



In Conversation with Westwell: From Automation to Orchestration

To begin, could you briefly introduce Westwell's concept of "Physical AI + Operational AI" as a dual-engine approach to smart logistics? What does this framework mean?

At Westwell, we believe the next stage of logistics transformation requires both intelligent execution and intelligent orchestration.

Physical AI focuses on execution in the physical world. It includes autonomous driving systems, intelligent vehicles and perception technologies that enable equipment to operate safely and reliably in complex environments such as ports, airports and logistics hubs. Built on

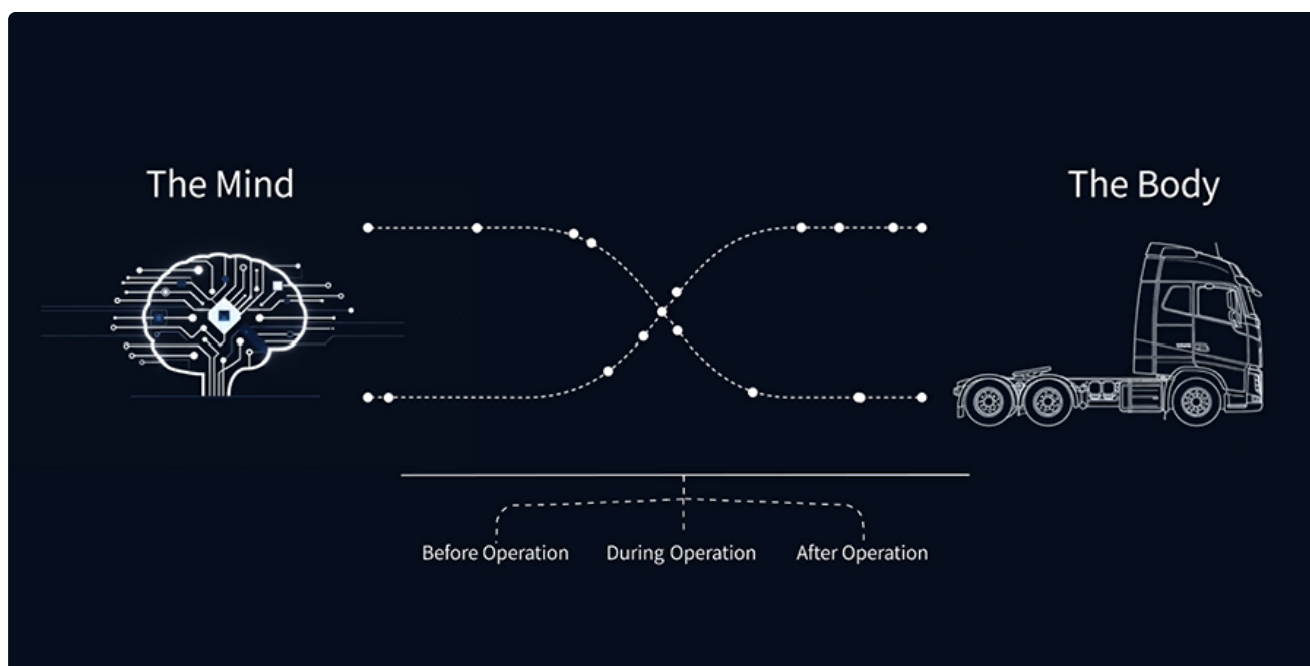
over a decade of global operational experience, [Westwell's autonomous systems](#) are designed to perform under mixed-traffic conditions and in challenging environments, while maintaining stable and predictable operations.

Operational AI focuses on orchestration and decision-making. Through [ReeWell](#) and the Hymala world-model architecture, it integrates dispatching, equipment coordination, multi-party collaboration and predictive analytics into a unified operational framework. The objective is to break down information silos, improve visibility and enable more intelligent decision-making across the entire logistics workflow.

Together with Westwell's intelligent charging and battery-swapping solutions, Physical AI and Operational AI create an integrated ecosystem for vehicles, scheduling and energy. This enables customers to improve efficiency, reduce operational complexity and scale intelligent logistics operations more effectively.

Westwell has just launched the next generation of ReeWell. Could you explain what this is and where it sits within Westwell's wider technology portfolio?

ReeWell is Westwell's next-generation intelligent scheduling and operations management platform for large-scale



logistics environments such as seaports, inland ports, airports, smart factories and multimodal transport networks.

Within our broader technology architecture, ReeWell serves as the core Operational AI platform. While autonomous vehicles and autonomous driving systems provide the execution capabilities of Physical AI, ReeWell functions as the operational brain that coordinates vessels, flights, vehicles, equipment, yard resources, personnel and energy systems.

Rather than replacing customers' existing operational systems, ReeWell acts as an intelligent orchestration layer that integrates with and enhances them. Built on world-model and agentic decision-making technologies, which support AI-led analysis and recommendations, it helps terminals understand operational conditions, anticipate disruptions and coordinate resources more effectively.

ReeWell is described as an AI-native platform for port operations. For readers who may be familiar with traditional TOS platforms, how would you explain what makes ReeWell different?

A traditional scheduling system is mostly designed to keep workflows running according to predefined rules. Built on

world-model and agentic decision-making technologies, ReeWell behaves more like an operational control layer that asks: should we adjust now, where should we adjust first, and what will this change affect next?

By adding a unified scheduling layer on top, ReeWell can interpret live conditions, anticipate potential disruptions and recommend coordinated actions across multiple areas of the operation. This moves dispatchers from constant firefighting into higher-value decision-making.

For example, if three AGVs are low on battery at the same time and one yard zone is beginning to back up, a traditional system may continue dispatching according to fixed logic. ReeWell can weigh task priority, vehicle position, battery level, route congestion and crane rhythm together to produce a more stable terminal-wide response.

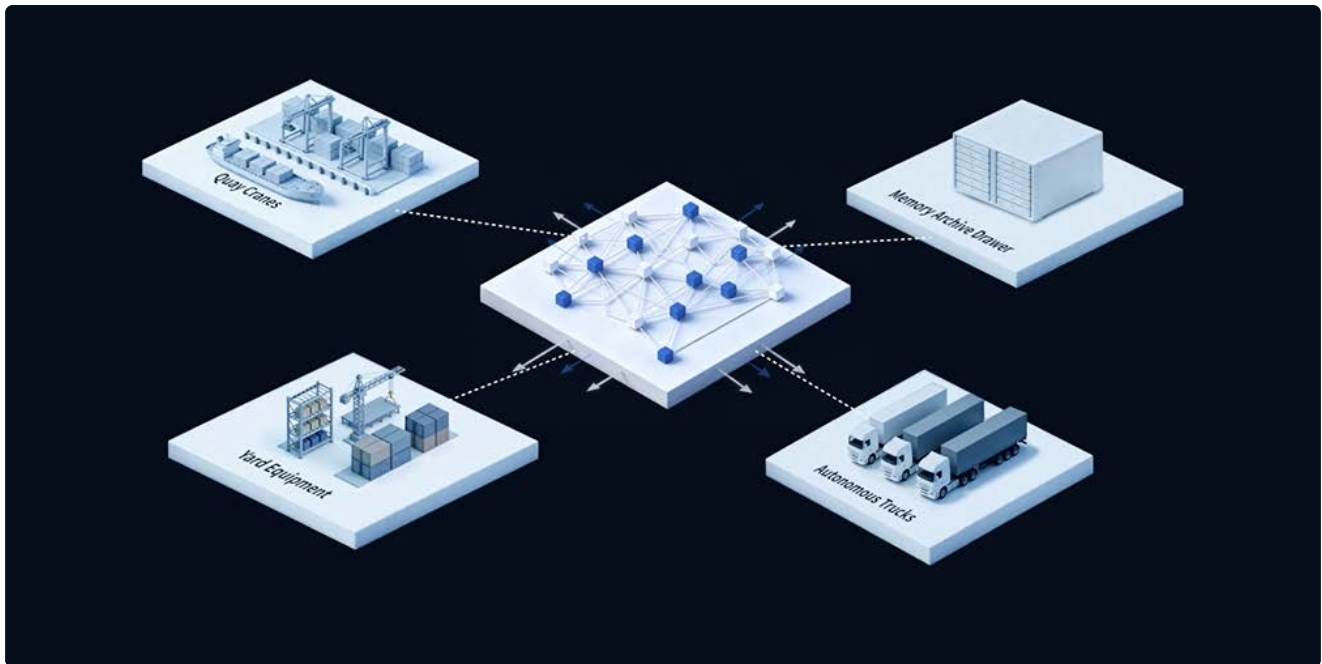
What operational challenges in ports and terminals is ReeWell designed to address? How does ReeWell support the wider deployment of autonomous equipment in live terminal environments?

As terminals become more digitalised and automated, the challenge is often not the lack of systems, but the growing fragmentation between them.

On the one hand, ReeWell connects to systems and data sources including Terminal Operating Systems (TOS), Equipment Control Systems (ECS), Fleet Management Systems (FMS), Energy Management Systems (EMS), field devices, perception networks and operational data. On the other hand, it gives dispatchers and managers three practical capabilities: simulation before operations, live monitoring and replanning during operations, and replay plus insight after operations. Operators gain greater visibility into how different operational elements interact, allowing them to respond more effectively to changing conditions.

In practical terms, it helps customers solve three problems: how to prepare before a vessel arrives, how to replan quickly when disruptions occur, and how to retain operational knowledge across shifts. That is what moves the port from fragmented execution and manual coordination towards unified orchestration and human-AI collaborative operations.

This capability becomes increasingly important as autonomous equipment is deployed at scale. ReeWell can coordinate autonomous trucks alongside manually operated vehicles, cranes and other cargo-handling equipment, enabling customers to introduce automation progressively while maintaining operational continuity.



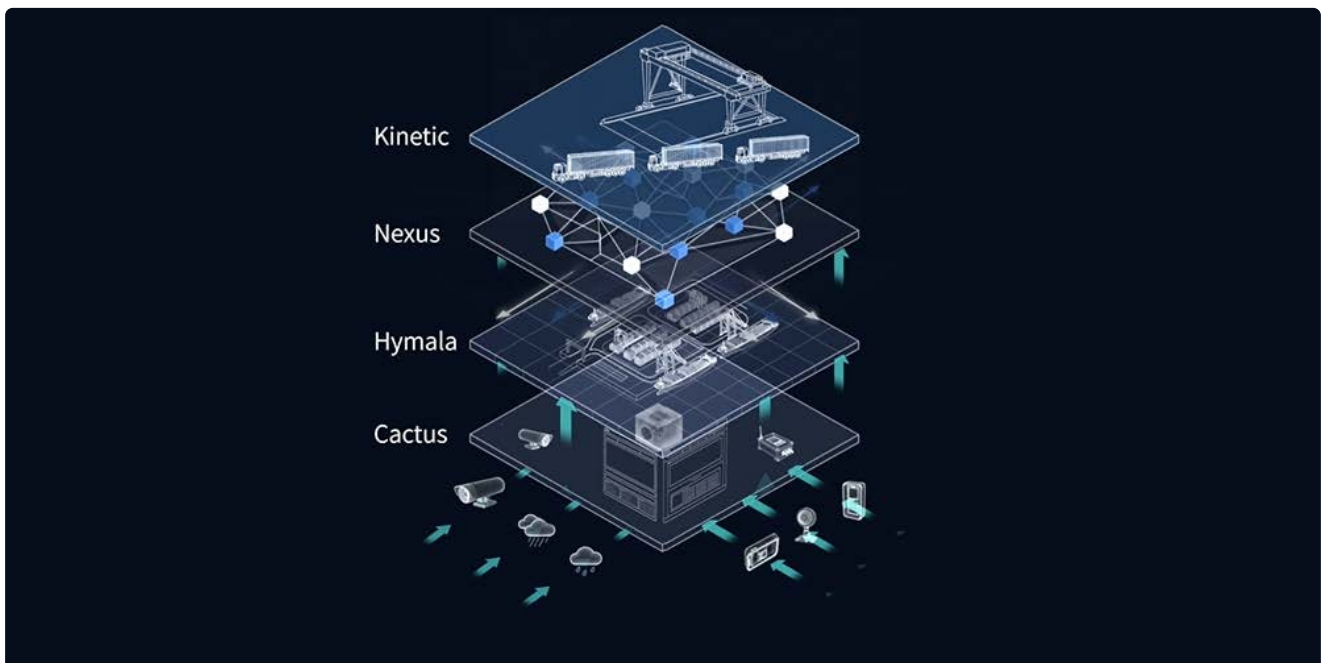
What role do AI models, simulation and multi-agent collaboration play in helping terminals move from reactive planning to more predictive and adaptive operations?

At the core of ReeWell is a four-layer intelligent architecture consisting of Cactus, Hymala, Nexus and Kinetic.

On the first layer, Cactus continuously collects real-time operational data across the terminal, while the second layer, Hymala, Westwell's world-model engine, helps the platform understand current conditions, simulate potential scenarios and anticipate how operations may evolve. This enables operators to identify risks and evaluate response

options before disruptions occur.

Nexus, the third layer, then coordinates a group of specialised AI agents responsible for monitoring, scheduling, risk analysis and resource coordination, while the fourth layer, Kinetic, connects those decisions with execution across vehicles, equipment and operational systems.



Together, these capabilities enable terminals to move beyond reacting to events after they occur. They can identify risks earlier, evaluate response options proactively and continuously adapt operations as conditions change.

Importantly, ReeWell is designed around human-AI collaboration. The system supports decision-making and execution, while operators retain oversight of critical operational and safety-related decisions.

For terminals that already have an established TOS or legacy operating systems, how can ReeWell be integrated without requiring operators to replace their existing digital infrastructure?

Most terminals have invested heavily in their digital infrastructure, and replacing existing systems is often costly and operationally risky. Our objective is therefore to enhance existing systems rather than replace them.

ReeWell supports two integration modes: greenfield mode and adaptive integration mode. For terminals with existing dispatch systems, ReeWell supports adaptive integration and can connect with existing TOS, ECS, EMS, fleet management systems and operational databases through standardised interfaces. It functions as an intelligent orchestration layer above the existing architecture, while preserving established workflows.

We also support phased deployment across four stages, including warm-up, shadow mode, assisted mode and

autonomous mode. This allows operators to compare outcomes, validate performance and build confidence before progressing towards deeper operational integration.

The goal is not to automate everything immediately, but rather to move from "understanding the operation" to "advising reliably" to "gradually and safely taking on stable operational scenarios".

Looking ahead, how do you expect AI-native platforms to change the way ports plan, manage and optimise operations over the next five years?

Over the next five years, we expect ports to move beyond digitalisation towards truly intelligent operations.

AI-native platforms will increasingly serve as coordination layers that connect planning, execution, equipment management, energy management and business objectives within a unified decision framework.

At the same time, sustainability objectives will become more deeply integrated into operational decision-making. Energy consumption, charging strategies, battery utilisation and carbon reduction targets will increasingly become part of routine scheduling and optimisation processes.

Looking ahead, Westwell will continue to leverage its "Ainergy" strategy, which combines AI and new energy, helping customers to create terminals that are more resilient, adaptive and capable of maintaining efficient operations under increasingly complex and dynamic conditions.

About the company

Shanghai Westwell Technology Co., Ltd. ("Westwell") is a technology company dedicated to the industrial application of AI. Leveraging independently developed artificial intelligence and autonomous driving technologies, Westwell provides integrated solutions spanning intelligent execution, operational collaboration and decision-making for large-scale logistics scenarios, including seaports, inland ports, airports, smart factories and intermodal transport. To date, Westwell has expanded to more than 30 countries across Europe, the Middle East, Southeast Asia, Africa, and the Americas, serving over 200 customers worldwide. While helping customers advance digital-intelligent transformation, reduce carbon emissions, improve efficiency, optimise costs, and improve working environments, Westwell remains firmly committed to advancing sustainable development practices in the global logistics industry and promoting ESG values. Westwell was also a 2023 World Intellectual Property Organization (WIPO) Global Awards winner.

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