

IMA Business Case Competition

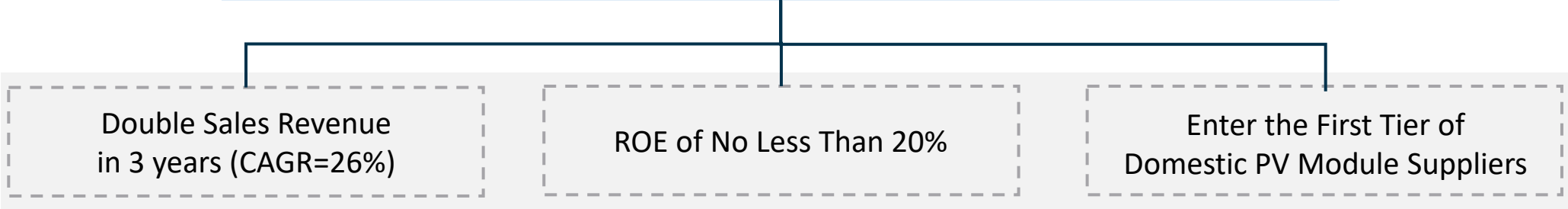
———— Way of Cost Control & Efficiency Increase

- ❑ Group: Ferryman
- ❑ Number: HD20222604

Case Overview

CleanTech Co. was founded in 2012 to provide PV model (PV junction box and connector), while it met some difficulties in achieving business objectives.

Financial Strategic Objectives Set in BOD Second Three-year Plan



Carton Case

Return volume of shipped products increased rapidly in July due to the damage of the packaging box



DARLEY's cartons were **NOT** up to standard in terms of hardness

Operational Procurement



Price comparison among more than 3 suppliers



Select the supplier with the lowest purchase price and the best payment terms



Strategic Procurement

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- 4 **Cost Reduction Methods**

Comparison of Operational Procurement & Strategic Procurement

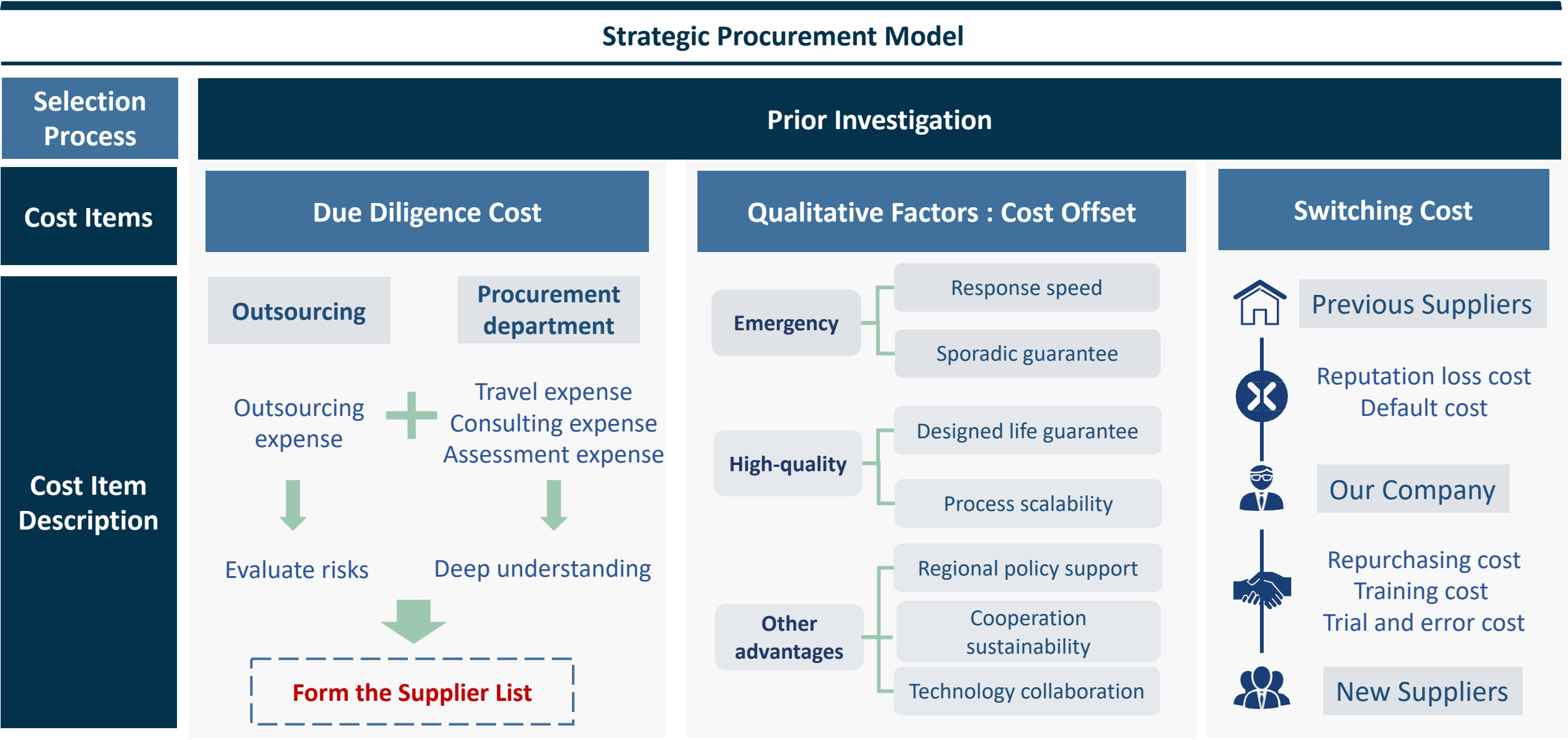
Minimize the total procurement costs, Establish long-term cooperation with suppliers
Achieve a win-win situation in procurement and the long-term development of the company

Index	Operational Procurement	Strategic Procurement
Elements of Focus	The lowest procurement price with the best payment terms	The lowest total procurement costs
Level	Tactical	Strategic
Orientation	Product specification-oriented	User-oriented
Scope to Consider	Partial process ➡ Cannot achieve overall management	Entire procurement process ➡ From demand description to payment
Characteristic	Lack of a holistic mindset	Fully balance internal and external advantages of the company
Relationship with Suppliers	Both sides may lack timely and smooth communication of information	Both sides share risks and opportunities

Strategic Procurement Model

Strategic Procurement Model					
Selection Process	Prior Investigation		Procurement Execution		After-sales Service
Objectives	 Form the Supplier List		 Detail Suppliers' Costs		 Maintain Our Image
Cost Categories	Procurement Management Cost	Qualitative Factors	Supply Chain Cost	Storage Cost	Quality Cost
Cost Items	Due Diligence Cost Switching Cost	Emergency Demand High-quality Demand Other Advantages	Purchasing Cost Freight Cost of Capital	Holding Cost Out-of-stock Cost	Appraisal Internal Failure External Failure
Cost Nature	Explicit Cost	Hidden Cost	Explicit Cost	Explicit Cost Hidden Cost	Explicit Cost Hidden Cost

Strategic Procurement Model



Strategic Procurement Model

Strategic Procurement Model			
Selection Process	Procurement Execution		After-sales Service
Cost Items	Supply Chain Cost	Storage Cost	Quality Cost
Cost Item Description	<div>Purchasing</div> <p>Purchasing Cost: sales price × quantity × discount rate</p> <p>Tax: tariff + consumption tax + resource tax - value-added tax</p> <div>+</div>	<div>Holding Cost</div> <p>unit holding cost × (buffer inventory + quantity)</p> <div>+</div>	<div>Appraisal</div> <p>➤ Appraisal cost: Appraise the causes of quality problems throughout the supply chain</p> <div>Internal Failure</div> <p>➤ Repairable scrap loss ➤ Irreparable scrap loss ➤ Downtime loss</p> <div>External Failure</div> <p>➤ Restocking fee ➤ Credit loss</p>
	<div>Freight</div> <p>price × quantity × distance</p> <div>+</div>	<div>Out-of-stock</div> <p>out of stock days × price × quantity × (annual shutdown and overtime expenses/annual output value + annual sales loss/annual sales)/365</p>	
	<div>Cost of Capital</div> <p>required funds × financing cost ratio</p>		

Detailed Strategies for Reducing Procurement Costs

15%

10%

15%

Upgrade automation equipment

Increase in operating costs

Seek ways to amortize depreciation of equipment

Technical Parameter Response

Product Quality

After-sales Service Quality

Raise the quoted price

	Item	Performance of Sunny	Score of Sunny	Average Score
10%	Position in the industry	In the upstream position of the industry	4	3
	Classification based on performance	Preferred supplier of company	4	3
Quoted Price				
	Stability of quotation	Stable but occasionally raise prices	12	13
	Quoted level compared to the base price	15% higher than the benchmark price	10	14
Technical Parameter Response				
15%	Compliance with drawings and standards	In full compliance with relevant standards	5	5
	Degree of docking fit	High degree of fitness	9	7.5
Product Quality				
	Stability of supply qualification rate	Qualified rate of supply ≥ 98%	13	12
	Timeliness of supply	Always deliver on time	10	8
	Emergency supply	Timely emergency supply service	5	2.5
After-sales Service Quality				
15%	After-sales service timely rate	Deal with relevant issues within 48-96 hours	8	7
	After-sales service coverage and support rate	Coverage ≥ 90%	5	3

Technical Parameter Response

Product Quality

After-sales Service Quality

Comprehensive Performance of Sunny Manufacturing Company : **Good**

Below Average

Above Average

SUNNY's SCORE : 85 > AVERAGE SCORE : 78

Strategy: **DO NOT** change suppliers & Continue to purchase from Sunny

Detailed Strategies for Reducing Procurement Costs

1 Exchange Volume for Price

Sign Long-term Bulk Supply Contract

Long-term and Stable Procurement → **Reduce** Unit Procurement Costs

Volume	Unit Price

Raise **15%** volume ⇒ Reduce **10%** unit price

2 Accelerate Backward Integration of Industrial Chains

Fierce Competition

↓
Improve Production Efficiency

Accelerate Technological Upgrading

Introduce Automation Technology

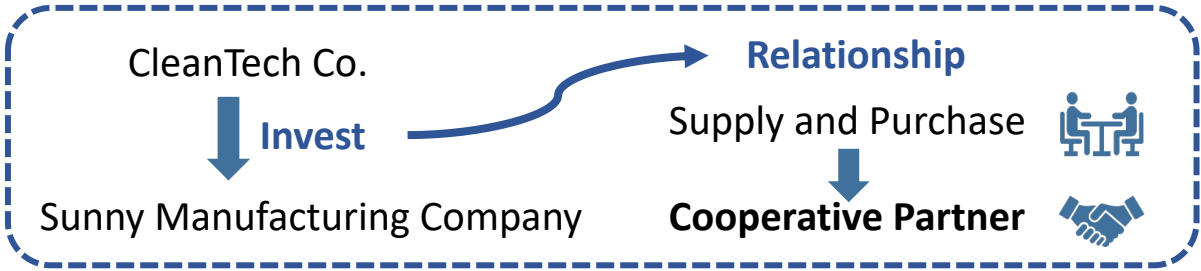
Establish Information Interaction Platform

↓
Strengthen Industrial Linkage

Advantages

- ✓ Reduce upstream procurement transaction costs
- ✓ Stabilize raw material costs
- ✓ Ensure the stability of production and operation

3 Invest to Establish a Joint Venture Company



CleanTech Co.

- Acquire information about competition situation & policies
- Accelerate the process of industrial chain integration

Sunny Manufacturing Company

- Obtain fund to expand the scale of production & market
- Share costs & risks of product & technology development

Strengthen Strategic Connection

Effectively Integrate

- ❑ Resource Advantages
- ❑ Channel Advantages
- ❑ Brand Linkage Effect

“ 3 Share ”

- Cost
- Risk
- Benefit

WIN-WIN SITUATION

Detailed Strategies for **Catching Up and Surpassing Competitors**

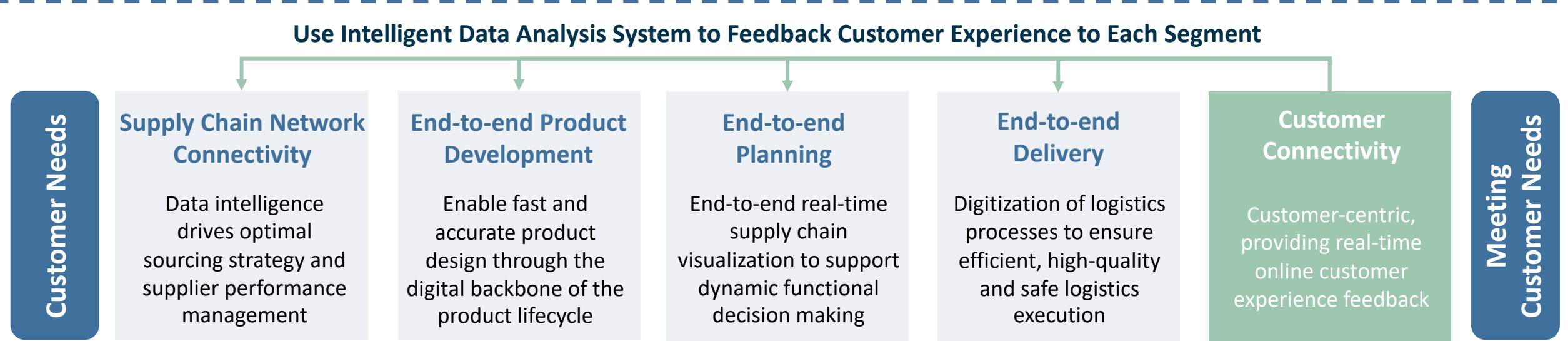
Some competitors' quotation is **10% Lower** than our company
The weight of a certain type of junction box is **20% Lower** than our company

Catch Up and then Surpass

1 . Technical Means



2 . Management Means



Detailed Strategies for Catching Up and Surpassing Competitors

3 Business Means

Company	2021 Operating income (billion RMB)	Market share(%)
Haitian Microelectronics Co.	2.01	2.58
XTONG PV Technologies Co.	3.51	4.30
QC Solar Co.	7.36	7.53
Tongling Electric Co.	11.32	12.24
LingXian PV	6.00	6.66
MingXi PV	7.93	8.79
CleanTech Co.	5.82	6.45
Industry average	6.26	6.96

$$\text{Operating income} = \frac{ROE}{ROE_{CleanTech.Co}} \times \text{Operating income}_{CleanTec.Co}$$



① Production Differentiation

- Install Smart Control Chip Module**
Remote data monitoring of the basic status of components and automatic fast shutdown.
- Improve Junction Box Adaptability**
Enable junction boxes to be adapted to different environments and weather.
- Provide Junction Box Personalization**
Meet the individual needs of customers.

Detailed Strategies for **Catching Up and Surpassing Competitors**

② Location Differentiation

Invest and Set Up Factories in Northwest China

Macro Environment Support

2022/04/27 Development & Reform Commission
Implementation Plan for Supporting Ningxia in Building a Pioneer Area for Ecological Protection and High-Quality Development of the Yellow River Basin

2022/03 Member of CPPCC
Proposal on Promoting High-Quality Development of Photovoltaic Industry in Northwest China

Close to Raw Material Origin

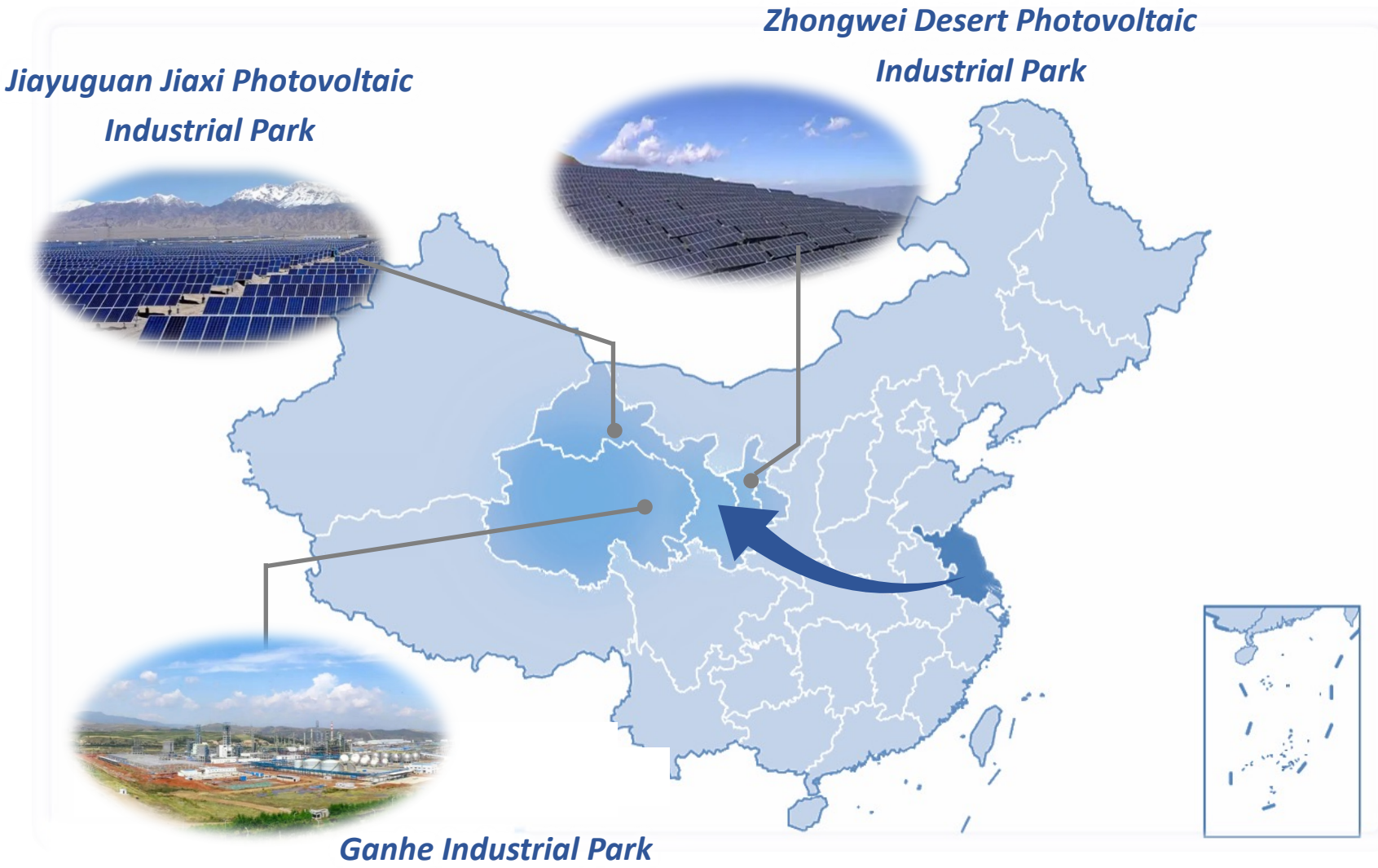
Copper ore resources is rich in the Northwest

Close to End Markets

More PV installations in the Northwest

Plentiful Industrial Parks

Take advantage of industrial clusters



Detailed Strategies for **Catching Up and Surpassing Competitors**

② Location Differentiation

High Demand For PV In Countries Along The Belt and Road

Country Categories	Target Market	The Prospect of the Target Market
Southeast Asia	Malaysia, Vietnam, Thailand, Philippines	<ul style="list-style-type: none">Malaysia aims to generate 31% of its electricity from renewable sources by 2025Vietnam sets goal to reach 12 GW of PV installations by 2030Thailand sets goal to reach 6 GW of PV installations by 2036Philippines plans to achieve overall goal of adding 27 million kilowatts of installed solar power by 2040
West Asia	Saudi Arabia, Pakistan	<ul style="list-style-type: none">Saudi Arabia aims to install 58.7GW of renewable energy by 2030Pakistan's share of renewable energy generation to rise to 30% by 2030
Central Asia	Kazakhstan	<ul style="list-style-type: none">Kazakhstan expects 10% of its electricity to come from renewable sources by 2030 and at least 50% by 2050
South Asia	India	<ul style="list-style-type: none">India has set a goal of deploying 280GW of PV shampoo by 2030, and achieving that goal will require nearly 24GW of additional PV systems per year
CIS countries	Russia, Ukraine	<ul style="list-style-type: none">Russia aims to add 1.52 GW of installed solar power by 2024 and another 1.18 GW between 2024 and 2030Ukraine expects renewable energy to reach 25 % of total energy by 2035
Central and Eastern European countries	Germany, Netherlands, Spain, Poland, France	<ul style="list-style-type: none">The EU plans to achieve more than 320GW of grid-connected PV by 2025, and further expand to 600GW by 2030
Four African countries	Egypt	<ul style="list-style-type: none">Egypt plans to reach 4GW of installed photovoltaic power capacity by 2035

Detailed Strategies for **Catching Up and Surpassing Competitors**

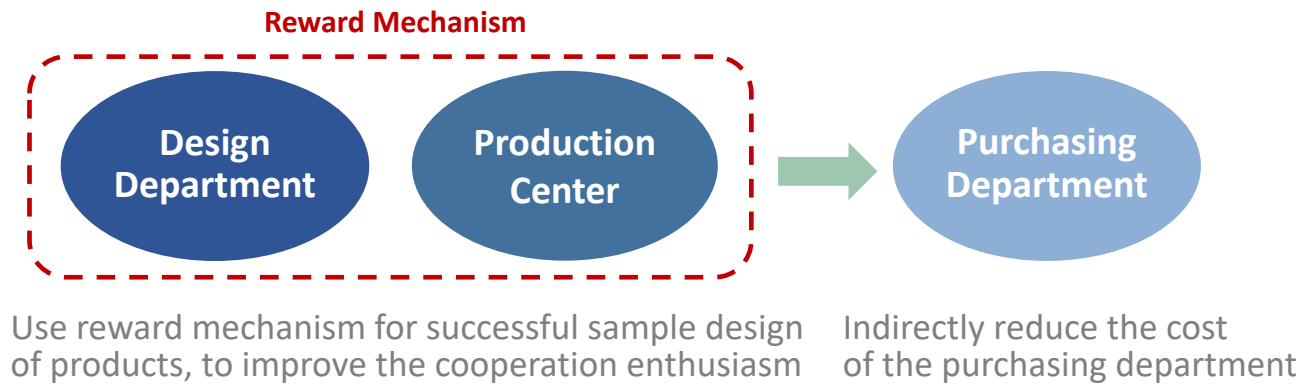


Detailed Strategies for Design

1 Business Means

- Communicate** Enhance proximal communication
- Identify** Identify the precise needs of customers
- Avoid** Avoid over-functioning & wasteful development

2 Management Means



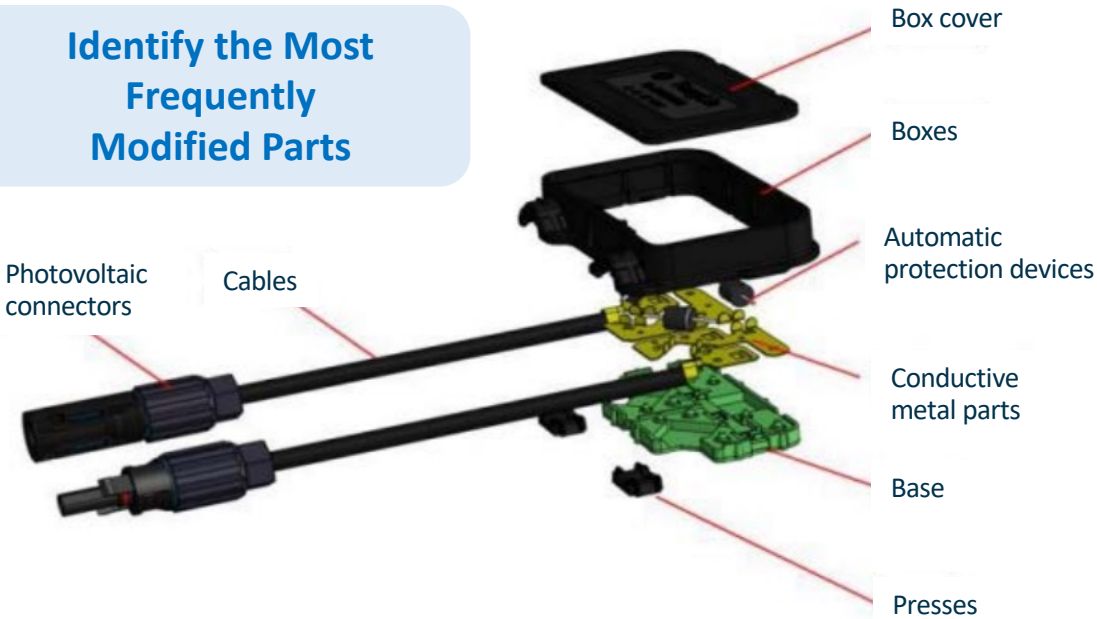
Reducing Communication Barriers

Strengthening Sectoral Synergies

3 Technical Means

- Standardisation**
 - Personalisation**
-
- Production Line Tolerance
 - Rework Success Rate for Process Re-engineering

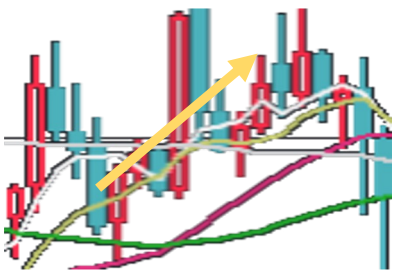
Identify the Most Frequently Modified Parts



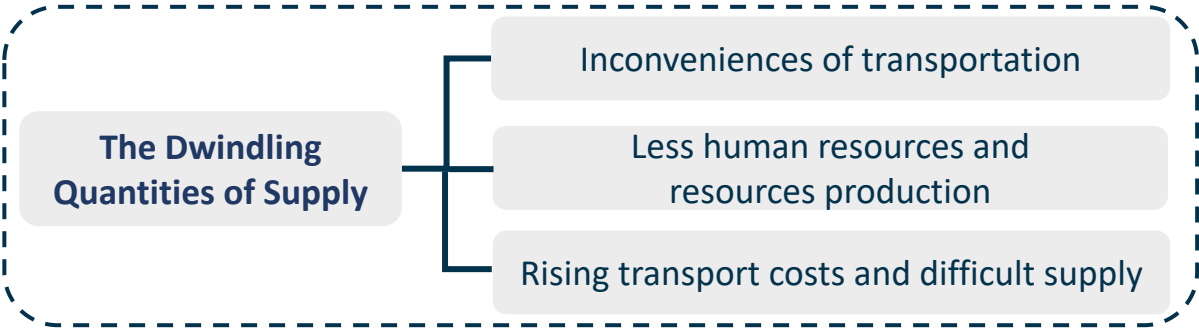
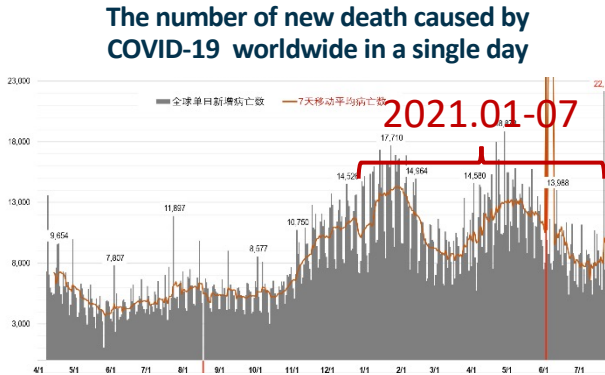
Conducting in-depth discussions: **Improve Design Efficiency**
Mining customer intrinsic needs: **Improve Customer Satisfaction**

Detailed Strategies for Price Rising

1 Price Fluctuation in Plastic Particles

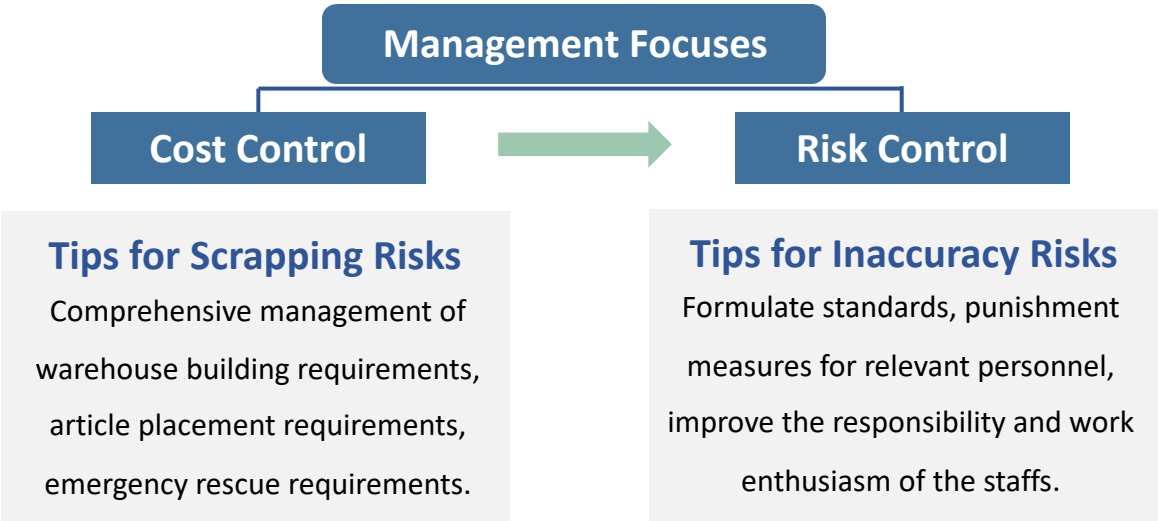


The price in futures market (2021.01—07)

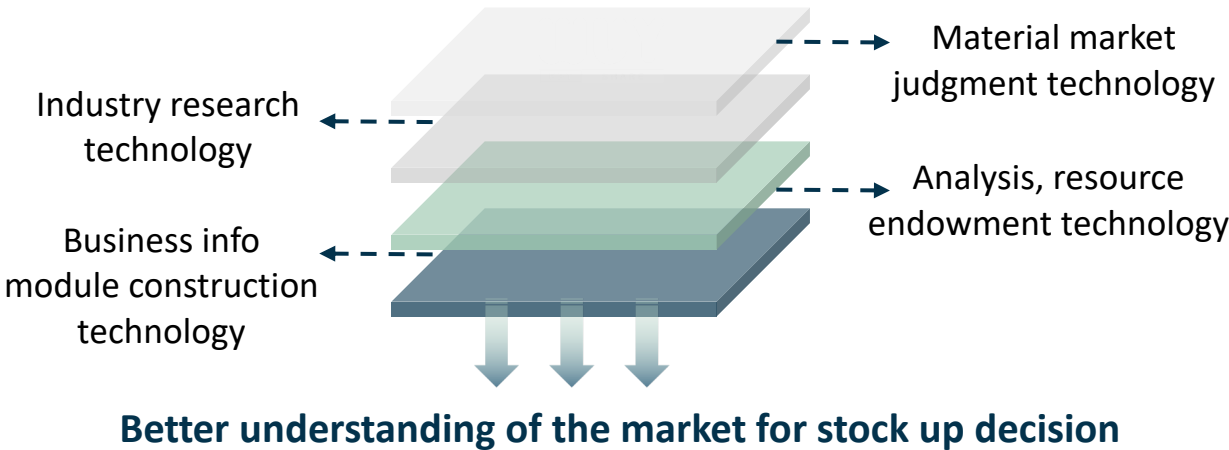


The price rising judgment is **TRUE**, so decide to **STOCK UP**

2 Management Means



3 Technical Means



Detailed Strategies for Price Rising

4 Business Means

Changes after STOCK UP decision



How to decide the quantities of STOCK UP

The STOCK UP Roadmap



IMA Business Case Competition

———— Way of Cost Control & Efficiency Increase

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