

Reproducible Technology Case Sharing

—— Smart Training and Emergency Simulation Drill Platform

Anvision

➤ Platform Profile

➤ Intelligent Training and Emergency Simulation Drill Platform

1) Process Simulation and Modeling

5) Interactive Learning

2) Emergency Simulation Modeling

6) All-terminal Training Platform

3) 3D Inspection

7) Intelligent Miniature Factory

4) Team Cooperation Exercise

➤ Summary of Technological Innovation Points

Intelligent Training and Emergency Simulation Drill Platform —— Brief Introduction

The intelligent training and emergency simulation drill platform uses data model, virtual reality and artificial intelligence technology to simulate the emergency design system, aiming to train employees to respond to emergencies quickly and effectively, such as fire and equipment failure, and improve their ability to deal with various crises and safety awareness by simulating the real scenes.

Process Simulation Modeling

Emergency Simulation Modeling

3D Inspection

Team Collaboration Drill

Interactive learning

Full-Terminal Training Platform

Intelligent Miniature Factory

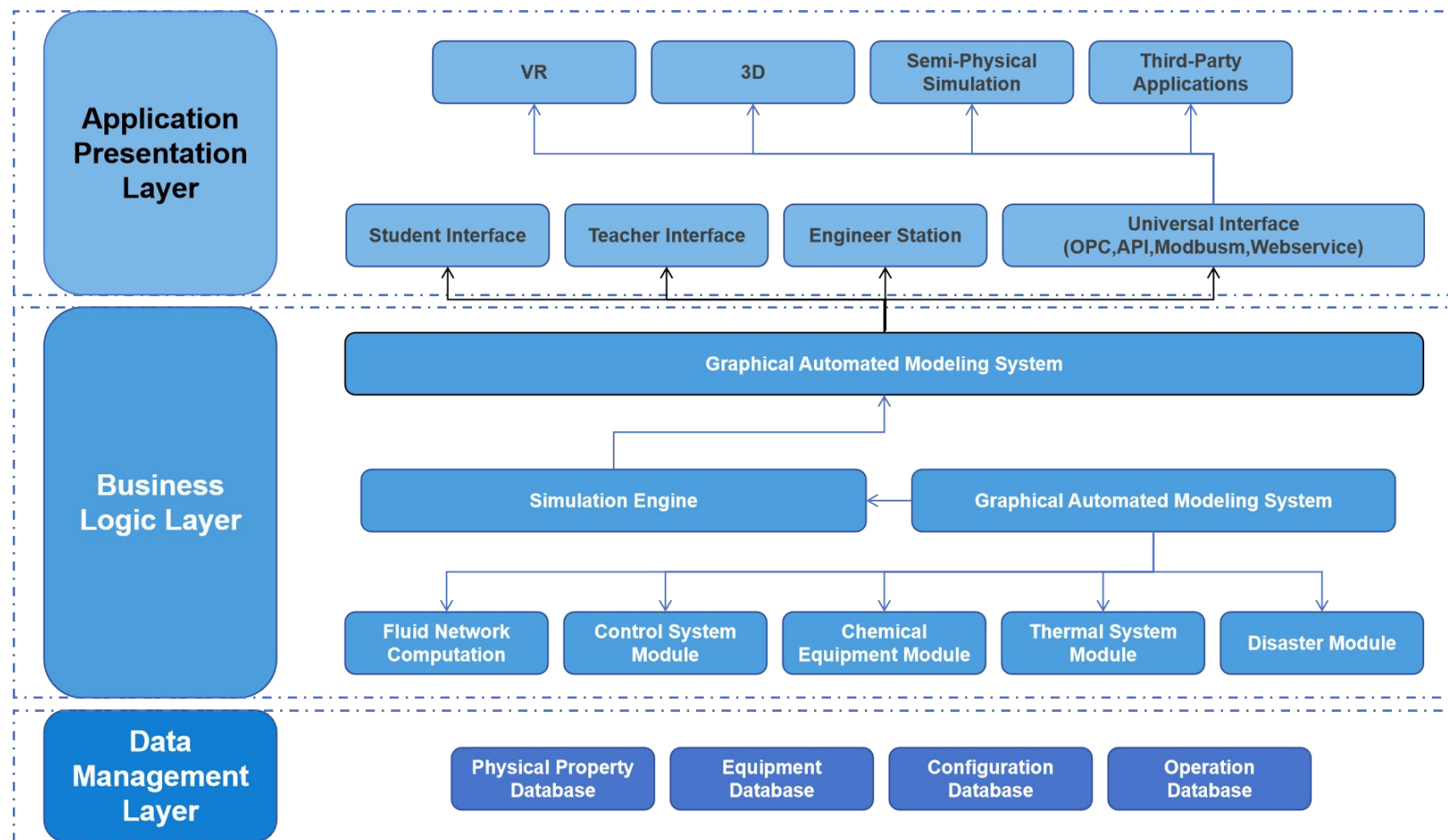


Intelligent Training and Emergency Simulation Drill Platform — Brief Introduction

➤ The platform combines virtual reality (VR), 3D technology and entity simulation, to achieve the simulation coverage of the whole process of petroleum engineering production and operation.

➤ Including the control system, petrochemical equipment module, disaster module, fluid network computing and other modules, to realize on-site monitoring and real-time alarm simulation.

➤ Adopt modular design, easy to expand and maintain.



Customer pain points and market opportunities

Customer Pain Points



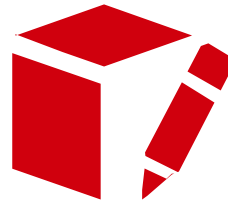
High Cost of Training

Traditional emergency training is expensive and involves large amounts of resources.



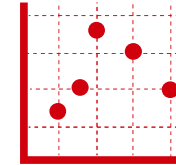
Training Risks and Safety Issues

Field simulation has potential safety hazards, which may lead to accidental injuries.



Lack of Real-Time Feedback and Adaptability

Staff feedback was delayed and lack of personalization.



The Training Effect is Difficult to Quantify

Traditional training evaluation is not accurate, it is difficult to quantify the effect, and provide personalized improvement suggestions.



To Respond to New Emergencies Lack of Preparation

Emergency training update lag, it is difficult to deal with new challenges.

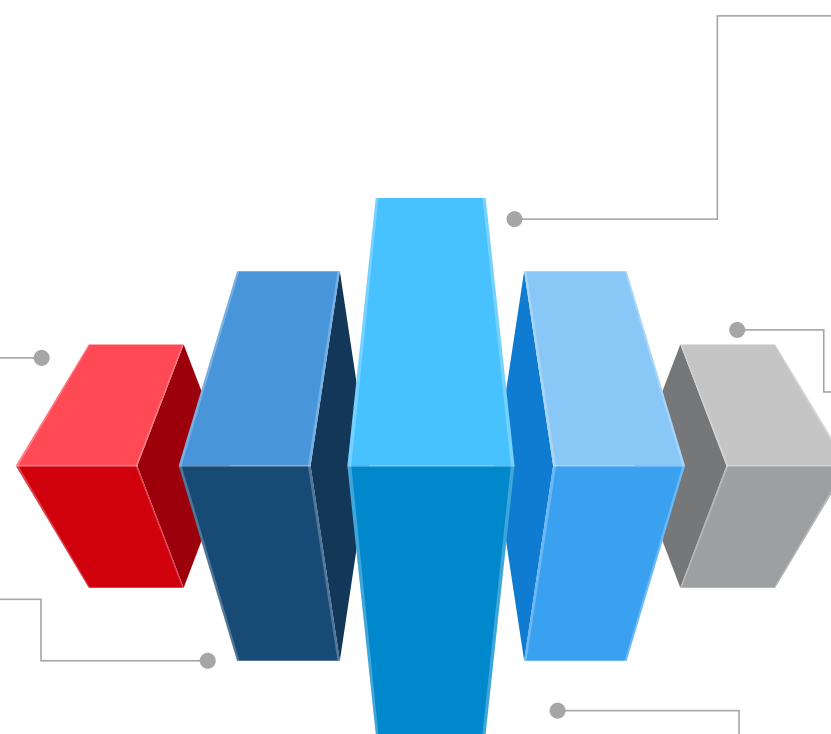
Market Opportunities

Safety Training and Emergency Response Improvement

VR and 3D simulations reduce the high cost and safety risks of traditional training, providing a low-risk simulation environment while enhancing response capabilities in emergency situations.

Remote Support and Operation

Remote technical support reduces reliance on field training, providing flexibility while reducing safety risks in training.



Real-Time Monitoring and Alarm System

Real-time monitoring and alarm systems provide immediate feedback for the training, help to quantify the training effect, and provide suggestions for improvement.

Flexibility in the Modular Design

The modular design is easy to update, can quickly adapt to the training needs of new emergencies, and improve the timeliness of preparation.

Industry-Specific Solutions

Solutions designed specifically for the petroleum engineering sector meet the industry's need for efficient and personalized training.

Provides a Set of Efficient and Intelligent Safety Training and Crisis Management Solutions

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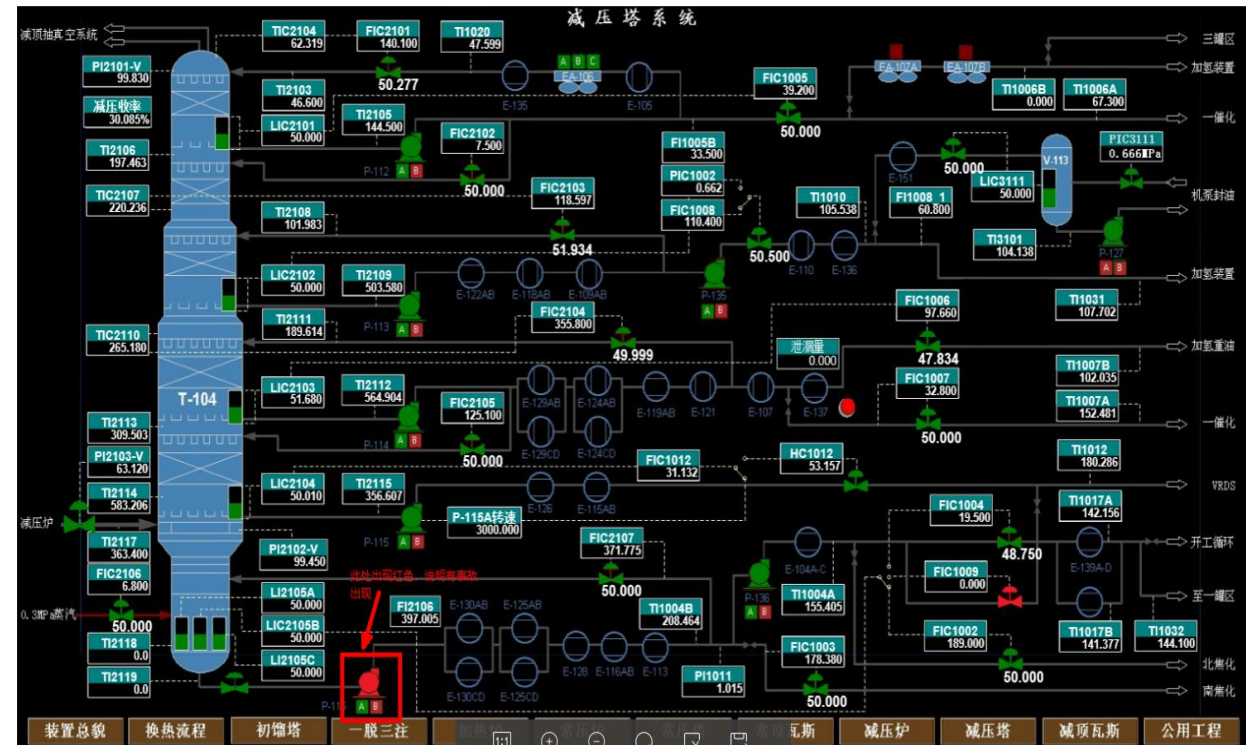
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➤ Summary of Technological Innovation Points

Process Simulation Modeling

The process modeling focuses on the process data (including temperature, flow, pressure, etc.), and superposition the accident phenomenon based on the steady-state model.

- Improve efficiency: Rapid evaluation of different schemes through computer simulation.
- Accurate analysis: micro-level simulation to provide accurate process parameters.
- Safety assurance: testing and verification without actual risk.
- Intuitive visualization: a graphical interface showing complex processes.
- Optimize the process: Find the best solution.
- Flexible application: to adapt to a variety of process conditions.



Functional Module

Emergency Simulation Modeling

Emergency Simulation modelling is a tool used to simulate response and resource management in emergencies, helping organizations predict and prepare for efforts to respond to emergencies, providing a platform to test and improve emergency response plans.



Realistic Scene Simulation

The simulated scene is close to the complexity of the real world and covers a variety of possible emergency situations, such as accident leakage, fire and explosion, natural disaster, etc.

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Quick Response & Decision Support

Quick response to actual or hypothetical emergencies, providing data support and analysis to help develop a more effective emergency response plan.



Resource Scheduling Optimization

Help to determine the most efficient resource allocation and scheduling scheme in different situations.



Risk Assessment and Training

By simulating different situations, help to evaluate potential risks and coping strategies, and improve the coping ability of emergency responders to real situations.

Functional Module

3D Inspection

Highly Visual

Show show every detail of the device or structure, providing more abundant visual information than two-dimensional images.

Data Integration and Intelligent Analysis

Integrate with other systems such as Internet of Things devices to achieve real-time data update, and conduct automatic problem identification and analysis combined with artificial intelligence.

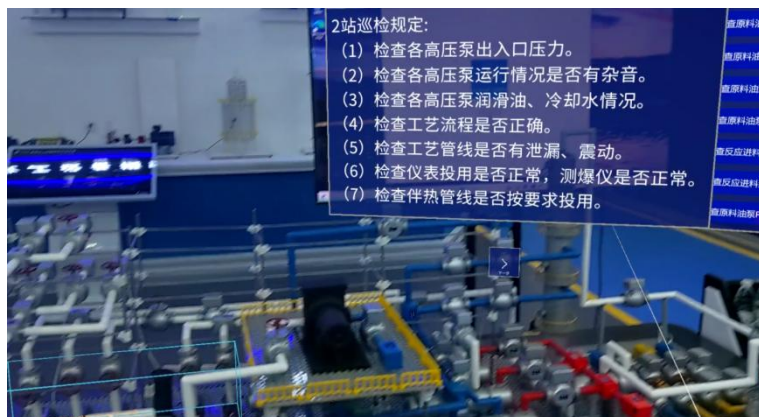
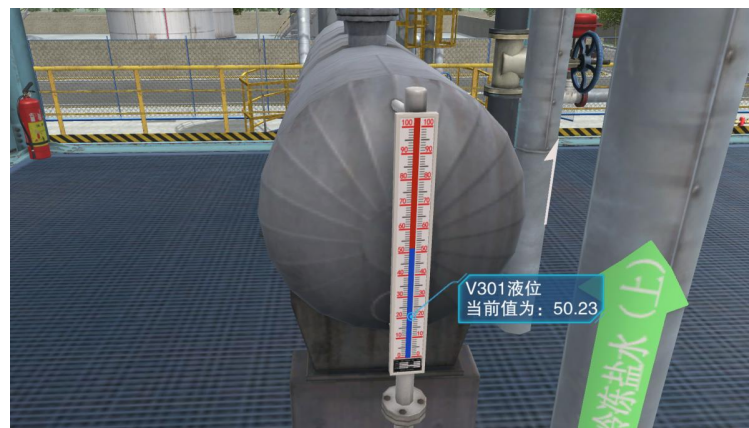


Interactivity and Operability

Free operation of the three-dimensional model perspective, virtual inspection and operation, enhance the flexibility and efficiency of inspection.

Security Enhancement

In complex or dangerous environments, it helps to identify problems in advance and improve safety.



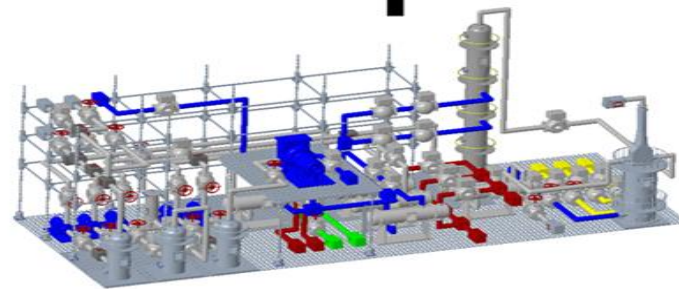
Functional Module

MR Interactive Training



Server Operation:
Implementation of "Digital Factory"

Network Communication



OTS Operator Simulation Training System



HoloLens 2 Holographic Glasses
Enabling Augmented Reality Virtual Scenarios

Immersive Experience	Multi-Source Data Integration	Real-Time Interaction	Scene Simulation and Visualization	Remote Collaboration
<p>Providing an immersive training environment that enables users to learn and operate in almost real scenarios.</p> <p>东方智慧 全球分享 Oriental wisdom , Global sharing</p>	<p>Integration of data from different sources: simulation data, sensor data, etc.</p>	<p>You can interact with virtual elements in real time, such as operating virtual devices or communicating with virtual characters, enhancing engagement and practicality in learning.</p>	<p>It can simulate a variety of complex or dangerous working environments, such as accident leakage, fire, explosion, natural disasters, etc., allowing users to practice under safe conditions.</p>	<p>MR supports remote collaboration, allowing geographically diverse people to train and learn together.</p>

Functional Module

Team Collaboration Drill



Multi-Role Participation

Team members play different roles, simulating responsibilities and task assignments in a real work environment, helping to improve the understanding and coordination among team members.



Real-Time Communication and Collaboration

Support real-time communication and data sharing, enabling team members to communicate and collaborate instantly and improve emergency handling efficiency.



Decision Making Training

You can practice the decision-making process to improve your ability to deal with actual situations.



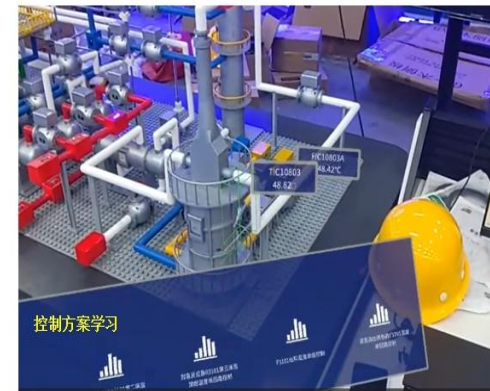
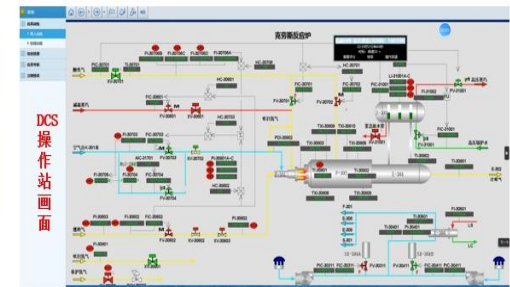
Minimizes the Error Risk

Can reduce the risks and costs in the real environment, allowing teams to learn and make mistakes in a safe environment.



Performance Tracking and Feedback

Ability to track the performance of team members and provide detailed feedback to help the team identify strengths and weaknesses and improve future collaboration and emergency response.



Functional Module

Full-Terminal Training Platform



Comprehensive:

Comprehensive function and rich process and emergency training content.



Compatibility:

A wide range of equipment and operating system support, including virtual reality (VR) and augmented reality (AR) devices.



Interactivity:

Instant feedback, interactive testing, to improve user engagement and learning results.



Collaborative Social Learning:

Support the communication and collaboration between users, and promote knowledge sharing and team learning.



Custom content:

Provide customized learning content according to the learning needs and progress of different users.



Across-device safety:

Ensure data security and privacy protection on all devices, and comply with relevant data protection regulations.



Functional Module

Intelligent Miniature Factory



- Mixed reality technology integration: presenting virtual simulated data and images in a real physical environment to provide users with a more intuitive and interactive experience.



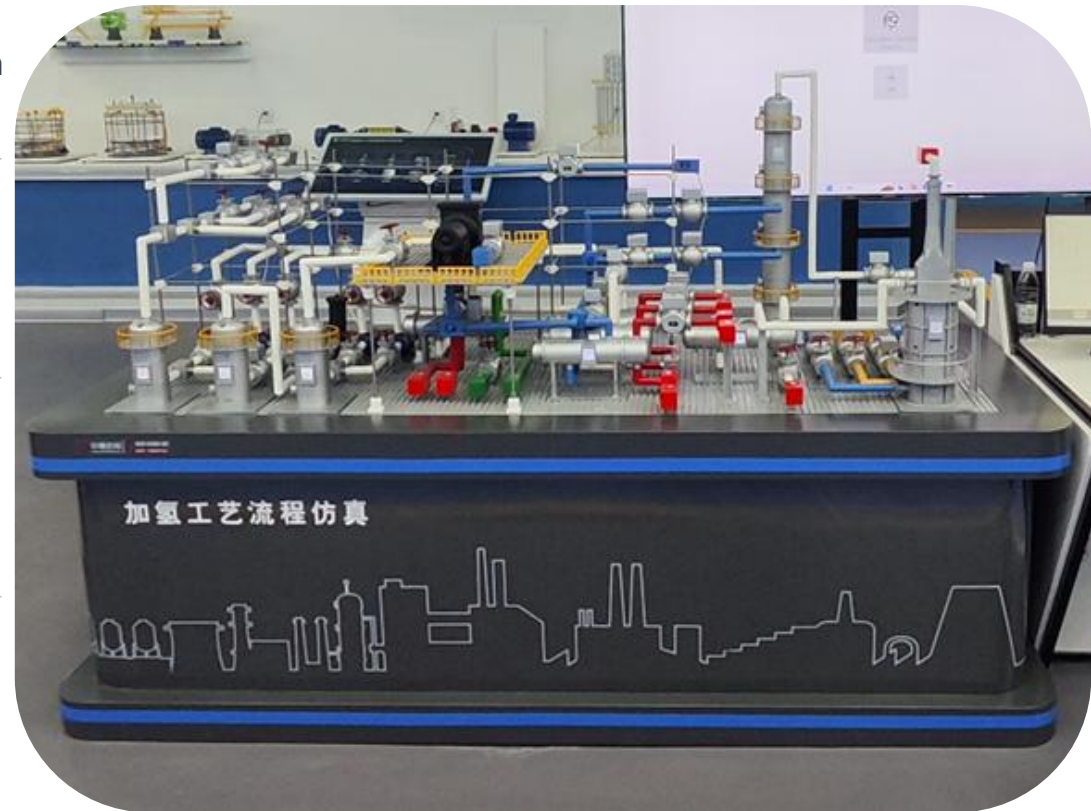
- High simulation interactive experience: provide highly realistic interactive experience, improve skill training and decision-making practice ability.



- Scalability and flexibility: A flexible design that can be easily expanded or modified to suit different training requirements and scenarios.



- Low cost and high efficiency: significantly reduce training costs compared to traditional training, including equipment purchase costs, maintenance costs, and other costs saved due to reduced physical operations.



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Full Major and Full Scene Simulation

It covers all aspects of petroleum engineering, including the process of chemical production plant, production operation, abnormal analysis, equipment inspection, risk identification, special operation, emergency drill and other key operations, and simulates the whole production process.

Team Collaboration and Interactive Training

It is particularly important to support multi-user collaborative interaction, allow team members to participate in simulation exercises, strengthen teamwork and communication, and improve collective emergency response capabilities.



Intelligent Miniature Factory

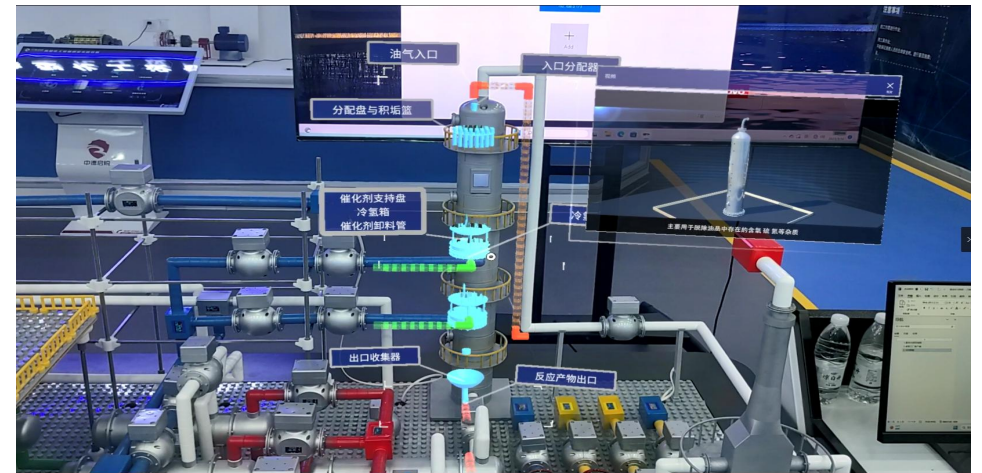
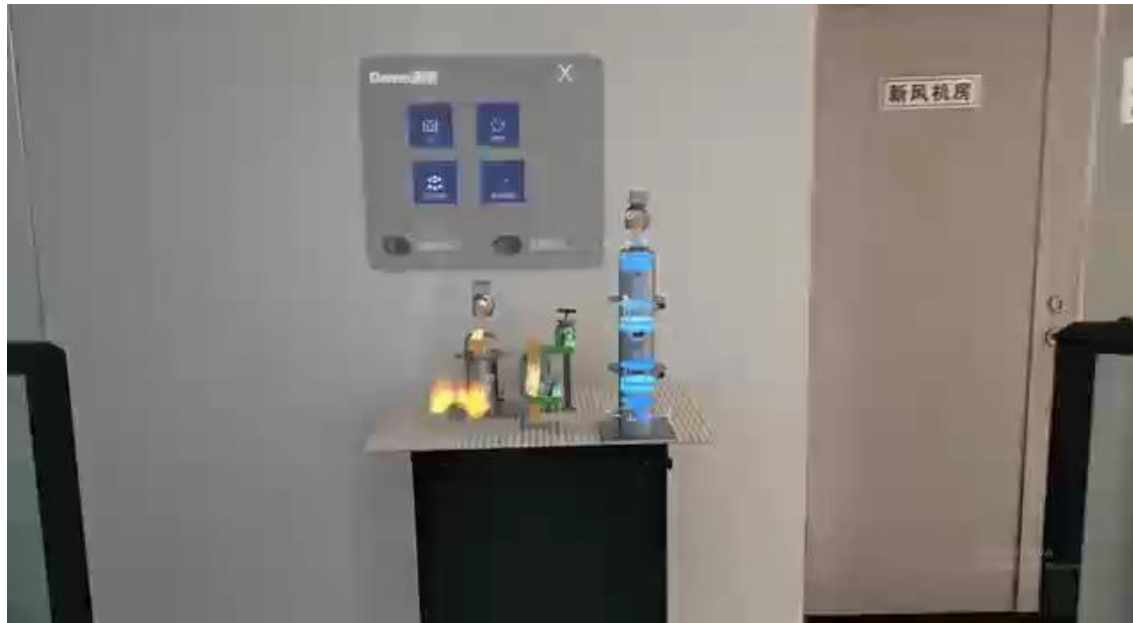
The miniature model is used to simulate the operation of the entire production site, and the physics and digital technology are combined to provide users with a comprehensive and comprehensive simulation of the industrial environment.

Multi-Terminal Training Platform, Real-Time Feedback

Support multi-terminal learning, improve compatibility, real-time feedback mechanism to enhance interactivity and learning efficiency, and effectively improve user training experience.

Case Study

- Yanshan Petrochemical Hazardous Chemical Safety Practical Training Center



*Committed to Making Digitalization
in the Oil and Gas Industry
Simple and Practical*