AI-HSSE 2027

International Conference & Exhibition on
Artificial Intelligence in
Health, Safety, Security & Environment

Supported By
Ministry of Oil and Environment

Hosted By

20 - 22 April 2027 | Gulf Convention Centre Kingdom of Bahrain | www.aihsse.com | #AIHSSE2027

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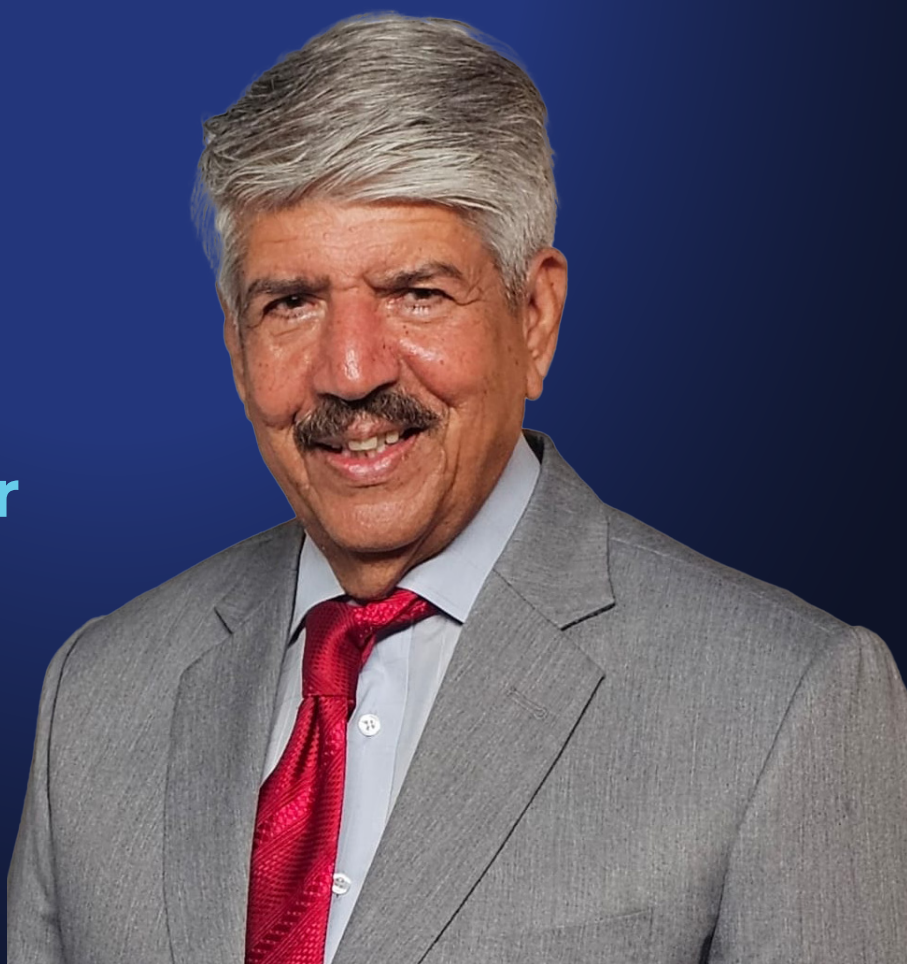
AI-HSSE 2027 LEADERSHIP

In the presence of

H.E. Dr. Mohamed bin Mubarak Bin Daina
Minister of Oil and Environment
Special Envoy for Climate Affairs
Kingdom of Bahrain

Conference Chair

Dr. Mustafa Al Sayed
Chairman
Bahrain Health & Safety Society



ABOUT THE CONFERENCE

The **AI in Health, Safety, Security & Environment International Conference & Exhibition (AI-HSSE 2027)** serves as a premier global platform focused on practical, deployable, and governed AI applications in safety-critical and high-risk sectors.

AI-HSSE 2027 brings together government authorities, regulators, industry leaders, researchers, and technology providers to share knowledge, present real-world case studies, and shape the future of AI-enabled HSSE transformation.

The conference emphasizes implementation, measurable impact, and regulatory alignment, positioning Artificial Intelligence as a strategic enabler for incident prevention, operational resilience, critical infrastructure protection, and ESG performance.

CALL FOR PAPERS

AI-HSSE 2027 invites original technical papers, applied research, case studies, and policy-focused contributions that demonstrate how Artificial Intelligence can improve health, safety, security, and environmental outcomes across industries.

Submissions should prioritize practical applications, lessons learned, regulatory compliance, and real-world deployment.

CONFERENCE

TRACKS & TOPICS

1. Predictive Safety, Risk & Resilience

- AI-based hazard prediction and early warning systems
- Predictive analytics for occupational safety and near-miss analysis
- Machine learning for accident trend forecasting
- Risk modelling, scenario analysis, and business continuity planning
- Integration of global risk indicators (climate, supply chain, regional instability)
- AI-enabled mitigation planning and resilience strategies

2. Real-Time Monitoring & Intelligent Operations

- Computer vision for safety monitoring and anomaly detection
- Wearables and IoT-enabled safety intelligence
- Autonomous inspection and monitoring systems
- AI-powered operational visibility and situational awareness
- Monitoring disruptions linked to external or regional risks
- Real-time monitoring of supply chain vulnerabilities and disruptions
- Use of satellite imagery, drones, and remote sensing for risk detection

3. Industrial Security, Cyber & Critical Infrastructure

- AI in physical security and access control
- Protection of critical assets (energy, water, transport)
- Cyber-physical security convergence (OT, ICS, SCADA)
- AI-enabled threat detection and response
- Integration of AI with emergency and crisis management
- Assessment of cross-border and geopolitical security risks
- Protection against sabotage and politically driven disruptions

4. Emergency Response & Crisis Management

- AI for disaster response optimization
- AI-enabled emergency communication systems
- Enhancing situational awareness during crises
- Lessons learned from recent regional events
- Coordination with authorities and multi-agency response

5. Environmental Intelligence, ESG & Climate Risk

- AI for environmental monitoring and impact assessment
- Climate risk modelling and resilience planning
- AI in emissions tracking, waste management, and sustainability
- Data-driven ESG performance and reporting

6. Digital Twins, Simulation & Workforce Training

- Digital twins for safety and environmental risk management
- AI-enabled simulation and predictive modelling
- Virtual reality (VR) and augmented reality (AR) for HSSE training
- AI-driven competency assessment and workforce readiness

7. Governance, Ethics & Healthcare AI

- AI governance frameworks for HSSE applications
- Regulatory compliance and standards alignment
- Ethical AI, transparency, and accountability
- Managing AI risks in safety-critical environments
- AI in healthcare, telemedicine, and patient safety
- AI-driven predictive models for disease and epidemic trends

8. AI-Powered Foresight & Multi-Crisis Scenario Planning

- Simulation of multi-crisis scenarios (cyber, geopolitical, environmental)
- AI-powered early warning dashboards and foresight tools
- Strategic horizon scanning for emerging HSSE threats
- AI for geopolitical risk integration into HSSE planning
- Cascading failure modelling across interconnected systems
- AI-enhanced business continuity and recovery frameworks
- Compound risk events: climate + cyber + social unrest
- AI-assisted national HSSE resilience strategy development

WHO SHOULD SUBMIT

- Researchers and academics
- Industry practitioners and HSSE professionals
- Government and regulatory authorities
- Technology developers and solution providers
- Consultants and system integrators
- Policy and standards specialists

SUBMISSION
CATEGORIES

- Technical & Research Papers
- Industry Case Studies & Implementation Papers
- Policy, Regulation & Governance Papers
- Innovation & Emerging Technology Papers

ABSTRACT
CONTENT

Your abstract should provide sufficient information for evaluation by the Technical Committee. Please ensure your abstract includes the following elements:

- **Title:** Choose a title that is relevant to the session theme.
- **Description:** Provide a summary of your abstract in 200 words, including the key aspects of your research or topic.
- **Conclusions:** Highlight the major conclusions of your work, including how they differ from or add to previous research on the same topic.
- **Presenter Details:** Include your full name, job title, organization, email address, and mobile phone number.
- **Presenter Bio & Photo:** Please submit a short biography of the presenter along with a high-resolution photo separately.
- **Technical/Practical Contributions:** Describe the significance of your work and its contributions to HSSE knowledge, such as innovative solutions, practical applications, or improvements in safety practices.

ABSTRACT SUBMISSION
GUIDELINES

To ensure a smooth review process, please follow these submission guidelines

- **Abstract Length:** Maximum 200 words.
- **Relevance:** Ensure that the abstract is relevant to the chosen track and topic.
- **Attachments:** Additional materials such as graphs or illustrations are welcome.
- **Presenter Details:** Include full name, organization, job title, email, and phone number.
- **Presenter Bio & Photo:** Please provide a bio and high-resolution photo separately.
- **Conflict of Interest:** Disclosure of any potential conflicts of interest is required.

Submission Deadline: 31 October 2026, Submit abstracts to info@aihsse.com

EVALUATION
CRITERIA

The Technical Committee will evaluate abstracts based on the following:

- **Quality:** Technical depth and clarity of the submission.
- **Innovation:** Novelty and originality of the proposed solution or research.
- **Impact:** Potential relevance and impact on the industry.
- **Industry Relevance:** Alignment with global HSSE trends and practices.

GUIDELINES FOR
SELECTED ABSTRACTS

- **Notification of Acceptance:** Authors will be notified after 30 November 2026, whether their abstract has been accepted.
- **Presentation Preparation:** Authors of accepted abstracts must prepare a PowerPoint presentation. Instructions will be provided upon acceptance.
- **Complimentary Access:** Presenters will receive complimentary access to the entire conference. Co-authors wishing to attend must purchase a delegate pass.
- **Travel & Accommodation:** The organizer does not cover travel or accommodation expenses for presenters.

IMPORTANT
DATES

Abstract Submission Deadline	Notification of Acceptance	Final Paper Submission	Final Program	Event Date
31 Oct 2026	30 Nov 2026	31 Dec 2026	31 Jan 2027	20 – 22 April 2027

SUBMISSION & ENQUIRIES

AI-HSSE 2027 Secretariat
Kingdom of Bahrain
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AI HSSE

20 - 22 April 2027

Gulf Convention Centre
Kingdom of Bahrain

GET INVOLVED

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