

**FINANCIAL YEAR 2020-2021**

<b>TEST TRACK</b>					
Ser No	Description of Item	Broad Specification Parameters	Qty	Accounting Unit (Nos/ Tonne...)	Estimated Value of Procurement INR (Lakhs)
1	On board charger for toughbook (Testing Computer)	150 W, 12V	1	Nos	0.21
2	Weighing Pad (M1 segment)	4x 1 Ton each	1	Nos	10.00
3	Vbox - Frequency Module	3 channel frequency/pulse input module for VBOX	1	Nos	2.24
4	Vbox - Thermocouple Module	8 channel Thermometer Thermocouple interface	1	Nos	3.45
5	Vbox - Mini Input Module	2 Temperature, 3 Digital & 8 Analogue input module	1	Nos	1.83
10	Protective Riding Gears (Test Riders)	Riding safety jacket, gloves, pants, chest guard, knee guard, spine guard & helmet	2	sets	4.00
11	Water wade Track	100 m (L) x 7 m (w) x 1 m (H)	1	Track	25.00
12	Water Wade Track (Approach & Departure)	paved surface of 15m radius	2	Track	10.00
14	Boom Barrier (High Speed + Track Entrance)	Automatic Entry Boom barrier	2	sets	9.50
16	CCTV - BST + ENT (Live Streaming to Control Tower)	6 camera + 2 recorder	1	set	10.00
17	Ambulance	Ambulance vehicle	1	Vehicle	8
18	E vehicle - 2 wheeler x 2 nos	two wheeler	1	vehicle	1.20
19	Customer Observation Room - High Speed Test Track	Waiting room	1	item	3.00
21	Furniture (File Storage)	File cabinets	5	Nos	1.00
22	Customer Observation Room - Steering Pad	Waiting room	1	item	3.00
23	<b>Vehicle Preparation Area: (75 lakhs)</b>				
a	Weigh bridge	100 Ton measuring capacity	1	set	17.00
b	Civil work including maneuvering space, loading space	Civil works	1	item	42.00
c	Crane lift (cantilever)	Crane (5 Ton)	1	Nos	5.00
d	Water Wash Area	Civil & Plumbing works	1	item	6.00
e	Compressor for water wash and tyre pressure filling	Compressor	1	Nos	5.00
29	Furnishing of 3rd Floor Meeting Room	Interior Decoration	1	item	3.00
30	Track Monitoring & Automation Software	Hardware & Software	1	set	150.00
31	Reflectors - Crash Barrier (All tracks for visibility in night)	Reflectors	4800	Nos	2.00
32	Fire Extinguishers - Test Track (every 100 m)	Fire extinguishers	100	Nos	6.00
33	Weather Station (Test Track)	weather station to measure wind speed, ambient temperature, surface temperature, barometric pressure	1	Nos	4.00
34	Walkie Talkie (10 nos)	wireless communication devices	10	Nos	2.83
35	Fire Extinguisher - Control Tower + Clientworkshop	Fire extinguishers	10	Nos	0.3
37	Surrounding Lights - Client workshop + Control Tower	Exterior light + Wiring	1	lumpsum	5.25
<b>FATIGUE LAB</b>					
2	Oil Filtration	Deep Filters	1	Nos	2.5
3	Pneumatic Actuator	(1N to 10KN)	10	Nos	10
4	Welding, Drilling, Wise	Medium Range	1	Nos	1.5
<b>CERTIFICATION LAB</b>					
1	Brake Hose Whip Test	As per IS7079	1	Nos	50
2	Defrost Test	As per AIS084 (Part 2)	1	Nos	60
3	3-Seater strength test facility	AIS023	1	Nos	70
4	Water Spray test facility	As per all IPXX standards	1	Nos	75
6	Windscreen Washer Tank & Wiper Motor & blades Endurance Test Rig	IS:15802, IS:15804, IS:7827(Part-II), AIS 011 & AIS 019	01	Nos	12
<b>INFOTRONICS LAB</b>					
1	Digital Storage Oscilloscope	With bandwidth of 100MHz-1GHz, 16Digital channels, 2or 4 analog channels	1	Nos	20
3	NI Inductive and Capacitive load module	The existing PXI module of HIL is capable of only resistive loads and with limited current and voltage rating.This needs to be upgraded with an addition of module to support inductive and capacitive loads with higher current and voltage rating as well.	1	Nos	20
4	Function Generator	2 Channel, 25 MHz	1	Nos	15
<b>CAD/CAE LAB</b>					
3	Printers(Color)	For CAD models and office usage	2	Nos	10
4	Plotter	For printing CAD models	1	Nos	10
<b>EV LAB</b>					
2	Battery Crush and penetration tester	Crush tester as per UN. 38.3 and penetration test as per AIS-048	1	Nos	40
3	Shock Vibration tester	Three axis with test of more than 40g amplitude	1	Nos	50
<b>EMC/EMI LAB</b>					
1	Calibration of test instruments & chamber	Includes EMI receivers, signal generators, Antennas, Pulse generators, ESD simulator etc...	60	Nos	25

2	UPS 200kVA	1) On-line 200KVA UPS System with Three -Phase input and Three Phase output. 2) WithInbuilt Isolation Transformer. 3) Supply of External SMF Battery to provide 30Mins Backup. Battery: 12V, 200Ah – 36Nos.	1	Nos	40
3	Distribution Panel	Supply of IO Panel Board for 200KVA UPS made by 16 SWG MS Sheet, Cubicle type dust vermin proof and power coated free standing floor mounted panel comprising with follwing. EB Incomer UPS Incomer: 200KVA UPS OUTPUT: Out going Busbar Earth Pit	1	Nos	10
4	Critical spares for the test systems	Includes spares for test instruments like Amplifiers, Pulse generators etc...	50	Nos	50
5	Preparation of Antenna Storage Room	Safe storage of Test equipments - antennas, accessories, etc... at controlled environment of 23°C & RH 50-60%	lumpsume	N/A	15
6	5 year AMC for HVAC system	Includes Chillers, AHU and BMS	1	Nos	12
7	Storage systems for Test accessories	Multi level racks with air tight cabinets/container	20	Nos	4

**FINANCIAL YEAR 2021-2022**

**TEST TRACK**

Ser No	Description of Item	Broad Specification Parameters	Qty	Accounting Unit (Nos/ Tonne...)	Estimated Value of Procurement INR (Lakhs)
1	Track CCTV coverage with Optical Fibre cabling	Camera + Cabling + Recorder + Display	1	Lumpsum	500.00
2	Road Cleaning Truck	Cleaning Truck	1	Vehicle	75.00
3	Crash Barrier upgrade - 2W riders protection	Lower Crash Barrier	1	Lumpsum	150.00
4	Belgium Pave Track	Test Track	1	Track	150.00
5	Water Wade Track (Shower & Rain Test upgradation)	Nozzle, Plumbing & motors	1	Lumpsum	5.00
6	Aquaplaning / Hydroplaning track	Test Track	1	Track	125.00
8	ENT - Resurfacing	Test Track	1	Track	100.00
10	Tyre Traction Trailer with SRTT	Test Vehicle with instrumentation	1	No	250.00
11	Steering Robo (ESP testing upcoming mandatory)	Test Instrument Setup	1	Set	300.00
12	Track Insurance	Insurance	1	no	20.00
14	Adas Targets	Guided soft target Launch Pad Soft Pedestrian Target	1	set	100

**POWERTRAIN LAB**

1	Emission for Cold Testing	Temp - 20 degc the existing CVTC	1	Nos	600
2	Test cycle - WLTP	Upgradation of Existing test cycles to meet EV testing also	1	Nos	400
5	PN measurement as per BS-6 Regulation	PN range upto 5nm	2		300
6	ETC-2 Engine Raw emission measurement	Co, CO2, THC, NOX, PN Measurement	1		300
8	BS-6 Engine urea consumption measurement kit	0.05 to 20 L/Hr Measuring range	1		100
9	EUC calibration tool	INCA kit for ECU parameter monitoring	1		50
10	Engine Cylinder pressure measurement	Upto 4cyl -Pressure sensor for combustion analysis	1		50

**FATIGUE LAB**

1	Instrumentation(Data logger & Sensors)	16Channels,Accelerometer, Strain gauge Pasting kit, Sting Pot, Non contacting sensors, Cables & Connectors	1,5,2,4	Numbers	30
2	Two post Lift, Vehicle inspection platform, vehicle assembly fixture	Up to 5tonne vehicle	1	Numbers	15
2	Shaker Controller		2	Number	2
5	Equipment Spares	M/s Moog, M/s Weiss, M/s CME			20
6	Cooling Tower for HPU	6Ton	1	Number	4

**CERTIFICATION LAB**

1	Brake Hose Pressure & Burst Test	As per IS:7079	1	Numbers	18
2	Seat Belt Buckle Durability test	As per IS15140	1	Numbers	14
3	Seat belt Retractor durability test	As per IS 15140	1	Numbers	15
4	Ozone chamber	IS:7079-2008, SAEJ1401, FMVSS104	1	Numbers	90
5	Thermal Shock chamber	ISO 16750-4, JASO D 001:94, IEC 60068-2-14, IEC 60068-2-30, IEC 60068-2-38, ISO:26262, IEC 61508,UBS-II Spec	1	Numbers	75
6	Wheel rim CFT test rig	As per IS 9436 & IS 9438	1	Numbers	200
7	Wheel Rim – Dynamic Radial Load testing	As per IS 9436 & IS 9438	1	Numbers	300
8	Impact Resistance Test Rig for safety glasses (Windscreen) – 12Mtrs	IS:2553 Part 2	1	Numbers	20
9	Safety Glass Secondary Image test	As per IS2553 Part 2	1	Numbers	30
10	Safety Glass Optical Distortion test	As per IS2553 Part 2	1	Numbers	40
11	Optical Distortion Test Setup for Rear view Mirror	AIS:001 Part 2 & ECER46	1	Numbers	10
12	Day Light Color & Luminance factor measurement System as per CIE Standard Illuminant D65 at 45° to the	ISO 7591, ISO/CIE 10526:1999	1	Numbers	85

**INFOTRONICS LAB**

1	HMI& Infotainment test systems	Automated testing of vehicle interface systems and electronic devices, replacing the testing and validation of human interaction	1	No	150
2	Telematics test system	Simulates a connected on-road environment, to create virtual driving and use case scenarios that includes CAN bus simulation, GPS, Bluetooth and more.	1	No	150
3	Calibration of HIL & MCDP modules	NI cards, sensors, modules			20

**CAD/CAE LAB**

1	Ansys CFX, Ansys Fluent	Computational Fluid Dynamics	1	No	30
2	Enovia	Complete PLM SW	1	No	50

**EV LAB**

1	Battery Emulator	Total Power 600KW, Charger voltage 0 to 1000V, Charge & Discharge current 0 to 1000A, Battery chemistry to be tested - Li-ion, Lead acid, Ni-MH, Ni-Cd	1	No	150
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**EMC/EMI LAB**

1	Calibration of test instruments & chamber	Includes EMI receivers, signal generators, Antennas, Pulse generators, ESD simulator etc...	60	Nos	35
2	Continuous noise emitter	9k-30MHz	1	Nos	15
3	Comb generator	30MHz-18GHz	1	Nos	15
4	Biconilog antenna	20MHz – 1GHz	2	Nos	6
5	Ultralog antenna	30MHz-2GHz	1	Nos	12
6	Low Loss RF cables	Upto 18GHz	20	Nos	10

7	Spectrum analyzer	Frequency range: 20 GHz Make: Agilent or R&S	1	Nos	40
8	Current clamp meter	Fluke	1	Nos	0.25
9	RH meter	Range:10% - 90% RH	1	Nos	5
10	Network Analyser	Frequency range: 20 GHz	1	Nos	80
11	Lux meter	Range: 0-2000lux		Nos	0.15
12	AC single phase LISN	Current: 16A	2	Nos	4
13	AC three phase LISN	Current:400A	2	Nos	20
14	Attenuators	Frequency: upto 3 GHz Range: 40db Watts: 1000w	5	Nos	3
15	Terminations	Frequency: upto 18 GHz a) 1W b) 10W	5	Nos	1
16	Anti static ESD chairs	Antistatic ESD chairs for ESA testing LAB	10	Nos	0.5
17	ESD coats	Antistatic ESD coats for ESA testing LAB	10	Nos	0.1
18	ESD footwear	Antistatic ESD Slipper for ESA testing LAB	10	Nos	0.1
19	Racks to keep Coats and Slippers	Storage	1	Nos	0.15
20	Temperature controlled soldering Station	Modification in board level components for customer	2	Nos	0.2
21	ESD workstation table	Workstation Table	1	Nos	0.25
22	Fume extractor	Lead gas extractor	1	Nos	0.1

**FINANCIAL YEAR 2022-2023**

**TEST TRACK**

Ser No	Description of Item	Broad Specification Parameters	Qty	Accounting Unit (Nos/ Tonne...)	Estimated Value of Procurement INR (Lakhs)
1	ENT Track Expansion	Road work for 100 m	1	Lumpsum	25.00
2	Flat bed Weight loading structure for Trailer ABS test	Design and fabrication of structure	1	Lumpsum	4.00
3	VBOX with RTK + Accessories	Test Instrument	1	Lumpsum	45.00
4	Wireless Microphone Upgradation (Noise Test)	microphone + wireless modules + receivers	1	set	20.00
5	Track monitoring and support vehicle	SUV	1	Nos	20.00
6	Workshop	10 bay workshop with instrumentation	1	Lumpsum	1000.00

**POWERTRAIN LAB**

1	PEMS LDV	RDE Regulation -on board emission analyzer	1		150
2	PEMS HDV	RDE Regulation -on board emission analyzer	1		150
3	ETC-5 Engine Durability testbed	60kw & 200kw Eddy current dyno with instrumentation	1		500

**FATIGUE LAB**

1	Instrumentation(Data logger & Sensors)	16Channels,Accelerometer, Strain gauge Pasting kit, Sting Pot, Non contacting sensors, Cables & Connectors	1,5,2,4	Numbers	30
2	250 KN	Linear Actuator	2	Numbers	30
3	50 Ton Portal Frame	Portal Frame	1	Number	15
4	Equipment Spares	M/s Moog, M/s Weiss, M/s CME			2
5	Shaker Refurbishment		2	Number	7.5
6	Crack Initiation and Propagation Analyer kit		1	Number	5

**CERTIFICATION LAB**

1	Weather-O-Meter	ISO 105-B02, JIS D0205, SAE J1885, SAE J1960, SAE J2412, SAE J2527, ECE - R43, AIS 001, IS 2553 (P1 & P2), IS 15140	1	Numbers	190
2	UV Chamber	ISO 15003, DIN EN ISO 4892 (1,2 & 3)	1	Numbers	50.0
3	Spray Suppression chamber	As per AIS103, AIS013	1	Numbers	40
4	Seat belt G-lock tester	As per IS15140	1	Numbers	20
5	Steering wheel with air bag deployment	As per IS 15223	1	Numbers	150
6	High Speed camera	-	2	Numbers	50
7	Brake Hose -Volumetric Expansion	As per IS7079	1	Numbers	110
8	Safety Glass Fragmentation test setup	As per IS2553 Part 2	1	Numbers	60
9	Safety glass Resistance to Abrasion Test Equipment's	IS:2553 Part 2	1	Numbers	10
10	Standard Lamps for Integrating sphere, Standard Lamps for Goniometer, Master Mirrors & glasses etc.,	ECE & AIS Standards	01	Numbers	35.0
11	Upgradation of Photometry Lab Equipments with all softwares according to Latest Technology	ECE & AIS Standards	01	Numbers	100

**INFOTRONICS LAB**

1	Vehicle RADAR test system	NI - VRTS integrating with HIL system helps to test advanced driver assistance systems (ADAS) by simulating objects and user-configured scenarios in a repeatable and accurate way.	1	Nos	200
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**CAD/CAE LAB**

1	LS-Dyna, MaDymo	For Crash analysis	1	Nos	60
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**EV LAB**

1	Battery Cycler (Cell testing)	Charge/Discharge voltage 0 to 18V, Charge/Discharge current 300A, date Sampling rate upto 10ms (Application life cycle testing, impedance matching, drive simulation)	1	Nos	85
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**EMC/EMI LAB**

1	Calibration of test instruments & chamber	Includes EMI receivers, signal generators, Antennas, Pulse generators, ESD simulator etc...	60	Nos	35
2	Test Setup, Equipment & Instrumentation as per latest edition of CISPR 22, CISPR 32, AIS 138 (Part 1), AIS 138 (Part 2), ECE R10- 05 (signal, I/O & telecommunication lines)	as per latest edition of CISPR 22, CISPR 32, AIS 138 (Part 1), AIS 138 (Part 2), ECE R10- 05 (signal, I/O & telecommunication lines)	1	Nos	35
3	Test Setup, Equipment & Instrumentation as per latest edition of ISO 11452-9 (Portable transmitter simulation)	As per ISO 11452-9	1	Nos	40
4	Test Setup, Equipment & Instrumentation as per latest edition of IEC 61000-4-8 (Power frequency magnetic field)	As per IEC 61000-4-8	1	Nos	8
5	Test Setup, Equipment & Instrumentation as per latest edition of IEC 61000-4-9 (pulse magnetic field)	As per IEC 61000-4-9	1	Nos	40
6	Test setup & Instrumentation as per latest edition of IEC 11452-8 (immunity to magnetic field)	As per IEC 11452-8	1	Nos	40
8	Conducted RF immunity test instrumentation for commercial equipments	As per IEC 61000-4-6	1	Nos	50

**FINANCIAL YEAR 2023-2024**

**TEST TRACK**

Ser No	Description of Item	Broad Specification Parameters	Qty	Accounting Unit (Nos/ Tonne...)	Estimated Value of Procurement INR (Lakhs)
1	ENT Track Expansion	Road work for 100 m	1	Lumpsum	25.00
2	VBOX + Accessories	Test Instrument	1	Lumpsum	35.00
3	Fuel Flow meter - 2 wheeler testing	0 - 20 l/h	1	set	10.00
4	Resurfacing of BST with Ceramic Replacement and relaying, Basalt tiles grinding works	Civil work	1	Lumpsum	1300.00
5	Vehicle Pedal robot with control modules - Brake Test	0 - 1000N	1	Nos	150.0
6	Accelerator Robot - Dynamic test with precision acceleration control i.e Speedometer calibration, Fuel efficiency test etc	0 - 150 N	1	Nos	75
7	Autonomous Driving with path following functional kit	Self drive instrumentation	1	set	1,000.00

**POWERTRAIN LAB**

1	ETC-6 E-Drive Test system	Dyno RPM range upto 25000	1		1000
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**FATIGUE LAB**

2	Chassis Portal Frame		1	Nos	30
3	Equipment Spares	M/s Moog, M/s Weiss, M/s CME			25
4	Instrumentation(Data logger & Sensors)	16Channels, Accelerometer, Strain gauge Pasting kit, Sting Pot, Non contacting sensors, Cables & Connectors	1,5,2,4	Nos	30

**CERTIFICATION LAB**

1	Tyre Endurance testing	As per IS15627, IS15633, IS15636	1	Nos	200
2	Tyre Load Speed Performance	As per IS15627, IS15633, IS15636	1	Nos	300
3	CNG Regulator test facility	As per AIS028	1	Nos	130
4	Control cables	As per IS10791	1	Nos	80
5	Camera Analysis System for Demist and defrost setup	-	1	Nos	35
6	Child Restraint System test facility	As per AIS 072	1	Nos	75
7	Luminous Contrast Meter to measure Luminance Contrast of Camera Monitor Devices for Indirect Vision	AIS:001 (Part1) (Rev1) & ECE R46	1	Nos	90
8	Head Lamp Leveling Devices (Vertical Orientation of the Dip Beam Head lamp) – Vehicle level Certification	ECER48, AIS:008 & AIS:009	1	Nos	250

**INFOTRONICS LAB**

1	ADVS	Advanced Vehicle Driving Simulator for ADAS applicati	1	Nos	300
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**CAD/CAE LAB**

1	ADAMS	Vehicle Dynamics	1	Nos	40
2	Workstation	High performance commutation for SW usage	10	Nos	15

**EMC/EMI LAB**

1	Calibration of test instruments & chamber	Includes EMI receivers, signal generators, Antennas, Pulse generators, ESD simulator etc...	60	Nos	45
2	Vector analyzer	Frequency: 9kHz - 18GHz	1	Nos	100
3	Test instrumentation for IEC 61000-4-34 Voltage dips, short interruptions and voltage variations immunity tests for equipment with input current more than 16 A per phase	As per IEC 61000-4-34	1	Nos	250
4	BCI chamber, instrumentation		1	Nos	100

**FINANCIAL YEAR 2024-2025**

**TEST TRACK**

Ser No	Description of Item	Broad Specification Parameters	Qty	Accounting Unit (Nos/ Tonne...)	Estimated Value of Procurement INR (Lakhs)
1	PassBy Noise Setup	Compete package for PBN measurement	1	Set	250.00
2	Fuel Flow meter (heavy vehicle)	0 - 150 l/h	1	Set	40.00

**POWERTRAIN LAB**

1	Upgradation of three engine testbed to new standard	500kw, 220kw, 120kw Dyno with emission analyzer			2000
2	Upgradation of three chassis testbed to new standard	2W, 4W 4x2, 4W 4x4 chassis Dyno with emission system			2000

**FATIGUE LAB**

2	Instrumentation(Data logger & Sensors)	16Channels,Accelerometer, Strain gauge Pasting kit, Sting Pot, Non contacting sensors, Cables & Connectors	1,5,2,4	Nos	30
4	300KN Actuator	Linear Actuator	2	Nos	30

**CERTIFICATION LAB**

1	Acoustic chamber	As per IS1884	1	Nos	60
2	Vertical flammability chamber	As per IS 15061	1	Nos	10
3	Air leak test facility	As per IS 9436 & IS 9438	1	Nos	10
4	CNG Gas Air Mixer	As per IS15712, IS15713, IS15714	1	Nos	80
	CNG Rigid piping	As per IS15716	1	Nos	60
5	CNG Solenoid	As per IS9000	1	Nos	120
6	LPG Vaporiser	ECE R 64	1	Nos	180
7	Luminance Standards (LN3) for calibration of luminance meters & retro reflection measuring devices	CIE Standard	1	Nos	15

**INFOTRONICS LAB**

1	Sensor fusion in HIL system for ADAS testing	Collabrote with camera and sensor for 3D scene generation on ADAS testing	1	Nos	40
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**CAD/CAE LAB**

1	Rapid Prototyping	For scale model of physical part to CAD model	1	Nos	10
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**EV LAB**

1	Battery Test Chamber	-40 to +180, Internal volume 1000L, Distributed load capacity 100Kg, Humidity range 1 to 98% RH, Camera access	1	Nos	40
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**EMC/EMI LAB**

1	Calibration of test instruments & chamber	Includes EMI receivers, signal generators, Antennas, Pulse generators, ESD simulator etc...	60	Nos	40
2	Upgradation of test instrument ranges to meet upcoming standards	Includes higher spec amplifiers, receivers, antennas, field probes etc	N/A	N/A	2000
3	Upgradation of test instrument ranges to meet upcoming standards	For Medical equipemnts, Home Applications and Comercial test requirements.	N/A	N/A	50