

**फोर व्हील्ड डे ऐंड नाइट सरवेलन्स रोबोट (FOUR WHEELED DAY & NIGHT SURVEILLANCE ROBOT) के परिशोधित गुणात्मक आवश्यकता (क्यूआर) और परीक्षण निर्देशों (टीडी) के मसौदे को गृह मंत्रालय की वेबसाइट पर डालना**

1. कृपया गृह मंत्रालय, पीएम डिविजन के पत्र सं. IV-24011/12/2011-Prov.I दिनांक 05 अक्टूबर 2016, पत्र सं. IV-24011/12/2011-Prov.I दिनांक 13 जून, 2012 और पत्र सं. 11012/02/2009-Fin-I/Prov-I-17 दिनांक 02 जनवरी, 2018 का संदर्भ लें।
2. फोर व्हील्ड डे ऐंड नाइट सरवेलन्स रोबोट के परिशोधित गुणात्मक आवश्यकता (क्यूआर) और परीक्षण निर्देशों (टीडी) में संशोधन के लिए तकनीकी विशेषज्ञों के उप समूह की बैठक मुख्यालय राष्ट्रीय सुरक्षा गारद में दिनांक 16 मई 2025 को 1500 बजे आयोजित हुई।
3. बैठक के दौरान उप समूह ने कहा कि विक्रेताओं की टिप्पणियों/सुझावों को आमंत्रित करने के लिए फोर व्हील्ड डे ऐंड नाइट सरवेलन्स रोबोट के परिशोधित गुणात्मक आवश्यकता (क्यूआर) और परीक्षण निर्देशों (टीडी) के मसौदे को 15 दिनों के लिए राष्ट्रीय सुरक्षा गारद के साथ-साथ गृह मंत्रालय की वेबसाइट पर डाला जाए।
4. पीएम डिविजन के उपर्युक्त संदर्भित पत्रों के अनुसार फोर व्हील्ड डे ऐंड नाइट सरवेलन्स रोबोट के परिशोधित गुणात्मक आवश्यकता (क्यूआर) और परीक्षण निर्देशों (टीडी) का मसौदा संलग्न परिशिष्ट के अनुसार गृह मंत्रालय की वेबसाइट पर डालने हेतु प्रिंटेड कॉपी तथा सॉफ्ट कॉपी में भेजा जा रहा है।

  
(राजेश रंजन)  
ग्रुप कमांडर (क्रय)  
फोन- 011-25663100  
ईमेल- gcproc@nsg.gov.in

संलग्नक : उपर्युक्त

**अनुभाग अधिकारी, (IT Cell), एनआईसी, नार्थ ब्लॉक, नई दिल्ली**  
Email : soit@nic.in

संख्या: पी/604/24/389/ FWSR / संभरण (ऑर्डनेंस)/ मु0एनएसजी/3236 दिनांक : 05 जून 2025

**फोर व्हील्ड डे ऐंड नाइट सरवेलन्स रोबोट के परिशोधित गुणात्मक आवश्यकता  
(क्यूआर)/परीक्षण निर्देशों (टीडी) के मसौदे पर विक्रेताओं की टिप्पणियों का आमंत्रण**

1. आपको सूचित किया जाता है कि फोर व्हील्ड डे ऐंड नाइट सरवेलन्स रोबोट के परिशोधित गुणात्मक आवश्यकता (क्यूआर) और परीक्षण निर्देशों (टीडी) के मसौदे पर फर्मों/विक्रेताओं की टिप्पणियां आमंत्रित है। सभी फर्मों से निवेदन है कि नीचे दिए गए प्रारूप में वे अपनी टिप्पणियां भरकर **OEM Certificate** सहित ई-मेल पता **scord@nsg.gov.in** या **gcproc@nsg.gov.in** पर भेजें।

| गुणात्मक आवश्यकता (क्यूआर) | परीक्षण निर्देश (टीडी) | फर्म द्वारा टिप्पणियां |
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|                            |                        |                        |

2. आपसे अनुरोध है कि वेबसाइट पर प्रदर्शित होने की तारीख से 15 दिनों के भीतर अपनी टिप्पणियां भेजें। उप समूह कमेटी की बैठक में उपर्युक्त उपकरण/हथियार के गुणात्मक आवश्यकताओं/परीक्षण निर्देशों को अंतिम रूप देने पर विचार किया जा रहा है।

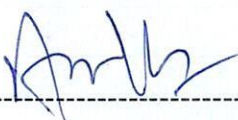
  
(राजेश रंजन)  
ग्रुप कमांडर (क्रय)  
फोन- 011-25663100  
ईमेल- gcproc@nsg.gov.in

दिनांक : 05 जून 2025



## REVISED DRAFT QRs/TDs OF FOUR WHEELED DAY AND NIGHT SURVEILLANCE ROBOT

| <u>Ser No</u> | <u>Qualitative Requirements</u> |                                                                                                                                                                                                                                                                                                                                                                                                                   | <u>Trial Methodology</u>        |
|---------------|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| 1.            | (a)                             | Four Wheeled Day and Night Svl Robot should be a mini robot that enables easy maneuverability through a remote control and instantaneous video and audio reconnaissance within indoor or outdoor environments.                                                                                                                                                                                                    | To be physically checked by BOO |
|               | (b)                             | <b><u>Wireless Link with Control Unit</u></b> The Robot should be able to receive Command and Control instructions from Control Unit and should be able to transmit audio and video svl data to control unit through a Wireless NLOS Link at a range of 80 mtr or better without any mesh topology in Non Line of Sight Environment and 250 mtr or better without any mesh topology in Line of Sight Environment. | To be physically checked by BOO |
| 2.            | (a)                             | Weight of four wheeled robot (Excluding spare battery(s))                                                                                                                                                                                                                                                                                                                                                         | 4.5 Kg or lesser                |
|               | (b)                             | Should be able to sustain drops on concrete floor                                                                                                                                                                                                                                                                                                                                                                 | 2.5 mtr or more                 |
|               | (c)                             | <b><u>Day and Night Camera- For video Surveillance</u></b>                                                                                                                                                                                                                                                                                                                                                        |                                 |
|               | (i)                             | Day and night integrated cameras(with IR illumination (nonvisible)).                                                                                                                                                                                                                                                                                                                                              | To be physically checked by BOO |

  
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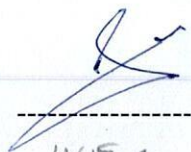
  
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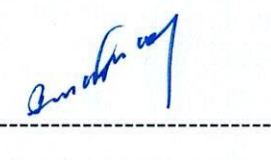
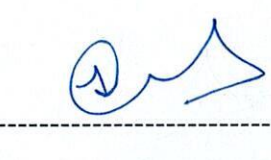
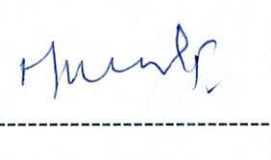
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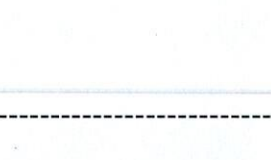
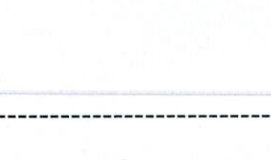
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| <u>Ser No</u> | <u>Qualitative Requirements</u> |                                                                                                                                                                                                                                                                                                                                                      |                      | <u>Trial Methodology</u>                                                                                                                          |
|---------------|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
|               | (ii)                            | While operating the robot, the cameras should provide 360 degree Field of View simultaneously.<br><br><b><u>Resolution:</u></b> –<br>Day camera- 1280x720p or better (Resolution should be same or better than existing eqpt)<br>Night camera - 640 x 480p or better (Day and night cameras may be same or different)<br>Digital zoom - 4x or better |                      | To be physically checked by BOO.<br><br>Vendor to provide OEM/NABL/ International accredited lab certificate.<br>To be physically checked by BOO. |
|               | (iii)                           | Cameras should offer vertical field of view of -90 to +100 Degrees or better.                                                                                                                                                                                                                                                                        |                      | To be physically checked by BOO                                                                                                                   |
|               | (d)                             | <b><u>IR Illumination</u></b>                                                                                                                                                                                                                                                                                                                        |                      |                                                                                                                                                   |
|               | (i)                             | 360 degree simultaneous IR illumination should be provided for darkness.                                                                                                                                                                                                                                                                             |                      | To be physically checked by BOO                                                                                                                   |
|               | (ii)                            | Range of IR Illumination                                                                                                                                                                                                                                                                                                                             | 7.5 Meters or Higher | To be physically checked by BOO                                                                                                                   |
|               | (e)                             | <b><u>Microphone – For Audio Surveillance</u></b> Super sensitive omni-directional microphone with microphone sensitivity of 75 db or better.                                                                                                                                                                                                        |                      | To be physically checked by BOO                                                                                                                   |



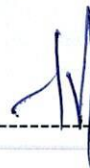









| <u>Se<br/>r<br/>No</u> | <u>Qualitative Requirements</u> |                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <u>Trial Methodology</u>        |
|------------------------|---------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
|                        | (f)                             | <b><u>Battery</u></b>                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                 |
|                        | (i)                             | Endurance                                                                          | <b>2.30 Hours or more for continuous operation</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                          | To be physically checked by BOO |
|                        | (ii)                            | aa) Spare Batteries should be provided as per user requirements. (User to specify) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | OEM to provide undertaking      |
|                        |                                 | (ab) Minimum 500 charge cycles                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                 |
|                        | (g)                             | <b><u>Drive and Speed</u></b>                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                 |
|                        | (i)                             | Drive                                                                              | 4 Wheel drive                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | To be physically checked by BOO |
|                        | (ii)                            | Tracks                                                                             | Suitable tracks to be provided for movement in rough terrain                                                                                                                                                                                                                                                                                                                                                                                                                                                | To be physically checked by BOO |
|                        | (iii)                           | Speed                                                                              | Variable Speed during operation with Speed upto 3.5 Km/Hr or more                                                                                                                                                                                                                                                                                                                                                                                                                                           | To be physically checked by BOO |
|                        | (iv)                            | Maneuverability                                                                    | (i) The Robot should be maneuverable in a variety of rough terrain. Should be able to climb steps at least 200mm high. It should be able to climb two or more steps in continuation provided the width of each step is at least 400mm.<br>(ii) The Robot should be able to overcome curves and should have small turnings radius<br><br>(iii) Robot should be able to self-right when overturned or alternatively the four wheeled robot should be able to carry out all its functions even when overturned | To be physically checked by BOO |










| <u>Ser No</u> | <u>Qualitative Requirements</u>                                                                                                                                                                                               |                                                                                                                                                    | <u>Trial Methodology</u>        |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| 3.            | <b>Control Unit-</b> Should receive and display audio and video reconnaissance data picked up by Robot and should also be able to control all features of robot.                                                              |                                                                                                                                                    | To be physically checked by BOO |
|               | (a)                                                                                                                                                                                                                           | Weight      Less than 1.5 Kg                                                                                                                       | To be physically checked by BOO |
|               | (b)                                                                                                                                                                                                                           | Screen      Control Unit to have suitable 5 inches screen or better to display video being received.                                               | To be physically checked by BOO |
|               | (c)                                                                                                                                                                                                                           | Display      The display should offer 360° FoV                                                                                                     | To be physically checked by BOO |
|               | (d)                                                                                                                                                                                                                           | <b>Battery</b> Suitable rechargeable battery to offer <b>180 minutes</b> of endurance or better                                                    | To be physically checked by BOO |
|               | (e)                                                                                                                                                                                                                           | Suitable inbuilt or miniaturized external Video Recorder with Minimum 500GB storage capacity and Compatible with Windows OS 10 for data extraction | To be physically checked by BOO |
| 4.            | <b>Battery Charger</b> Suitable 110/220 V AC battery Chargers to charge the Robot and Control Unit batteries. Separate chargers required for Control Unit and Robot.                                                          |                                                                                                                                                    | To be physically checked by BOO |
| 5.            | <b>Portability and Storage</b> The equipment to be provided in suitable pelican box for ease of carriage. In addition, vendor to provide suitable deployment sling and bag to carry robot and control unit during operations. |                                                                                                                                                    | To be physically checked by BOO |










| <u>Ser No</u> | <u>Qualitative Requirements</u>                                                                                                                                                                                                                                             | <u>Trial Methodology</u>                                                                                               |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| 6.            | <b><u>Maintenance Kit</u></b> Suitable maintenance kit with recommended accessories to be provided to reduce Mean Time to Repair (MTTR).                                                                                                                                    | To be physically checked by BOO                                                                                        |
| 7.            | <b><u>Literature</u></b> Operating and Technical literature for each discrete components of system should be in English language                                                                                                                                            | To be physically checked by BOO                                                                                        |
| 8.            | <b><u>Training</u></b> Demonstration of one set of complete system with its full accessories should be arranged at buyers premises on NO cost NO commitment basis. In situ training of users for three day on operation, maintenance, fault finding and user level repairs. | Undertaking from the OEM for the training. Authenticity and Correctness of the undertaking to be submitted by BOO.     |
| 9.            | <b><u>Ruggedisation</u></b> All the equipment should comply with Mil Std 810 and IP 67 or better                                                                                                                                                                            | OEM to provide International/ National/NABL accredited lab certificate and the same will be physically checked by BOO. |

  
 (ANIL RAJPUT, Dy Commr)  
 BSP

  
 Nemi Chandra  
 DC / TBP

  
 Anand Kumar,  
 Dy. Commr., CSE

  
 Maj S. Choudhary  
 SISAG NSG

  
 Insp. Monendra Kumar

  
 Col SK Mahalan  
 SC (WB), HONS