



SAFETY, HEALTH & ENVIRONMENT

MAGAZINE

SAFETY

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- Indonesia's Bold Step Toward a Safety-Oriented Nation
- OSHA Must Be Applied With The Initial Investment

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- CIOSSH 2025 Successfully Drives Future Safety Innovation

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OSH Culture and Global Challenges

Welcome to the latest edition of our magazine with the theme "Indonesia's OHS Culture and Global Challenges." Occupational Health and Safety (OHS) is not only an important aspect in the industrial world, but also an integral part of the sustainability and well-being of workers around the world.

In the era of globalization, challenges to the implementation of an OSH culture are increasingly complex, along with technological developments, climate change, and shifts in work patterns and lifestyles.

An OHS culture encompasses more than just regulatory compliance. It is a shared commitment from all elements of the organization, from leaders to workers, to create a safe and healthy working environment. By instilling an OHS culture, companies not only protect employees from the risk of accidents and occupational diseases (PAK), but also increase productivity and create a better working climate.

However, the global challenges we face today, such as pandemics, digital job market shifts, technological innovations, climate change and others will raise new questions regarding how an OSH culture can adapt.



These rapid changes demand continuous efforts to craft policies, engage technology and strengthen collective awareness on the importance of safety and health in the workplace.

This edition invites readers to explore the dimensions of the country's OHS culture, as well as highlight the global challenges affecting its implementation.

We hope this edition provides insights and inspiration in building a stronger OSH culture in Indonesia. Happy reading!

Warm regards,
ISafety Magazine Editorial Team



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Indonesia's Bold Step Toward a Safety-Oriented Nation

By : Risa Praptono

DEVELOPING a safety culture in Indonesia particularly in today's globally connected landscape is not an easy journey for Indonesia. However, with persistent efforts and synergy among all stakeholders, Indonesia is steadily building a stronger safety culture.

As a G20 member and one of the most influential nations in the ASEAN region, Indonesia is undergoing a major transformation in both business and economic sectors. The country also plays an increasingly strategic role in global geopolitics.

Situated between two continents and two oceans, Indonesia holds a highly strategic position, with four key maritime passages that serve nearly 40% of the world's commercial shipping. This geographical advantage combined with its large population, abundant natural resources, and rich cultural heritage makes Indonesia uniquely positioned to accelerate national growth.

Across sectors ranging from manufacturing to mining, Indonesia is now at a critical juncture. This phase could become a springboard for significant progress or, if not carefully managed, a roadblock to future development.

Amid global tensions such as the trade war between the United States and China and rising tariffs on products like solar cells from neighboring countries the business landscape remains volatile. In this context, safety becomes a cornerstone for business resilience and investor confidence. To remain attractive to global investors, Indonesia must demonstrate its readiness to integrate safety into every layer of business operations.

HSSE: The Foundation of Sustainable Business

A healthy and sustainable business begins with the robust implementation of HSSE (Health, Safety, Security, and Environment) principles. A strong safety culture must be embedded in every business activity in Indonesia. Beyond boosting company performance, such a culture also brings far-reaching social benefits.

However, building a culture of safety is not an overnight process. It requires continuous education and persistent effort, where the business sector can play an important role in driving change.

Down streaming Business Strategy: Adding Value to Natural Resources

One of Indonesia's key economic strategies is down streaming enhancing the value of its natural resources

through processing and enrichment. By converting raw materials into semi-finished or finished products, Indonesia is able to export goods at higher value.

This strategy not only boosts competitiveness and export earnings but also creates jobs and strengthens the national economic structure in the global market.

For example, nickel one of Indonesia's important commodities is processed through smelters into nickel matte and cathode, which are critical components for electric vehicle battery precursors.

The government is also actively improving the investment ecosystem through simplified licensing, legal reform, and various incentives. The Ministry of Investment/BKPM has developed a comprehensive roadmap for downstream industries, guiding investors through the landscape of resource potential, available technologies, and market projections.

Nevertheless, process-based industries require a solid safety foundation to prevent accidents that can damage assets or result in loss of life. Given Indonesia's vulnerability to natural disasters, the integration of risk mitigation systems and emergency response is vital for industry continuity and overall business ecosystem health.

Global Trends and HSSE Relevance in Indonesia

Soehatman Ramli, Chairman of the WSO Indonesia Office, offers deep insights into global trends and their relevance to HSSE (Health, Safety, Security, and Environment). In his book *Global Trends*, he explores the impact of globalization and technological developments on safety in all its dimensions.

He emphasizes that safety covers multiple sides of life: environmental safety, food safety, transportation safety, public safety, product safety, and occupational health and safety (OHS).

As Indonesia advances rapidly with initiatives like industrial down streaming and the rollout of high-speed

transportation systems safety issues must be given top priority.

Soehatman highlights the importance of reinforcing three core pillars in implementing OHS:

- 1. Technical Aspects:** Ensuring equipment reliability, workplace and environmental safety, and hazardous materials management.
- 2. Systemic Aspects:** Establishing work procedures, maintenance management, and safety management systems.
- 3. Human and Organizational Aspects:** Arguably the most crucial pillar, as safety ultimately depends on human behavior, competence, and workplace culture.

"To ensure operational safety and business continuity, we need competent individuals who embrace a culture of safety," Soehatman asserts.

He reminds us that no matter how advanced our systems and equipment are, they are insufficient without skilled and safety-conscious human resources. The success of safe and sustainable business operations hinges on the quality of its people.

To that end, Soehatman poses a reflective question: Are we, as a nation, willing to change our culture? Can the current economic and business climate serve as a catalyst to strengthen Indonesia's HSSE culture? Will it lead us toward our success story, or can it unlock tremendous opportunities for national advancement?

One thing is clear: business should not pursue profit alone, but also deliver positive impact especially when it comes to safety.

In navigating today's global uncertainty, we may draw wisdom from Sun Tzu: "Victory comes from finding opportunities in problems." Success lies in our ability to recognize opportunities amid challenges and in our collective commitment to educate ourselves and shape an Indonesia that truly embraces a culture of safety.



OSHA Must Be Applied with The Initial Investment

Incidents happening in the nickel mineral purifying industry are a strong warning that OSHA in Indonesia has not been implemented well. It has now become very urgent to reevaluate OSHA implementation for mineral downstreaming work processes.

REPEATED incidents, according to Prof. dra. Fatma Lestari, MSi, PhD., professor at the Department of Work Safety and Health (K3), Faculty of Public Health, University of Indonesia, is a strong criticism for OSHA implementation, specifically within the mineral downstreaming process. Therefore OSHA must continue to be pushed to further improve in the future.

“The metal industry is a potentially dangerous and crisis-prone industry,” continued Fatma, who is also Deputy Chair of the National Occupational Safety and Health Council (DK3N). Almost all the danger risks exist in the metal processing process. The occurrence of accidents, fires, explosions, medical emergencies with the risk of many casualties, and environmental pollution are examples of risks that must be faced by metal industry players.

Cooperation from all parties is needed to encourage stricter implementation of K3. The government as regulator, society and the environment, as well as technological support, and the economic side of business, all must be interconnected. “Everyone must work under the main umbrella of implementing operational safety management,” he said.

According to Fatma, when companies or investors want to invest in Indonesia, they need to consider prioritizing OSHA in terms of regulations, public interests, environmental safety, as well as economic and business interests. “It is important that this OSHA is not carried out or attempted before the operations of a company,” said Fatma. “So OSHA is not at the end of



the process but at the forefront, at the investment part. When investors want to invest, OSHA considerations must be emphasized at the start. We have to confirm whether it's there or not," she added.

According to Fatma, managing OSHA from the early stages, starting from initial design to operations, will avoid negative impacts that might occur. After all, no investment wants victims.

Therefore, everything must be managed from the start. Not only OSHA, e investment process. But in fact, OSHA's commitment has been there since the beginning of the process, right up to nvestors also need to have environmental insight (K3L, *Keamanan, Keselamatan, dan Kesehatan Lingkungan Hidup*).

After the obligation to include K3L during investment, what is no less important is monitoring, evaluation, coaching, implementation and evaluation of K3L implementation. "This is not uncommon in other countries," said Fatma.

Some countries do include elements of K3L or HSE when considering choosing a product. "Perhaps we

have heard that many Indonesian products cannot be accepted in a country because they do not meet the required OSHA requirements. Well, I think the same thing can be applied to countries that want to invest in Indonesia," she added.

The occurrence of an accident in a company will have a big impact. Company losses that are relatively light are asset damage. However, if there are human injuries, even fatalities, of course the implications will be wider reaching. The company may face legal action, which could result in fines or even factory closure. If that happens, it could affect the reputation of the organization, even the good name of the country.



OSHA must stand at the forefront of investment – not at the end of operations.

— Prof. Fatma Lestari

BENEFIT OF OPERATIONS SAFETY MANAGEMENT

- Reduce health, safety, environmental and social risks
- Low Business Interruption
- Lower insurance premiums
- Less equipment damage
- Increase the company's credibility and image
- Low injury/mortality rates
- Lower workers compensation
- Less environmental damage (air, water/soft pollution)



FUNDAMENTAL ELEMENTS FOR PREVENTING ACCIDENTS AND ENSURING OPERATIONAL INTEGRITY

- 1**
 Process Safety Information
- 2**
 Process Hazard Analysis
- 3**
 Operating Procedures
- 4**
 Safe Work Practices
- 5**
 Training
- 6**
 Worker Participation
- 7**
 Pre-Startup Review (TUPS: Telaah Ulang Pra-Startup)
- 8**
 Mechanical Integration
- 9**
 Contractor Management
- 10**
 Change Management
- 11**
 Emergency Response
- 12**
 Incidents Investigation
- 13**
 Compliance Audit

Prioritizing OSHA in Investment

OSHA isn't just an operational requirement — it should be embedded from the very start of any investment plan in the metal industry.

"A smelter accident will be detrimental to business, which could lead to the threat of factory closure. Additionally to that, the company will have a bad track record in Indonesia. Investors will have a dark record (of us)," said Fatma.

An accident in an industry that is on the rise will be reported internationally, that's when Indonesia's good name will be threatened. "There will be a spotlight regarding the implementation of OSHA in Indonesia in this industry," added Fatma.

Of course, no investor wants to experience business interruption, much less for their company to have a bad record. Therefore, OSHA must be implemented by companies. "If we talk about the metal refining industry, implementing safety management can reduce the risk of accidents, risks to the community, and reduce environmental pollution."

Learning from the incident at the smelter, Fatma emphasized the need to build a superior downstream operations safety culture. According to her, there are three things that must be paid attention to, namely excellent behavior in accordance to rules and regulations. Nothing is left to chance. Then the condition of the facilities, equipment, processes, work environment and materials must be excellent according to professional standards. The last is the operation of the management system to ensure that equipment is used according to applicable procedures.

In her book, *Operational Safety Management Building Operational Excellence in the Process Industry*, Fatma and her colleagues explain that there are 13 Operational Safety Management Factors. "These 13 factors must be applied to the mineral refining industry such as nickel smelters," said Fatma.

EMERGENCY RESPONSE & CRISIS MANAGEMENT (ERCM)

Of the various existing processes, what must be prioritized is preparedness to face crises on-location. What mitigation plans need to be implemented? How will victims recover? How will business activities continue? These things fall under ERCM.

There are emergency risks in the mineral downstream industry that can be projected, for example fires and others. But don't forget the natural disasters factor. "43 percent of exploration areas in Indonesia are in locations prone to natural disasters. Then, there are 57 percent of city districts that are at risk. Then, around 75 percent of infrastructures are in zones vulnerable to natural disasters," explained Fatma.

Emergency response is something that should not be ignored. Fatma highlighted that not all mineral industry processing locations have burn units nearby to help burn victims. This equipment is crucial. Again, looking at the Morowali case, there were victims who had to be evacuated to Makassar. The long evacuation distance make the victim's conditions much worse.

In crisis management, there must be prevention efforts well as effort to reduce risks. Then emergency and crisis management must be established, in the form of mitigation and prevention plans, preparedness, response, recovery and business continuity. Fatma recommends creating scenarios regarding all potential emergency conditions. What needs to be considered are medical risk, fires and explosions, the release of dangerous and toxic chemicals, natural disasters, and industrial disasters.

NFPA 1600. Standard on Continuity, Emergency & Crisis Management. 2019

ROADMAP ERCM

PROGRAM MANAGEMENT	02 IMPLEMENTATION	04 TRAINING & EDUCATION	06 PROGRAM MAINTENANCE & IMPROVEMENT
01	03	05	07
PLANNING	EXECUTION	EXERCISES & TESTS	PROGRAM MAINTENANCE & IMPROVEMENT

01 PROGRAM MANAGEMENT

- Leadership & Commitment
- Program Coordinator
- Performance Objectives
- Program Committee
- Program Administration
- Compliance & Evaluation with Regulation, Regulatory, & Standards
- Finance & Administration
- Records Management

02 PLANNING

- Planning & Design Process
- Risk Assessment
- Business Impact Analysis
- Resource Needs Assessment

03 IMPLEMENTATION

- Common Plan Requirements
- Prevention
- Mitigation
- Crisis Management
- Crisis Communication & Public Information
- Warning, Notification, & Communications
- Operational Procedures
- Incident Management
- Emergency Operations / Response Plan
- Continuity & Recovery
- Employee Assistance & Support

04 EXECUTION

- Incident Recognition
- Initial Reporting / Notification
- Plan Activation & Incident Action Plan
- Activate Incident Management System
- Ongoing Incident Management & Communications
- Documenting Incident Information, Decisions & Actions
- Incident Stabilization
- Demobilize Resources & Termination

05 TRAINING & EDUCATION

- Curriculum
- Goal of Curriculum
- Scope & Frequency of Instruction
- Incident Management System Training
- Record Keeping
- Regulatory & Program Requirements
- Public Education

06 EXERCISES & TESTS

- Program Evaluation
- Exercise & Test Methodology
- Design of Exercises & Tests
- Exercise & Test Evaluation
- Frequency

07 PROGRAM MAINTENANCE & IMPROVEMENT

- Program Reviews
- Corrective Action
- Continuous Improvement



To present day, there are many international standards that can be used in efforts to implement OSHA. These include Emergency Management International Standards such as NFPA 1600. Standard on Continuity, Emergency & Crisis Management 2019, ISO 21110: 2019. Information & documentation - Emergency preparedness & response, ISO 22320: 2018. Societal security - Emergency management - Requirements for Incident response, and ISO 22325 - Security & resilience - Emergency management - Guidelines for capability assessment.

Fatma recommends NFPA 1600, which she says is a great one to implement. In NFPA 1600, leadership aspects have been included. This means that if the company is committed to emergency management, there must be a program coordinator for emergency management.

BCMS (Business Continuity Management System) Business Continuity Management System (BCMS) is a system for increasing the business continuity management capacity of an organization.

Table Potential Scenarios for Medical Emergency Planning for Platforms

Type of Hazard	Possible Sources	Remarks
Fire and explosion	Inflammable gases	Blast wave injuries, burns, heat stress, intoxication (e.g. smoke), structural collapse
	Inflammable liquids and dusts	
	Pressurized substances	
	Chemical reactions	
Substance spill	Gaseous	Intoxication, e.g., smoke, H2S
	Liquid	Contamination
		Percutaneous absorption
Heat	Hot substances	Burns
	Hot surfaces	
Cold	Cold substances	Frostbite, hypothermia
	Cold surfaces	
Injury	Cutting/machines	Wounds, fractures
	Slip, tips, and fall	
Confined spaces	Oxygen depletion substances	Suffocation, loss of consciousness
Electricity	Electrical equipment	Electrical burns
	Heart attack	
	Stroke	
Internal medicine problems	Dysrhythmia	Personal medical problem surfacing during the assignment
	Food-waterborne diseases	
Infectious diseases	Malaria	Severe individual case, multiple cases threatening business continuity
	Depression, suicide attempts	
Psychological aspects	Depression, suicide attempts	Due to stigma difficult to detect. A culture of trust and care for each other could help identify and mitigate
Transportation incident	Helicopter crash on landing pad	Multiple injuries (max number determined by helicopter capacity)
		Medevac complicated due to landing pad damage
		Consider alternate evacuation pathways (e.g. crane to nearby vessel)



Implementation is in accordance with the level and type of impact of the disturbance or threat that is acceptable or unacceptable.

An effective BCMS enables an organization to ensure its operations continue; the products and services it offers can be produced at a predetermined level; and value creation activities can be protected; the reputation and interests of the stakeholders can be maintained even when disruptive events occur.

Business Continuity Management System based is on ISO 22301:2019, it provides a framework for developing a process for identifying and evaluating risks that have the potential to hinder an organization's business continuity. The BCMS framework is also intended to help organizations build resilience by being able to

respond to a catastrophic event in a timely, effective and structured manner.

Without a BCMS, an organization may experience failure in continuing its activities. Without BCMS, organizations require a long recovery time and have a significant impact on business activities. Fatma gave an example of good BCP regulations in the upstream oil and gas industry. BCP implementation in the Indonesian oil and gas industry had been carried out since 2015, because SKKMigas have required companies to include an Emergency Response Plan (ERP), Crisis Management Plan (CMP), and Business Continuity Plan. Companies must also carry out drills so that BCP is implemented and integrated with ERP and CMP. ▲

Harnessing Nickel Sustainably for a Brighter Future

By : Maria R Nindita Radyati, PhD *)

Nickel is key to the global clean energy transition – and Indonesia leads the charge. Contributing over 30% of global supply, the country plays a critical role in ensuring that nickel is mined not only profitably, but sustainably. As demand rises, so does the urgency to balance growth with environmental and social responsibility.

INDONESIA leads global nickel production, contributing over 30% of the supply in 2022 (Statista, 2023). Nickel is essential in various applications, with more than 12% used in major home appliances, mostly in stainless steel, and another 5% in alloys for electronic components and mobile phone parts. Crucially, nickel is pivotal for a low-carbon economy, being integral to electric vehicle (EV) batteries and renewable energy systems. As clean energy demand rises, so does the need for nickel. However, irresponsible mining can lead to deforestation, habitat loss, pollution, and social conflicts (Sebrell & Ivanov, 2023). Sustainable nickel mining aims to mitigate these adverse effects while meeting global demand. Sustainable methods are vital for balancing economic benefits with environmental and community protection.

Consumer demand is a significant driver for sustainable practices in nickel mining. Companies like Apple, Volvo, Ford, and VW require sustainably sourced materials. Additionally, ESG rating agencies scrutinize public sustainability data, motivating companies to adhere to good ESG practices. The ESG risk ratings from Sustainalytics and MSCI are widely referenced in Indonesia. High ESG risk ratings deter investors and leaders, prompting companies to identify and address gaps according to the rating agencies requirements.

A sustainable nickel smelter showcases Indonesia's commitment to producing clean energy materials without sacrificing environmental integrity.



“ Social harmony is key – sustainable mining must prioritize the well-being and voices of local communities.



Indonesian nickel powers the global shift to electric vehicles — sustainably sourced for a greener future.

Government regulations and community pressure also drive companies towards sustainable mining. Adhering to global standards and independent audits of ESG practices is essential. Two prominent global standards guiding sustainable nickel mining are the International Council on Mining and Metals (ICMM) Mining Principles and the Initiative for Responsible Mining Assurance (IRMA).

Nickel production is energy-intensive, generating significant carbon emissions. Key environmental issues include reducing emissions, waste, pollution, conserving water, and protecting biodiversity. Practices such as water recycling, renewable energy use, and land rehabilitation are critical. Social aspects focus on fair labour practices, worker safety, respecting indigenous and local communities, and supporting community

development. Governance aspects emphasize transparency, ethical practices, anti-corruption measures, and strong stakeholder engagement.

Companies like Vale SA, Anglo American, BHP Group, Glencore, and Jinchuan Group International Resources invest significantly in sustainability initiatives. These include environmental initiatives to reduce carbon footprints, reduce water usage, renewable energy projects, developing nickel sulphate plants for EV batteries, and setting targets for net-zero emissions by 2050 (Mining and Minerals Today, 2023)

In Indonesia, PT Vale Indonesia, a subsidiary of Vale SA, exemplifies sustainable mining practices. PT Vale Indonesia identified gaps in its ESG performance, conducted risk analysis, prioritized risks, formed a Sustainability Committee, established a sustainability department, set targets, monitored progress, and evaluated performance through an ESG Dashboard. These efforts led to a significant reduction in the company's ESG risk rating. Vale's commitment to transparency includes maintaining a comprehensive collection of ESG documents available to stakeholders (Vale, 2023).

Effective ESG implementation requires commitment from top leadership and engagement across all departments. Transparent disclosure of ESG performance is essential, particularly for publicly listed companies. Achieving good ESG performance is challenging but crucial for the earth's sustainability and societal welfare. ▲

ESG METRICS FOR NICKEL MINING

- CARBON FOOTPRINT**
Emissions per ton of nickel produced.
- WATER USAGE**
Amount of water used and recycled.
- ENERGY CONSUMPTION**
Energy used, with a focus on renewable sources.
- WASTE MANAGEMENT**
Amount of mining waste managed.
- BIODIVERSITY IMPACT**
Land disturbed and rehabilitated, ecosystem protection measures.
- WORKER SAFETY**
Injury rates, safety training, health standards compliance.
- COMMUNITY RELATIONS**
Engagement and investment in local communities, grievance resolution.
- LABOR PRACTICES**
Fair wages, working conditions, and labor rights adherence.

References: Mining and Minerals Today. (2023, May 17). Sustainable Titans: A Look at the Top 5 Nickel Mining Companies Changing the Industry. Retrieved from <https://m-mtoday.com/news/sustainable-titans-a-look-at-the-top-5-nickel-mining-companies-changing-the-industry/>. Sebrell, N., & Ivanov, F. V. (2023, April 12). Nickel: Supply Risks and ESG Issues. ISS Insights. Retrieved from <https://insights.issgovernance.com/posts/nickel-supply-risks-and-esg-issues/>. Statista. (2023). Global distribution of nickel mine production by select country. Retrieved from <https://www.statista.com/statistics/603621/global-distribution-of-nickel-mine-production-by-select-country/>. Vale. (2023). ESG Document Library. Retrieved from <https://vale.com/hu/esg/document-library>.

*)Maria R Nindita Radyati is the Chairperson of ESG Taskforce at the Indonesia Chamber of Commerce



Government Target to Accelerate Electric Vehicle Ecosystem

▲▲▲ To achieve a cleaner, more sustainable future, the Indonesian government is accelerating efforts to build a robust electric vehicle (EV) ecosystem—laying the foundation for a major transformation in the nation’s transportation landscape.

ACCORDING to the director general of the Ministry of Energy and Mineral Resources (ESDM) Dadan Kusdiana, the Indonesian government is targeting two million electric cars and 13 million electric two-wheeled vehicles run on the street by 2030. To achieve the target, the Ministry of ESDM continues to accelerate the development of supporting infrastructure so that an electric vehicle ecosystem is formed.

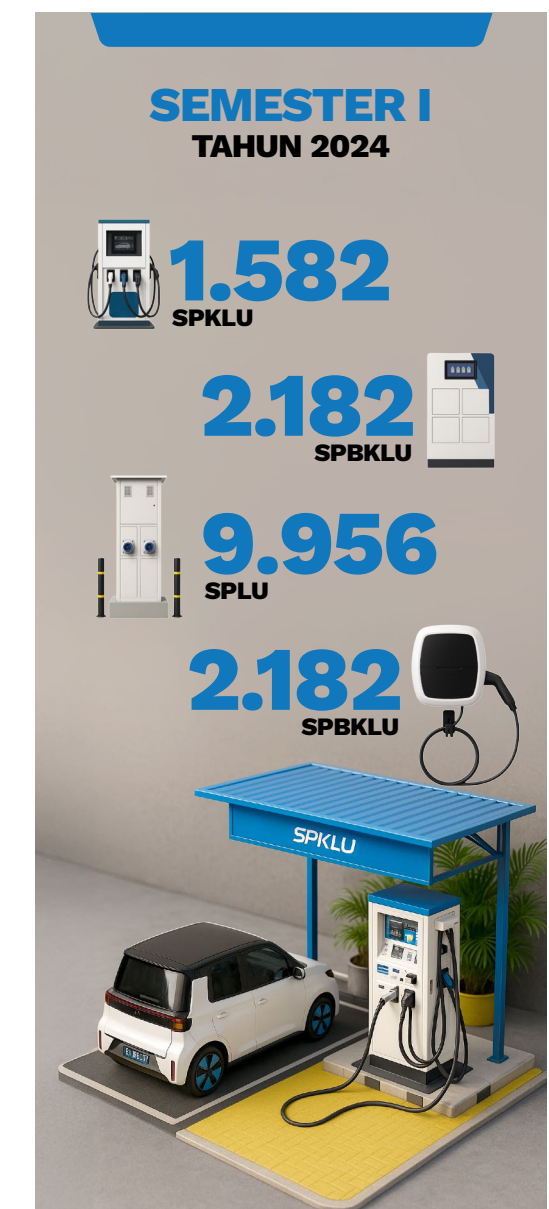
Dadan revealed this information in a High Level Closed-Door Ministerial Discussion panel. The panel was part of the IEA’s 9th Global Conference On Energy Efficiency (GCEE) series of activities in Nairobi, Kenya, some time ago. However, Dadan also acknowledged that there is still a large price gap between electric vehicles and conventional vehicles. To close the price gap, the Indonesian government provides tax incentives and gives subsidies for electric cars, hybrid cars, and electric motorcycles.

“Indonesia has prepared USD455 million in funds to subsidize the sale of electric motorcycles. The subsidy covers the sale of 800 thousand new electric motorcycles and the conversion of 200 thousand combustion engine motorcycles,” said Dadan.

Furthermore, Dadan said, “To support the formation of an electric vehicle ecosystem, the government continues to increase the construction of public electric vehicle charging stations (SPKLU). By 2030, it is estimated

that Indonesia will need 32,000 SPKLU units to meet the increasing demand (of electric vehicles).”

To create a comprehensive charging infrastructure, along with the development of public charging stations, the availability of chargers at home is equally important. In order to facilitate charging outlets at home,



PT PLN offers some incentives. The company gives, for example, special prices for improving the electricity system and implementing tariff cuts for overnight charging system.

These measures are designed to encourage more residents to adopt electric vehicles by making the charging process convenient and cost-effective. Aside from focusing on electrification of public passenger vehicles, the Indonesian Government also recognizes the significant contribution of public transportation to CO2 emissions in the country. As a strategic response, the Indonesian Government is currently developing fuel economy standards for heavy vehicles, as a key to reducing emissions in the short and medium term.

“To further reduce transportation emissions, this year, the government has allocated 11.8 million tons of biodiesel, along with the launch of a 35% palm oil blend for biodiesel or known as B35. This program can reduce GHG emissions by around 34.9 million tons of CO2. The Indonesian government strongly believes that a combination of regulation, information, and incentives can drive energy efficiency as well as mitigation measures in the transportation sector,” Dadan said.

PLN’s Rapid Action to Build Infrastructure PT PLN (Persero) continues to increase the availability of charging station infrastructure to accelerate the electric vehicle (EV) ecosystem in Indonesia. The goal is to ease the charging process for electric car users, so they can get power for their vehicles in several spots.

By the first semester of 2024, there are 1,582 SPKLU, 2,182 Public Electric Vehicle Battery Exchange Stations (SPBKLU), 9,956 Public Electric Charging Stations (SPLU), and 14,524 home charging stations used for charging electric vehicles, according to the data of PLN.

PLN President Director Darmawan Prasodjo explained that PLN is committed to supporting the acceleration of the electric vehicle ecosystem, by adding more and more charging stations across

various regions in Indonesia. According to him, in total, PLN has operated 1,582 SPKLU units spread across 1,131 locations throughout Indonesia. This number has increased by 157% compared to the first semester of last year, which was only 616 SPKLU. Moreover, SPKLU is now available even in every toll road rest area.

There is also growth in the amount of electricity usage at SPKLU, recorded by the first semester of 2024. Electricity consumption increased by 229% to more than 2,438.8 megawatt hours (MWh), from the previous 741.8 MWh in the first semester of 2023.



Indonesia's Electric Charging Infrastructure at a Glance — From SPKLU to home charging, the rapid expansion across regions reflects the nation's bold commitment to accelerating EV adoption by 2030.

“With the increasingly massive growth of EVs, of course supporting infrastructure must also be available. PLN cannot do it alone, thus we are very open to any partners to collaborate to accelerate the energy transition in this transportation sector,” said Darmawan.

For home charging services, PLN works hand in hand with various electric cars’ brand holders companies, and operates the PLN Mobile application. Thus, every electric vehicle customer can immediately get home charging services.

PLN data states that by the first semester of 2024, the number of home charging stations has reached 14,524 customers. This figure is up 335 per cent compared to the first semester of last year, with total electricity consumption reaching 4,264.8 MWh. The data can be read as a significant growth, an increase of 344 per cent, compared to the realization of the first semester of 2023 of 960.1 MWh. ▲



Technology meets safety — Digital tools like PIM help predict risks and ensure safer construction practices.

Changing the Paradigm of Construction OSH:

Not an Expense, But an Investment

Behind the sturdy infrastructure being built, occupational safety in the construction sector remains a serious challenge in Indonesia. Workplace accidents continue to occur at high rates each year, reflecting a mindset that still sees safety as a burden. In fact, it's time to shift the paradigm: safety is not a cost, but an investment for a sustainable and productive future.

IN INDONESIA, each year the construction sector is still recorded as an industry with a considerably high number of workplace accidents. There's no bargaining on this, the Occupational Safety and Health (OSH, K3) issue in the construction sector, must be tackled seriously.

The rampant accidents in the construction sector in the country were highlighted by Ir. Subkhan, ST, M. PSDA IPU, ASEAN ENG, Chairman of Commission II Dk3n/ Chairman of the QHSE BUMN Construction Forum. According to him, even today there are still many companies that consider safety as a burden or cost. "If it doesn't have to be done, then they don't do it. Or, they implement OSH but only to fulfill business rules. Some companies still think like that," he said regretfully.

This is different if the company is a global company. International companies will show a high commitment in implementing OSH, because it is in accordance with the terms and conditions that apply globally. They have realized the importance of implementing OSH in their operational implementation, and include this OSH as a sustainable investment.

Regarding Construction OSH, Subkhan added, Indonesia actually already has an instrument for Construction OSH and a strong institution. For example, PP No. 14 of 2021 concerning Construction Sustainability Regulations, which already includes OSH requirements. In fact, the term used in the Ministry of Public Works and Public Housing (PUPR) is K4, which means security, health, safety and sustainability. "So the regulation already contains K3 requirements in

a sustainable manner. This means that here, there is already an elaboration of K3 with engineering safety, environmental base, and other 'green' related matters," said Subkhan.

In addition, Subkhan mentioned PU Regulation No. 21 of 2021 concerning the assessment of green building performance. This includes detailed Technical Instructions for SMKK (*Sistem Manajemen Keselamatan Konstruksi*, Construction Safety Management System). This SMKK is a combination of SMK3, SML, SMN, RMLLP, traffic, quality management, safety management system, and road safety management system. "There are five ISOs in this regulation. In addition, there is a ministerial circular regarding what is included in the SMKK costs, with detailed figures to strengthen the construction system costs," he added.



AI eyes on safety — Smart cameras now monitor compliance in real-time to prevent accidents before they happen.

Now, the institution has been strengthened to be more focused on SMKK with the formation of the Director General of Construction Development. Under the Director General of Construction Development, the Directorate of Construction Sustainability was formed. According to Subkhan, "One of the duties of the directorate is the implementation of SMKK. One of them is by requiring all state-owned construction companies under the Ministry of State-Owned Enterprises, and its supervisor, namely PUPR, to have a special director who handles OSH issues. This has been done by WIKA, Waskita, Adhi Karya, and several other construction companies."

"I think, in terms of regulations and institutions, Construction OSH is strong. However, implementation in the field is indeed up and down and not optimal. This is because there are tens or even hundreds of thousands of construction service companies. They do not have a mindset that is on the same frequency. Many still consider the implementation of OSH as a burden. Many do not understand in detail or optimally that SMKK has become a tender standard. If they do not comply, they will definitely lose the tender," he said.

For that, Subkhan reminded the importance of continuous socialization efforts for SMKK, in addition to the need for law enforcement. The PU Service in the regions works together with the governor, mayor, or regent. "If there is a business entity that does not implement SMKK according to its scope and level, there are sanctions. For example, being blacklisted and will not be included in the tender," said Subkhan.

No less important is strengthening joint commitment. OSH or SMKK does not only belong to PUPR or to construction companies. "But all construction ecosystems are involved. OSH or SMKK includes many parties, be it suppliers, foremen, educators, vendors, and others. Because OSH cannot run alone. I also hope that other engineering ministries such as industry, transportation, or trade will also adopt the goodness that has been implemented in the

PUPR or ESDM ministries," he explained.

The government, Subkhan emphasized, must ensure that company owners are committed to OSH, as a basic right that must be fulfilled, even though it is expensive. Companies should understand that OSH is an instrument of business continuity, because it can increase productivity, reduce asset losses due to property damage, increase reputation, and also increase market confidence.

Learning from Japan

From experience, Subkhan explained that the country that implements Construction OSH very well in Asia is Japan. Through official regulations, they are committed to implementing OSH in the construction sector. But indeed Japan has instilled the OSH culture since early on. It can be said that OSH has become the basis of their culture. Indonesians who work with Japanese companies will be infected with positive things, carried away by implementing the OSH concept.

Several European nations are also well known for tightly implementing construction OSH.

"Meanwhile, developing countries like Indonesia still consider safety as a burden. This is what must be socialized repeatedly," said Subkhan.

In the implementation of security in construction projects, the human resource aspect plays an important role. Subkhan emphasized the importance of leadership. He gave an example that leaders must be maximal in communication related to OSH. On the other hand, the competence of OSH officers at every level is very important so that implementation in the field can run well.

Once again, Subkhan reminded us to change our mindset. It must be instilled that safety is an investment. Because if the goal is compliance or just fulfilling regulations so that accidents do not occur, and is not directed to long-term practices, it will be difficult to reduce the number of accidents in the construction sector.



Train smart, build safe — Virtual reality brings immersive safety training to the next level.

Continuously Recurring Accidents

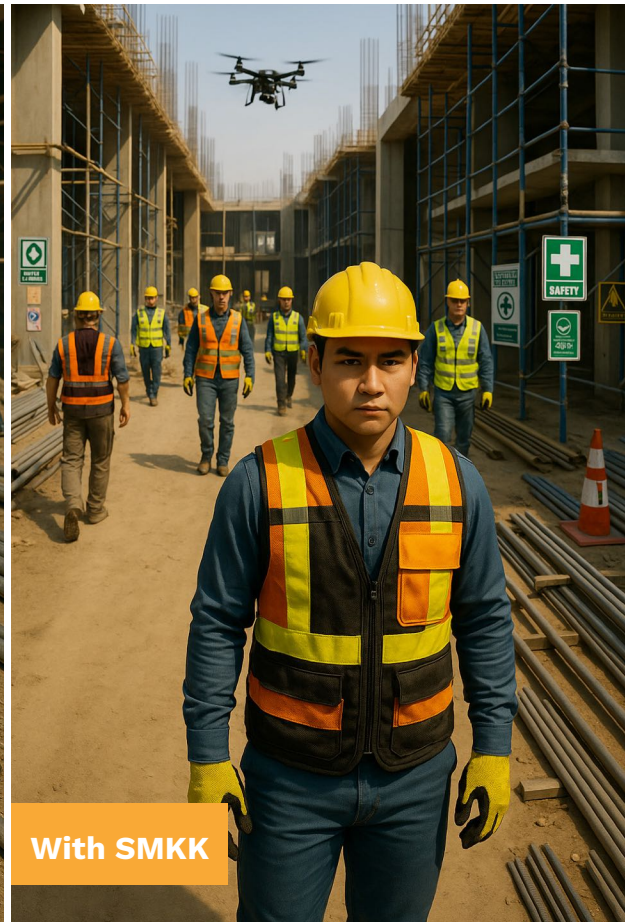
Construction projects are unique and challenging businesses. Often, the challenges are related to costs and limited implementation time. “In working on a project, it often doesn’t matter if it’s a holiday or a red date, rain or other conditions. Everything is still done. Workers often don’t know the time, working 24 hours non-stop. Not to mention external factors, such as adjustments with owners, policies, and others. Often, the demand for a project to be completed quickly is inversely proportional to the safety factor,” explained Subkhan.

From his experience, said Subkhan, the biggest Construction OSH hazards are falling from a height, falling objects, or operational accidents related to heavy equipment, be it horizontal or vertical lifting equipment, as well as transport equipment, trailers, and others.

“For vehicles, it is important to implement safety driving. Especially if the work area is wide-ranging, such as a toll road, safety guardrails must be arranged, not only for project workers but also for road users. Accidents that are also common are small ones, such as slipping due to slippery areas, being hit by electricity (short circuit), and so on.



Without SMKK



With SMKK

A matter of mindset — Safety is not a cost, it’s the core of professional construction.

However, often the problem is the health condition of employees. Usually due to work that is not time-bound, there are employees who are affected by fatigue, experiencing ARI, and other relatively risky physical disorders. Not to mention if the project is in an endemic area such as Papua with the risk of malaria and HIV/AIDS.

With so many incidents, everything must be anticipated with SMKK.

Support From Current Technologies

Safety technology or construction technology that supports safety is developing very rapidly in the field. An example that can be found at any time is high technology such as project information modeling (PIM). PIM is able to predict conditions that are avoided. For example, incorrect design conditions, overlapping in planning, inaccuracy in planning, resource calculations, time calculations, and others. “Although there must still be manual analysis from engineers, PIM can relatively reduce the risk of accidents or construction failures,” said Subkhan.

Currently, various technologies are also found that change construction materials, such as the use of lighter steel and safer concrete. These things certainly support the implementation of OSH in the field.

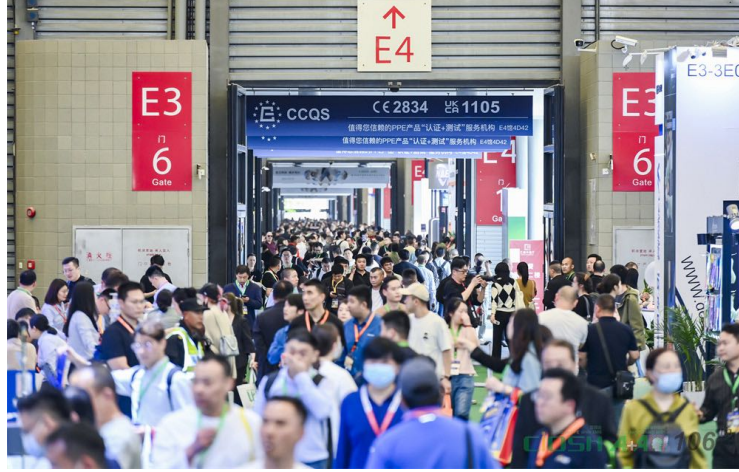
Some OSH Teams in companies have also started using artificial intelligence (AI) technology to help improve construction safety. Commonly used is AI integrated with CCTV in the field, which can be used to monitor workers who do not comply with the rules. Drones can also be used during management walk through (MWT) with Virtual Patrol. Discussion of findings can be done via zoom.

The abundance of information sources makes it easier to train the use of AI. Especially for safety technology, there are many modules that can be downloaded. Workers can even take a virtual assessment grading test to determine their level of understanding of OSH.



Integrated innovation — From drones to PIM and AI, advanced technologies are shaping a safer, smarter future in construction.

The long-term impact of OSH implementation must be realized by the company, so that it triggers worker compliance. Currently, OSH implementation in companies is one of the requirements for global funding, through ESG Rating. One aspect of the assessment is social responsibility and safety responsibility. If this is not met, it means that the company does not meet the standards. As a result, the company will fail to get credit from global fundraisers. ▲



CIOSSH 2025 Successfully Drives Future Safety Innovation

THE 108TH CHINA INTERNATIONAL OCCUPATIONAL SAFETY & HEALTH GOODS EXPO (CIOSSH 2025), jointly held by China Textile Commerce Association (CTCA) and Messe Düsseldorf (Shanghai) Co., Ltd. (MDS), has been held successfully.

The exhibition was held on April 15-17, 2025 with the theme of "The Power of Protection" and successfully attracted 1,446 exhibitors from 18 countries and regions, occupying nearly 80,000 square meters of exhibition space in halls E1 to E7, and welcoming 42,893 professional visitors.

Through the exhibition of cutting-edge products and technologies, complemented with a dialogue on industry safety, various interactive experiences, innovative diversity and growth potential of China's occupational safety and health industry. This strengthens the position of CIOSSH in the industry as a

leading trade and exchange platform for occupational safety and health in Asia.

Evian Gu, General Manager of Messe Düsseldorf (Shanghai) Co., Ltd., said, "This year, I am very pleased to see exhibitors not only showcasing breakthrough products such as intelligent safety equipment and biodegradable protective materials, but also demonstrating solutions that integrate the industrial internet with the safety industry. This progress marks China's transition from 'manufacturing' to 'smart manufacturing.' CIOSSH's value now goes beyond transactions it has become a hub driving technological transformation and collaborative standards-setting, further driving industry upgrading and creating smarter, more sustainable safety solutions for workers around the world."



the exhibition, such as head, eye and face protection equipment and various protective clothing. These products are very important for workers in Latin and North America. This is my first time at CIOSSH, and I have connected with several companies during the matchmaking session. Of course I plan to come again next year.

Shen, a manager at TIANLI Plastic, who participated in the matchmaking session, said, "This year, the surge in international visitors to CIOSSH is a positive sign for export-oriented businesses like us. It also reflects the growing global appeal of the show. We have already secured a preliminary deal with a Pakistani buyer who purchased protective gear wall painters from Australia. It turns out that our products are a perfect match. CIOSSH has been successful in bringing in high-quality clients, making it a must-attend event every year."

Meanwhile, the sourcing manager of CHUKUA from Zimbabwe said, "In Africa, comfortable working conditions are in high demand. Chinese safety products with competitive prices and superior quality have a strong market presence. Our company cooperates with the Zimbabwean government fire department, and we came to CIOSSH to purchase protective equipment for firefighters, including suits and helmets. The exhibition impressed me with its wide range of products, exceeding my expectations. I will consult with my colleagues in Africa and come back tomorrow with more precise requirements."

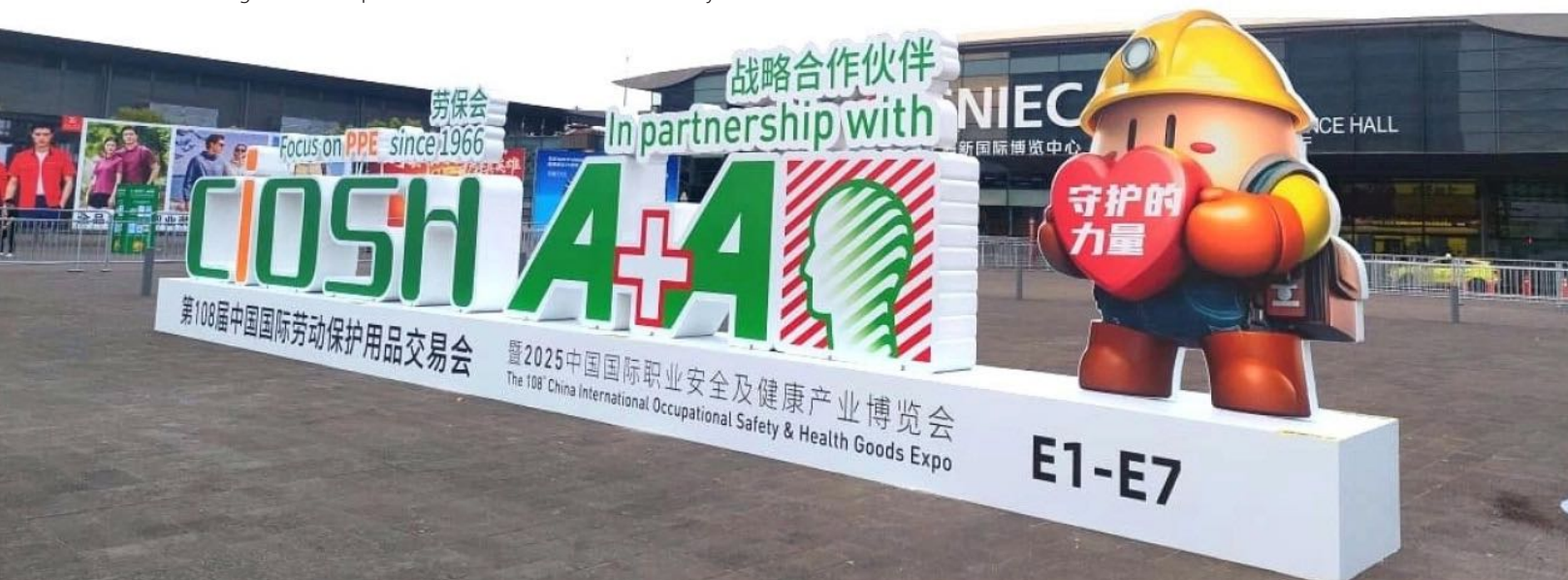
On another occasion, Quijada, marketing manager for EPA and a first-time CIOSSH attendee, shared her experience, "I have seen many innovative products at

A Memorable Experience

In addition to the product exhibition, this event also held 10 Technical Seminars simultaneously. Here, various in-depth discussions were seen, how solutions overcome industry challenges and empower improvements through various broad insights.

These seminars provide detailed insights into the latest updates and implications of occupational safety and health standards, covering precise technical metrics and stringent production norms.

For three days there was a fall protection demonstration, and also featured were expert insights into how to create a safe working environment at heights,





offering comprehensive guidance on the operation, maintenance and safety protocols of equipment such as electric lifts and full-body harnesses.

Real-life confined space rescue scenarios were also presented, complete with emergency response procedures. Exciting workshops and competitions attract large crowds, combining education with entertainment to integrate safety skills into everyday life.

One of the most eye-catching sections is the Exoskeleton Technology Park (EXO Park) themed "Human-Machine Collaboration, Efficiency Revolution." Leading exoskeleton companies in China ULSrobotics, RoboCT Technology, and Kenqing Technology jointly showcased their cutting-edge products. The products include upper-body support, lower-body assistance, and full-body collaboration systems. With breakthroughs in human-machine interaction algorithms and lightweight materials, exoskeleton technology is rapidly advancing from medical rehabilitation to industrial applications, offering innovative solutions to safeguard workers' health and safety.

Expansion to Global Market

Amidst the accelerated global expansion of Chinese

companies, CIOOSH's globalization strategy has entered a new phase. Following CIOOSH 2025, the 2nd Thailand International Exhibition for Personal Protective Equipment (CIOOSH Thailand), jointly organized by China Textile Commerce Association (CTCA), Messe Düsseldorf Asia, and Messe Düsseldorf (Shanghai) Co., Ltd. (MDS), will be held from June 4 to 6 at the Bangkok International Trade & Exhibition Center (BITEC).

The exhibition has attracted 194 registered domestic and international exhibitors showcasing products essential to Southeast Asia's infrastructure needs, such as dust respirators and fire-resistant workwear.

Meanwhile, A+A a strategic partner of CIOOSH and the world's leading trade fair for workplace safety and health, will kick off from November 4 to 7 in Düsseldorf, Germany. Chinese exhibitors will once again showcase their innovative and high-quality protective products and safety solutions to the world.

The 110th China International Occupational Safety & Health Exhibition (CIOOSH 2026) will be held at Shanghai New International Expo Center (SNIEC) on April 7-9, 2026. For more information about CIOOSH, please visit its official website: www.cioosh.com. ▲

WISCA 2025: OSH Cultural Transformation for a Modernized Indonesia

Efforts to increase awareness of OSH implementation in the workplace continue to be carried out in Indonesia. One of them is the World Safety Organization (WSO) Indonesia again holding the WISCA (WSO Indonesia Safety Culture Award) 2025 which took place some time ago.

In the sixth event in 2025, WSO Indonesia gave awards to several parties who were considered to have contributed greatly to the progress of the Indonesian OSH world. Both individuals and corporations. One of them is the Indonesian Minister of Manpower, Prof. Yassierli, who received the WSO Concerned Citizen Award.

On this occasion, Minister of Manpower Yassierli said that the transformation of OSH culture in Indonesia

is still extensive and requires a long time. "We have a big 'homework' to improve the implementation of OSH culture. Until now, if we look at the data, the number of work accidents is still high. In fact, that is still the number according to BPJS while companies that participate in BPJS are only around 30%. This means that out there there are still many work accidents that are not reported. Not to mention in the informal sector," he said.

If we want to build an OSH culture in Indonesia, it must be people-centric and more humanistic. All elements of the nation such as national organizations, academics, and research institutions need to contribute.



"I often quote Murphy's Law which states "If anything can go wrong it will." This describes most of our workplaces where accidents still occur. I have visited more than 50 companies in the oil, gas, mining and manufacturing sectors and still see many accidents. Companies need to reflect on the number of accidents and not rely on luck to prevent them. We need to build something resilient and create a harmonious industry between employers and workers," he added.

OSH culture transformation is not easy and takes a long time. The companies here have a long journey in preparing their systems and human resources. However, there are still many companies out there that have not met safety standards, especially in small industries.

He hopes that what is currently being done to improve OSH will grow into something big. We want to build a better culture. *Indonesia Emas 2045* must be supported by a different work culture than now, not just calculating GDP and poverty rates. Developed countries have a different culture and care about safety. "We all have to go there," he said.

Yasrelerly also continues to encourage CEOs of companies to not only have a vision for their companies. But beyond their vision. He wants company leaders to also have a vision that can contribute to Indonesia. One of them is how we should build and strengthen better industrial relations.

"We have to change our way of thinking and not just focus on the Zero Accident KPI because this can create a fear culture. It is better to use Zero Fatality. Without a reporting culture, there will be no learning and improvement, so accidents can occur even though the accident report figures look good," he concluded.

WISCA 2025 and the Spirit of OSH Culture

The development of OSH culture requires the involvement of various stakeholders. The Indonesian government as the main stakeholder, in 2014 launched the program "Indonesia with OSH Culture."



Minister of Manpower Prof. Yassierli when receiving the WSO Concerned Citizen Award from Soehatman Ramli, Chairmain WSO Indonesia.

World Safety Organization (WSO) Indonesia sees the need to encourage companies in Indonesia to build an OSH culture in their respective companies. Therefore, since 2020, WSO Indonesia has routinely held WISCA (WSO Indonesia Safety Culture Award).

"WISCA is not a competition. But it is a form of appreciation for companies that have implemented OSH aspects well and have made OSH a culture in the company," said Soehatman Ramli, Chairman of WSO Indonesia.

Through WISCA, WSO Indonesia continues to encourage industrial circles in Indonesia to continue to improve the maturity of OSH culture in their respective companies.

Since its first implementation, more than 100 companies in Indonesia have achieved OHS culture maturity. OHS culture maturity is the level of maturity of an organization in integrating OHS principles into all aspects of the company's operations and culture.

Consisting of five levels. Namely Pathological (1), Reactive (2), Calculative (3), Proactive (4), and Generative (5). "The higher the level of cultural maturity



achieved, the better the level of OSH implementation in the company. Cases of work accidents and work-related diseases are also very low," said Soehatman.

At the 2025 WISCA event, WSO Indonesia gave appreciation to 29 companies. Namely nine companies in the Platinum category (Generative culture level), 19 companies in the Gold category (Proactive), and one company in the Silver category (Calculative).

According to Soehatman, there was a significant increase in the Platinum category. "This year there are 9 companies that won the Platinum award. The previous year there were only 7. This proves that these companies continue to improve the maturity of OSH culture in their respective companies," he said.

The positive thing about WISCA activities, added Soehatman, is that cases of work accidents and work-related diseases from these companies can be minimized as low as possible.

According to Soehatman, this award was given considering that as a citizen, the Minister of Manpower has shown high dedication to the advancement of OSH Indonesia. Prof. Yassierli has been known as an Ergonomics expert from ITB. In addition to the Minister of Manpower, a similar award was also given to Dr. Mirza Mahendra. He is considered to have contributed to the advancement of Oil and Gas safety.

WSO Indonesia also gave awards to a number of CEOs. There were seven company leaders who received the WSO Concerned CEO-Top Leadership award. They were Dr. Joko Triraharjo from PT Putra Perkasa Abadi, Avep Disasmita (PT Pertamina Drilling Services Indonesia), Diidiek Hartantyo (PT Kereta Api Indonesia). Then, Achmad Khoiruddin, Faried Iskandar Dozyn, Esa Wisnu Prabowo, and Gamal Imam Santoso.

For the company category, WSO Indonesia gave awards to PT PT Kilang Pertamina Internasional II Dumai and PT Kerry Ingredients Indonesia.

Furthermore, for the professional category, WSO Indonesia gave awards to Dr Adithya Sudirano (ITS), R Amiroel Pribadi Maduretno (ITPB), and Dr Ir Hanifa Handayani (ITPB).

For the organization, the award was given to the Pertamina RU III-FSPPB Workers Union. In the transportation category, WSO Indonesia gave an award to PT Prima Armada Raya.

Lastly, WSO Indonesia also gave an award to PT Phitagoras Training & Consulting for the WSO Concerned Educational category. ▲

PT Pertamina Drilling Services Indonesia

Building Generative OSH Culture through *Salam Lima Jari* Program

▲▲▲ The *Salam Lima Jari* (Five Finger Salute) program has been one of the efforts by PT Pertamina Drilling Services Indonesia (PDSI) in leveling up safety awareness in the work environment.



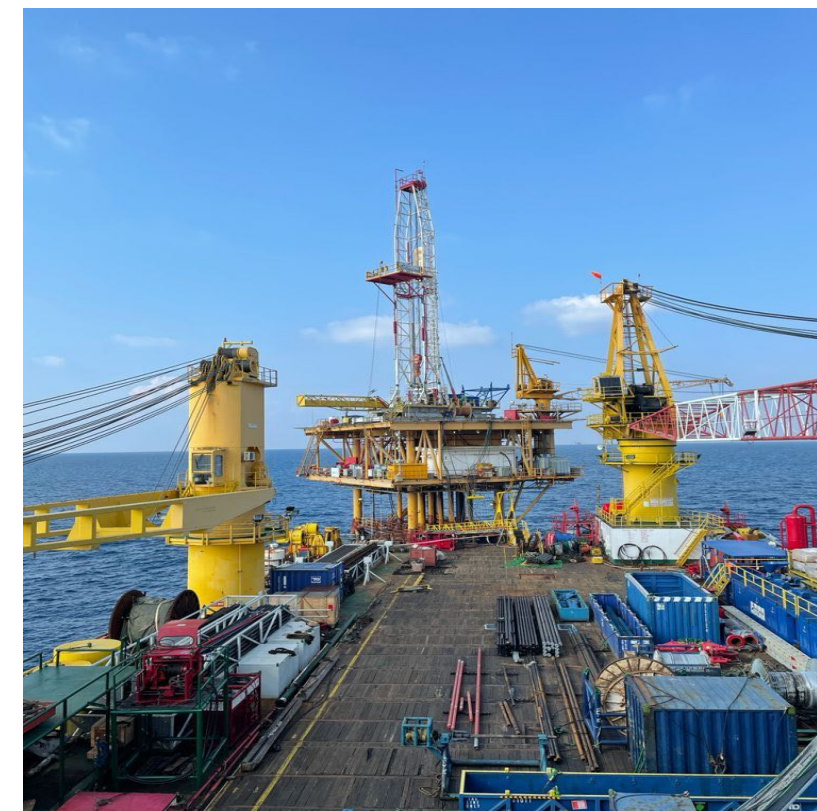
THE BRILLIANT achievement of PT Pertamina Drilling Service Indonesia (PDSI) having succeeded in winning Platinum in the 2025 WSO Indonesia Safety Culture Award (WISCA). Platinum is the highest level in assessing the level of maturity of the K3 culture achieved by a company.

The higher the level of cultural maturity achieved, the better the level of implementation of OSH in a company. These levels consist of Pathological (1), Reactive (2), Calculative (3), Proactive (4) and Generative (5). Platinum is awarded to companies that have achieved OSH cultural maturity level 5 (Generative).

This award marks PDSI's long process in implementing OSH Culture, explained President Director of PT PDSI Avep Disasmita. Avep added that one of the efforts to improve the OSH culture was to implement the Five Finger Salute since 2015. At that time, PDSI was still at the Reactive level with a figure still below 2.5. However, with this Five Finger Salute program, especially in terms of leadership, the results were positive.

"Alhamdulillah, since this program has been used, it has increased. Now we are at level 4.3 starting from Proactive. From Reactive, Calculative, Proactive and we really went through it," he added.

PT PDSI is a subsidiary of PT Pertamina Hulu Energi (PHE). PT Pertamina Drilling Services Indonesia (PDSI), as Pertamina's Upstream Subholding, is known to have a high-risk core business. "PDSI is a subsidiary of Pertamina Hulu which operates in the services sector for oil, gas, and energy. PDSI's vision is to become a World Class Drilling and Energy Services Company, PDSI is committed to providing high-quality services with a sustainable and innovative approach," said Avep.



As an oil and gas drilling company, Avep is well aware that the risk of danger while working is something that must be eliminated. Therefore, since 2015, the company has really prioritized the safety aspect in all lines of the company's operations.

According to him, it is non-negotiable that the safety element must be a commitment and priority of attention for all parties involved with the company. The implementation of these safety aspects is carried out continuously in every operational activity, which is a form of PDSI's main responsibility in supporting the company's performance.

"HSSE foundation is formed from excellent HSSE performance. HSSE function is included in sustainable business growth strategy," he said.

Without stopping, PDSI management always emphasizes that all employees improve the safety culture at work. In the office or in the field there is no difference, all activities must be carried out with great care.

PDSI implements HSSE Golden Rules and Pertamina's Corporate Life Saving Rules (CLSR). In addition, there is the Five Fingers Salute which is expected to accelerate the penetration of generative HSSE culture, starting from the lower level to management. Avep also mentioned that BUMN Core Value AKHLAK (Trusted, Competent, Harmonious, Loyal, Adaptive, and Collaborative) is included as a safety culture reinforcement in the workplace.

Five Elements of the Five Finger Salute

The Five Fingers Salute is a Trade Mark of the HSE program that has been carried out by PDSI since 2015 which consists of five main pillars. The Five Fingers Salute program has been running for ten years now.

Of course this is quite a long journey. Why is it called the Five Finger Salute? This is important to protect the worker's hands and fingers. This is because the most common accident in drilling is a pinched finger. It's quite simple but with the Five Finger Salute it becomes a cultural concept that we are centering on PDSI, he said.

This Five Finger Salute consists of five main pillars. Namely Leadership Commitment, Behavior Based Safety, Green Drilling, Quality Assurance, and Security Excellent.

First is Leadership Commitment. In PDSI, this HSSE commitment starts from the top leadership and then downwards. If there is no commitment from the top, it is certain that the ranks below will certainly find it difficult to implement HSSE in the work environment.

As a leader, continued Avep, in the implementation of good OSH, the reinforcement and influence factors of leadership are very important. Because safety culture is a journey in line with improvement. Here, as a leader, you must create a good environment for workers, achieve targets or KPIs, and provide improvement and support. Workers will be happy that leadership intervenes. Leaders are visible and their support can be felt.

"I myself am a family leader type. I often go down to the field, brainstorming directly with workers. Yesterday we had an idea why don't we involve

workers' wives to convey messages related to safety. Because this turned out to be quite powerful." "From now on, every time management conducts MWT, I always invite employees' wives to convey the importance of maintaining work safety. It feels different. If I or management remind them about work safety, it might be normal. But if the wife speaks directly to remind them to maintain safety while working, this directly inspires workers to work more carefully," he added.

Not only that, Avep allows workers in the field to put up family photos in their work environment. This is an effective message for all workers that they need to keep themselves safe considering the family who is waiting at home. It turns out that this is quite effective, simple, inexpensive, just by putting up family photos

but very powerful for improving OSH culture. He emphasized, "That is some of the PDSI initiatives that we use. So we use a family approach."

Second is Behavior Based Safety. PDSI has Corporate Life Saving Rules (CLSR). In CLSR, there are 15 components that are prone to accidents in Pertamina. For example, the Observation Program. In this program, there are officers who supervise the implementation of HSSE. From the observation, it will be seen what can be improved. Here the concept of reward and consequences is applied, because there may be good things that are not conveyed.

Third involves the Green Drilling Program which is an environmentally friendly program. PDSI has an emission reduction program. In this program, PDSI drills but does not consume too much fuel. PDSI increases the use of renewable energy sources by using solar panels. The use of solar panels is also carried out in several drilling facilities. The lights that illuminate offshore drilling facilities, for example, already use solar panels.

Currently PDSI is in the research and trial phase of hybrid rig. For offshore drilling, two types of fuel will be used, namely conventional diesel and half of it uses gas. Indeed, gas still emits emissions, but much lower when compared to diesel emissions. PDSI operations do not use TL-based lamps at all, all lamps are LED. Indeed, the price is more expensive, but in the long term, LED lamps are more efficient and environmentally friendly.

And then in utilizing domestic waste there is the application of Takakura Composter to manage domestic waste. PDSI uses a patent to manage domestic waste. Waste from catering is collected, shredded, then fermented, and the result becomes fertilizer. This fertilizer is distributed to the surrounding community for free.



President Director of PT Pertamina Drilling Service Indonesia (PDSI), Avep Disasmita (right), receiving the Platinum award from the Secretary General of WSO Indonesia, Rika Idroes.



Fourth, Quality Assurance, which is a program related to inspection. There are three categories of inspection in PDSI, namely HR-based, API Standard-based, and Manufacture Standard. There is also a rehabilitation inspection program that ensures that PDSI equipment is in accordance with the contract agreement between the client and PDSI. In this program, it is expected that the operational aspects will be better and of course not forgetting the HSSE aspect.

Fifth, Security Excellent. This element is an effort to create a joint program, for example security engagement. In this element, PDSI's steps to empower the environment and stakeholders in each drilling area will be seen. All parties, both officials

and local communities, will be involved. The goal is of course to support drilling activities.

Innovation and Training

Avep added that in the implementation of OSH in the PDSI environment, not only the Five Finger Salute is carried out. There are several other enablers, including innovations used by PDSI. The latest one is the "Real-Time Unsafe Act & Unsafe Condition Detection System Innovation with CCTV AI (AI-See-U)", which is part of the company's efforts to improve supervision and prevention of safety risks in the field.

"Through this CCTV I can detect workers who do not use PPE online. And I think this is very important to increase awareness and it prevents unsafe acts and unsafe conditions," he explained.



In addition, PDSI continues to develop innovations to support the Five Fingers Greeting. "We have a mission to reach the generative level. But I this is not the end but what is more important is the process of achieving that stage by continuing to learn and evaluate. So it is indeed quite a long process," he said.

Avep also mentioned the BUMN AKHLAK value (Trusted, Competent, Harmonious, Loyal, Adaptive, and Collaborative; *Amanah, Kompeten, Harmonis, Loyal, Adaptif, Kolaboratif*) we include as a safety culture reinforcement in the workplace. In my opinion, this is a factor that makes PDSI able to reach the generative level.

Given the high-risk work risks for workers, Avep always reminds all workers to have sufficient competence. The way is through certification and drill training at all times so that friends are always ready.

One of them is PDSI has a UCAD (Upskilling Competence Assessment Database) program. Before workers go to the field to get on the rig, they will be assessed. The results will show whether or not workers are ready to work in the field. So that you can find out the condition of friends who will go to the field ready to work with this UCAD.

What is also important is training. PDSI currently has the Indonesia Drilling Training Center (IDTC). This is a training center that we have that has real rigs and simulators. All are truly trained and certified.

In addition to being used to train domestic professionals, this training has been sold abroad. Last year, it trained workers from Tanzania Petroleum Cooperation, Namibia, and East Timor. So they were trained for 3-4 months to become drilling experts. This means that IDTC has gone international. "So hopefully my dream is that IDTC must become a world-class center for excellent drilling in Indonesia," he said.

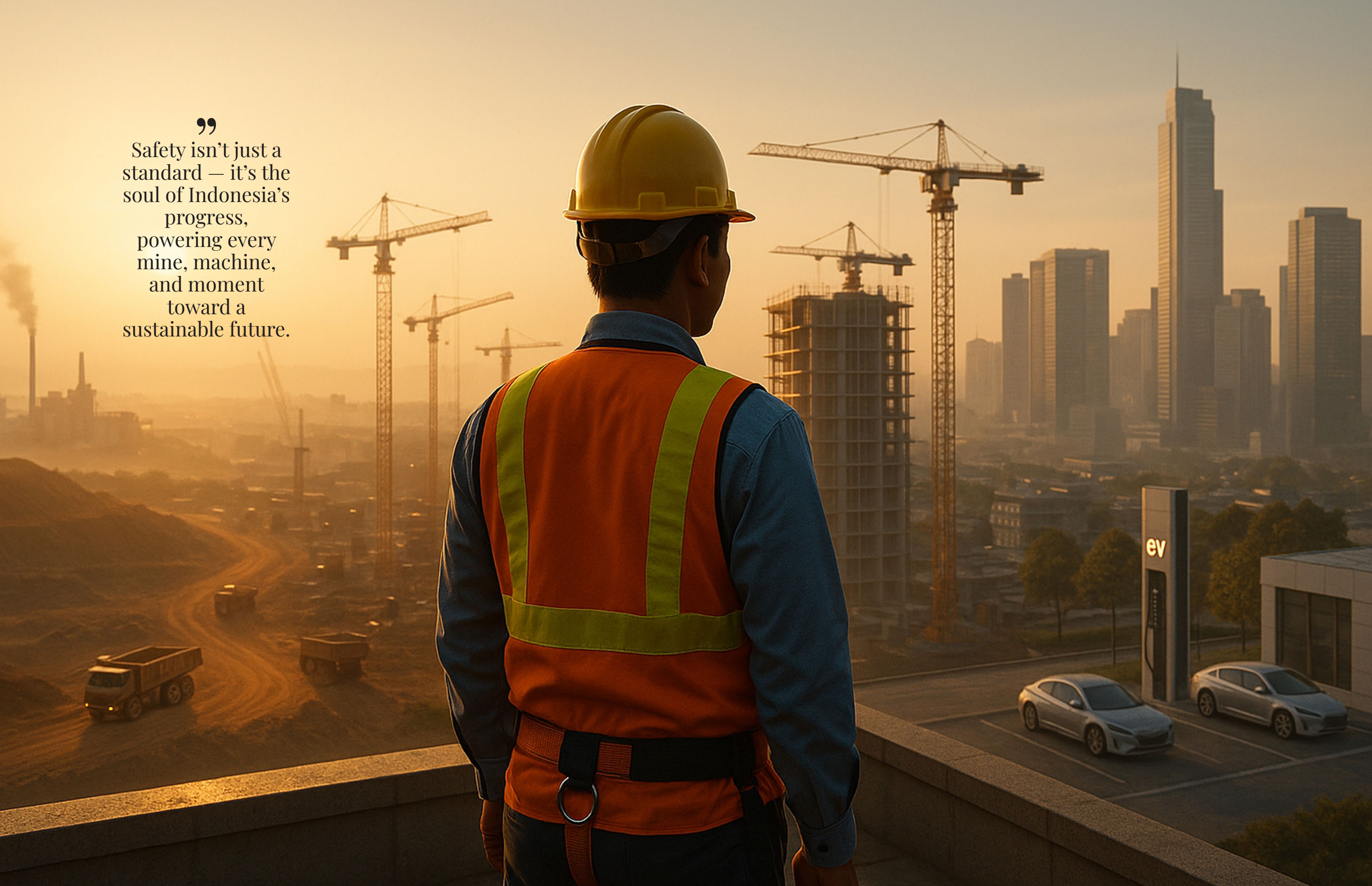
One of the things that PDSI has achieved is safe working hours. In this case, PDSI has received appreciation from the Ministry of Manpower. Until now, PDSI has pocketed more than 95 million safe working hours since the incident in 2015.



Regarding OSHE management standards, PDSI refers to standards and regulations that apply in Indonesia and internationally. Be it regulations from the Ministry of Manpower, Oil and Gas, KLHK, international standards such as API (American Petroleum Institute) and ISO Series certificates such as ISO 9001, 37001, 45001, 14001. PDSI consistently implements all standards. In addition, there is a PT Pertamina Persero HSSE management system based on SUPREME which applies throughout Pertamina.

Avep hopes that PDSI will become a world-class drilling and IDTC service company. If PDSI wants to be world-class, it must provide the best service quality and also excellent HSSE. This excellent HSSE is what I always emphasize must be strong. "So the foundation of safety, the foundation of HSSE, this has been proven by PDSI not only drilling Pertamina's wells but also drilling Exxon Mobil's wells in Banyuurip. Exxon Mobil is very satisfied with PDSI's work results. This means that we have been exposed internationally. So PDSI is a national company but has been recognized by Exxon Mobil because it has implemented HSSE," he added enthusiastically.▲

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Safety isn't just a
standard — it's the
soul of Indonesia's
progress,
powering every
mine, machine,
and moment
toward a
sustainable future.



”

Before we build anything
— a road, a refinery, or
a reputation — we must
first build a mindset where
safety leads the way.

