SecureVision X100 — Product & Procurement Design Specification (v1.1 - Divergent Version)

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1. Document Overview

Document Title: SecureVision X100 Revamp — Procurement & Design Spec
Version: 1.1
Date: April 18, 2025

Author(s):

- Priya Malhotra (Director, Strategic Sourcing)
- Ryan Matthews (Chief Systems Architect)

Purpose:
This document outlines the evolved technical and procurement strategy for SecureVision X100, incorporating new environmental standards, modular hardware improvements, and integration enhancements for edge-to-cloud functionality in high-security installations.

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2. Project Overview

Project Code: SVX-100-PRO

Project Description:
SecureVision X100 PRO is a scalable surveillance module designed for urban infrastructure, logistics warehouses, and critical manufacturing zones. The upgraded platform features ultra-wide 6K video capture, dynamic infrared range switching, AI-enabled behavioral anomaly detection, and 5G fallback for critical cloud sync.

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3. Key Stakeholders

Engineering & Design

Name	Role	Focus Area	Contact Info
Ryan Matthews	Chief Systems Architect	Multi-module system design	r.matthews@securevision.ai

Lila Wong	Optical Systems Lead	Wide-angle and low-light lenses	l.wong@securevision.ai
Fatima Siddiqi	Machine Vision Engineer	Motion prediction + object classification	f.siddiqi@securevision.ai

Procurement & Legal

Name	Title	Role	Contact
Priya Malhotra	Director, Strategic Sourcing	Vendor strategy, global procurement	p.malhotra@securevision.ai
Julian West	Vendor Performance Lead	Supplier onboarding & SLA compliance	j.west@securevision.ai
Alan Rivera	Legal Affairs Counsel	Commercial contract negotiation	a.rivera@securevision.ai

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4. Hardware Architecture Overview

Component	Specification Highlights	Units	Primary Vendors	Notes
6K Ultra CMOS Sensor	6144×3456, HDR+ w/ distortion correction	10,000	ClearLens Inc.	Replaces 4K sensor for public-facing installs
Edge AI Vision Core	Octa-core ARMv9, 5 TOPS NPU, 8GB RAM	10,000	NeuralGrid Systems	Increased throughput for real-time processing
Housing - Composite Alloy	IP67, tamper mesh, UV + salt fog resistant	10,000	FortaShield Group	New supplier with marine-grade protection
IR Matrix LEDs (adaptive)	940nm + 850nm hybrid array, smart dimming	10,000	NightPulse Lighting	Dual-band IR for varying environments
5G Fallback Comms Module	mmWave + Sub-6Ghz, carrier-agnostic	10,000	NetReach Components	Fully decoupled from main data stream

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5. Procurement Actions & Vendor Strategy

RFI-231: Adaptive IR Arrays for Variable Lighting

Objective:
Identify LED array vendors capable of dual-band emission with low power loss in fluctuating industrial environments.

Date Issued: April 15, 2025
Due Date: April 25, 2025

Information Sought:

- Dimming algorithms with environmental sensing
- Life-cycle >15,000 hours
- Embedded over-voltage protection

Responses Received From:

- NightPulse Lighting ✅
- IRNova GmbH
- AuroraOpto (Declined)

RFQ-344: Secure Composite Housing Fabrication

Issued: April 12, 2025
Quote Deadline: April 20, 2025

Specs:

- IP67+ certified materials
- Withstand 1000h salt spray
- Pre-mounted grounding hooks

Quotes Received:

- FortaShield: $14.30/unit
- EncasePro: $13.50/unit (longer lead time)

RFP-512: Neural Core + Behavioral AI SDK

Proposal Deadline: April 29, 2025
Scope:

- SDK for suspicious behavior classification
- Multi-region tracking using CNNs
- OTA compatibility for model updates

Submitted Vendors:

- NeuralGrid Systems — $31/module
- VisionFlow AI — $29/module
- AIX Research — $34/module

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6. Vendor Table (v1.1)

Vendor ID	Name	Component	MOQ	Lead Time	Price	Current Status
VND-301	ClearLens Inc.	6K CMOS Sensor	2,500	6 weeks	$12.50	Committed
VND-302	NeuralGrid Systems	Edge Vision Core	2,000	7 weeks	$31.00	RFP in final review
VND-303	FortaShield Group	Composite Housing	3,000	5 weeks	$14.30	Preferred Vendor
VND-304	NightPulse Lighting	Dual IR Matrix LED Array	2,000	4 weeks	$4.75	RFI shortlisted

VND-305	NetReach Components	5G Comms Module	2,000	6 weeks	$6.10	Pilot supply accepted

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7. Budget & Financial Plan

Per Unit Cost Breakdown

Item	Unit Cost	Units	Subtotal	Buffer
6K CMOS Sensor	$12.50	10,000	$125,000	5%
AI Vision Core	$31.00	10,000	$310,000	8%
Composite Housing	$14.30	10,000	$143,000	5%
Dual IR LED Array	$4.75	10,000	$47,500	5%
5G Comms Module	$6.10	10,000	$61,000	5%

Target Budget: ~$700,000
Contingency Allocation: $60,000
Total Forecasted Spend: ~$760,000
Financial Lead: Daniel Yu (CFO)

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8. Project Timeline

Phase	Due Date	Owner
Component Spec Lock	April 11, 2025	Engineering Team
IR Supplier Downselect	April 25, 2025	Priya Malhotra
AI SDK Proposal Deadline	April 29, 2025	Vendors
Composite Housing Contract	April 28, 2025	Julian West
Procurement Approval Round	May 3, 2025	Daniel Yu
Production Prep Milestone	May 15, 2025	Engineering + Vendors

Manufacturing Start	**June 12, 2025**	Manufacturing Ops