
	<p>पादप कायिकी संभाग DIVISION OF PLANT PHYSIOLOGY भा.कृ.अ.प.—भारतीय कृषि अनुसंधान संस्थान ICAR-Indian Agricultural Research Institute नई दिल्ली—110012 (भारत) NEW DELHI - 110 012 (INDIA)</p>	
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File No: 50-1/GMP/20-21/NAHEP(71-01)

Date: 31/08/2020

Dear Sirs,

Sub : Invitation for quotations for supply of Ground Mobile Platform –reg

1. You are invited to submit your most competitive quotation for the following goods:-

Brief Description of the Goods	Specifications*	Quantity	Delivery Period	Place of Delivery	Installation Requirement if any
Ground mobile Platform (as per design, diagram and specification attached at Annexure –A)	Annexure - A	01	Within 90 days after issue of Purchase/Supply Order	Division of Plant Physiology, IARI, Pusa Campus, New Delhi - 110012	As per terms and conditions.

* Where ISI certification marked goods are available in market, procurement should generally be limited to goods with those or equivalent marking only.

2. Government of India has received a financing from the World Bank towards the cost of the said Equipment/Item **under NAHEP-CAAST (71-01) Project** and intends to apply

part of the proceeds of this financing to eligible payments under the contract for which this invitation for quotations is issued.

3. **Bid Price**

- a) The contract shall be for the full quantity as described above. Corrections, if any, shall be made by crossing out, initialing, dating and re writing.
- b) All duties, taxes and other levies payable on the raw materials and components shall be included in the total price.
- c) Sales tax in connection with the sale shall be shown separately.
- d) The rates quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.
- e) The Prices shall be quoted in Indian Rupees only.

4. Each bidder shall submit only one quotation. Bidder shall not contact other Bidders in matters relating to this Quotation.

5. **Validity of Quotation**

Quotation shall remain valid for a period not less than 15 days after the deadline date specified for submission.

6. **Evaluation of Quotations**

The Purchaser will evaluate and compare the quotations determined to be substantially responsive i.e. which

- (a) are properly signed ; and
- (b) conform to the terms and conditions, and specifications.

The Quotations would be evaluated for all the item together/would be evaluated separately for each item. *[Select one of the options]*.

Sales tax in connection with sale of goods shall not be taken into account in evaluation.

7. **Award of contract**

The Purchaser will award the contract to the bidder whose quotation has been determined to be substantially responsive and who has offered the lowest evaluated quotation price.

7.1 Notwithstanding the above, the Purchaser reserves the right to accept or reject any quotations and to cancel the bidding process and reject all quotations at any time prior to the award of contract.

- 7.2 The bidder whose bid is accepted will be notified of the award of contract by the Purchaser prior to expiration of the quotation validity period. The terms of the accepted offer shall be incorporated in the supply order.
- 7.3 Successful Bidder should submit 10% of Total Cost of Equipment as Performance Guarantee after receiving the Purchase/Supply Order.**
8. Payment shall be made immediately after delivery of the goods.
9. Normal commercial warranty/ guarantee shall be applicable to the supplied goods.
10. You are requested to provide your offer/Sealed Quotation latest by **13.00 hours on 16/09/2020**.
11. We look forward to receiving your quotations and thank you for your interest in this project.

(Purchaser)

Name: Assistant Admn. Officer.
Address: Division of Plant Physiology,
IARI, Pusa Campus,
New Delhi - 110012
Tel. No. 011 25842815.
Fax No.

Annexure -A

Technical Specifications for Mobile Platform for Field Phenotyping

The technical specification of Mobile Platform for field sensor based field phenotyping is given as below and draft sketch is also attached here with.

A. Vehicle specification for mobile plat form		
1	System Voltage	60V
2	DC or AC	DC
3	Battery	5 pcs quality lead-acid batteries
4	Motor	BLDC Drive motor 3 KW Servo motor
5	Controller	BLDC 3 K W drive controller
6	Passenger capacity	2
7	Max. speed range	0 to 30km/h
8	Minimum turning radius (m)	4.5 m
9	Max. movement after brake at speed of 20km/h	≤4m
10	Max. loading weight	510kgs
11	Net weight	650kgs
12	Over all dimensions (mm)	3460 x 1200 x 1890
		Stability and low center of gravity
13	Frame	Welded steel framework to be treated in dipping (phosphate)+electro-coating treatment
14	Body	PP plastic front body + PP plastic rear body
15	Roof	fiberglass
16	Windshield	Windshield, hinged Roof to Dash Board
17	Seats:	
	1) backrest and cushion	Rebond seat
	2) armrest	plastic
18	Floor Mat	rubber
19	Dashboard in black plastic	forward/reverse switch, battery capacity indicator, ignition key
20	Side trim	Steel
21	Lighting system and horn	<ul style="list-style-type: none">• 2 headlights, 2 front turn signals, 2 LED taillights(each combined 1 brake light with 1 turn signal), with 20A voltage reducer (converting from 48V to 12V), horn.• converting from 48V to 220v 100Watt for on board instrumentation
22	Reversing alarm	12v DC

23	Charger	on-board charger, input 110V-240V~50Hz-60Hz, output/60V, 15A		
24	Solar charger	On board 100watt solar panel with charge controller 48V/ 2Amp DC for trickle charge		
25	Steering system	Single-stage rack and pinion steering system, automatic rocker compensating function		
26	Brake system	Front: Hydraulic, Drum Rear: Hydraulic, Drum		
27	Accelerator	Step less speed change		
28	Suspension system	Front and rear Leaf spring + cylinder hydraulic shock absorber		
29	Driving mode	Rear axle two stage deceleration, motor direct driving		
30	Rear axle	Integrated, Gear ratio12.49:1		
		Integrated, Gear ratio10.25:1		
31	Wheel & Tyre	Alloy wheel 180-30,Tyre of extra wide for better stability		
32	Driving Mode	Right Hand Drive		
B. BOOM/ JIB				
32	Weighing Capacity of Jib	25kg		
33	Jib Arm Material	Aircraft aluminium construction		
34	Crane Pan Lock	Yes		
35	Jib Arm wall Thickness	3mm		
36	Camera Crane Length	20 feet (6.096m)		
37	Jib each Arm length	4ft (1.2192m)		
38	Finish	Black Powder Coated		
39	Jib Arm Breaks down to	5 Sections of 4ft each		
C. STAND				
40	Weight of Reinforced stand	11.5kg		
41	Base Length of stand	42"		
42	Made from	Mild Steel		
D. AXIS PAN TILT HEAD				
43	Pan Tilt Head Material	High Grade Aluminium		
44	Maximum Camera Load Capacity	2kg		
45	Pan, Tilt, Roll Movement	300 degrees		
46	Speed		Panning/Rotation	Tilting/Rotation
		Minimum	20 sec	1 min 33 sec
		Maximum	5 sec	8 sec
D	Motors	Three high torque DC motors 12V that rotates (pans), tilts & roll the head 300 degrees		

48	AC Adapter input	AC 100 - 240V ; output - DC 12V -2A
49	Cable Length	10 meter
50	Cable Connector	6-Pin XLR
51	Battery Cable	3 Meter long
52	Camera Plate Size	12x3 inches, camera mount slot – 8”
E	CONTROLLER	
53	Controller	3-Axis
54	Pan Direction	Yes
55	Tilt Direction	Yes

E.Instrumentations

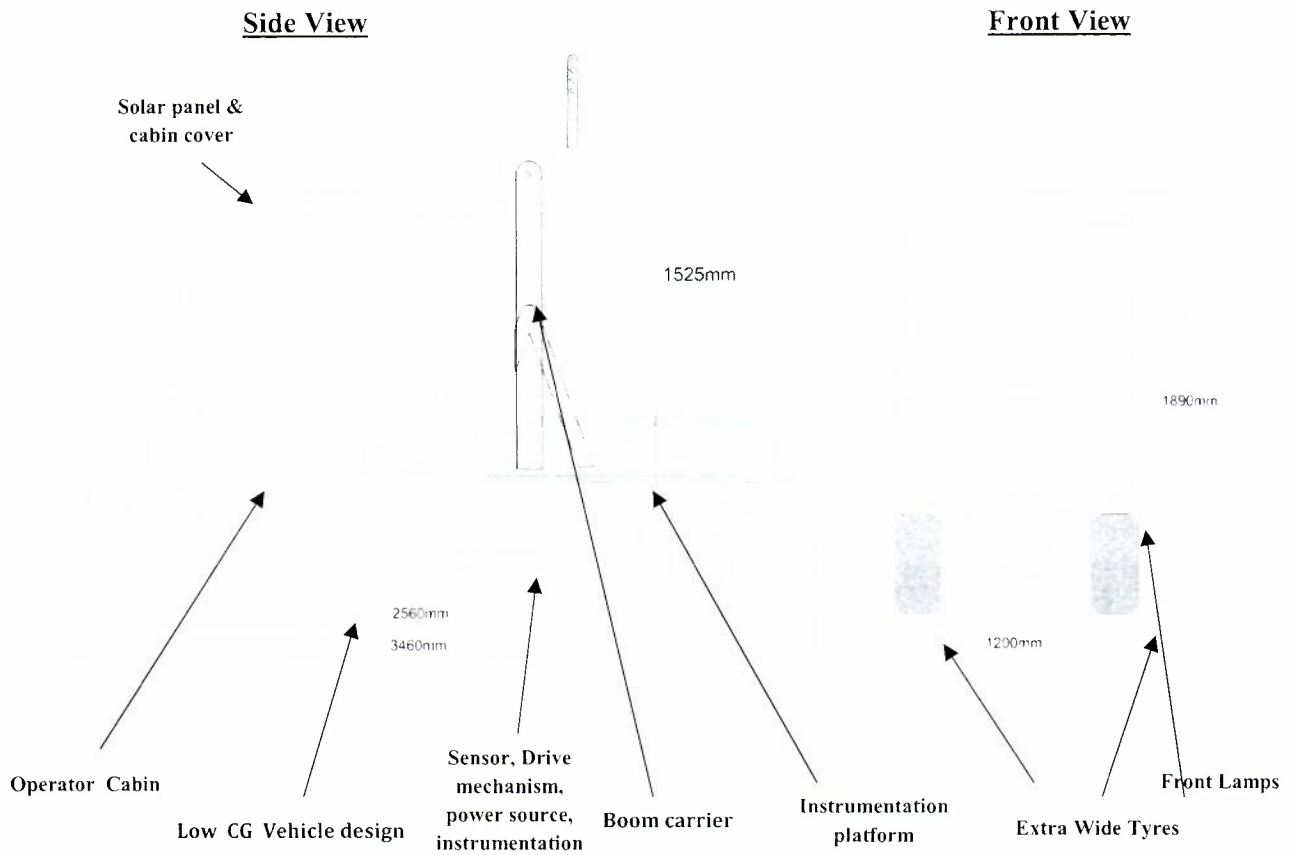
- Mobile platform should be integrated with GPS for geotagging its position and movement
- Should be integrated with weather sensor with monitor for light intensity, temperature, humidity and wind speed.
- Boom to carry all kind of sensor for imaging of soil and crops in field condition with max weight 2kg
- One boom carrier with effective length minimum 16ft (4.8768m)
- Made up of Al-Mg Alloy, strong and light weight
- No expansion and contraction in extreme operating weather conditions
- One side of the boom will have end effectors for carrying all sensors and other side counter weights to balance the boom.
- Boom has programmable angle of the boom.
- System can be programmed to orient the boom to a maximum height of 13ft.
- Equipped with 3DOF Gimbal attachment to hold the sensor up to 2.0kg.
- End effector should be programmable for imaging from the sensor in all possible zenith and azimuth angles
- Programmable user interface for changing the boom angle, sensor position, velocity of the vehicle.

F. Conditions :

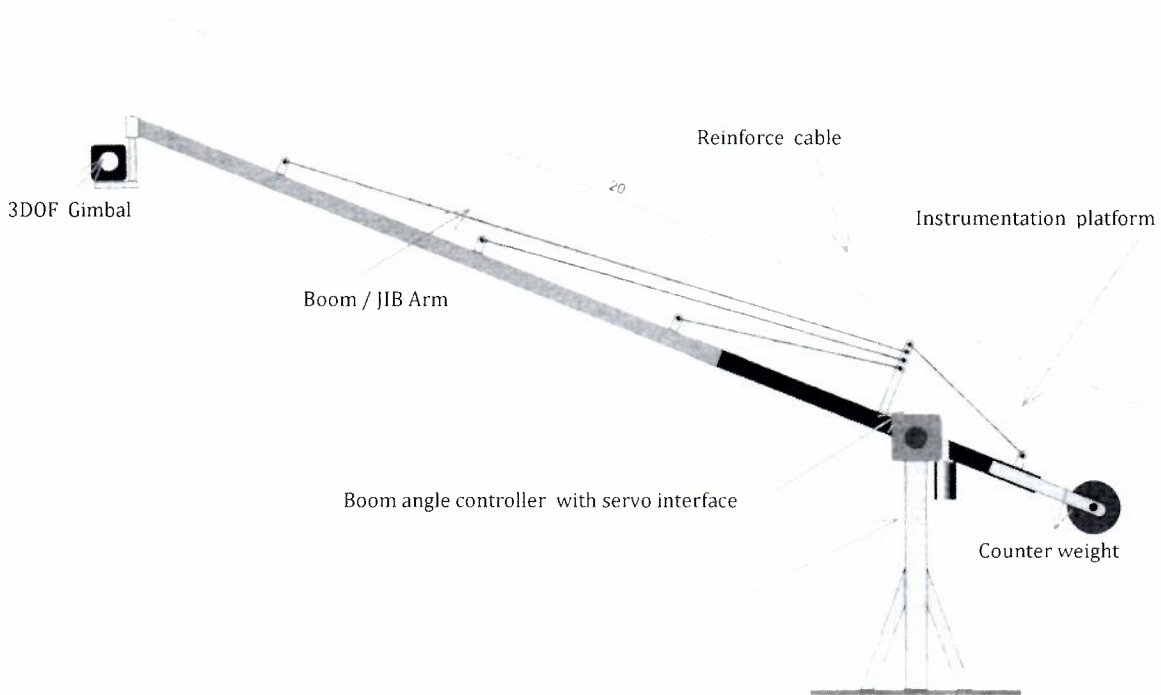
- Supplier will not claim IP right for the item. IP right will be with indenter and IARI.
- On site warranty for minimum 1year
- May include AMC cost for next 2 years as **optional**

Draft diagram for Mobile Platform for Field Phenotyping as per the technical specification

A. Battery Operated Vehicle



B. JIB Boom with 3D Gimbal for different sensor mounting



C. Boom mounted vehicle

Battery operated vehicle

boom carrier

Boom mount plate



FORMAT OF QUOTATION *

Sl. No.	Description Goods	Specifications	Qty.	Unit	Quoted Unit Rate in Rs.	Total Amount	
						In Figures	In Words
1.							
	TOTAL						
	Sales Tax						

Gross Total Cost : Rs.

We agree to supply the above goods in accordance with the technical specifications for a total contract price of Rs.(amount in figures) (Rs. amount in words) within the period specified in the Invitation for Quotations.

We also confirm that the normal commercial warrantee/guarantee of months shall apply to the offered goods.

We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf has engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices (as defined in the prevailing World Bank's sanctions procedures) in competing for or in performing the Contract.

Signature of Supplier

* *Applicable while the bids are being invited for more than one item and would be evaluated for all the items together.*

Modify *where evaluation would be made for each item separately.*