

MEPNN Supplier Scouting Opportunity Synopsis

Section 1: General Information

Scouting Number	2026-185
Item to be Scouted	BABA: Surveillance Cameras
Days to be scouted	14
Response Due By	05/14/2026
Description	A surveillance camera is a specialized video-capture device designed to monitor, record, and sometimes analyze activity in a specific area for purposes of security, safety, and situational awareness. It's the core component of

Section 2: Technical Information

Type of supplier being sought	Manufacturer
Reason	BABA
Describe the manufacturing processes (elaborate to provide as much detail as possible)	Manufacturing a surveillance camera involves: Electronics production (PCB + components) Optical assembly (sensor, lens, IR system) Mechanical integration (housing, seals, mounts) Firmware installation Environmental and reliability testing Final packaging and labeling

Provide dimensions / size / tolerances / performance specifications for the item

Typical Size used in Multifamily Apartment projects. See attached Specifications.

Dome Cameras (indoor/outdoor)

- Diameter: 4–6 in (100–150 mm)
- Height: 3–5 in (75–125 mm)
- Weight: 0.8–2.5 lb
- Mounting: Ceiling or wall; surface or recessed
- IK Rating: IK08–IK10 (vandal resistance)

Bullet Cameras

- Length: 7–12 in (180–300 mm)
- Width/Height: 2.5–4 in (65–100 mm)
- Weight: 1.5–4 lb
- Mounting: Wall or pole

Performance Specifications (Industry Standard Ranges)

Image Sensor & Resolution

- Sensor: 1/2.8" or 1/1.8" CMOS
- Resolution:
 - o 1080p (2 MP) – baseline
 - o 4 MP / 6 MP – common
 - o 8 MP (4K) – premium
- Dynamic Range: 120–150 dB WDR (wide dynamic range)

Lens & Field of View

- Fixed lens: 2.8 mm, 4 mm, 6 mm
- Motorized varifocal: 2.7–13.5 mm typical
- FOV: 30°–110° depending on lens

Low Light Performance

- Minimum illumination:
 - o Color: 0.005–0.02 lux
 - o IR mode: 0 lux
- IR range: 100–300 ft (30–90 m) depending on model

Compression Standards

- H.265 / H.264 (standard)
- Smart codecs for bandwidth reduction

Environmental & Durability Tolerances

Ingress Protection

- IP66 or IP67 for outdoor cameras
- Dust tight, protected against heavy rain or immersion

Operating Temperature

- Standard: –4°F to 122°F (–20°C to 50°C)
- Extended: –40°F to 140°F (–40°C to 60°C) with heater/blower

Vibration / Impact

- IK08–IK10 for vandal resistant domes
- PTZ housings often rated for wind loads up to 90–120 mph

Electrical & Network Specifications

Power

- PoE (IEEE 802.3af): 7–12 W typical
- PoE+ (IEEE 802.3at): 15–30 W for IR or PTZ
- 24 VAC: Used for large PTZ units
- 12 VDC: Optional on many models

Network

- Ethernet: 10/100 Mbps
- Protocols: ONVIF S/G/T, RTSP, HTTPS
- Storage: MicroSD 128–512 GB (optional)

Performance Tolerances (Manufacturer Typical)

Image Quality Tolerances

- Color accuracy: ±5–10% deviation
- Frame rate stability: ±1–2 fps under load
- Bitrate variation: ±10–20% depending on scene complexity

Mechanical Tolerances

- Pan/Tilt accuracy (PTZ): ±0.1° to ±0.5°
- Zoom repeatability: ±2–5% focal position error
- Focus tolerance: ±3–5% depending on lens

List required materials needed to make the product, including materials of product components

1. Optical & Imaging Components

These materials form the “eyes” of the camera.

- CMOS image sensor (1/3", 1/2.8", 1/1.8")
- Lens assembly
 - Glass optical elements
 - Aluminum or plastic lens barrel
 - Fixed, varifocal, or motorized zoom
- IR-cut filter (ICR)
- Mechanical switching filter
- Magnet + actuator
- Infrared LEDs (850nm or 940nm)
- Light sensor (photodiode or LDR)
- Lens holder (plastic or aluminum)

2. Electronics & Processing Components

These materials handle image processing, encoding, and communication.

- Main PCB (FR-4)
- SoC / ISP (H.264/H.265 encoding, AI processing)
- RAM (DDR3/DDR4)
- Flash memory (SPI NOR, eMMC)
- Network components
 - Ethernet PHY
 - RJ45 jack with magnetics
 - Wi-Fi module + antenna (if wireless)
- Power components
 - PoE module (IEEE 802.3af/at)
 - DC/DC converters
 - Voltage regulators
 - Protection components (TVS diodes, fuses, MOVs)
- Motor drivers (for PTZ cameras)
- Microphone (electret or MEMS)
- Speaker (for two-way audio)
- SD card slot (optional)

3. Mechanical & Structural Components

These materials form the physical body of the camera.

- Camera housing
 - Aluminum alloy (outdoor bullet/dome)
 - Polycarbonate or ABS (indoor cameras)
 - Die-cast metal (PTZ cameras)
- Dome bubble (polycarbonate, UV-resistant)
- Mounting bracket (aluminum, steel, or reinforced plastic)
- Gaskets & seals (silicone or EPDM for IP66/IP67)
- Fasteners
 - Stainless steel screws
 - Tamper-resistant screws
- Cable glands (waterproof)
- Heater & fan (for outdoor or cold-climate cameras)

4. Thermal Management Materials

Surveillance cameras run 24/7, so heat control is essential.

- Aluminum heat sinks
- Thermal pads or thermal paste
- Heat spreaders
- Internal airflow guides (PTZ or high-power cameras)

5. Connectors & Wiring

Internal and external connectivity materials.

- Internal wiring harnesses
- Terminal blocks
- Waterproof cable glands
- Slip rings (PTZ cameras)
- Pigtail cables (RJ45 + power)
- Coaxial connectors (for analog cameras)

Are there applicable certification requirements?	No
Are there applicable regulations?	No
Are there any other standards, requirements, etc.?	No
Additional Technical Comments	This is for a three story 48 Unit Multifamily apartment over a one-story parking garage.

Section 4: Business Information

Estimated potential business volume	80 Cameras
Estimated target price / unit cost information (if unavailable explain)	\$14,400.00
When is it needed by?	July 2027
Describe packaging requirements	A surveillance camera's packaging must protect delicate optics, electronics, and housings from shock, moisture, corrosion, and ESD, while meeting regulatory labeling and shipping durability standards. PTZ and outdoor cameras require heavier-duty packaging, while small indoor units can use lighter materials.
Where will this item be shipped?	Blaine Minnesota

Additional Comments

Is there other information you would like to include?	See Attached Specifications
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