11	0.07	0
Spill Rate	Tonnes/MMt production	0.62	0.37	0
Motor Vehicle Accident	No. of HPI and TRIR (IOGP 365-5)	4	2	0
Vessel Accident	(Moderate + Severe case + HPI)	1 Severe/ 1 HPI/ 2 Moderate	1 Moderate	0



# Lost Time Injury

# Frequency

Table 2: PTTEP Lost Time Injury Frequency (2020 & 2021)

Lost Time Injury Frequency (LTIF)			
	2020	2021	2021 Relative to 2020 LTIF
Company	0.00 (0 case)	0.00 (0 case)	Not change
Contractor	0.19 (4 cases)	0.23 (6 cases)	Increase
Overall	0.13 (4 cases)	0.16 (6 cases)	<span style="color: red;">▲</span> 23% increase Number of cases increase

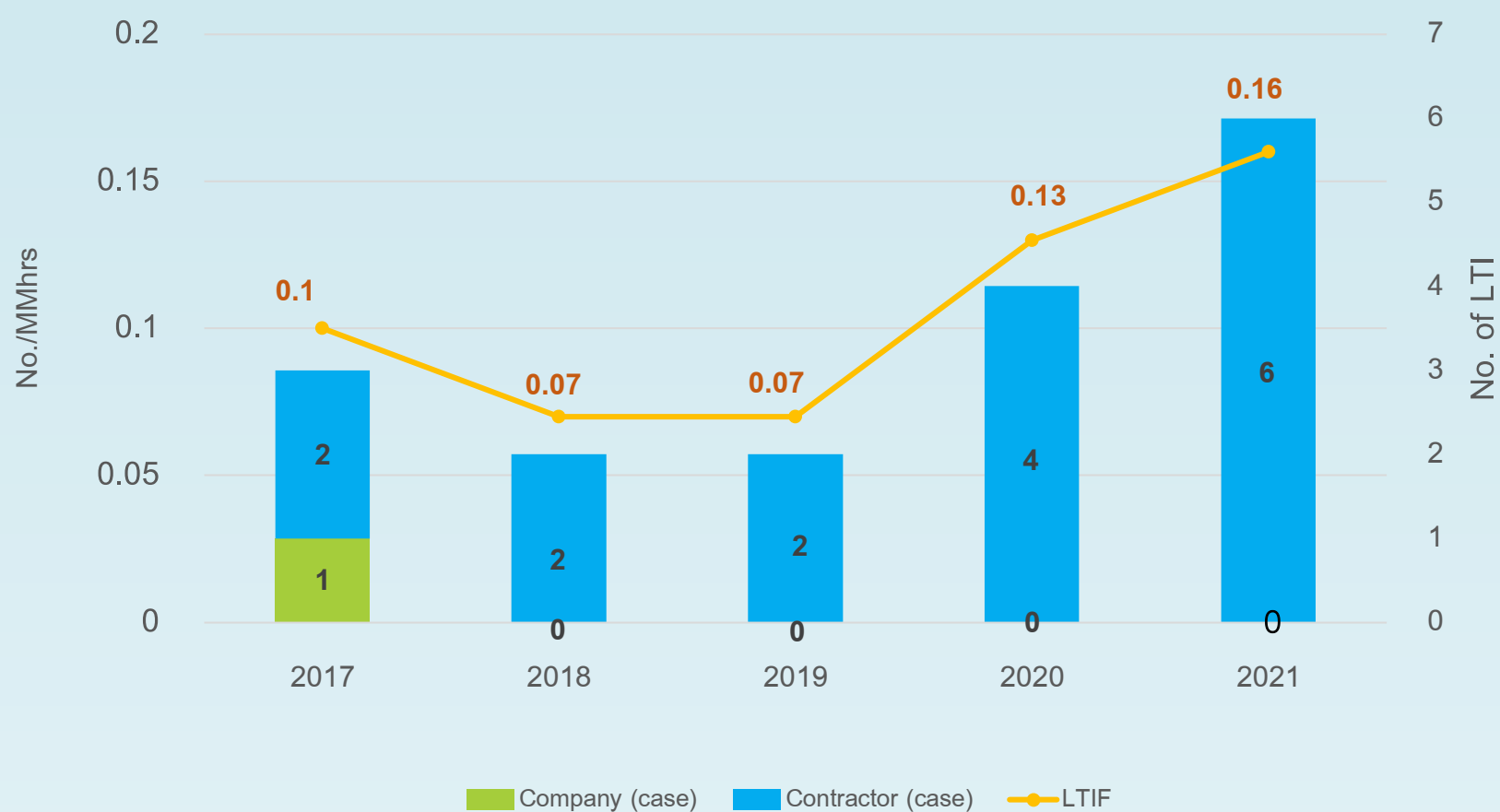


Figure 1: PTTEP Lost Time Injury Frequency (2017 - 2021)

# Severity of Lost Work Day Cases

Table 3: Severity of LWDC\* (Average days lost per LWDC: excluding fatality)

	Severity of LWDC		
	2020	2021	2021 Relative to 2020 LWDC
Company	0	0	Not change
Contractor	36*	39	Increase
Overall	36*	39	▲ Increase

\* Adjust from 52

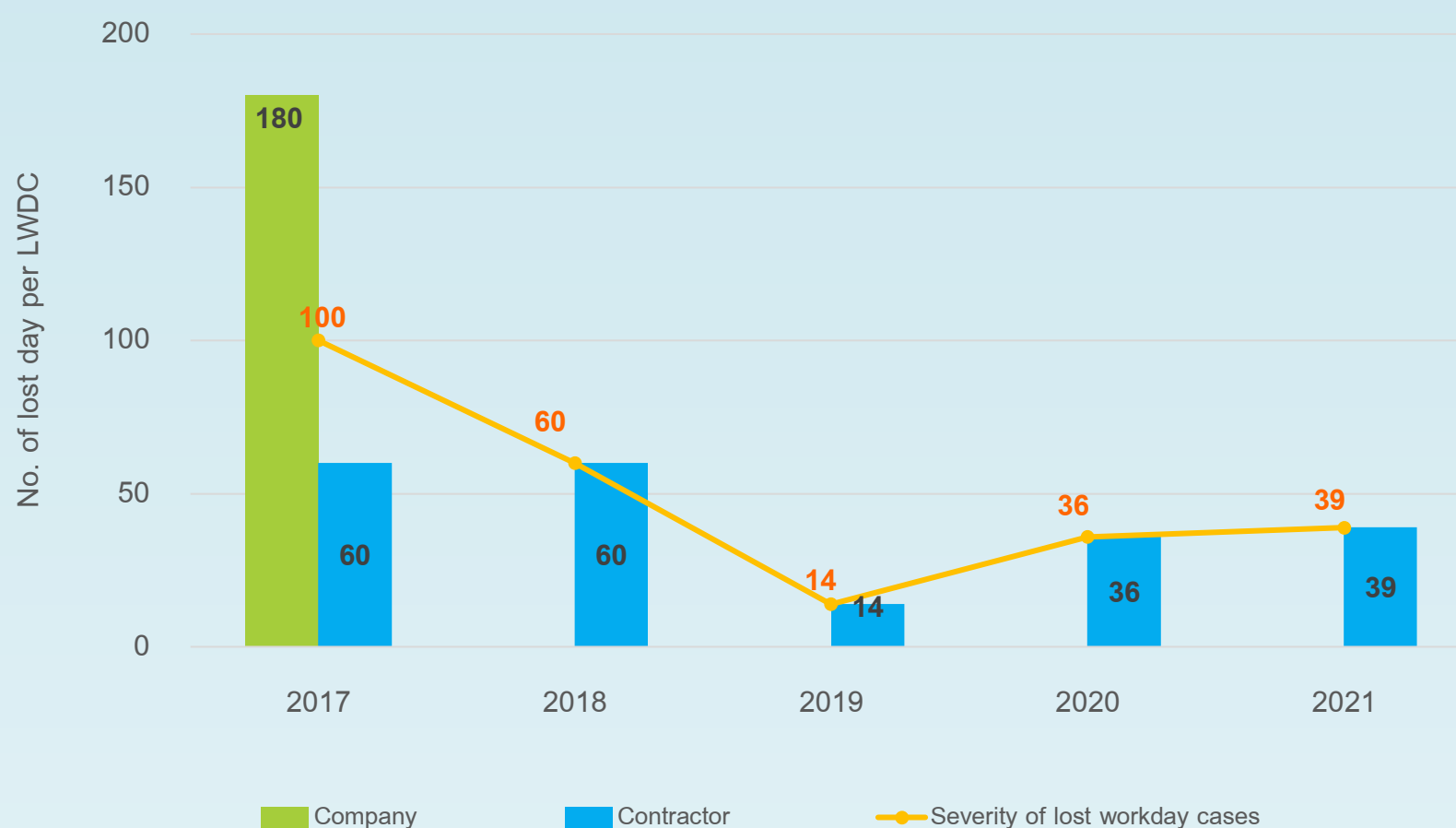


Figure 2: PTTEP Severity of Lost Work Day Cases (2017 - 2021)

The severity of LWDC is an average of the number of lost workdays per number of LWDC. This indicator indicates relative severity of LWDC in each year. The revised number of average days lost per LWDC made in 2020 due to one reported delayed-fatality case occurring in the next calendar year after the incident.

# Total Recordable Injury Rate

Table 4: PTTEP Total Recordable Injury Rate (2020 & 2021)

Total Recordable Injury Rate (TRIR)			
	2020	2021	2021 Relative to 2020 TRIR
Company	0 (0 case)	0.19 (2 cases)	Increase
Contractor	0.47 (10 cases)	0.97 (25 cases)	Increase
Overall	0.32 (10 cases)	0.74 (27 cases)	<span style="color: red;">▲</span> 131% increase

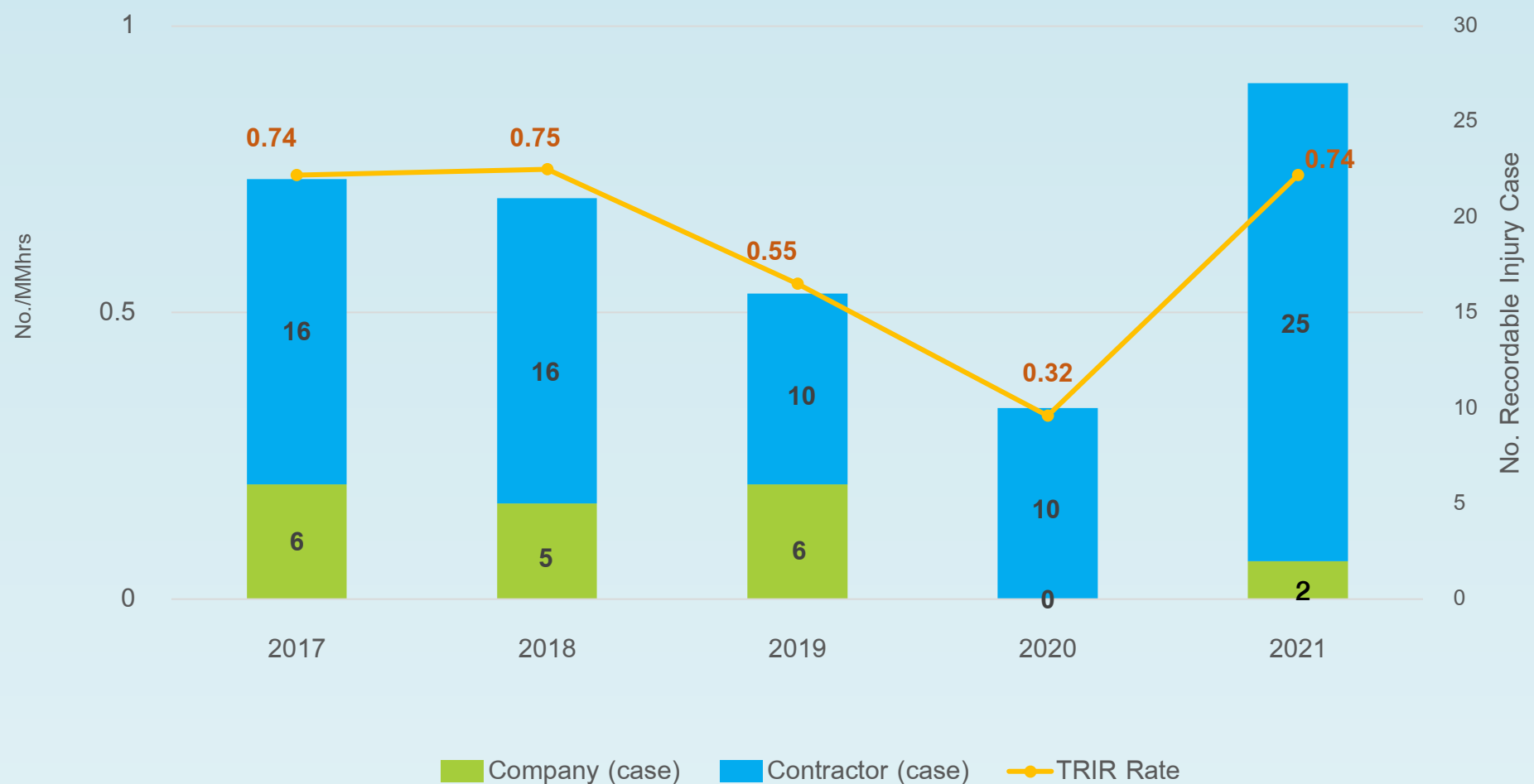


Figure 3: PTTEP Total Recordable Injury Rate (2017- 2021)

The number of TRIR increased by 131%. There were 27 recordable injuries comprising 6 Lost Workday Cases (LWDC), 9 Restricted Workday Cases (RWDC), and 12 Medical Treatment Cases (MTC).

# Severity of Restricted Work Day Cases

Table 5: Severity of Restricted Work Day Cases (2020 & 2021)

Severity of RWDC			
	2020	2021	2021 Relative to 2020 RWDC
Company	0	0	Not change
Contractor	17	9	Decrease
<b>Overall</b>	<b>17</b>	<b>9</b>	<b>▼ 47% decrease</b>



Figure 4: PTTEP Severity of Restricted Work Day Cases

Severity of RWDC decreased by 47% from compared with 2020 and the average restricted workday per case in 2021 was 9 days.

# Loss of Primary

## Containment (Tier 1 & 2)

Table 6: PTTEP Loss of Primary Containment Rate – LOPCR, Tier 1 and 2 (2020 & 2021)

Loss of Primary Containment Rate (LOPCR)			
	2020	2021	2021 Relative to 2020 LOPCR
Tier 1	0.08 (2 cases)	0 (0 case)	Decreased
Tier 2	0.08 (2 cases)	0.11 (3 cases)	Increased
Overall	0.16 (4 cases)	0.11 (3 cases)	<span style="color: green;">▼</span> 31% decreased

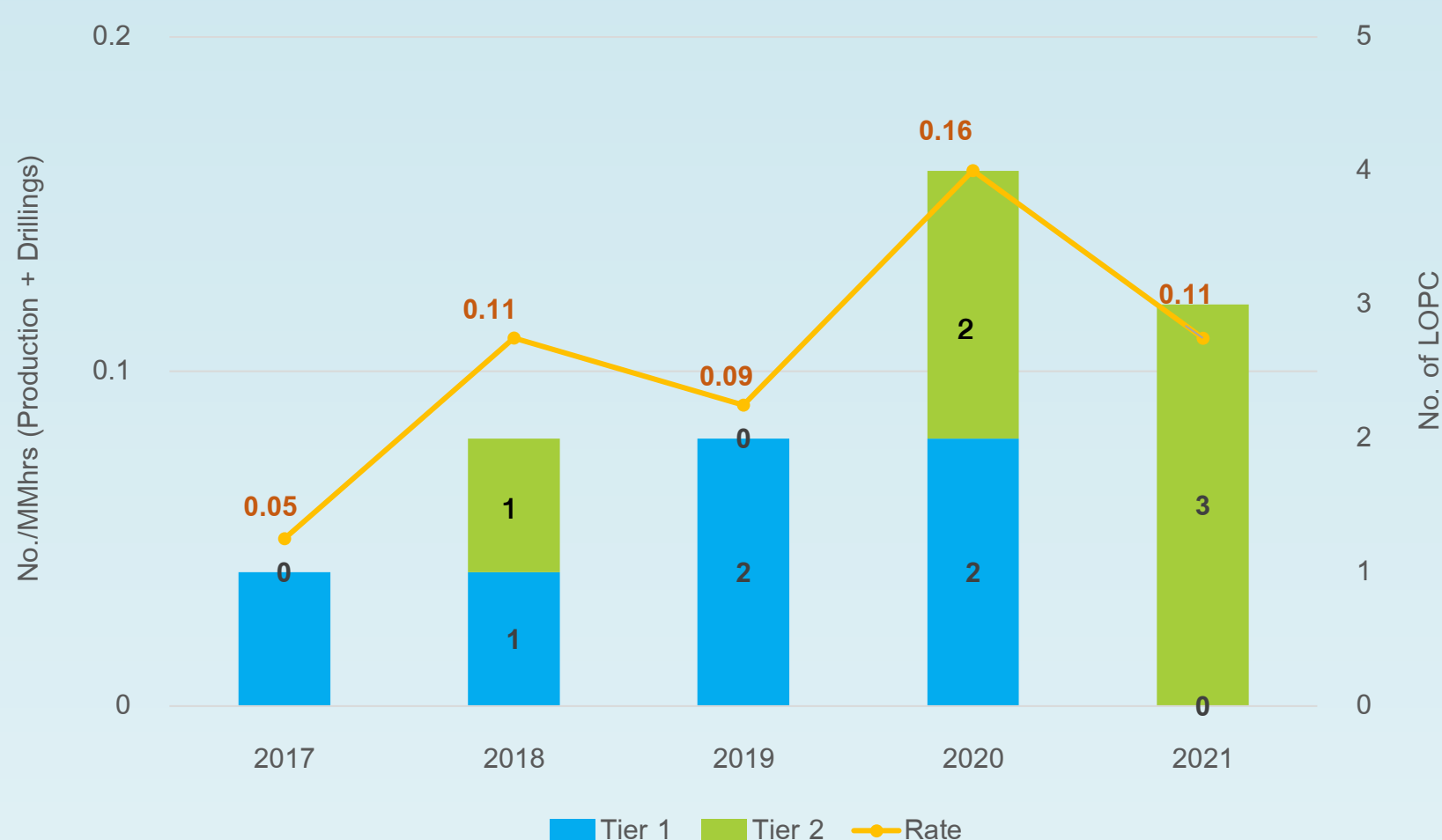


Figure 5: PTTEP Loss of Primary Containment – LOPC, Tier 1 and 2 (2017 - 2021)

The LOPCR is calculated by the number of LOPC Tier 1 and Tier 2 per million manhours of production and drilling activities. In 2021, the LOPCR was 31% decreased with 3 cases of LOPC Tier 2 and zero case of LOPC Tier 1.

# Spill Rate

Table 7: PTTEP Spill Rate (2020 & 2021)

	Spill Rate		
	2020	2021	2021 Relative to 2020 Spill Rate
Overall	0.0835 (12 cases)	0.0201 (8 cases)	▼ 76% decreased



Figure 6: PTTEP Spill Case (2017 - 2021)

The quantity of hydrocarbon and chemical spilled were 0.4643 tonnes in 2021, decreasing from last year (1.7484 tonnes).

# High Potential Incident Rate

Table 8: PTTEP High Potential Incident Rate (2020 & 2021)

High Potential Incident Rate			
	2020	2021	2021 Relative to 2020 HPI
Company	0.20 (2 cases)	0.00 (0 case)	decrease
Contractor	0.38 (8 cases)	0.15 (4 cases)	decrease
Overall	0.32 (10 cases)	0.11 (4 cases)	<span style="color: green;">▼</span> 66% decrease

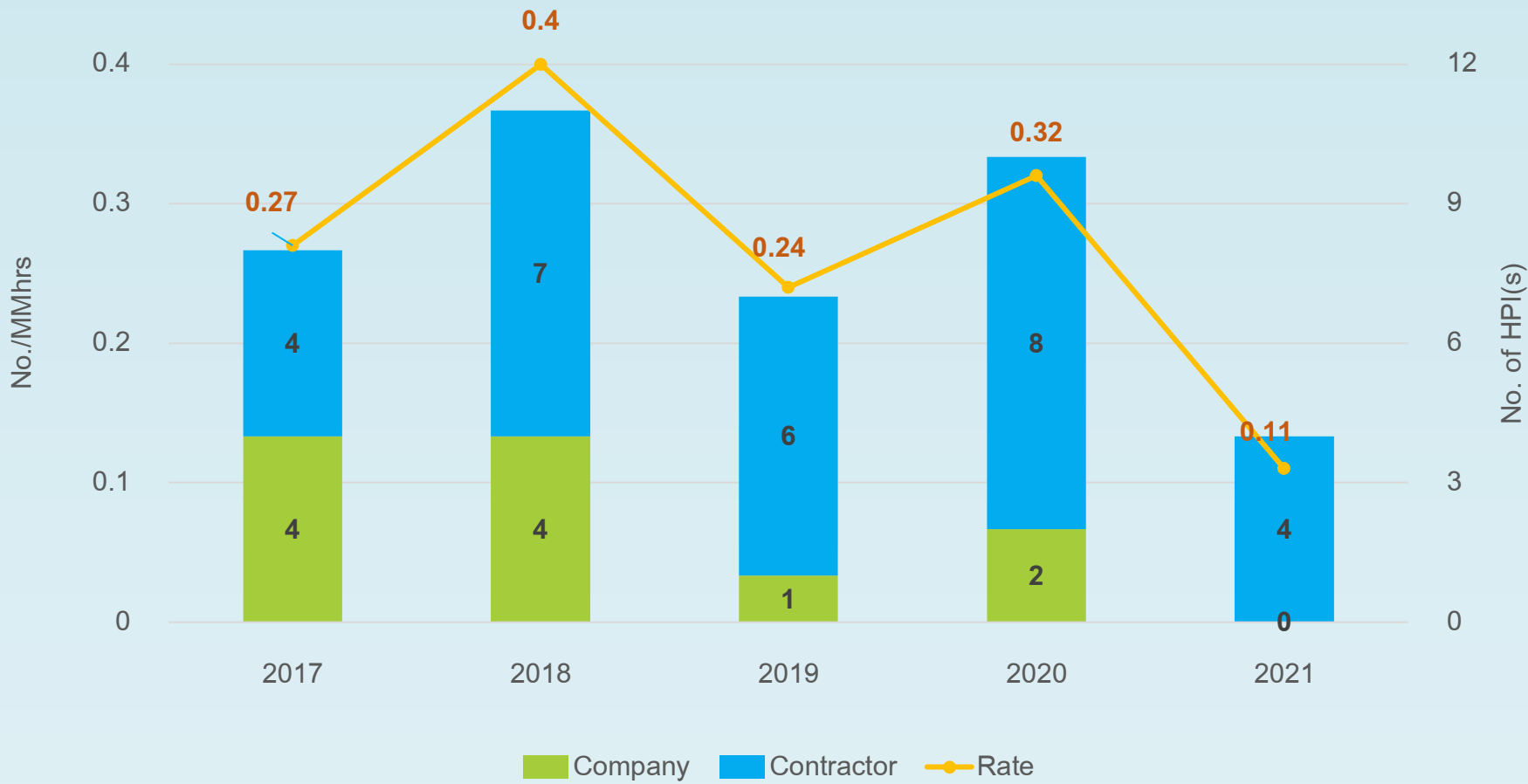


Figure 7: PTTEP High Potential Incident (2017 - 2021)

The number of high potential incident cases decreased from 10 in 2020 to 4 cases in 2021. The high potential incident rate was 66% lower than the previous year.

# SSHE Performance By IOGP Work Functions





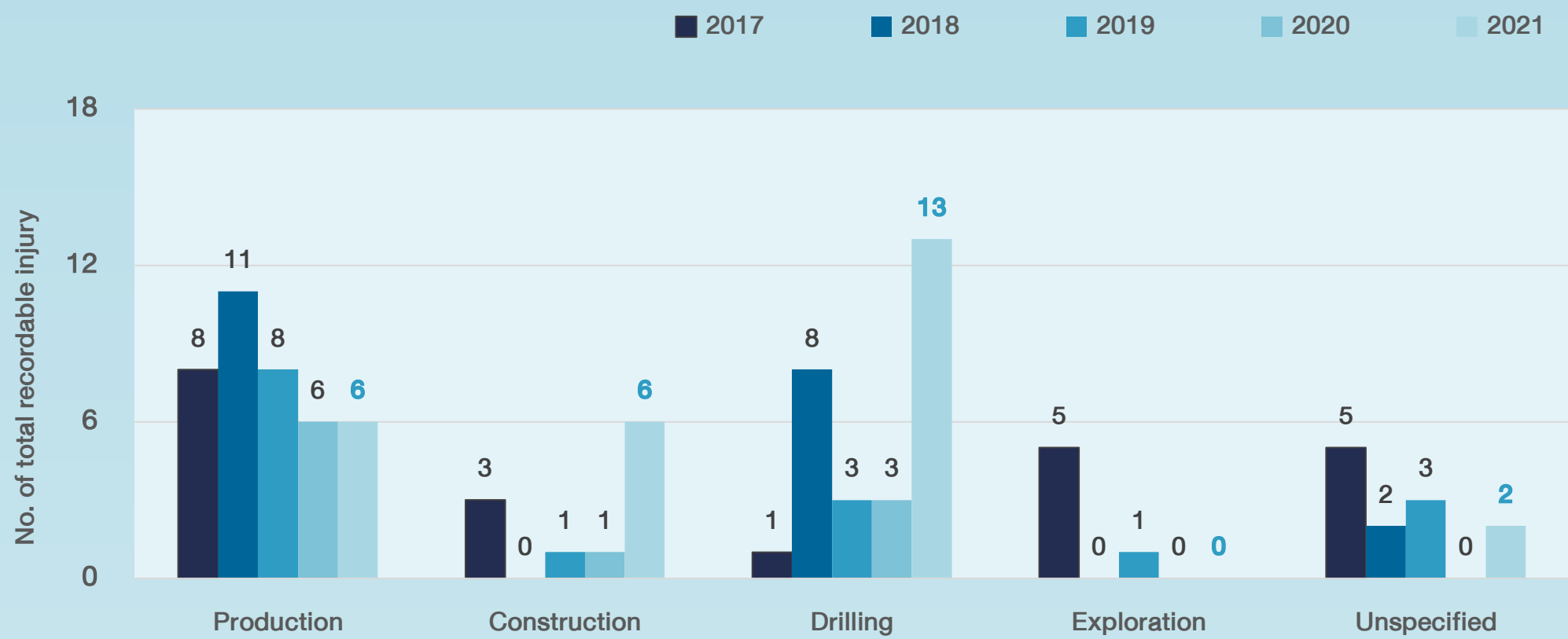
# Work hours and Total Recordable Injury

The 2021 SSHE performance is based on the analysis of 36,651,193 work hours. Individual work hours by activity are illustrated in Table 9 below. Total recordable injuries is the sum of Fatalities (FAT), Lost Work Day Cases (LWDC), Restricted Work Day Cases (RWDC) and Medical Treatment Cases (MTC). Another reported incident is High Potential Incident (HPI).

Table 9 : Work hour by activity vs TRI and HPI (2021)

Work hours	TRI					HPI
	Total cases	FAT	LWDC	RWDC	MTC	
Production 20,665,384 hrs.	6			2	4	
Construction 4,288,906 hrs.	6		1	2	3	2
Drilling 6,432,294 hrs.	13		5	4	4	2
Exploration 762,972 hrs.	0					
Unspecified 4,501,638 hrs.	2			1	1	

Note: Unspecified covers administrative support of one of the function groupings of exploration, drilling, production or construction including other support functions where workhours cannot be specifically assigned to a particular function.



**Figure 8: Comparison of the number of total recordable injury cases (2017 – 2021)**

For the Production and Exploration, the number of recordable injuries remain unchanged. Drilling, Construction, and unspecified activities, on the other hand, increase injured cases, resulting in an increase in the overall figure of the recordable injuries.

# LOPC Statistics

Table 10: Number of loss of primary containment (LOPC) Tier 1 & Tier 2 (2017 – 2021)

		2017	2018	2019	2020	2021
Production	Tier 1	1	1	2	2	0
	Tier 2	0	1	0	2	3
Drilling	Tier 1	0	0	0	0	0
	Tier 2	0	0	0	0	0

LOPC is associated with Production and Drilling activities.

The trend of LOPC has increased for the Production activities in 2020 and then decrease in 2021 without reported LOPC Tier 1. However, there was an increase of LOPC Tier 2 in 2021.

In the past 5 years, no LOPC Tier 1 nor Tier 2 has occurred in conjunction with Drilling activities.

# Spill Statistics

Table 11: Number of spill incidents (2017 – 2021)

	2017	2018	2019	2020	2021
Production	8	8	9	12	8
Construction	1	1	2	0	0
Drilling	3	0	1	0	0
Exploration	0	0	0	0	0
Unspecified	1	0	2	0	0

All spill incidents in 2021 were related to the Production activity.

However, the trend has shifted from 12 cases in 2020 to 8 cases in 2021.

# SSHE Performance

## By

## Locations



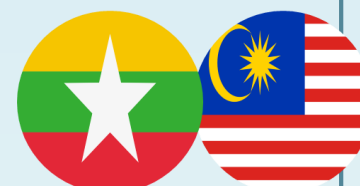
# LTI Cases

Table 12: Number of lost time injury cases (2017 – 2021)

	PTTEP Lost Time Injury Case (LTI)				
	2017	2018	2019	2020	2021
Arthit					1
Greater Bongkot North	1	1			2
Greater Bongkot South					
Suphanburi					
S1		1	2	1	
Sinphuhorm					
PSB Songkhla					
PSB Ranong					
Myanmar	2				1
Algeria					
Indonesia					
Malaysia				3	2
Canada					
Partex					
PTTEP AA					
Bangkok Office					
PCRC					
RASC					
<b>Overall</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>4</b>	<b>6</b>



Domestic Assets:  
Arthit: 1 case  
GBN: 2 cases



International Assets:  
Myanmar: 1 case  
Malaysia: 2 cases

There were 6 LTI cases reported in 2021: 1 each for Arthit and Myanmar asset, and 2 each for Greater Bongkot North and Malaysia asset.

# TRI Cases

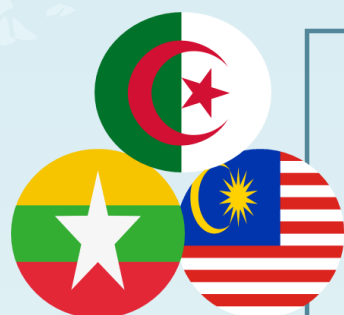
Table 13: Number of total recordable injury cases (2017 – 2021)

	PTTEP Total Recordable Injury Case (TRI)				
	2017	2018	2019	2020	2021
Arthit	1	4	3		4
Greater Bongkot North	3	3	3	5	10
Greater Bongkot South		1			
Suphanburi		1			
S1	2	4	6	1	1
Sinphuhorm	1	4	3		4
PSB Songkhla					
PSB Ranong			2	1	1
Myanmar	9	3	1		1
Algeria					2
Indonesia					
Malaysia				3	7
Canada					
Partex					
PTTEP AA	4	4			
Bangkok Office	3	1	1		1
PCRC					
RASC					
<b>Overall</b>	<b>22</b>	<b>21</b>	<b>16</b>	<b>10</b>	<b>27</b>



**Domestic Assets:**

Arthit: 4 case  
 GBN: 10 cases  
 S1: 1 case  
 Sinphuhorm: 4 cases  
 PSB Ranong: 1 case  
 Bangkok Office: 1 case



**International Assets:**

Myanmar: 1 case  
 Malaysia: 7 cases  
 Algeria: 2 cases



Other (Thailand Marine Operation) 1 case

Regarding the 2021 records, 27 TRI cases can be categorized as follows: Arthit (4), Greater Bongkot North (10), S1 (1), Sinphuhorm (4), PSB Ranong (1), Myanmar (1), Algeria (2), Malaysia (7), and Bangkok Office (1).

# LOPC Cases

Table 14: Number of LOPC Tier 1 and Tier 2 cases (2017 – 2021)

	PTTEP Loss of Primary Containment (LOPC)				
	2017	2018	2019	2020	2021
Arthit					1
Greater Bongkot North	1	1			
Greater Bongkot South		1			
Suphanburi					
S1			1	1	2
Sinphuhorm					
PSB Songkhla					
PSB Ranong					
Myanmar	2				
Algeria					
Indonesia					
Malaysia			1	1, 1	
Canada					
Partex				1	
PTTEP AA					
Bangkok Office					
PCRC					
RASC					
<b>Tier 1</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>0</b>
<b>Tier 2</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>3</b>
<b>Overall</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>4</b>	<b>3</b>



#### Domestic Assets:

Arthit: 1 case

S1: 2 cases



# Spill Cases

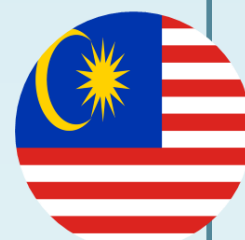
Table 15: Number of spill incidents (2017 – 2021)

	PTTEP Spill Case				
	2017	2018	2019	2020	2021
Arthit	1		1		1
Greater Bongkot North	2	1	3		1
Greater Bongkot South		1			
Suphanburi		1	1	1	
S1	6	5	4	6	4
Sinphuhorm					
PSB Songkhla			2		1
PSB Ranong					
Myanmar	1		1		
Algeria					
Indonesia					
Malaysia				4	1
Canada			2		
Partex				1	
PTTEP AA	3	1			
Bangkok Office					
PCRC					
RASC					
<b>Overall</b>	<b>13</b>	<b>9</b>	<b>14</b>	<b>12</b>	<b>8</b>



#### Domestic Assets:

Arthit: 1 case  
 GBN: 1 case  
 S1: 4 cases  
 PSB: Songkhla 1 case

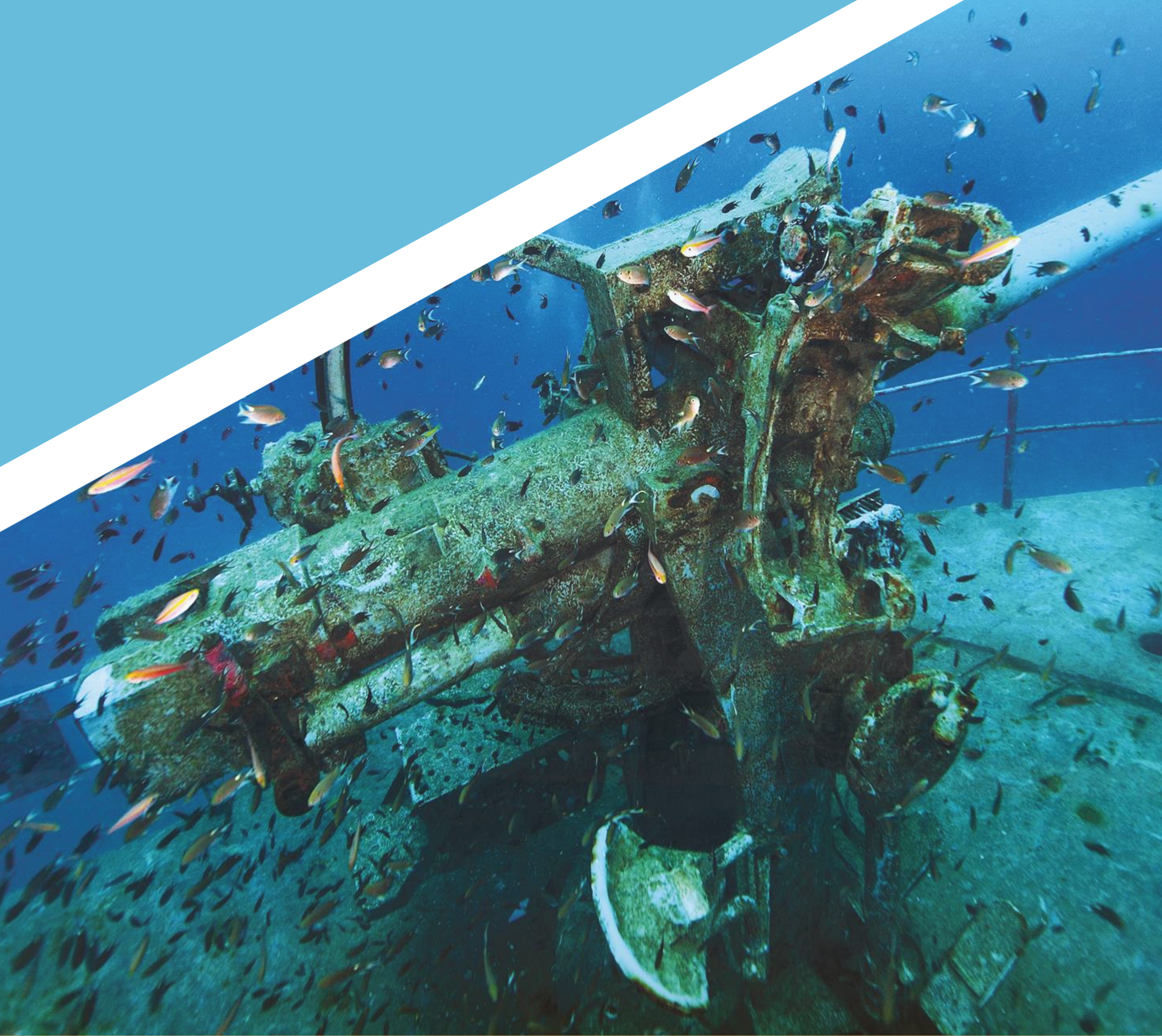


#### International Assets:

Malaysia: 1 case

In 2021, total of 8 spill cases were recorded. There were 4 cases from S1, and 1 case each from Arthit asset, Greater Bongkot North asset, Malaysia asset, and PSB Songkhla.

# Incident Analysis



# Total Recordable Injury

## FAT, LWDC, RWDC, and MTC

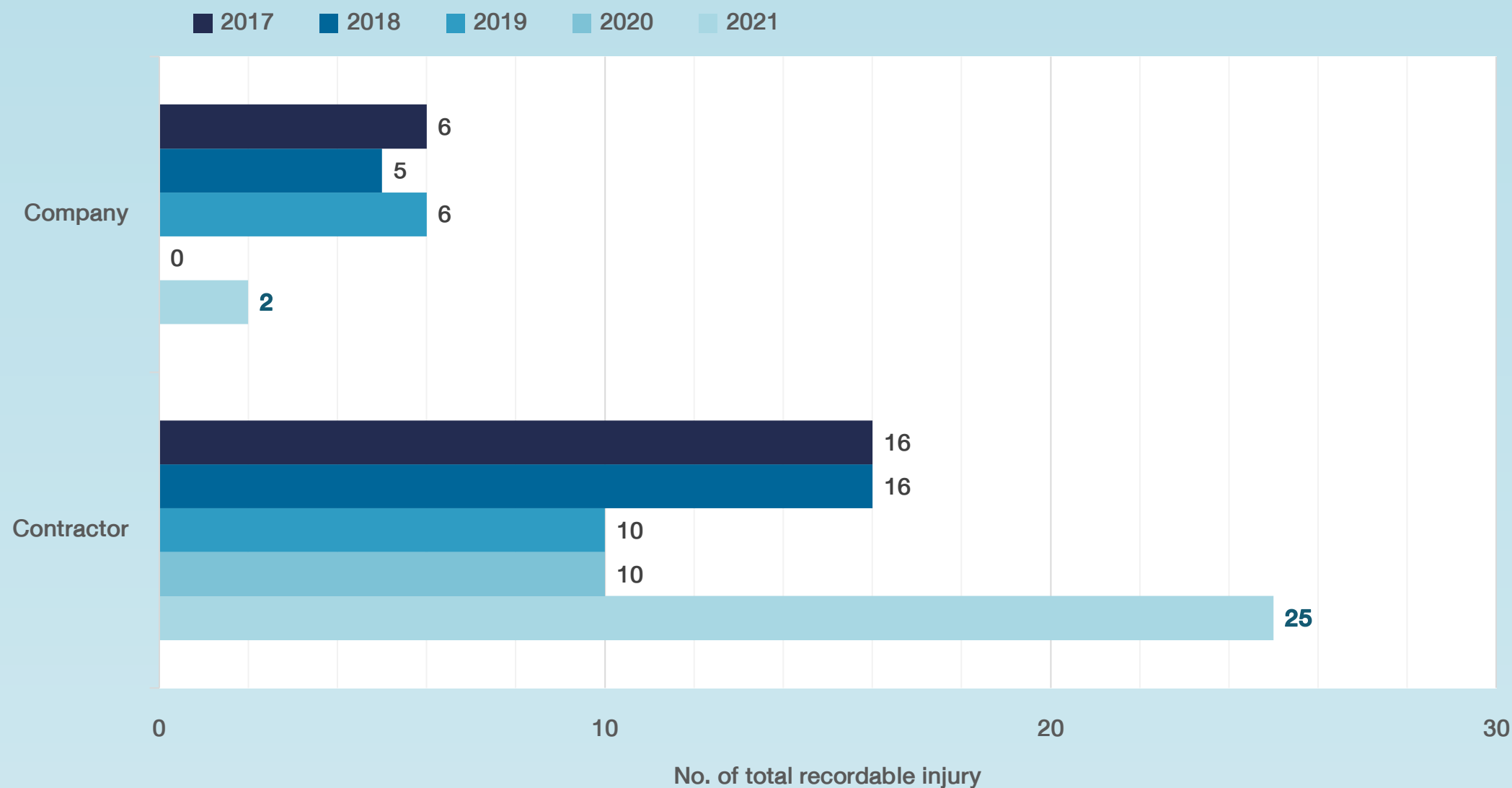


Figure 9: Number of total recordable injury cases (2017 – 2021)

- Regarding the 5-year rolling statistics, the main TRI contributor was contractor (80% of total TRI cases occurred in 2017 – 2021).
- The number of total recordable injury cases of contractor dramatically increased in 2021 (93% of TRI contributor) while the company risen from 0 case to 2 cases in 2021.

# 2021 Total Recordable Injury

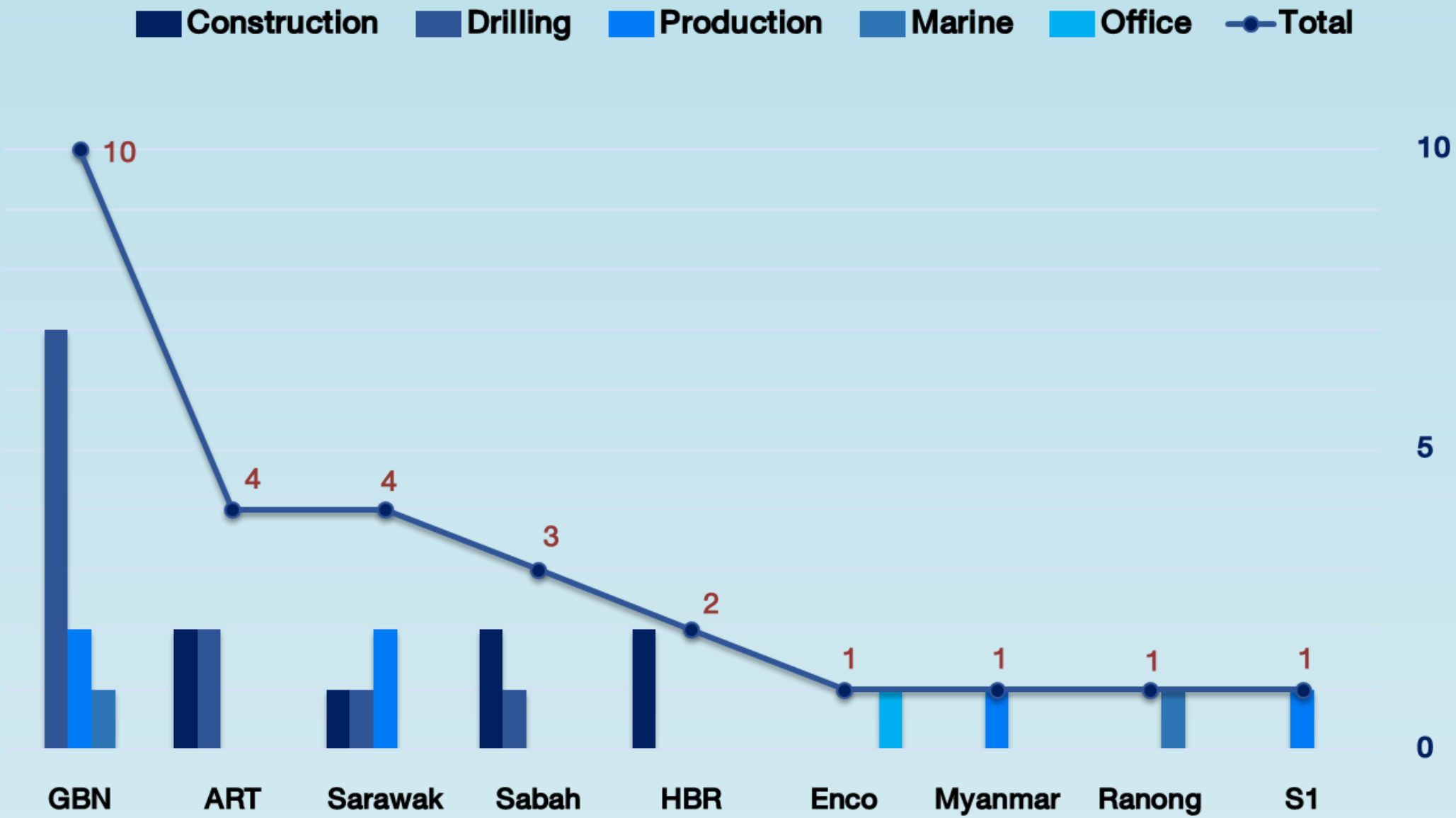
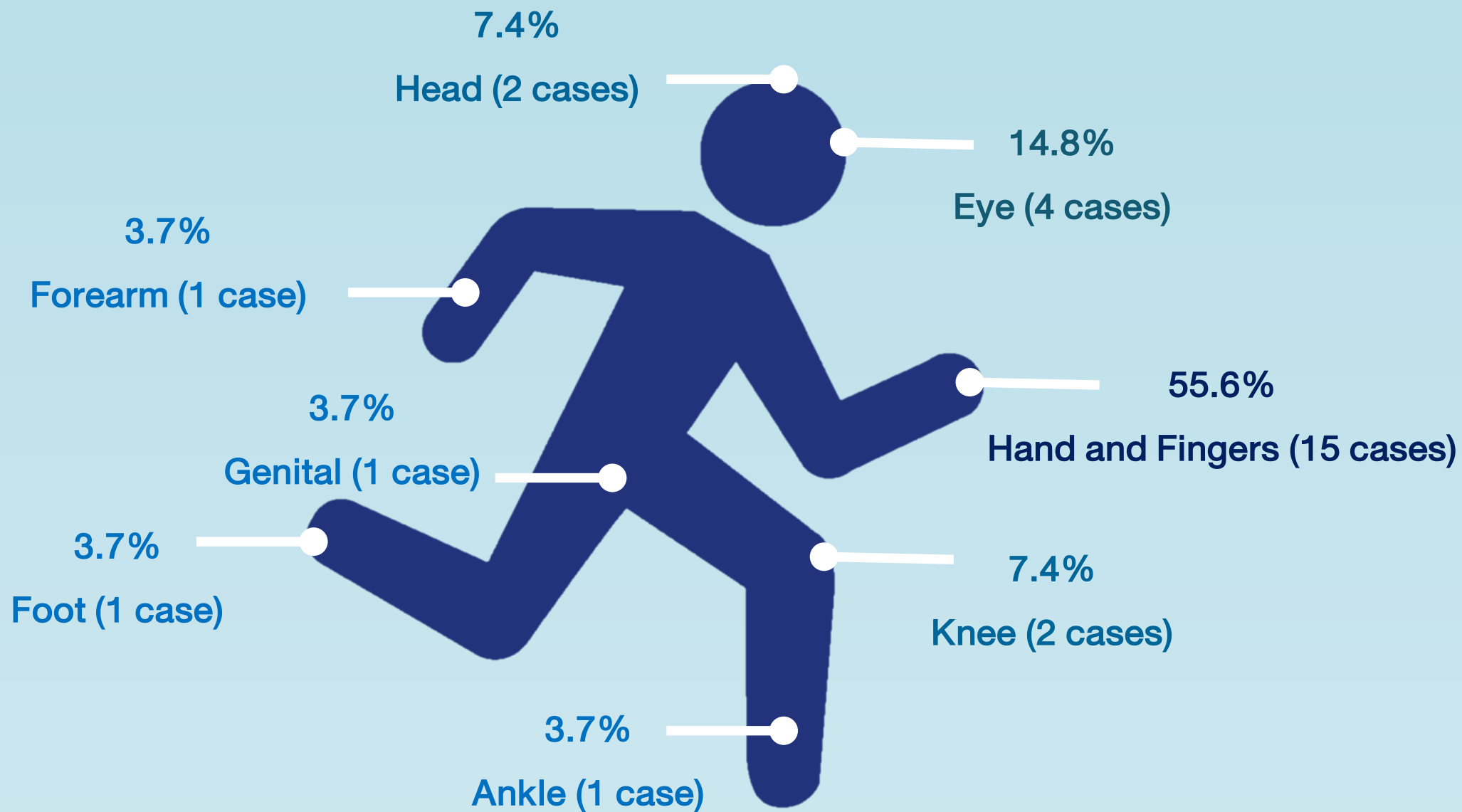


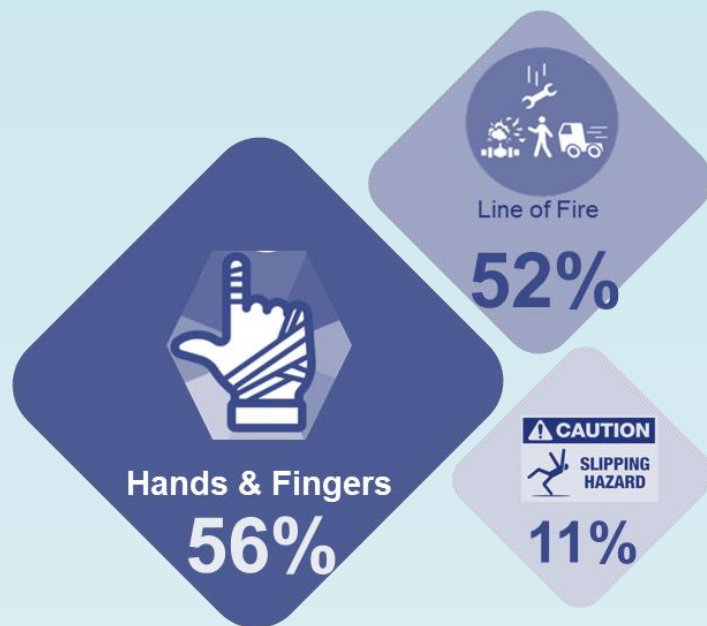
Figure 10: Number of total recordable injury cases by locations and work functions

# 2021 Body Part

Top three body parts injured in 2021



## 2021 Risk Topics



## 2021 Related Life Saving Rules



Line of Fire

# Top Three

# Root Causes of TRI

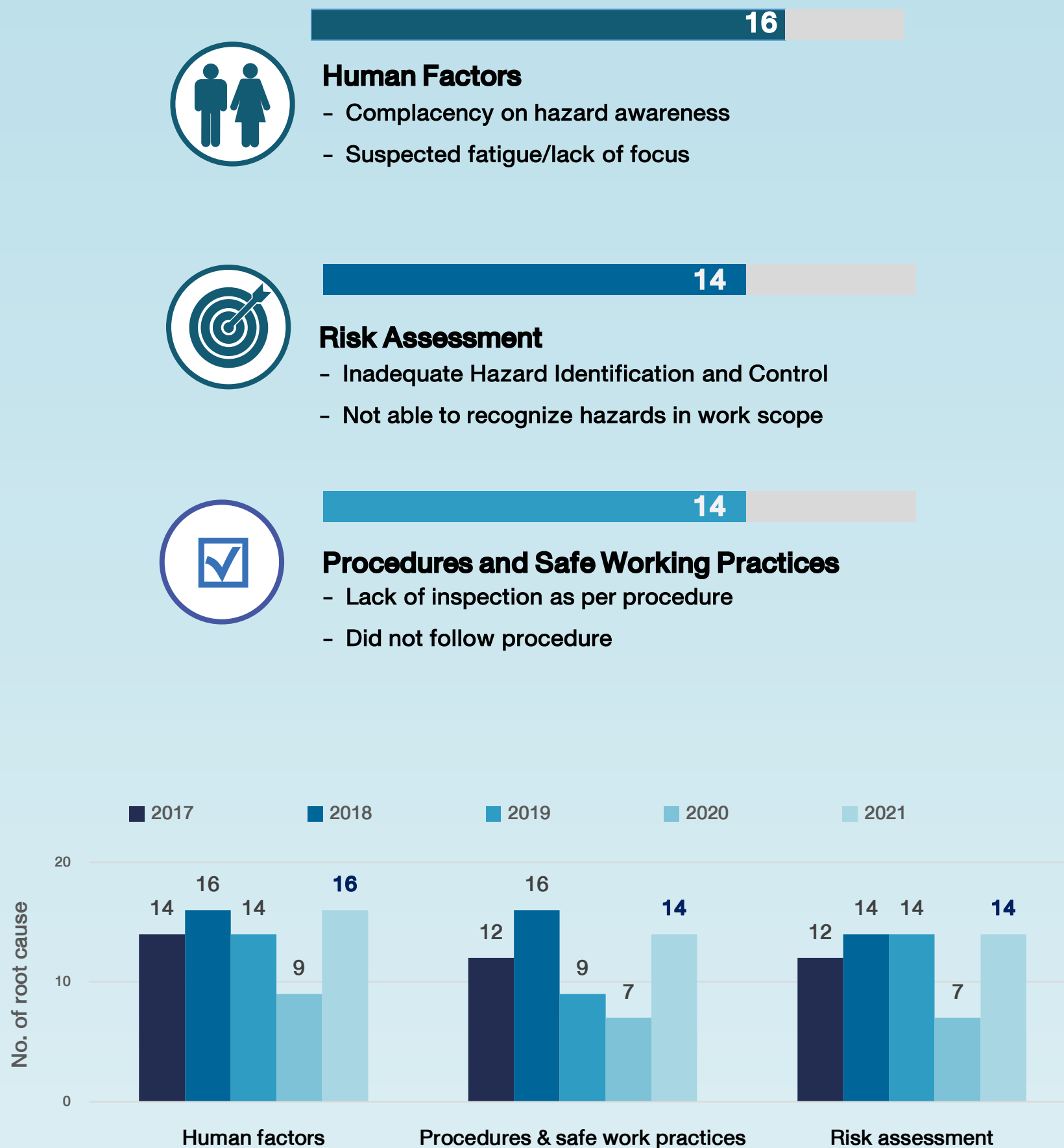


Figure 11: Top 3 root causes of the total recordable injuries (TRI) in 2017 -2021

Based on top three root causes of TRI in 2021 compared with those of 2020, almost all of the root causes were significantly increased. Human factor is the most common identified in 2021.

# 2021 SSHE Activities and Achievement during New Normal Situation



Google Cloud

## DIGITAL CITIZEN BOOTCAMP 3 FINAL PITCH

15 DECEMBER, 14.00 - 17.00 HRS.

5 MINUTE PITCH จาก DIGITAL CREW ทีม 13 ทีม

KM X EP SPIRIT

### Virtual Lunch and Learn : Safety Distance

Activity	Time	Total (mins)
Opening and SSHE Moment	11.00 - 11.05	5
Breaking	11.05 - 11.10	5
Sharing: Safety Distance	11.10 - 11.50	40
Q&A and Sharing Moment	11.50 - 11.55	5
Virtual Ka-hoot	11.55 - 12.05	10
Virtual Closing	12.05 - 12.10	5
Together	12.10 - 12.30	20

Google Cloud

## DIGITAL CITIZEN BOOTCAMP 2 FINAL PITCH

03 NOVEMBER 2021, 14.00-17.00 HRS.

5 MINUTE PITCH จาก DIGITAL CREW ทีม 15 ทีม

### Operational Readiness Review, Legacy of Montara, Good and Bad Safety Management

Learn about the history of Operational Readiness Reviews, common findings and lessons learned. The positive aspects of Montara emergency response are highlighted and how long-term impacts of a major accident last for many years. Find out about what makes good and bad safety management and real examples from all over the world.

David John

Specialist, medical and occupational health

[WATCH NOW](#)

## BODY SHUTDOWN CSH/M

22 December 2021  
Dr. Athitaya Jongpaiboonkit  
Specialist, medical and occupational health

KM X EP SPIRIT

### Virtual Lunch and Learn

Topic: **S1 EIA Database Visualization Project**  
Presenter: Khun Phongthep Borvornyanong  
Date: Tuesday, 30th November 2021  
Time: 11.00 am - 12.30 pm

# 2021 SSHE Activities

## 2021 VIRTUAL SSHE FORUM

March 2021

Under the theme of “Take SSHE to your heart, make it part of your life” which represented our generative SSHE culture, 2021 SSHE Forum was held virtually. The main objective of this forum is to foster the joint commitment for continuous improvement on SSHE performance by sharing best practices, enhancing compliance, and discussing further collaboration.

There were 2,147 participants joined in the event including PTTEP staff, contractors, guests from both Thailand and International Assets. And lastly, please Take SSHE to your heart, make it part of your life. A simple message that you can use in your whole life either at work or at home.





# 2021 SSHE Knowledge Retention

November 2021

SSHE Knowledge Retention Session of Mr. David A. John (Specialist Process Safety and Due Diligence) was set up both on-site and online due to the limitation during COVID-19 situation.

The objective of this activity was to contribute knowledge from our expert to other staff who's interested in this topic. There were approximately 350 people joining this session.

The scope of this session is about Operation Readiness Review (ORR), Legacy of Montara, and Good and Bad Safety Management.

**Expert Knowledge Retention**

**Operational Readiness Review, Legacy of Montara, Good and Bad Safety Management**

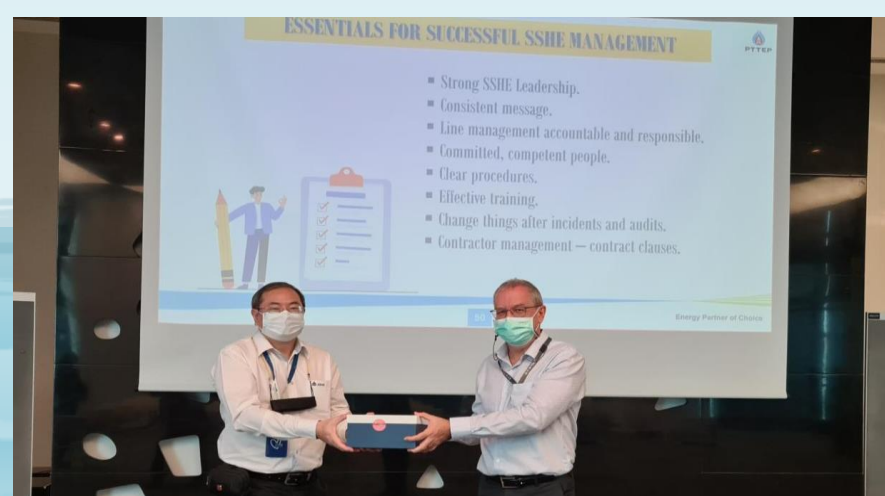
"Learn about the history of Operational Readiness Reviews, common findings and lessons learned. The positive aspects of Montara emergency response are highlighted and how long-term impacts of a major accident last for many years. Find out about what makes good and bad safety management from real examples from all over the world".

**David John**  
Specialist Process Safety and Due Diligence

**WATCH NOW**

KM Communication no. 1/2022

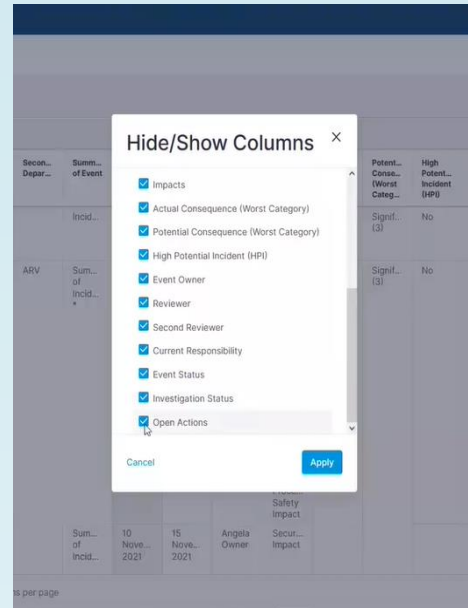
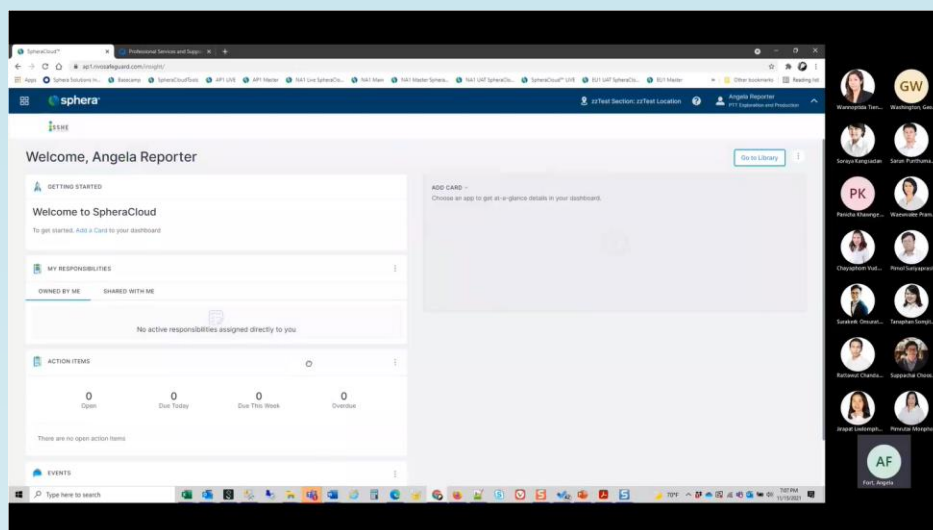
Agenda	Time	Total (mins)
Opening and SSHE Moment	14.00 – 14.05	5
Introduction (Scope)	14.05 – 14.10	5
Operational Readiness Review	14.10 – 14.50	35
Q&A	14.50 – 14.55	5
Legacy of Montara	14.55 – 15.05	10
Q&A	15.05 – 15.10	5
Good and Bad Safety Management	15.10 – 15.20	15
Q&A	15.20 – 15.25	5
Closing	15.25 – 15.30	5
		<b>90</b>



# iSSHE Application Go-live

November 2021

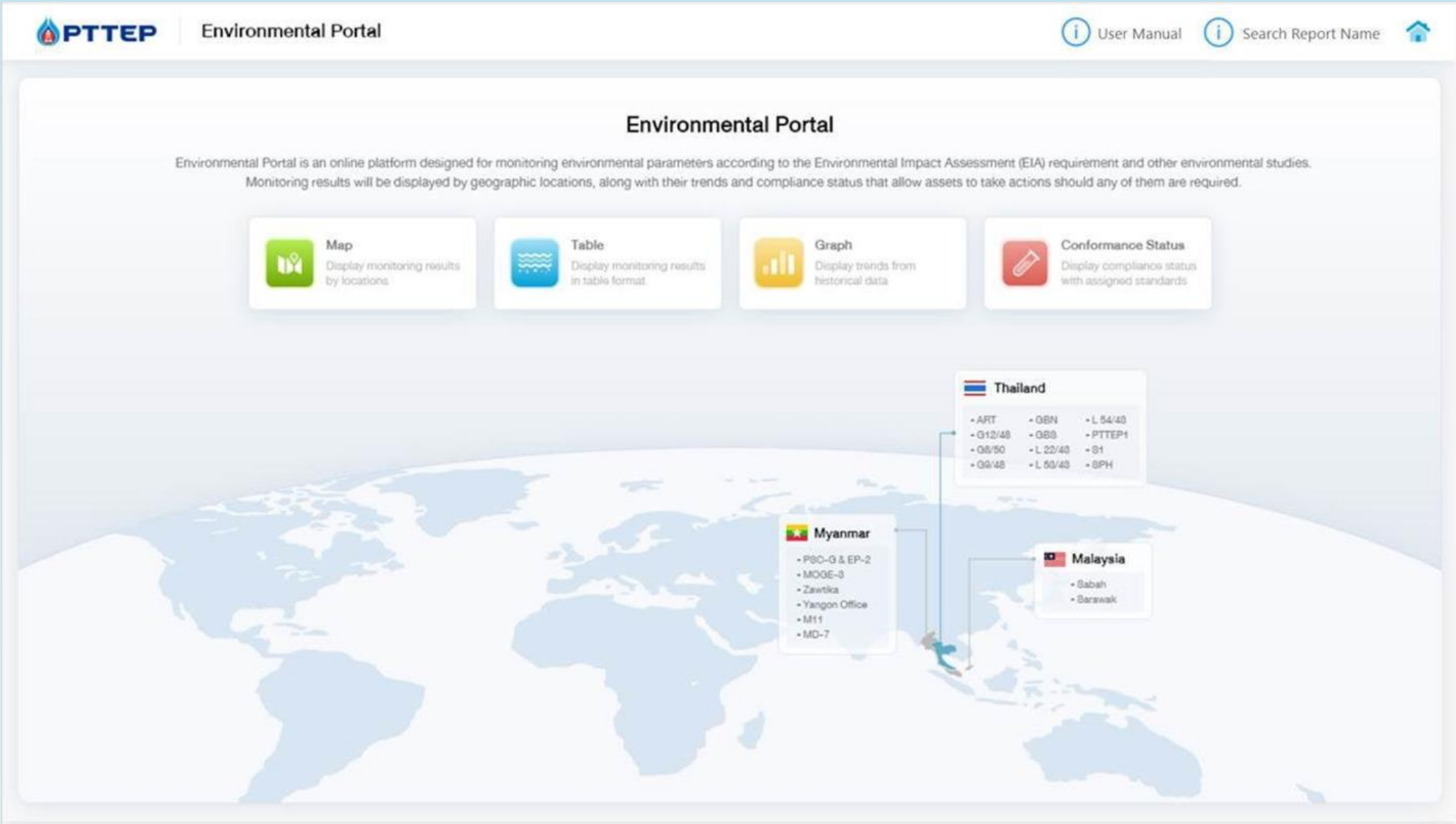
iSSHE, all in one application is the new software developed to set the integrated solution to support SSHE activities and ensure safety, security, health and environment within PTTEP. The solution includes incident management module, audit & inspection module, action module, monitoring module, and analytic dashboard. Two modules (Incident and Action modules) were launched in November 2021. Training sessions were conducted in both Thai and English versions for users to understand and be able to use this application.



# Environmental Portal

December 2021

Environmental Portal, a web-based application for gathering and visualizing environmental monitoring data i.e. quality/characteristics of surface, sea and groundwater, soil, sediment, ambient air, etc. across PTTEP operating assets is ready for use since December 2021.



# 2021 SSHE Online Training

Most SSHE Training Courses were set up as an online class instead of on-site class in order to perform social distance due to COVID-19 situation.

**SSHE TRAINING SHOWTIME**  
JANUARY 2021

<b>7 JAN</b> S-SSHE1105 RISK ASSESSMENT WITH PHU REACTION	<b>7-9, 28-30 JAN</b> S-SSHE2203 WORKING AT HEIGHTS, RESCUING & WORKING IN HOT RETRIEVERS	<b>11 JAN</b> S-SSHE1108 SAFE CONTRACT MANAGEMENT TRAINING & WORKSHOP (PHU REACTOR)
<b>13, 15, 18, 20 JAN</b> S-SSHE0001 RISK ASSESSMENT WITH PHU REACTION	<b>14 JAN</b> S-SSHE1107b RISK ASSESSMENT WITH PHU REACTION	<b>16-17, 30-31 JAN</b> S-SSHE0010 RISK ASSESSMENT WITH PHU REACTION

**SSHE TRAINING SHOWTIME**  
FEBRUARY 2021

<b>3 FEB</b> S-SSHE1107b RISK ASSESSMENT WITH PHU REACTION	<b>3 FEB</b> S-SSHE1116 RISK ASSESSMENT WITH PHU REACTION	<b>4 FEB</b> S-SSHE0001 RISK ASSESSMENT WITH PHU REACTION
<b>5 FEB</b> S-SSHE1105 RISK ASSESSMENT WITH PHU REACTION	<b>8-9 FEB</b> S-SSHE2218 RISK ASSESSMENT WITH PHU REACTION	<b>8-9 FEB</b> S-SSHE2219 RISK ASSESSMENT WITH PHU REACTION

**SSHE TRAINING SHOWTIME**  
MARCH 2021

<b>4 MAR</b> S-SSHE0001 RISK ASSESSMENT WITH PHU REACTION	<b>10-11 MAR</b> S-SSHE1116a RISK ASSESSMENT WITH PHU REACTION	<b>12 MAR</b> S-SSHE0001 RISK ASSESSMENT WITH PHU REACTION
<b>12 MAR</b> S-SSHE1105 RISK ASSESSMENT WITH PHU REACTION	<b>12 MAR</b> S-SSHE1107b RISK ASSESSMENT WITH PHU REACTION	<b>15 MAR</b> S-SSHE1119 RISK ASSESSMENT WITH PHU REACTION

**SSHE TRAINING SHOWTIME**  
APRIL 2021

<b>1-2 APR</b> S-SSHE1103 RISK ASSESSMENT WITH PHU REACTION	<b>2 APR</b> S-SSHE1107b RISK ASSESSMENT WITH PHU REACTION	<b>7 APR</b> S-SSHE1117b RISK ASSESSMENT WITH PHU REACTION
<b>8 APR</b> S-SSHE0001 RISK ASSESSMENT WITH PHU REACTION	<b>20 APR</b> S-SSHE0023 RISK ASSESSMENT WITH PHU REACTION	<b>21 APR</b> S-SSHE0022 RISK ASSESSMENT WITH PHU REACTION

**SSHE TRAINING SHOWTIME**  
MAY 2021

<b>5 MAY</b> S-SSHE1130e RISK ASSESSMENT WITH PHU REACTION	<b>6 MAY</b> S-SSHE0001 RISK ASSESSMENT WITH PHU REACTION	<b>6 MAY</b> S-SSHE2217 RISK ASSESSMENT WITH PHU REACTION
<b>7 MAY</b> S-SSHE1105 RISK ASSESSMENT WITH PHU REACTION	<b>10 MAY</b> S-SSHE1108 RISK ASSESSMENT WITH PHU REACTION	<b>11 MAY</b> S-SSHE1119 RISK ASSESSMENT WITH PHU REACTION

**SSHE TRAINING SHOWTIME**  
JUNE 2021

<b>4 JUN</b> S-SSHE1128a RISK ASSESSMENT WITH PHU REACTION	<b>7 JUN</b> S-SSHE1108 RISK ASSESSMENT WITH PHU REACTION	<b>9 JUN</b> S-SSHE0024a RISK ASSESSMENT WITH PHU REACTION
<b>10 JUN</b> S-SSHE0001 RISK ASSESSMENT WITH PHU REACTION	<b>10-11 JUN</b> S-SSHE2206a RISK ASSESSMENT WITH PHU REACTION	<b>15 JUN</b> S-SSHE1110 RISK ASSESSMENT WITH PHU REACTION

**SSHE TRAINING SHOWTIME**  
JULY 2021

<b>6 JUL</b> S-SSHE1119 RISK ASSESSMENT WITH PHU REACTION	<b>5-6 JUL</b> S-SSHE2218 RISK ASSESSMENT WITH PHU REACTION	<b>5-6 JUL</b> S-SSHE2219 RISK ASSESSMENT WITH PHU REACTION
<b>7 JUL</b> S-SSHE2218b RISK ASSESSMENT WITH PHU REACTION	<b>7 JUL</b> S-SSHE2219a RISK ASSESSMENT WITH PHU REACTION	<b>8 JUL</b> S-SSHE2234 RISK ASSESSMENT WITH PHU REACTION

**SSHE TRAINING SHOWTIME**  
AUGUST 2021

<b>3 AUG</b> S-SSHE1109 RISK ASSESSMENT WITH PHU REACTION	<b>5 AUG</b> S-SSHE0001 RISK ASSESSMENT WITH PHU REACTION	<b>5-6 AUG</b> S-SSHE1103 RISK ASSESSMENT WITH PHU REACTION
<b>6 AUG</b> S-SSHE1105 RISK ASSESSMENT WITH PHU REACTION	<b>6 AUG</b> S-SSHE1108 RISK ASSESSMENT WITH PHU REACTION	<b>9-10 AUG</b> S-SSHE1121 RISK ASSESSMENT WITH PHU REACTION

**SSHE TRAINING SHOWTIME**  
SEPTEMBER 2021

<b>1-2 SEP</b> S-SSHE2206a RISK ASSESSMENT WITH PHU REACTION	<b>1 SEP</b> S-SSHE1119 RISK ASSESSMENT WITH PHU REACTION	<b>3 SEP</b> S-SSHE1107b RISK ASSESSMENT WITH PHU REACTION
<b>7 SEP</b> S-SSHE1119 RISK ASSESSMENT WITH PHU REACTION	<b>9 SEP</b> S-SSHE0001 RISK ASSESSMENT WITH PHU REACTION	<b>10 SEP</b> S-SSHE1108 RISK ASSESSMENT WITH PHU REACTION

**SSHE TRAINING SHOWTIME**  
OCTOBER 2021

<b>4 OCT</b> S-SSHE2221 RISK ASSESSMENT WITH PHU REACTION	<b>5 OCT</b> S-SSHE1103 RISK ASSESSMENT WITH PHU REACTION	<b>7 OCT</b> S-SSHE0001 RISK ASSESSMENT WITH PHU REACTION
<b>7-8 OCT</b> S-SSHE1108 RISK ASSESSMENT WITH PHU REACTION	<b>8 OCT</b> S-SSHE1105 RISK ASSESSMENT WITH PHU REACTION	<b>14 OCT</b> S-SSHE1131b RISK ASSESSMENT WITH PHU REACTION

**SSHE TRAINING SHOWTIME**  
NOVEMBER 2021

<b>2 NOV</b> S-SSHE1130e RISK ASSESSMENT WITH PHU REACTION	<b>2 NOV</b> S-SSHE1130b RISK ASSESSMENT WITH PHU REACTION	<b>4 NOV</b> S-SSHE0001 RISK ASSESSMENT WITH PHU REACTION
<b>5 NOV</b> S-SSHE1108 RISK ASSESSMENT WITH PHU REACTION	<b>5 NOV</b> S-SSHE117b RISK ASSESSMENT WITH PHU REACTION	<b>9 NOV</b> S-SSHE1119 RISK ASSESSMENT WITH PHU REACTION

**SSHE TRAINING SHOWTIME**  
DECEMBER 2021

<b>3 DEC</b> S-SSHE117b RISK ASSESSMENT WITH PHU REACTION	<b>7 DEC</b> S-SSHE0001 RISK ASSESSMENT WITH PHU REACTION	<b>9 DEC</b> S-SSHE0001 RISK ASSESSMENT WITH PHU REACTION
<b>13 DEC</b> S-SSHE2221 RISK ASSESSMENT WITH PHU REACTION	<b>14 DEC</b> S-SSHE2221 RISK ASSESSMENT WITH PHU REACTION	<b>16 DEC</b> S-SSHE1130a RISK ASSESSMENT WITH PHU REACTION

# 2021 SSHE Achievement



**Project :** Online Barrier  
**Prize :** Popular Award  
**Event :** Digital Citizen Bootcamp  
**Date:** November 2021



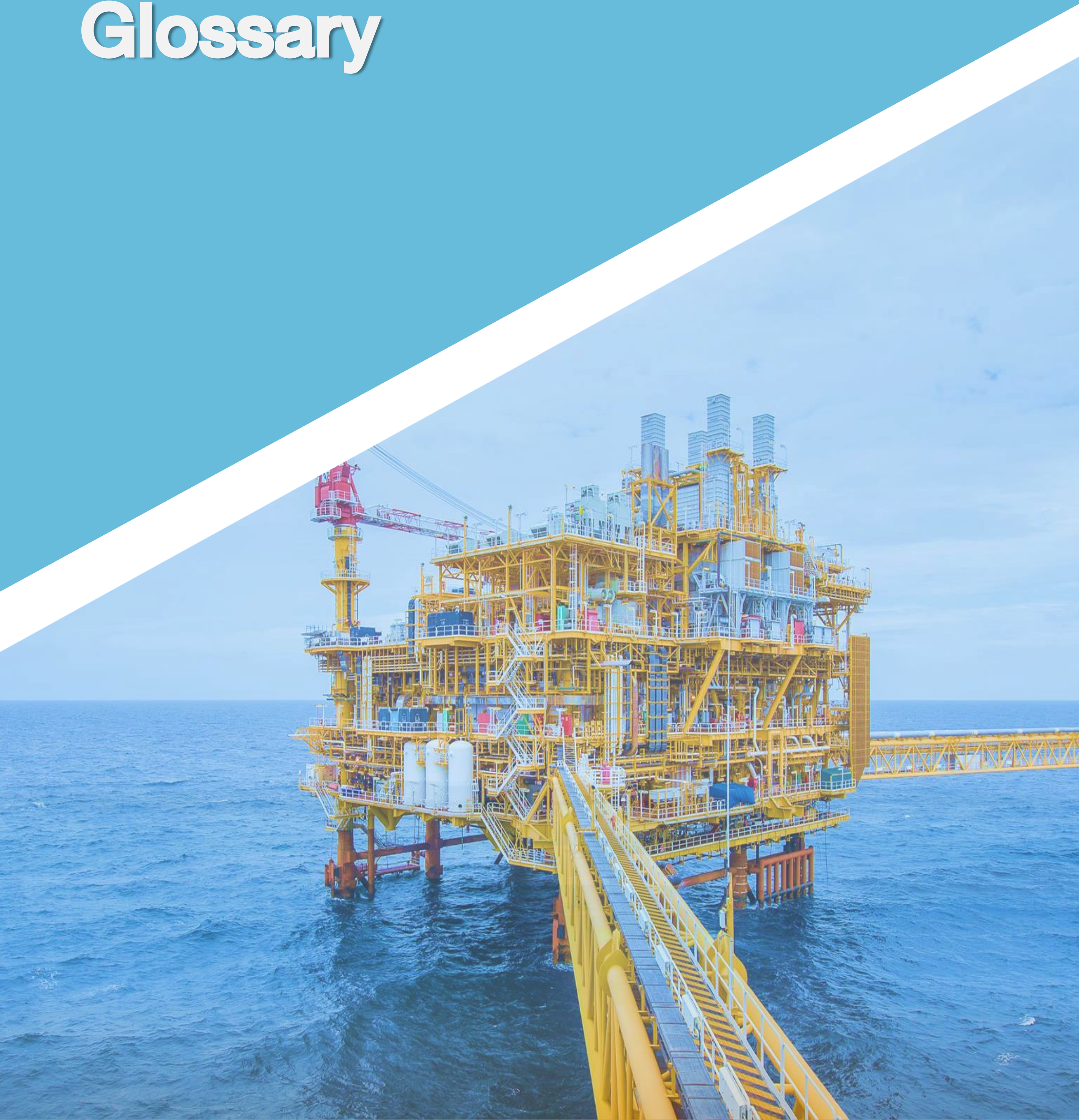
**Project :** iSSHE  
**Prize :** Third Prize and Popular Award  
**Event :** Digital Citizen Bootcamp  
**Date:** December 2021



**SSHE Community of Practice (CoP)**  
**Prize :** Good in Cooperation  
**Event :** PTT Group KM Award 2021



# Glossary



<b>Terminology</b>	<b>Description</b>
<b>Fatality (FAT)</b>	<p>In some cases, a delayed fatality occurs in the next calendar year after the incident.</p> <p>For example, if the above fire occurred on December 21, 2007, the second death from it might occur in January 2008. All fatalities from an incident are included in the report for the year of that incident. In the above case, the fatality in 2008 is reported with the 2007 data</p>
<b>First Aid Case (FAC)</b>	<p>Cases that are not sufficiently serious to be reported as Medical Treatment Case (MTC) or more serious cases but nevertheless require minor first aid treatment, first aid cases are not recordable incidents (OSHA). If the treatment of the resultant injury or illness is limited to one or more of the 14 specific treatments.</p>
<b>High Potential Incident (HPI)</b>	<p>Any near miss or incident having a potential severity level 4 Serious or level 5 Critical on the PTTEP Risk Assessment Matrix. In every case potential severity will be higher or equal to actual severity.</p> <p>Example of HPI:</p> <ul style="list-style-type: none"> <li>■ Explosion.</li> <li>■ Fire (whether controlled quickly or not) in the process area and platform installations/marine vessels.</li> <li>■ Action or Emergency Shutdown (ESD) caused by a confirmed gas release or fire detection.</li> <li>■ Incident where a falling object could have caused fatality.</li> <li>■ Vehicle incident below or above legal speed limit</li> <li>■ Etc.</li> </ul>

Terminology	Description
<b>Loss of Primary Containment (LOPC)</b>	<p>An unplanned or uncontrollable release of any material from containment, including non-toxic and non-flammable materials (e.g. steam, hot condensate, nitrogen, compressed CO2 or compressed air). Primary containment refers to pipes, vessels, tanks, etc.</p> <p>(Refer to Loss of Primary Containment (LOPC) Reporting and Reduction Guideline, 12147-GDL-SSHE-403/00/01) for details of Tier 1, Tier 2, Tier 3 and Tier 4.</p>
<b>Lost Time Injury (LTI)</b>	<p>A fatality or lost work day case injury. The number of LTIs is the sum of fatalities and lost work day cases.</p>
<b>Lost Work Day Case (LWDC)</b>	<p>Any work-related injury or illness other than a fatal injury or illness, which results in a person being unfit to any work on any day after the day of occurrence of the occupational injury or illness. “Any day” includes rest days, weekend days, leave days, public holidays or day after ceasing employment. The number of LWDC is the sum of fatalities and lost work day cases. LWDC shall be followed up not over than 365 days.</p>
<b>Major Accident Event (MAE)</b>	<p>Any incident that results in multiple fatalities or equivalent damage, production loss, environmental impact as per the PTTEP risk matrix.</p>



Terminology	Description
<p style="text-align: center;"><b>Medical Treatment Case (MTC)</b></p>	<p>Cases that occupational injured or illness person requires treatment from a professional physician or qualified paramedic and more severe than requiring simple first aid treatment but not severe enough to be reported as RWDC/LWDC for example, treatment of infection, treatment of 2nd or 3rd degree burns, application of sutures, application of butterfly adhesive bandage, removal of foreign body from wounds, fracture/ broken bones or teeth, dermatitis.</p> <p>Medical Treatment does not include:</p> <ul style="list-style-type: none"> <li>■ The conduct of diagnostic Procedure, such as x-rays and blood tests including the administration of prescription medications used solely for diagnosis purposes (e.g. eye drops to dilate pupils).</li> <li>■ Visits to a physician or other licensed Health care professional solely for observation or counselling. The following may not involve any treatment but for purposes of severity classification, will reported as Medical Treatment.</li> <li>■ Any loss of consciousness.</li> <li>■ Significant injury or illness diagnosed by a physician or other licensed Health care professional for which no treatment is given or recommended at the time of diagnosis. For example, punctured ear drums, fractured ribs or toes, byssinosis and some types of occupational cancer.</li> <li>■ Needles stick injuries and cuts from sharp objects that are contaminated with another person's blood or other potentially infectious material.</li> <li>■ Occupational hearing loss.</li> </ul>

<b>Terminology</b>	<b>Description</b>
<b>Process Safety Event (PSE)</b>	An unplanned or uncontrolled release of any material including non-toxic and non-flammable materials (e.g. steam, hot water, nitrogen, compressed CO2 or compressed air) from a process, or an undesired event or condition, that under slightly different circumstances, could have resulted in a release of material.
<b>Restricted Work Day Case (RWDC)</b>	Any work-related injury or illness other than a fatality or lost work day case which results in a person being unfit for full performance of the regular job on any day after the occupational injury or illness. RWDC when IP can do minimum 50% of their Job Description. Where alternative restricted work cannot be assigned or performed, the incident shall be recorded as a LWDC. RWDC when IP can do minimum 50% of their Job Description
<b>Spill</b>	Spill is defined as any loss of containment that reached the environment. The spill volume reported should reflect the volume of material that reached the environment only. Reported volume reaching the environment is irrespective of the quantity recovered. Spills of produced water or process wastewater are excluded. Loss of containment resulting from acts of sabotage shall be reported. Loss as a result of “acts of terrorism”/ attacks on infrastructure should not be reported. Intentional discharges of drill cutting (only offshore operations exceed 12 nautical miles) during drilling activities are excluded.
<b>Total Recordable Injury (TRI)</b>	The number of recordable incidents which are summary of Fatalities (FAT) + Lost Workday Cases (LWDC) + Restricted Workday Cases (RWDC) + Medical Treatment Cases (MTC).

Terminology	Description
HPI Frequency Rate (HPIR)	$\frac{\text{Number of HPI} \times 10^6}{\text{Manhours Worked}}$
Loss of Primary Containment Frequency Rate (LOPCR)	$\frac{\text{Number of total Tier 1 \& Tier 2} \times 10^6}{\text{Production + Drilling manhours}}$
LTI Frequency Rate (LTIF)	$\frac{\text{Number of (FAT + LWDC)} \times 10^6}{\text{Manhours Worked}}$
Spill rate	$\frac{\text{Volume of Spill reported (tonnes)} \times 10^6}{\text{Tonnes Production}}$
TRI Frequency Rate (TRIR)	$\frac{(\text{FAT + LWDC + RWDC + MTC}) \times 10^6}{\text{Manhours Worked}}$

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## Source of information

SSHE Intranet <https://pttep.sharepoint.com/teams/SSHE/>

iSSHE Application <https://pttep.hsm.spheracloud.net/insight?c=138509D2203646919E31>

SSHE Incident Management System <http://hq-intranet3.pttep.com/IMS5/home/SSHE>

Performance Statistics Dashboard <http://hq-intranet4.pttep.com/PTTEP-SSHEPSD/>

2021 SD Report <https://www.pttep.com/en/Sustainabledevelopment/Disclosure/Sustainabilityreport.aspx>

Process Safety Monthly Reports

Weekly SSHE Performance Statistics

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