SPECIFICATION OF HIGH SPEED VIDEO CAMERA FOR BOMB DISPOSAL APPLICATIONS ON A ONCE OFF CONTRACT. SOUTH AFRICAN POLICE SERVICE: DETECTIVE AND FORENSIC SERVICES, EXPLOSIVES SECTION.

1. SPECIFICATION INSTRUCTION AND BACKGROUND

The specification calls for the procurement of high-speed video camera for bomb disposal applications on a once off contract for South African Police Service: Detective and Forensic Services, Explosives Section.

Service rendered has to comply with the specifications as set out in the document. Only bidders complying with the requirements as set out in this document will be considered for acceptance.

Bidder must ensure that all the requested documentation is supplied along with the proposal and that the document is completed in full in order to be considered for acceptance.

Any equipment supplied by the successful bidder that does not conform to the technical specifications will result in the equipment being rejected and supplier being held responsible for the cost of rejection.

2. TECHNICAL REQUIREMENTS

The bidder has to comply with the specifications as set out in this document. The bidder must indicate in handwriting with **COMPLY** for compliance with the requirements and **DO NOT COMPLY** for non-compliance with the requirements in the relevant column of **every** specification field. Failure to do this will be interpreted as **DO NOT COMPLY.** (The words "Comply" or "Not Comply" MUST be handwritten in each row).

Bidder shall avoid to complete "yes" for compliance or "no" for none compliance. The bidder shall also avoid ticking (✓) for compliance or (X) for do not comply.

All submitted correspondences must be in English.

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		COMPLY/DO NOT COMPLY
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	HIGH-SPEED VIDEO CAMERA	
A	**OVERVIEW**	
1	**The purpose of the product**	
1.1	The High-speed video camera is used to capture objects of interest during explosion incidents, explosives testing and training.	
1.2	The South African Police Service (SAPS) requires a once off contract for high-speed video camera with colour videos, which must be delivered at the delivery address, mentioned on page 5, paragraph E1.2.	
1.3	The high-speed video camera should provide the following capabilities:	
1.3.1	Exceptional Image Quality	
1.3.2	Low noise	
1.3.3	High sensitivity	
1.3.4	High dynamic range	
1.3.5	High speed	
1.3.6	Ultimate flexibility.	
1.3.7	Easy data transfer to external storage	
1.3.8	Long lasting rechargeable battery	
1.3.9	Compatible with other manufacturers lenses	
1.3.10	The high-speed video camera must offer very short and high-power pulses that can significantly reduce the amount of motion blur. Short pulses and high power contribute to the sharp and good image quality. If the offered product requires any additional item(s) to comply, the item(s) should be included in the total price.	

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1.3.11	In addition to the motion blur, the thermal radiation effects of explosions create further challenges. The brightness of the explosion should be greatly suppressed through the narrow bandwidth of the laser emission, which enables the use of narrow band optical filters that only transmit the laser emission band and block essentially all radiation outside the pass band. If the offered product requires any additional item(s) to comply, the item(s) should be included in the total price.	
2	**Background to the product requirements**	
2.1	Explosions typically have objects of interest that are very small and extremely fast. Motion blur becomes more severe as the object' speed increases and if the camera shutters time is longer than the motion of the event itself. This effect is further challenged as the magnification of the image increases. The high-speed video camera exposure time is often a limiting factor in the visualization of such processes. The other way of reducing motion blur is the use of very short light pulses. This requires high-power illumination during that short pulse duration.	
3	**Goal of the product**	
3.1	The high-speed video camera must be capable of capturing fast moving objects with innovative technologies	
3.2	Must be environmentally friendly	
3.3	Must be durable	
4	**Demonstration**	
4.1	The supplier must provide demonstration for ten (10) members within 10 working days after delivery of the product at a venue predetermined and agreed on by the supplier and South African Police Service. The demonstration should include basic user interface and basic maintenance of the equipment.	
B	**PHYSICAL PROPERTIES:** The South African Police Service requires high-speed video cameras which must include the following minimum requirements:	
1.	**Casing**	
1.1	Must have G rated environmentally resistant frame.	
1.2	Must be fitted with holding handle	

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2.	**Battery**	
2.1	Must include at least 2 rechargeable lithium smart batteries.	
2.2	Must be able to be operated while on charger.	
3.	**Lenses**	
3.1	Must have various sizes of lenses, between 16mm and 200mm focal length or more.	
3.2	Must be compatible with other available lenses manufacturers.	
3.3	Must be able to connect to most microscopes.	
4.	**Tripod**	
4.1	The camera must come with a three-legged (triangular stance) tripod for good stability against gravitational loads and horizontal shear forces.	
4.2	The tripod should be able to keep the high-speed video camera steady to an extend and resisting tipping over during explosion.	
C	**TECHNICAL PROPERTIES**	
1.	**TECHNOLOGY** The high-speed video camera must have the following minimum requirements:	
1.1	High-resolution minimum of 1024 x 1024 pixel sensor.	
1.2	Full resolution at a minimum of 6,000 frames/second.	
1.3	Megapixel at minimum of 20, 000 frames/second.	
1.4	Minimum of 120 GB of on-board memory for long recordings.	
1.5	Internal or external SSD drive for fast data transfer of at least 2TB storage.	
1.6	Minimum Ultra-fast of 16 GP/sec throughput.	
1.7	Micro lens sensor for exceptional light sensitivity.	
1.8	Wide Dynamic Range recording, between 1/8000th and 1/32000th of a second.	

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1.9	Global electronic shutter to at least 1 µs.	
1.10	Minimal frame rate of 500,000 fps.	
1.11	Flexible frame synchronization from 10 Hz to 200 kHz.	
2.	**Technical Data and Operating Manuals**	
2.1	The bidder must submit full technical specification of the offer/product with the bid documents including brochures and operating manuals.	
2.2	The bidder must submit with the bid document a manufacturer test certificate that supports the functioning of the high-speed video camera according to the specifications.	
2.3	The recommended bidder must present a demo model during bid evaluation. Demonstration of the model which is fully functional.	
D	**WARRANTY AND MAINTENANCE**	
1.	**WARRANTY**	
1.1	All components of the system must meet the criteria, especially the warranty criteria as specified in annexure A of the Government Procurement, General Condition of Contract as stated in section 15 thereof.	
1.2	The successful bidder must supply the end-user with the warranty certificate, which indicate the validity period during delivery.	
2.	**MAINTENANCE AND SERVICE**	
1.1	The supplier must have capability to provide after sale service to repair and maintain the offered product. Replacement units must be provided within 2 weeks if so required.	
E	**DELIVERY ADDRESS**	
1.1	The successful supplier should deliver the high-speed video camera to the address stated below.	
1.2	Bomb Disposal Management 84 Jeff Masemola Street Pretoria	

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SIGNATURES
COLONEL ACTING SECTION HEAD: EXPLOSIVES S DIJOE Date: 2025-02-25