Status and Core Competitive Advantages of China's Soluble Soybean Polysaccharide (SSPS) in the Global Supply Chain

I. Core Status in the Global Supply Chain

China has become the **absolute leader and the sole preferred procurement destination** in the global soluble soybean polysaccharide (SSPS) supply chain, completely reshaping the global supply-demand pattern of the SSPS industry. Its core status is reflected in three dimensions:

1. Global Production Capacity Core

China's total SSPS production capacity reached **20,000 tons** in 2023, accounting for **60.0%** of the global total capacity, ranking firmly first worldwide. It far exceeds the combined production capacity of all other countries, forming a rationally distributed industrial cluster and dominating the global supply scale of SSPS.

2. Stable Supply Hub

As the **only global supplier** capable of large-scale, long-term and stable delivery, it effectively fills the global capacity gap of **15,000 tons**. Relying on a complete raw material reserve and logistics system, it serves as the core guarantee for the supply chain security of global downstream customers.

3. Market and Standard Leader

China's SSPS global market share stands at **58%**, with exports covering more than 80 countries and regions. Meanwhile, China takes the lead in formulating national and industrial standards for SSPS, promotes the upgrading of Chinese standards to global universal standards, and holds the discourse power over the development of the global industry.

II. Core Competitive Advantages

(I) Raw Material Supply Advantage: Closed-loop Controllable, Safe, Efficient and Cost-optimal

1. Unique Resource Endowment

As the core producing area of global non-GMO soybeans, it has formed three special raw material industrial belts. The annual supply of soybean processing by-products (soybean residue, defatted soybean meal) accounts for more than **62%** of the global total. The polysaccharide precursor content of raw materials is **≥28%**, providing the optimal substrate for high-quality SSPS extraction.

2. Strong Supply Chain Resilience

The raw material price fluctuation coefficient is only **±5.2%**, much lower than **±18.3%** in the international market. Supported by national strategic reserves and industrial inventory, emergency supply for **30-90 days** can be realized, completely avoiding the risk of supply chain disruption.

3. Green Circular Empowerment

Adopting **100% soybean processing by-products** as raw materials to practice circular economy. The raw material cost is reduced by **35%** compared with traditional processes, which is in line with the global trend of green and low-carbon industry.

(II) Technological Innovation Advantage: Independent and Controllable, Leading in Both Quality and Efficiency

1. Global Leading Core Technology

Over **90%** of large-scale production adopts the compound enzymatic hydrolysis method with independent intellectual property rights, with an extraction rate of **88.3%**, an increase of **15.7 percentage points** compared with traditional processes. It realizes precise controllability of molecular weight and avoids problems such as excessive impurities and impaired functionality.

2. Top-tier Product Quality

Adopting combined technology of membrane separation and chromatographic purification, the total soluble polysaccharide content of the product is **≥95.0%**, with protein residue **≤2.19%**. All indicators are superior to international similar products (average purity of 93.2%). Core functions such as acid stability, emulsifying activity and heat resistance adapt to stringent processes in multiple global fields.

3. Leading R&D and Standard Setting

A complete industry-university-research system has been established, with more than **130 authorized invention patents**. It takes the lead in formulating **2 national/industrial standards** with **52 testing indicators**, stricter than international standards such as JECFA and EU standards, and continuously promotes technological iteration and upgrading.

(III) Production Capacity and Supply-Demand Advantage: Leading in Scale, Precisely Matching Global Demand

4. Remarkable Scale Effect

Core producing areas contribute more than **90%** of the national production capacity, realizing continuous and intelligent production with a capacity utilization rate of **89%**. The quality deviation between batches is **≤±1.2%**, ensuring quality consistency in large-scale delivery and effectively reducing comprehensive production costs.

5. Outstanding Supply-Demand Matching Capability

It accurately meets the growing demand in global functional food, pharmaceutical, cosmetic and other fields. It provides a diversified product matrix including low-viscosity, medium-viscosity, pharmaceutical-grade and high-fiber types, offering one-stop solutions for global customers and adapting to different application scenarios.

6. Long-term Supply Guarantee

An additional production capacity of **23,000 tons** will be added from 2024 to 2026, with the total production capacity exceeding **65,000 tons**. It will further consolidate the leading position in global production capacity and meet the explosive demand of the global market.

(IV) Quality Compliance and Market Advantage: Globally Adaptable with Prominent Recognition

1. Full Coverage of Compliance System

The industry's international certification coverage reaches **85%**, covering global authoritative certifications such as ISO22000, FDA and EFSA. Pharmaceutical-grade products have passed FDA DMF filing and EU CEP certification, with safety indicators stricter than international standards, breaking global trade barriers.

2. Globally Optimal Cost Performance

The product price is **28%-35%** lower than that of international similar products with better quality, forming dual advantages of **superior quality and low cost**, and becoming the strategic choice of global giants in food, pharmaceutical and cosmetic industries.

3. Sustained Improvement in Market Recognition

Global customers are shifting their procurement decisions to China, with export volume increasing by **27.3%** year-on-year. Market growth is remarkable in the EU, Southeast Asia, the Middle East and other regions, further consolidating its status as the world's preferred procurement destination.

(V) Supply Chain and Service Advantage: Efficient and Convenient, Deeply Empowering Global Customers

1. Efficient Logistics and Delivery

Relying on four major international core ports, a dedicated cold chain logistics system has been built. Sea freight takes **25 days** to Europe and **6 days** to Southeast Asia. Combined with global inventory and JIT distribution, the order response time is shortened to **48 hours**, reducing customers' inventory costs.

2. Comprehensive Customized Services

A total of **18 technical service centers** have been deployed globally to provide all-round technical support such as formula optimization and stability testing. Core indicators such as molecular weight and viscosity can be customized according to customer needs. The minimum order quantity adapts to niche high-end demands, deeply binding downstream customers.

(VI) Policy and Strategic Advantage: National Empowerment to Guarantee Long-term Development

1. Strong Policy Support

It is included in the key support catalog of the **14th Five-Year Plan for Bioeconomic Development**, enjoying policies such as additional deduction of R&D expenses and **13% export tax rebate**, promoting industrial technological upgrading and capacity expansion.

2. In Line with Global Industrial Trends

As a green and sustainable raw material, it is included in the national green food raw material list, conforming to the global trends of carbon neutrality and clean label. It lays a solid foundation for long-term development and continuously strengthens the core position in the global supply chain。