

Empowering Farms of the Future: New Technologies for Agricultural Mechanization and Inclusive Workforce Transformation

Addressing Asia-Pacific aging, empowering women and older adults, and advancing sustainable mechanized agriculture.

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➤ Agriculture is becoming a key arena for “silver employment”



The "silver wave" sweeps over agricultural production

Traditional agriculture is facing a severe labor gap, making youth-oriented and technology-driven transformation urgently needed.

💡 Key Insights

- 📊 Farmers aged 50 and even 60 and above becoming the main force in agricultural production.
- 📉 The continuous outflow of young labor has led to a labor gap in agriculture, making the elderly population a key stabilizing factor.
- 👤 Younger healthy seniors aged 60 to 69 boast rich experience, a strong sense of responsibility and high stability, making them well-suited for refined and seasonal agricultural labor needs.

➤ China's national-level strategy and technological leadership



AI + agriculture has been elevated to a national strategy



the Central No.1 Document explicitly includes "drones, IoT, and robotics" making smart agriculture widely concerned.



"Better machinery, better subsidies" reform: optimizing subsidies toward efficient, smart, and green agricultural equipment.



Agricultural AI foundation models: the "brain" of smart agriculture

China has developed models covering the full value chain, enabling autonomous decision-making, higher yields, and lower costs.

Shennong Model

Agricultural domain-specific large language model

Fan Li Model

China's first fishery-specific AI foundation model.

Willing ox

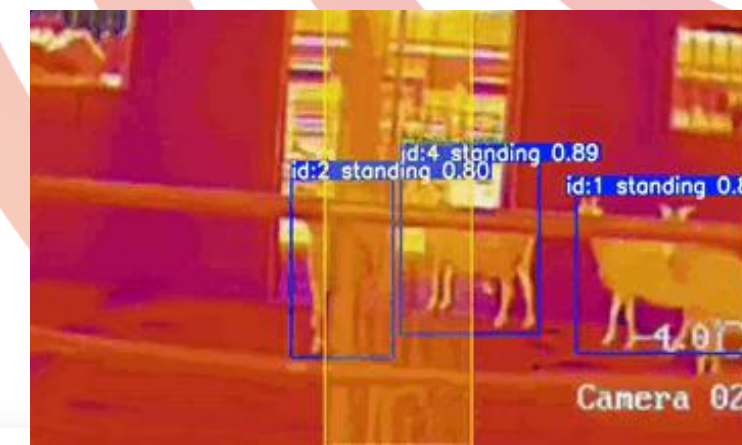
Domain-specific large language models serving dairy breeding and the dairy sector

Kwoo

China's first full-chain agricultural AI model.



AI Model



Lightweight Fry Counter



Sheep Monitoring Robot



Rural Development Administration



CSAM
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➤ China in action: success stories in aquaculture and livestock



The world's first 150,000-ton smart aquaculture vessel, "Guoxin 1-2-1"



Length: 244.9 m | Farming tanks: 15
Breeding water volume: ~100,000 m³



It is equipped with over 200 cameras and 2,000 sensors, achieving a mechanization rate of over 90%.



Muyuan Foods · AI-powered smart pig farming system



Intelligent environmental control, precision feeding, and automated health monitoring across its entire production chain.



One technician can now manage 10,000 market hogs annually, reducing medication costs by 42 yuan per head and boosting production efficiency by over 35%.



Rural Development
Administration



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Agricultural Mechanization

➤ Empowering women and the elderly through smart agriculture

41%

Women: A major force in global agriculture

>50%

Women's participation in emerging agricultural entities in China

Inner Mongolia "village broadcaster women's federation" : Activating the livestreaming economy



34 rural female live streamers generated over RMB 30,000 in additional farmer income in under two months, turning traffic into value.

Tianjin "digital mulan" : Bridging the digital divide



Targeted AI tool training for middle-aged and older women, with hands-on guidance to make technology truly accessible.

Cangxi, Sichuan "Silver Employment Zone"



Model: Dedicated job positions for targeted elderly labor absorption
Outcome: Couples earn over RMB 4,000 per month; 80% of employees are aged 60+.

Zhanhua, Shandong "Silver Age Think Tank"



Model: Leveraging senior experts' experience to guide IoT-based farming
Outcome: A 73-year-old expert's guidance achieved 50% water savings and 30% fertilizer reduction.

Smart agriculture enables older adults to shift from care recipients to value creators, unlocking new vitality in the silver economy.



— Responding to the 2026 International Year of Women Farmers



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➤ Future Strategy



Policy and Technology Alignment



Strengthen International Cooperation



Promote Cross-Sector Transfer



Deepen Industry–University–Research Integration



Vigorously Cultivate "New Farmers"



Ecosystem & Talent Development

Youth: Technology pioneers

The younger generation are becoming operators of smart equipment and managers of data platforms, leading the digital transformation and innovation of farms.



Middle-aged: The backbone

Experienced middle-aged workers take on core management and operational roles in smart farms, bridging technology and production in practice.



Elderly: Wisdom mentors

With their deep understanding of land and crops, older farmers serve as trainers of AI systems and guardians of quality, passing on valuable agricultural knowledge.



Joint Construction · Technological Inclusiveness · Green Ecosystem · Shared Prosperity for All



Thank you

