

**DIRECTOR GENERAL BORDER SECURITY FORCE**  
**(PROVISIONING DIRECTORATE (MOD CELL))**

**Expression of Interest**

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The Sub-group of Technical Experts on Surveillance Equipments constituted by MHA vide their letter No. IV-1017/18/2001-Prov-I dated 05 Jul 2002 held its meeting at BSF Headquarters on 17<sup>th</sup> Feb 2016, 25<sup>th</sup> April 2016, 27<sup>th</sup> July 2016, 05<sup>th</sup> Oct 2016, 08<sup>th</sup> Feb 2017, 15<sup>th</sup> March 2017, 25<sup>th</sup> July 2017 and 18<sup>th</sup> Aug 2017 to revise the QRs of 'Flexible Fiber Scope'.

S/No	SPECIFICATIONS	PARAMETERS	
1.	<b><u>Probe.</u></b>		
	a	Probe effective length.	2 mtrs or more.
	b	Outer diameter.	8 mm or less.
	c	Probe type & flexibility.	Flexible / Semi-flexible.
2.	<b><u>Optics.</u></b>		
	(a)	Field of view.	70 degrees or more.
	(b)	Direction of view.	Forward.
	(c)	Depth of field.	50 mm to infinity.
	(d)	Recognition.	Capable of recognizing a human target at least up to a distance of 5 mtrs or more.
	(e)	Day/night viewing capability.	Should be able to recognize objects in pitch darkness & day light.
	(f)	Light Source	Eye safe infra-red (invisible to naked eye).
	(g)	Lamp Life	Minimum 1000 hours of operation.
3.	<b><u>Articulation Section.</u></b>		
	(a)	Articulation angle.	4 ways, up/down/right/left/90 degrees or more (to view 360 degrees). All movements should be controlled with joystick.
	(b)	Articulation control.	Control with power assist mechanism including locking function. All movements should be electronic or joystick controlled.
	(c)	Operating temperature.	-10 degrees C to +46 degrees C (in air).
4.	<b><u>Camera.</u></b>		
	(a)	Camera sensor.	CCD or CMOS
	(b)	Camera resolution.	Should be 8 Mega Pixels or better.
	(c)	Lens.	Wide angle 1.8 mm or better.
	(d)	Digital zoom.	2X or better.
5.	<b><u>Audio.</u></b> Microphone inbuilt/external in flexible fiberscope.	Supersensitive audio microphone with 5-7 mtrs audio pickup.	

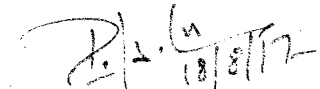


6.	<b>LCD Monitor.</b>		
	(a)	Type.	Handheld LCD monitor with shoulder harness/neck strap to be provided.
	(b)	Size.	Minimum - 5" diagonal. Maximum - 7" diagonal.
	(c)	Control.	Should have controls for brightness, contrast & zoom.
	(d)	Audio video interface.	Provision for audio & video interface should be provided.
7.	<b>Recording.</b>		
	(a)	Encoding wideband.	MPEG 4.
	(b)	MPEG 4 frame rate.	30 per sec or better.
	(c)	Memory.	Minimum 2 hours of recording on detachable SD card.
8.	<b>Power Supply.</b>		
	(a)	Battery.	Rechargeable & replaceable Lithium Battery. Should be available in India.
	(b)	Battery working life.	Minimum 2 hours in day/night working conditions on full charge.
	(c)	Battery charging time.	Less than 4 hours.
	(d)	Weight of complete system excluding carrying case.	5 kg or less.
9.	<b>Accessories with each Fiberscope.</b>		
	(a)	SD card.	10 Nos. spare detachable SD cards each of 4 GB capacity or more.
	(b)	Carrying case.	(i) Soft & hard carrying case with back strap. (ii) Soft & hard carrying case for transport (water proof).
	(c)	Spare batteries.	2 Nos. of spare batteries.
	(d)	Battery charger.	Quantity 01 per fiberscope. Should work with 220V/230V AC, 50 Hz & 12 V secondary battery.
	(e)	Belt sets.	Belt set should enable comfortable operation.
	10.	<b>Literature.</b> Operating & technical literature for each discrete components of system should be in English language.	
11.	<b>Training.</b> Demonstration of One set of complete system with its accessories should be arranged at buyers' premises on 'NCNC' basis. In situ training for users for three weeks.		

**Note-** All firms are requested to provide the following.

1. Original Brochure of product by OEM.
2. Detail literature about the product.
3. Comprehensive comments for incorporation in the specifications.

The Sub-group has decided to upload the QRs on MHA and BSF website for 15 days to invite the views/ comments/ suggestions of prospective bidders to make the QRs more broad based.

  
 (Rishipal Singh)  
 Second-In-Command (Mod)