



3D SVM Business Plan

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Executive Summary

The U.S. SVM (360° Surround View) market has firmly shifted from an optional safety feature to a standard requirement. Commercial vehicles represent one of the fastest-growing segments, driven by rapid adoption across school buses, delivery fleets, heavy equipment, and specialty vehicles.

- While Chinese vendors maintain a global presence, they are increasingly being phased out of the U.S. OEM market due to regulatory and national security concerns. Products of Chinese origin are often ineligible for OEM programs, avoided by fleets and public agencies, and subject to progressively tighter regulatory restrictions.
- Conversely, Korean suppliers are gaining traction as a credible alternative to China within the global supply chain. Leading Korean players (e.g., Hyundai Mobis, LG Innotek, Samsung Electro-Mechanics, and MCNEX) primarily serve passenger vehicles, while Delta Engineering focuses on commercial-vehicle-specific SVM solutions. Korean companies are widely regarded in the U.S. as reliable partners across cameras, sensors, and SVM systems.
- Delta clearly differentiates itself by introducing the world's first ASIC-based 3D SVM solution at 1080p/30fps, specifically designed for commercial-vehicle requirements.
Opportunity: In the U.S., there are very few (nearly no) non-China, high-quality SVM suppliers positioned for commercial fleets.
- To succeed in the local market, hands-on training for product installation and field operations is essential, making a local entity and on-the-ground sales execution critical.

1. Problem Statement

— Core Pain Points in U.S. Commercial Vehicle, Bus, and Construction Equipment Markets and the Need for a Step-Change Solution —

The operating environment for U.S. commercial vehicles, buses and school buses, and construction equipment spans highways, long-haul routes, and dense urban areas.

According to the U.S. National Highway Traffic Safety Administration (NHTSA), more than 96,000 large commercial vehicle crashes and approximately 5,000 fatalities occur annually, with a significant share attributed to limited visibility and blind spots. In the case of school buses, over 1,000 “Danger Zone” incidents during boarding and alighting, as well as blind-spot collisions, are reported each year, representing a serious public safety concern.

Most vehicles still rely on low-resolution aids such as single rear cameras or ultrasonic sensors, which fail to deliver complete 360° visibility. For large or long-wheelbase vehicles, buses, and excavators, these solutions provide limited accuracy, weak low-light performance, poor real-time detection while in motion, insufficient recording capability, and poor system interoperability—ultimately reducing real-world accident-prevention effectiveness.

As a result, U.S. transportation and logistics operators absorb billions of dollars annually in higher insurance premiums, claims, repairs, and operational downtime. Educational institutions face increasing pressure to comply with stricter school-bus safety requirements, while construction sites continue to experience backing and worker-strike incidents. OSHA is also signaling tighter safety enforcement.

In parallel, the U.S. government is actively promoting the adoption of ADAS, in-vehicle cameras, DVRs, and 360° monitoring systems. Insurers are expanding premium discount programs for vehicles equipped with advanced camera-based safety technologies, further strengthening the economic incentive for adoption. These policy, insurance, and regulatory shifts clearly support the immediate need for SVM deployment.

In short, the U.S. market has reached a structural inflection point where high-precision SVM adoption is no longer optional. To reduce blind-spot accidents, lower insurance costs, meet regulatory requirements, and improve operational efficiency, fleets and operators must upgrade their safety systems now.

2. U.S. Commercial Vehicle (Bus/Truck/Special Vehicle) SVM Market Summary

1. Market size & growth drivers for U.S. commercial-vehicle SVM

■ Market share

- Commercial vehicles represent roughly ~13% of the global surround-view market,
- but the CAGR is materially faster than passenger cars, making it a high-growth segment.
(Driven by tighter regulation + rising accident costs + increasing insurance rates.)

■ In the U.S., demand is accelerating in the following segments:

1. Delivery & logistics trucks (box trucks, wing bodies, step vans)

- Rising accident/damage costs for fleets such as UPS, FedEx, and Amazon are accelerating 360° SVM adoption.

2. School buses

- Tighter child-safety regulations are increasing the installation rate of 360° camera systems.

3. Construction & heavy equipment (excavators, loaders, skid-steers, etc.)

- Stronger OSHA safety standards (OSHA is an agency under the U.S. Department of Labor).
- Adoption is expanding via major leasing and rental operators (e.g., United Rentals, Sunbelt Rentals).

4. Municipal service vehicles (garbage trucks, tow trucks, etc.)

- Public procurement by cities/counties increasingly requires “non-China, high-safety cameras.”

5. Heavy trucks (tractor + trailer)

- Demand for 360°/3D SVM is increasing to address reverse accidents and blind-spot risk.

Key takeaway: Passenger vehicles have already made surround-view a baseline option, but commercial vehicles are now entering the true adoption phase—setting up an explosive growth cycle.

2. Product trend in SVM for the commercial vehicle market

■ Technology direction (aligned with Delta's strengths)

- Rising requirement for high-resolution 1080p video
- Growing demand for 3D SVM (heavy equipment, school buses, heavy trucks)
- DVR recording is becoming mandatory / expected
- Integration with telematics for accident analytics and insurance linkage
- Stronger preference for non-China components (regulatory + cybersecurity concerns)

Delta's ASIC-based 3D SVM performance (1080p @ 30fps) is a highly differentiated advantage in the commercial vehicle market.

3. OEM vs. Aftermarket (AM): commercial vehicles are AM-led

■ Unlike passenger cars, ~80–90% of commercial-vehicle SVM demand is generated in the aftermarket.

- U.S. commercial OEMs (e.g., Freightliner, Kenworth, Navistar) often do not offer SVM as standard.
- Upfitters/bodybuilders frequently add camera systems while modifying vehicle bodies.
- Fleet operators directly decide to adopt third-party SVM systems.

This creates a direct-entry structure for Delta Engineering with relatively low OEM barriers.

4. U.S. restrictions on China-origin commercial camera/SVM systems: applies equally to commercial vehicles

The U.S. 'Connected Vehicle Rule' applies regardless of passenger vs. commercial classification.

1) Regulatory issues

- From 2027 onward: China-origin software will be prohibited.

- From 2029–2030 onward: China-origin hardware (cameras/sensors) is expected to be prohibited as well.

→ As a result, installing China-origin cameras/ECUs creates cybersecurity risk and downstream repair/insurance issues for commercial fleets.

2) How insurers and fleets are already deciding in practice

- Large U.S. fleets are beginning to classify “China-origin cameras” as a cybersecurity risk and a driver of higher insurance premiums.
- School buses and public vehicles are increasingly subject to local bans on China-origin equipment.

■ Conclusion:

- Low-cost China-origin SVM may compete on price in the commercial segment, but penetration into large fleets, government procurement, and safety-sensitive programs is becoming increasingly impractical.
- Delta’s non-China, high-performance positioning becomes a strong competitive advantage in the U.S.

5. Current footprint of Korean companies in the U.S. commercial SVM market

Most Korean companies focus on passenger vehicles and ADAS cameras, but supply of camera modules, sensors, and SVM software is expanding into commercial vehicles as well.

1) Hyundai Mobis

- Owns 3D Surround View / Parking Vision System capabilities
- Potential application to Hyundai/Kia commercial vans and PBVs via North American manufacturing
- Strengthening technical collaboration with U.S. commercial OEMs

2) MCNEX

- Specialist in SVM/DVR systems
- Supplies to Hyundai’s commercial lines as well
- Multiple export references for fleet cameras and ADAS warning systems in the U.S.

3) LG Innotek / Samsung Electro-Mechanics

- Supplies high-performance camera modules to North American OEMs including Tesla
- Can be applied to commercial-vehicle camera lines
- 'Highly trusted as a 'non-China camera module' supply chain in the U.S.

4) DELTA INCORPORATED

- Provides licensing to Hyundai Translead for trailer-specific products
- 3D surround-view installed on New Jersey buses in the U.S.
- Rather than software-based processing, SVM functions are driven by an ASIC chip—delivering materially superior performance.



(Hyundai Translead trailer camera solution in the U.S) .;



(New Jersey buses equipped with 3D SVM.)

Korean suppliers are increasingly viewed as a core source of “China-alternative, high-function camera and sensor systems.”

6. DELTA INCORPORATED’s go-to-market entry points for the U.S. commercial segment

(1) A clear positioning: “China replacement” + “high-performance 3D”

- China-origin 2D SVM: constrained by regulation and limited image quality
- Delta 3D SVM ASIC (1080p @ 30fps): directly matches core U.S. commercial-vehicle requirements

(2) In commercial vehicles, fleets/aftermarket matter more than OEMs

- Heavy equipment rental companies
- Logistics fleet operators
- City/county vehicles

- School bus operators
- Airport/port transportation vehicles
 - Direct sales are feasible without going through OEM channels.

(3) Initial beachheads with the highest probability of success

1. School district bus operators

- Child safety regulations tightening
- Preference for non-China equipment

2. Delivery fleets (Delivery Vans / Box Trucks)

- Primary objective: reduce accident and damage costs
- High demand for DVR + 3D SVM bundled packages

3. Heavy equipment & construction machinery (Excavators / Loaders / Forklifts)

- OSHA safety standards tightening
 - * (OSHA is a U.S. Department of Labor agency that sets and enforces workplace safety standards and provides education and support to ensure safe and healthy working environments.)
- Blind-spot risk makes 360° visibility increasingly mandatory

4. Municipal vehicles (Garbage Trucks, Utility Trucks)

- Non-China supply is a procurement advantage

3. Solution / Product Overview – DELTA 3D SVM

— Next-generation 360° monitoring system for commercial vehicles, buses/school buses, and heavy equipment safety —

1. Product definition (Definition & Components)

DELTA 3D SVM is a high-precision, vision-based safety system that captures the vehicle's surroundings in real time using 4–6 exterior cameras (front/rear/left/right/optional top), reconstructs the view in 3D, and eliminates blind spots. Key components include:

- High-resolution ultra-wide cameras (Front / Rear / Left / Right / Optional Top)
- 3D Image Synthesis Algorithm (Delta Vision Engine)

- AI-powered Risk Analysis Module (Optional)
- DVR(recording device) + Storage (USB, SSD)
- vehicle display (LED/LCD Monitor)

2. Key Features List (Core Features)

- Real-time 360° 3D Surround View monitoring
- Real-time detection of surrounding objects (pedestrians, obstacles, vehicles, etc.) – from 2026
- Automatic hazard warning system (visual and audio alerts) – from 2026
- High-resolution imaging support for day/night and adverse weather conditions
- DVR-based incident recording (video storage and optional cloud upload) – from 2027
- Dedicated view modes for large vehicles, buses, and heavy equipment (Top/Side/Trailer Mode)

3. DELTA 3D SVM – Key Differentiators (Top 3 Advantages)

① Full 3D Reconstruction (True 3D Spatial Awareness)

Unlike simple panoramic stitching, DELTA's technology is based on 3D spatial understanding, enabling accurate perception of distance and angles even in large vehicles, trailers, and excavators.

② Specialized Calibration Technology for Commercial and Heavy Equipment

Fast on-site correction is possible in trucks, excavators, and buses, so it can be installed and expanded immediately to Fleet operators and construction equipment operators across the United States.

③ Integrated Solution Based on High-Performance DVR + AI Edge – from 2026

A fully integrated system combining "camera + 3D SVM + recording + hazard detection" into a single device, delivering maximum safety performance at minimal installation cost—unlike competitors offering separate, stand-alone products.

④ Proprietary ASIC and In-House Module Capability

Most importantly, Delta Engineering possesses its own proprietary ASIC chip and manufactures modules in-house, enabling us to fully meet customer needs and provide flexible customization services.

4. Customer Benefits (Value Proposition)

- Up to 60% improvement in accident prevention by reducing blind-spot incidents

- Reduction in insurance premiums and claims costs
- Lower vehicle and equipment damage expenses and minimized downtime
- Shorter driver training time, enabling safe operation even for novice drivers
- Increased fleet operational efficiency through driving records and accident analytics
- Compliance with safety regulations for school buses and large vehicles, and improvement in safety ratings
- Capability to offer additional value-added services

5. Before → After Comparison: Change in Safety Operation Level

Category	Before (Conventional Operation)	After (With DELTA 3D SVM)
Visibility	Reliance on rear camera and mirrors, numerous blind spots	Full 360° 3D visibility, elimination of blind spots
Accident Risk	Frequent contact, collision, and entrapment accidents	Significant reduction in accident rate, proactive risk alerts
Insurance & Operating Costs	Increased burden of accidents, damages, and insurance premiums	Reduced insurance premiums and lower maintenance costs
Driver Experience	High difficulty for novice drivers, high stress level	Safe operation for all drivers, improved work efficiency
Accident Analysis	Insufficient data, disputes over liability	Secured video records, clear identification of accident causes
Regulatory Compliance	Growing demand for safety devices	Compliance with ADAS safety regulations (from 2026)

6. Delta's Technological Superiority in the U.S. Market

Globally, only a very limited number of companies are capable of delivering high-performance 360° SVM based on ASIC technology.

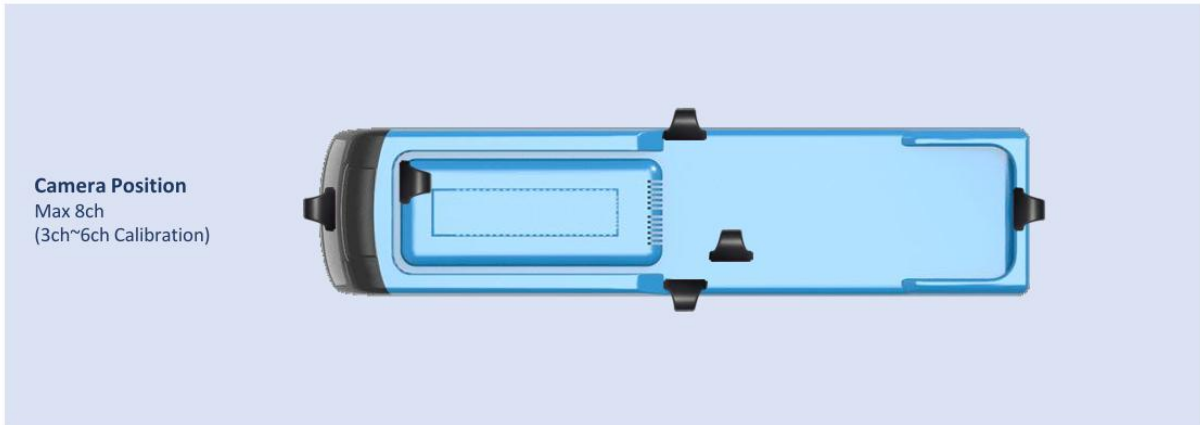
Delta ASIC SVM Strengths

category	ASIC-Based SVM (Delta)	Conventional Software-Based SVM (Most China/U.S. Products)
Latency	Extremely low / real-time level	Delays due to computational load
Heat & Power	Significantly lower	Requires high-performance processors, high heat generation
Reliability	Military-grade stability	Quality varies greatly by environment
Resolution	Real-time 1080p · 30fps	Mostly 720p or no 30fps support
Maintenance	Simple and low-cost	Complex and higher cost

product descriptions

DELTA-100

3D Full HD SVM - AUTO360



Camera Installation



4ch Calibration



3D View

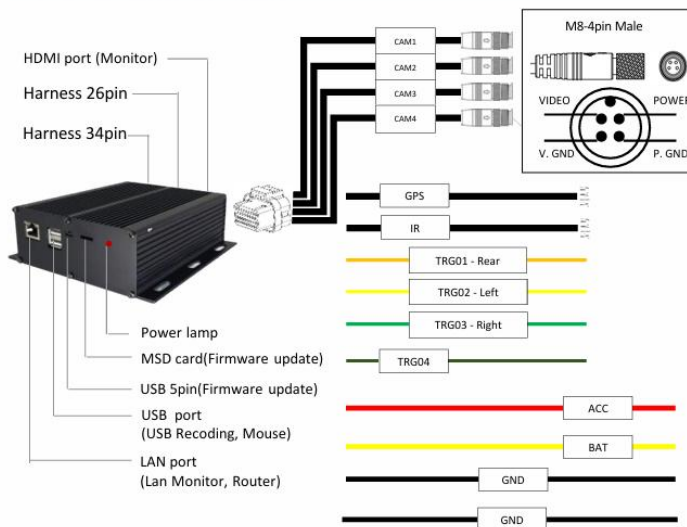


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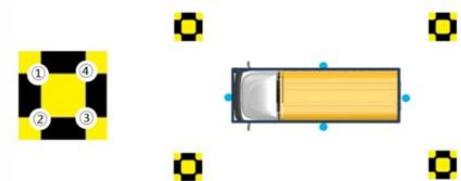
SVM Product set



System Configuration



SVM Calibration



DELTA-100

3D Full HD SVM - AUTO360

ECU Spec.

USB Recoding



SSD Recoding



Items	Specification	Items	Specification
Typical Supply Voltage	DC 12V~24V	Video Input	AHD (1080P, 30fps, 3ch-8ch)
Operating Voltage Range	DC 11V ~ 36V	Video Output	Resolution 1080P 30fps (AHD, HDMI, NTSC/PAL)
Power Consumption	Max 28W (Including 6 cameras)	Operating Temp. Range	-30 ~ +75°C
Size	(W)155 X (H)168 X (D)50	Storage Temp. Range	-40 ~ +85°C

Camera Spec. AVC-3027



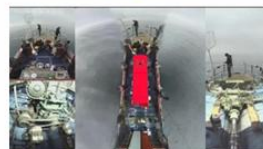
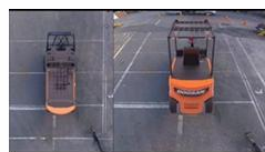
Items	Specification	Items	Specification
Input Signal	Full HD(1080P) x 30 fps	Operating Temperature	-30 ~ + 80
Output Signal	AHD, TVI, CVBS	Min. illumination	0.001 Lux, Low Lighted
Current Consumption	Max 2.2W/24V	Including Bracket Size	45W X42H X 60L
Operating Voltage	DC 5V~12V	Certification	RoHS, KC, CE, FCC, E-Mark

Monitor Spec. 10.1" HDMI (MT-101HDS)



Items	Specification	Items	Specification
Typical Supply Voltage	DC12V~24V	Display resolution	LED (1024*600)WVGA
current consumption	24V, 300mA	Size	249(W) X 155.5(H) X 19.5(D)mm
Input Signal	CVBS / HDMI	Weight	540g
Video Input	1Vp-p, 75ohm	Operating Temp. Range	-10°C~60°C

View mode



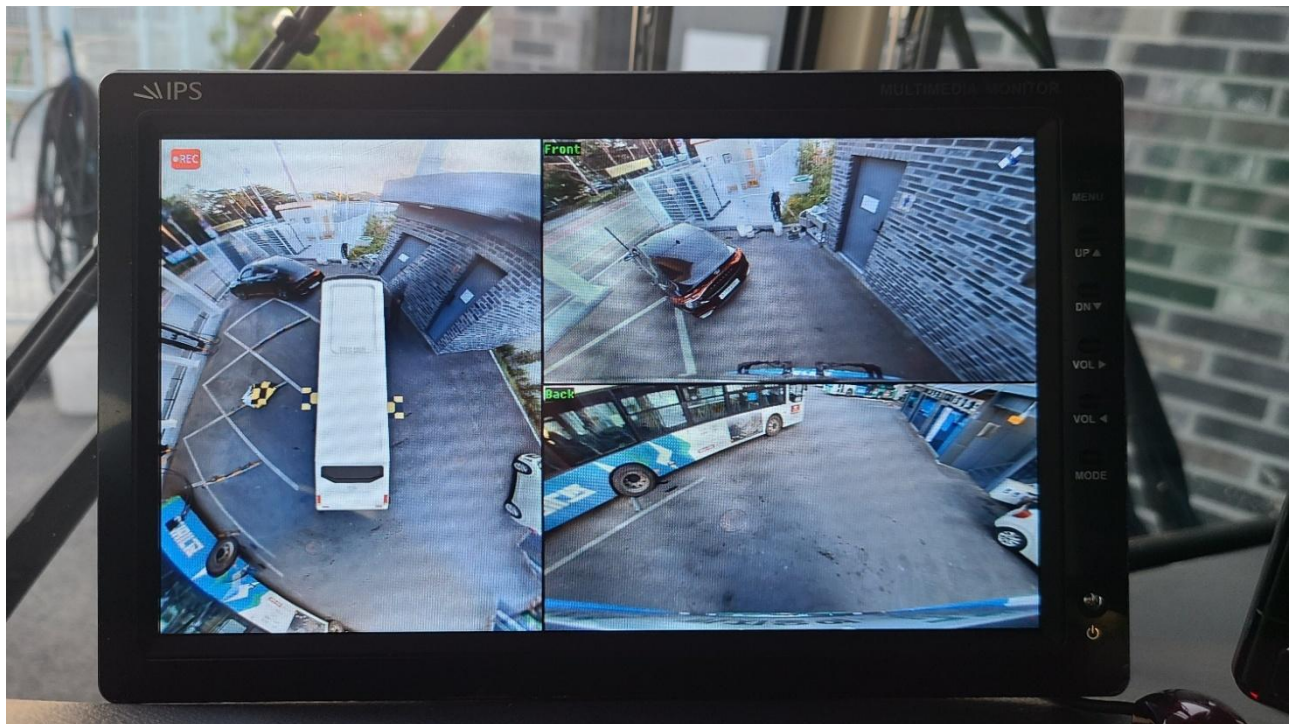
SVM 연구개발 및 제조 판매 실적(2017년~): 대한민국 유일한 100% 국내 기술, 국내 제품

- 미국 : 시스템 수출
- 유럽 : 트램(19m, 27m)용 수출
- 싱가포르 : 군용차용 수출
- 국내 : 버스, 트럭, 굴삭기, 지게차 등 설치 판매

DELTA100 - Auto360

application case

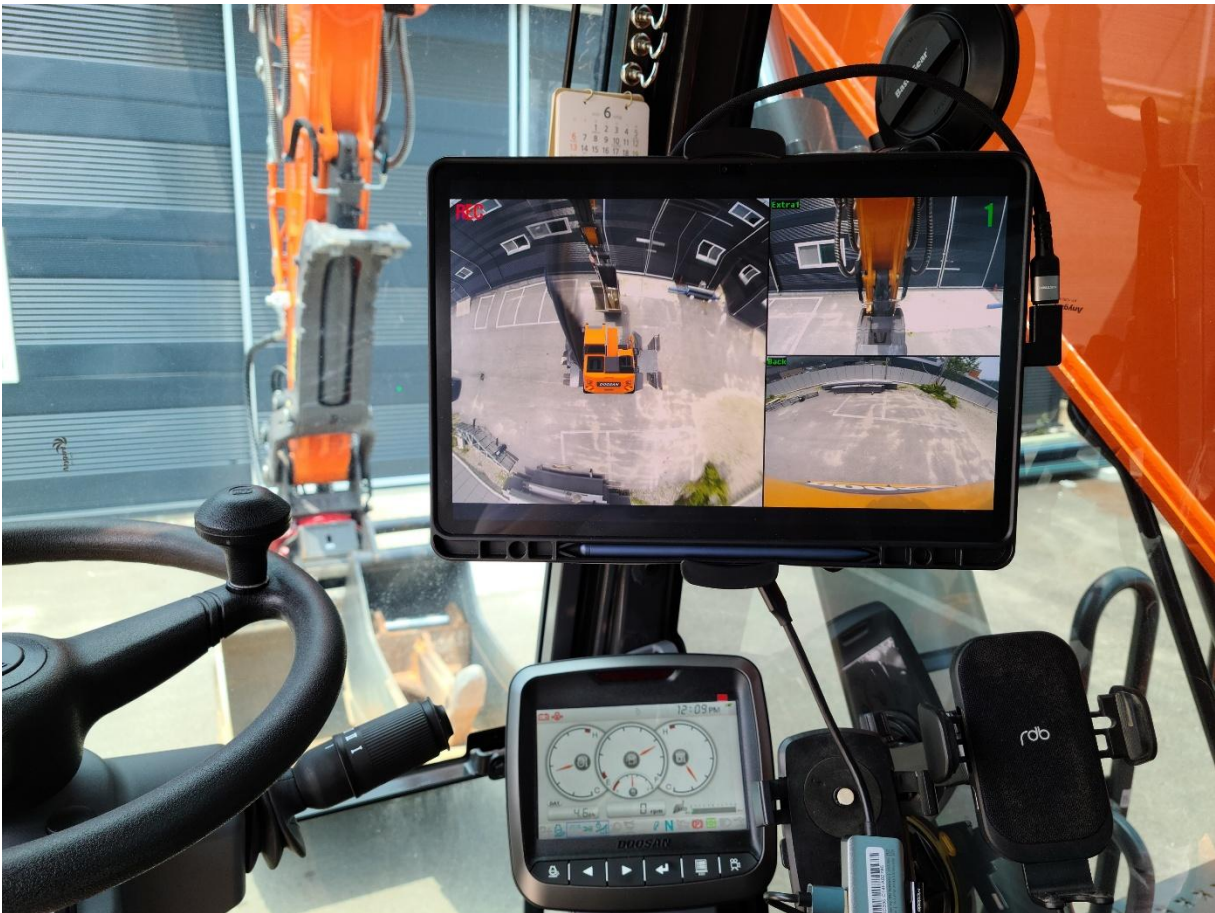
1. city bus



2. Excavator - Volvo (Monitor)



3. Excavator – Doosan (Tablet)



4. fishing boat



5. Han gang Bus

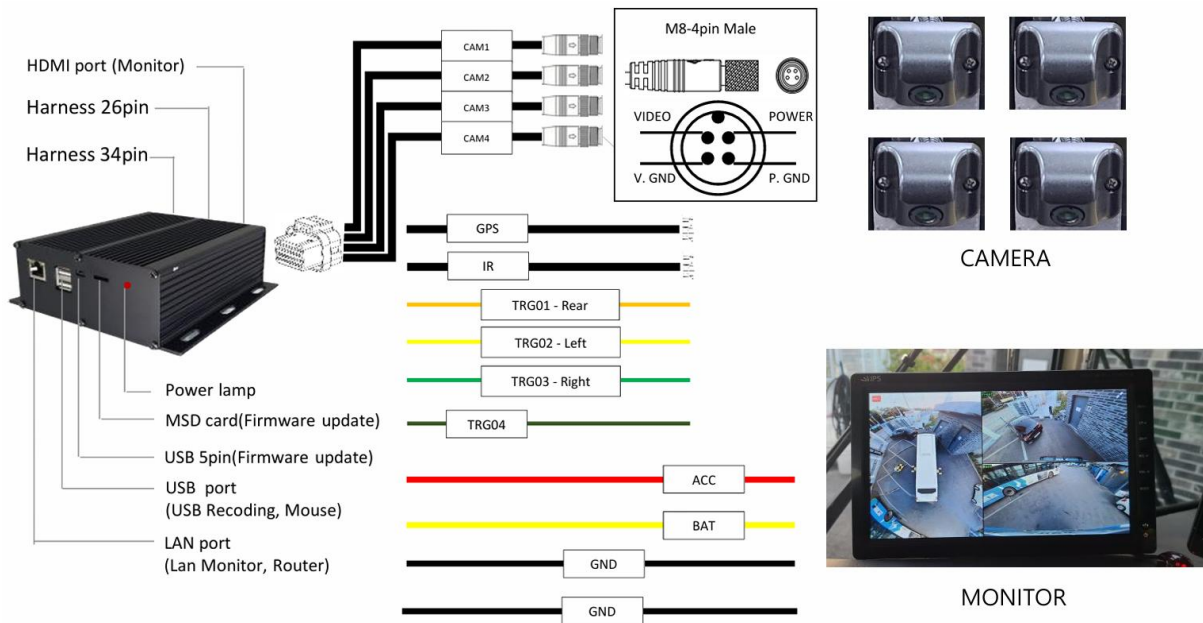


4. Product Architecture and Technical Characteristics

1) Use of Proprietary In-House Developed Chip - UQ3188(FPGA)



Product Configuration



Holder of Core Patent in 360° Image Formation



2) Use of Proprietary In-House Developed Chip (ASIC CHIP)



Key Advantages of AI 3D SVM

1. **Minimization of Blind Spots**

Real-time 3D and 360° awareness of the vehicle's surroundings significantly reduces the risk of collisions with pedestrians and obstacles.

2. **Enhanced Safety for Large and Commercial Vehicles**

Provides substantial accident prevention benefits during turning, reversing, and maneuvering in confined spaces for buses, trucks, and specialized vehicles.

3. **AI-Based Intelligent Recognition**

Beyond simple image stitching, AI identifies and alerts the driver to objects such as people, vehicles, and obstacles.

4. **Reduced Driver Fatigue and Stress**

An intuitive 3D interface improves driving convenience regardless of driver experience or skill level.

5. **Reduction in Accident and Insurance Costs**

Fewer collisions lead to lower vehicle repair expenses, insurance premiums, and overall operational risks.

6. Seamless Integration with ADAS and Autonomous Driving

Serves as a core sensor technology that can be easily linked with future ADAS and autonomous driving systems.

✦ 5. Key International Clients & Partners

Military Vehicles (Singapore)



트레일러 (미국) Trailer (U.S)



트램 (유럽) Trams (Europe)



6. U.S. Market TAM + Pricing Strategy + Partner Structure

■ A. U.S. TAM Summary (Based on Existing Fleet + New Sales) TAM – Total Addressable Market

1) Existing Fleet (In Operation)

- Trucks (3 tons and above): **13.5M units**
- Box trucks / van-type vehicles: **5.3M units**
- School buses: **0.49M units**
- City & intercity buses: **0.11M units**
- Excavators (crawler type): **0.074M units**

→ Total Installable TAM (adjusted): 10–10.5M units

2) Annual New Sales

- Commercial Trucks (Class 4–8): **507,000 units/year**
- Box trucks (estimated): **200,000 units/year**
- School buses: **32,000 units/year**
- City buses: **4,000 units/year**
- Excavators: **72,000 units/year**

→ New Installation TAM: approximately 470,000–480,000 units/year

■ B. Pricing Strategy (Optimized for the U.S. Market)

1) OEM Pricing

- Module unit price: **\$130–\$180**
- OEM factory option price: **\$350–\$800**

2) Fleet / Aftermarket

- Wholesale price: **\$250–\$350**
- Retail price including installation: **\$600–\$1,200**

3) Public Procurement Market

- GSA procurement price: **\$400–\$600**
- School bus procurement package (including installation): **\$1,200**

■ C. Partner Structure (Go-To-Market)

1) OEM Partners

- Excavators: Caterpillar / Deere / Volvo CE / Bobcat
- Trucks: Freightliner / Ford Pro / GM Fleet
- Buses: Blue Bird / Gillig / Thomas Built

2) Procurement Partners

- GSA Schedule registered vendors
- Bus integrators (public transit suppliers)
- School District integrator

3) Fleet Integrators

- telematics providers : Geotab / Samsara / Motive
- Fleet management companies : Penske, Ryder
- Major logistics enterprises : Amazon, UPS, FedEx

4) 보험사

- Progressive
- Allstate
- Travelers

U.S - Delta 3D SVM Perspective "Potential Installable Quantities" Summary

	Vehicle	Number of Vehicles in Operation in the U.S.	Annual New Vehicle Sales in the U.S.
1	Trucks over 3 ton	13,500,000	507,000
	└ Single unit trucks:	└10,500,000	└200,000
	└ Tractor + trailers:	└2,970,000	└50,000
2	Box Trucks	5,300,000	100,000
3	Wing Bodies	1,350,000	20,000
4	Urban Bus (Transit Bus)	60,000	4,000
5	express bus /chartered bus	47,000	1,300
6	School bus	493,000	32,000
7	excavator	74,000	16,000
	TOTAL	About 20.8 million	About 680K units a year

7. Business Model

1. Revenue Streams

① Hardware Sales (One-Time)

- Sell 3D SVM (including camera, ECU, monitor) package
- Price difference by vehicle group (truck, bus, school bus, heavy equipment)
- Discount on unit price for bulk purchases

② Installation and Maintenance(Service Revenue)

- Installation fee (including installation fee per unit + Calibration)
- Annual Maintenance Contract
- Spare Parts Sales

③ SaaS-based cloud services (Optional) 2027~

- Upload driving data and video and remote monitoring
- Accident Analysis Report (AI accident analytics)
- Monthly Subscription or Fleet-wise License

④ OEM/Tier-1 Supply

- Sold directly to American bus manufacturers, trailer manufacturers and heavy equipment manufacturers.
- Registration of Factory Option by Vehicle → Securing stable long-term sales

2. Unit price structure and margin structure (Unit Economics)

- Equipment Sales Margin: 15% to 20%
- Maintenance and cloud service margins: 30-50%
- CAC (Customer Acquisition Cost) Drops When Securing Fleet → Maximizes economies of scale

3. Target Customer Segments

- U.S. logistics companies / Large Fleet carriers / truck rental and leasing companies
- School Bus Management Office (School District)
- a city bus and express bus company
- construction equipment rental company / mining and construction site operator
- Insurance companies (linked to premium discount program)

8. Marketing/Sales Strategy (Go-To-Market Strategy)

1. Entry Strategy

- ① Targeting vehicle groups with high accident rates first

- Entering markets with frequent blind spot accidents such as school buses, long-axis trucks, and excavators
- Get a single Fleet customer with a large volume → Fast market share

② PoC (pilot)-centric initial diffusion

- 100 to 300 pilot projects →
- Present ROI based on accident reduction figures and driving data →
- Transition of hundreds to thousands of contracts

2. Sales Strategy

① Direct Sales

- Large logistics companies, education offices, bus companies, etc
- B2B sales based on ROI for Fleet Manager

② Channel Partner Strategy (Reseller/Installer Network)

- Establishment of Certified Installation Partners for U.S. Installation and Serviceability
- Working with heavy equipment dealers / truck dealers

③ OEM Strategy

- Bus manufacturers push to mount construction equipment manufacturers as "basic options" or "premium packages"

④ insurance company cooperation

- Co-development of insurance premium discount program for SVM-equipped vehicles, securing a structure in which insurance companies introduce customers directly

3. Marketing Strategy

- Create report-type content that focuses on accident reduction and cost reduction
- Provide real incident prevention video cases
- School Bus Safety Regulation and OSHA Regulation Change-Based Education Marketing
- Active use of SNS, industry exhibitions (Work Truck Show, APTA, MINExpo)

4. Detailed Sales Strategy by School Bus Excavator Box Truck

A. School bus market strategy (490,000 flits / 32,000 new units per year)

1) Why is the school bus the key?

- Strengthen child safety regulations → Liability issues in the event of an accident are very large
- U.S. Education Office Tends to Ban Chinese Cameras
- High quality evidence images (1080p) required
- Continuous annual replacement and increase

2) Delta selling points

- "Zero-lag 360° View → Safe for Children"
- "China Exclusion Policy Conforms → Can be Procured"
- "Insurance premiums can be reduced by 5-15%"

3) Sales Scenario

1. Meeting with School District Safety Director
2. "Existing Chinese products vs Delta ASIC differences demonstrated"
3. Pilot in their 20s and 50s
4. 500 to 1,000 contracts in conjunction with procurement programs

B. Excavator Market Strategy (7.4 million flits / 7.2 million new)

1) Why is it an excavator?

- The highest accident rate in rear and right blind spots among all heavy equipment
- Caterpillar and John Dere et al. strengthen 'Chinese video device exclusion policy'
- Strengthen video recording regulations in construction companies, quarries, and government civil engineering projects

2) Delta selling points

- Durability (-40-85°C) + Suitable for vibration and dust environment
- ASIC → real-time screen without delay
- OSHA Compliance

3) Sales Scenario

1. OEM Demo → Factory Option
2. Supply packages to United Rent (United Rentals, Sunbelt)
3. Sold as Mandatory option to Government Civil Projects (DoT)

C. Box Truck Strategy (5.3 million flits / 200,000 new)

1) Target Customers

rental company -

Amazon Logistics, FedEx Ground, UPS, Walmart Delivery, U-Haul, Penske

2) Pain Points

- Rear blind spot accidents (hundreds of thousands per year)
- a sharp rise in insurance premiums
- The problem of SVM instability and lack of A/S in China
- Serious maintenance issues due to large fleet size

3) selling point

- OEM-level image quality → 40%+ accident reduction rate possible
- Premium Discount Program available in conjunction with insurance companies
- Fast installation → Easy to switch fleets

4) Sales Scenario

- Fleet Operations Headquarters: Provides ROI ("Incident and insurance premium reduction → payback period 4-8 months")
- Provides cloud-based telematics APIs.
- Present a large (5,000-20,000) long-term contract model

Full summary

The U.S. needs "Non-China + High Performance SVM" after the U.S.-China technology war, and Delta is virtually the only company that meets all of these conditions. OEM → Procurement → Fleet → Insurance companies combine the four axes to create a structure that can dominate the U.S. market.

9. Business strategy and roadmap (Roadmap)

Stage 1 (0-12 months) – initial stage of market acquisition

- Building 5 US Certified Installation Partners
- Securing PoC for 5 or more school buses and large logistics companies
- 3D SVM launches U.S.-only version (local regulatory response)
- Establishment of a pilot program with insurance companies

Stage 2 (1-3 years) – Extension Stage

- Get more than 20 large fleets of customers
- Enters annual sales of more than 10,000 units
- Securing 2-3 OEM Supply Agreements
- Launch Cloud-Based Incident Analysis Services
- Expanding the nationwide installation network (50+ partners)
- Establishment of a U.S. corporation or branch office

Stage 3 (3-5 years) – Securing Market Leadership

- 3D SVM Market in U.S. Top-tier Brand Enters
- Securing 10% of the U.S. Logistics, Buses, and School Bus Market Share
- Launch of AI-powered Predictive Safety Platform (ADAS+)
- Expand Canada/Mexico Market

10. Risk Factors and Response Strategies(Risk & Mitigation)

1. technical risk

- Dangers: Difficulty installing and calibration on various vehicle platforms
- Response: Development of modular hardware and automatic calibration algorithms / Standardization of installation manual

2. Regulatory and certification risks

- Dangers: State-specific safety regulations for school buses and commercial vehicles differ
- Response: Acquire regional certification partners / operate regulatory customized product versions

3. intensifying competition

- Dangers: Existing camera and sensor companies enter the market
- Response: Differentiate based on technology such as 3D Reconstruction and AI Edge + secure long-term OEM contracts

4. Price pressure and reduced customer budgets

- Dangers: Demand Unit Price Cut For Large Fleets
- Response: Reduce installation costs, subscription model in parallel → Minimize customer burden

5. Supply chain and service risk

- Dangers: Lack of A/S coverage across U.S
- Response: Get at least 50 certified installation partner networks + build local warehouses

6. PoC → Possible failure to convert bulk contracts

- Dangers: Customer doesn't clearly feel ROI
- Response: Before and after incident comparison report / premium reduction case-based data package provided



11. Financial Plan

The financial plan for this project was established on a five-year basis.

Sales are based on product sales as the main source of revenue, and the annual average growth rate (CAGR) is assumed to be about 30% to 50%.

Sales cost is a COGS structure centered on parts, manufacturing, and outsourcing costs, with an initial gross profit margin of about 8% and an improvement of up to 15% through mass production and scale expansion.

Operating costs (OPEX) are centered on labor costs, marketing, and management costs, and R&D costs are concentrated for the first two to three years.

The investment is used to advance products, prepare for mass production, expand operations, and operate funds.

BEP (Profit Breakdown) Analysis

- 손익분기점(BEP): 연 매출 약 10억 원 수준
 - Break-even point (BEP): Annual sales of approximately KRW 1 billion
- 도달 시점: 사업 개시 후 2년 차 예상
 - When to Reach: Expected to be in the 2nd year after the commencement of business
- 고정비 대비 매출 증가 속도가 빠른 구조로, 일정 판매량 확보 시 수익성 급격히 개선
 - Due to the fast growth rate of sales compared to fixed costs, profitability rapidly improves when securing a certain amount of sales

Cash Flow Prospects

- Cash outflows occur during the first two years due to R&D and market entry costs
- Operating Cash Flow Surplus from Year 2
- Expected to generate stable free cash flow (FCF) as sales increase in the future

Sales plan

	2025	2026	2027	2028	2029	2030
<u>Software</u>						
Hyundai(USA)	\$123,300	\$250,000	\$700,000	\$900,000	\$1,300,000	\$1,600,000
<u>Module</u>						
Aceview	\$155,000	\$950,000	\$1,500,000	\$2,200,000	\$3,300,000	\$3,800,000
Korea Works	\$1,500	\$180,000	\$350,000	\$600,000	\$850,000	\$950,000
<u>Whole Solution</u>						
Singapore	\$196,800	\$500,000	\$750,000	\$1,380,000	\$1,600,000	\$1,800,000
Europe	\$11,000	\$160,000	\$200,000	\$350,000	\$500,000	\$800,000
U.S.	-	\$1,800,000	\$5,300,000	\$8,800,000	\$17,500,000	\$27,000,000
Taiwan/Japan	-	\$300,000	\$600,000	\$950,000	\$1,600,000	\$2,500,000
Total	\$487,600	\$4,140,000	\$9,400,000	\$15,180,000	\$26,650,000	\$38,450,000

product description

1. Software - Supply SVM Solution to Customer..
2. Module - Supply ECU Board during SVM System
3. Whole Solution - Supply of hardware and software including ECU, Camera, Harness, Cable, and Monitor.

Estimated profit and loss

	2025	2026	2027	2028	2029	2030
Sales	\$487,600	\$4,140,000	\$9,400,000	\$15,180,000	\$26,650,000	\$38,450,000
Cost of sales	\$365,700	\$3,105,000	\$7,050,000	\$11,385,000	\$19,987,500	\$28,837,500
SG&A	\$39,008	\$331,200	\$752,000	\$1,214,400	\$2,132,000	\$3,076,000
operating profit	\$82,892	\$703,800	\$1,598,000	\$2,580,600	\$4,530,500	\$6,536,500

* Currently, U.S. sales are conservative at only 2% of the market, and we plan to strengthen our marketing to expand our market share to more than 3% to 5%.

투자지출(CAPEX) / Capital Expenditure(CAPEX)

Delta commercial vehicle 3D SVM business is designed to generate stable and recurring revenue streams. The investment structure focuses on securing core technologies and allocating only the minimum essential level of tangible and intangible assets required for market entry.

Rather than relying on large-scale manufacturing facilities, the project adopts a lightweight CAPEX model that prioritizes ASIC-based 3D image processing technology, proprietary software development, pilot system deployment for field validation, and regulatory certification readiness.

This approach minimizes initial capital burden while enabling early establishment of a repeatable revenue model targeting fleets and upfitters. Over the mid- to long-term, the company aims to enhance enterprise value by accumulating technology assets and intellectual property (IP)-driven competitiveness.

Key Characteristics of Delta's CAPEX Structure

1) "Technology-focused CAPEX" not "factory-focused"

- Large Facility Investment ✕
- Investment focused on technology, software and verification ○ (\$200,000)

2) Structure to make break-even (BEP) faster

- Minimize CAPEX
- Profits or losses can be improved in 1 to 2 years when sales occur

3) High consistency with Fleet/Uppeater business model

- Investment required for mass production of OEMs (\$200,000), when acquiring Military spec (\$600,000)
- Pilot Production → Repeat Order → Gradual Expansion Structure (\$100,000)

4) Establishment of U.S. Local Entity

- On-site training on products, installations, etc. (US\$200,000)
- Operating, operating expenses incurred (US\$100,000)
- **Estimated total between \$800 and \$1.2 million**

Net Working Capital (NWC)

This is based on the operation of Net Working Capital (NWC) based on the SVM (AI 3D SVM for commercial vehicles) export business to the U.S., the establishment of a local subsidiary in the U.S., and the structure of overseas B2B transactions.

1 Minimum Required Inventory Level (Ratio) - (Inventory/Sales)

◆ premise

- **Product:** AI-based 3D Surround View Monitoring (SVM) system for commercial vehicles
- **Manufacturing:** Korea → Export to overseas markets (U.S., Europe, etc.)
- **Lead time:**
 - Production 3–4 Weeks
 - Shipping and customs clearance → 6–8 weeks in total
→ **Total: approximately 6–8 weeks**

Inventory-to-Revenue Ratio: 10–15%

Revenue Scale	Optimal Inventory Level	Description
revenue: KRW 10 B	KRW 0.5–1.0B	2–3months of inventory
On a monthly sales basis	2.0–2.5M of inventory	Ensure supply stability

◆ Reason

- US customers prioritize delivery reliability
- Requires ready-to-deliver inventory as it needs to be installed on the vehicle receiving schedule
- In case of lack of stock:
 - Project delay
 - Risk of interruption of claims and transactions

2 DSO, Days Sales Outstanding

◆ **U.S. B2B Business Practices**

- Uppeater / Fleet / Dealers: Net 30 to Net 45 General
- Initial transaction: Some advance payment or LC may be requested

◆ **Delta Target: Average DSO: Within 45 days**

Transaction Type	Recommended Payment Terms
Pilot Orders	50% advance payment+50% before shipment
Recurring Orders	50% advance payment+50% Net 30
Large-Scale Orders	50% advance+50% Net 30(Credit limit required)

◆ **Management Points**

- DSO 45 Days Over → Working Capital Surges
- The U.S. has high time and legal costs for collecting receivables

◆ **Complementary strategy**

- Trade Credit Insurance
- Factoring (US local financial institution)
- Dealer/Distributor Warranty Structure

3 Target credit purchase payment date (DPO, Days Payable Outstanding)

◆ **Key buyers**

- Camera module
- ECU / SoC (System on Chip)
- Cable and Housing

◆ **Target DPO: 30–60 days (DPO = Days Payable Outstanding)**

Place of purchase type	Recommended Conditions
Domestic and Asian component suppliers	Net 30
EMS/ODM	Net 45~60
an early partner	Net 30 → Phased extension

◆ Reason

- Cash flow stabilized only when payment is delayed than export sales recovery (DSO 45 days)
- Avoid cash shock in sales growth segments

◆ Negotiation Points

- a long-term contract of supply
- US Export Project Specification
- Co-marketing/reference delivery

Target Net Working Capital Structure – Delta U.S. SVM Export Business

◆ Recommended NWC structure (compared to sales)

category	target level
inventory assets	10-15% of sales
accounts receivable	within 45 days
purchase debt	45~60 days
Net Working Capital (NWC)	+20 to 30% of sales

👉 Scalable structure without cash outflows, even in the growth phase

Substitute company:

These are the four listed companies:

✓ 1. Hyundai Mobis - KOSPI (KRX: 012330.KS)

- A leading automotive components company.

✓ 2. LG Innotek – KOSPI (KRX: 011070.KS)

- Camera modules, electronic components, and automotive electronics

✓ 3. Samsung Electro-Mechanics - KOSPI (KRX: 009150.KS)

- MLCCs (Multilayer Ceramic Capacitors), camera modules, and electronic components and PCB assemblies

✓ 4. MCNEX - KOSPI (KRX: 097520.KS)

- Camera modules and imaging solutions for smartphones and automotive electronics

Why Invest Now?

1. **Clear Problem & Validated Demand**

Structural market needs for safety, operational efficiency, and cost reduction

2. **Differentiated Technology & Product**

Superior **performance, scalability, and broader applicability** compared to competing solutions

3. **Large Total Addressable Market (TAM)**

Domestic + Large commercial markets that can be expanded overseas (such as the United States)

4. **a clear revenue model**

Product Sales + Options/Maintenance/Expanding Sales Structure

5. **Scalability**

Multiple types and multiple markets can be expanded with the same technology

6. **The present is the greatest opportunity**

There are almost no "Non-China High-Quality SVM" providers in the U.S. market.



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