

No. 2007/CRIS/NDLS-HQ/CMS/Project//Rollout-II/0030/Pt-II

July 26, 2024

CAO/System,  
Northern Railway,  
CRIS Complex, Chanakyapuri,  
New Delhi – 110021.

**Sub: Updated specification of 'Lobby TSS equipment with Breath Analyzer, Camera and Bio-metric devices'**

Ref: (i) This office letter of even number dated 27.12.2018.

(ii) Sr.DEE/BSB/NER letter no. वि (ओपी)/519/1/CMS Equipments, Dated: 03.05.2024.

Railways have been asking for latest specification for Lobby Terminal Support System (TSS) equipment including Breath Analyzer, Camera and Biometric devices, which are being utilized for crew monitoring at crew lobbies across IR. CRIS has also received request from NER vide letters under ref-(ii), to revise the specifications.

Keeping in view of hardware getting obsolete, new technologies / hardware being introduced and up-gradation of CMS thin client image, CRIS has updated the specifications for Lobby Terminal Support System (TSS) equipment including Breath Analyzer, Camera and Biometric devices, which are being utilized for crew monitoring at crew lobbies across IR. The revised specifications of Lobby TSS equipment are as follows:

- 1) In supersession to the specification issued for TSS lobby equipment by CRIS vide letter under ref-(i), the revised specification of TSS lobby equipment has been prepared and enclosed as '**Annexure-A**'. The specification given under Annexure-A may be used for procurement of new TSS equipment.
- 2) It is important that Railways may follow latest specifications issued by CMS/CRIS for ensuring smooth operation of CMS application. A copy of this letter along with detailed specification of Lobby TSS equipment is available on CMS Report page (FOIS IP: <http://10.60.200.168/CMSREPORT>) and on CMS internet reports ([cms.indianrail.gov.in/CMSREPORT](http://cms.indianrail.gov.in/CMSREPORT)).
- 3) CRIS has developed its own Linux based upgraded thin client image '**CMS\_Ubuntu-22**' with integration of compatible peripherals like Breath Analyzer, Biometric device, and Camera (details of compatible peripherals are given below).
- 4) Railways may be advised to use the **latest** upgraded client image in thin clients / Kiosks compatible with the specifications given in Annexure-A. Railways can obtain/download the latest thin client software either from CRIS or they can authorize the vendor, on which purchase order is placed by Railways, to collect the thin client image from CRIS on behalf of Railways
- 5) In this regard, CRIS has prepared video instructions and the same are available on internet([cms.indianrail.gov.in/thinclient](http://cms.indianrail.gov.in/thinclient)):
  - a. How to Download CMS client image and make a bootable pen drive
  - b. How to install downloaded image from a bootable pen drive
  - c. How to configure CMS thin client with CMS image

- 6) It has been observed that certain vendors are utilizing local software within lobby TSS equipment, leading to compatibility challenges between lobby TSS equipment and the CMS central server application. Consequently, this may result in failures or disruptions in CMS functionality. It is therefore requested that Vendors are to be advised against the use of their own thin client software for lobby TSS equipment and are instructed to exclusively deploy the authorized CRIS CMS image. Any local software utilized will not be supported by CRIS CMS application and it is imperative that lobby equipment adheres to CRIS specifications to mitigate potential malfunctioning.

7) Details of compatible peripherals for lobby TSS equipment:

7.1 Details of Breath Analyzer equipment integrated with CMS:

SNo.	OEM	Model No	Type
1	M/s Tayaltech	ALPHA	Fuel Cell
2	M/s Preksha Enterprises	NARSIMHA	Fuel Cell
3	M/s Addsoft Technologies (P) Ltd	ADDBACMS04	Fuel Cell
4	M/s NI GlobalSoft	NIGSBACMS01	Fuel Cell

**NOTE:**

- The specifications of Breath Analyzer equipment being supplied must comply to all the tests mentioned in **RDSO specification no RDSO/2015/EL/SPEC/0119(Rev'2) dt 15-03-2018 for 'Fuel Sensor Based Breath Alcohol Analyzer for general purpose use on Indian Railways'**. The OEM shall submit test reports from a reputed NABL/ILAC accredited laboratory.
- Regular annual calibration of Breath Analyzer equipment is mandatory as per RDSO specifications.
- The sensor used shall be of fuel type operating on electrochemical principles. The shelf life of fuel cell **shall be minimum 3 years and shall be declared by the OEMs** as per RDSO Specifications.

7.2 Details of Biometric Device integrated with CMS:

OEM	Model No	Type
M/s Secugen technologies	U20 AP	Finger Scanner
	HU 20	Finger Scanner

7.3 Details of Touch Monitor Panel integrated with CMS:

OEM	Model No	Type
M/s 3M	170PCUM	Surface Capacitive
M/s General Touch	RTL173	SAW
M/s Tayaltech	TAYAL2019	SAW
M/s Addsoft	ADDLED-17	SAW

7.4 Details of Camera integrated with CMS:


OEM	Model No	Type
M/s Logitech	C270HD	USB camera
	C310	USB camera
	C505e	USB camera
Any other make	which is compatible to run the command for capturing the image i.e. "streamer -f jpeg -o test1.jpeg"	

**NOTE:**

The models of different peripherals mentioned in para 7 above are tested and integrated with CMS application for seamless operations. If Railways intend to purchase any other make / model of the peripherals listed above, then its integration with CMS application needs to be verified from CRIS first. In such case, Railways shall ask supplier of the peripheral to provide suitable Linux & windows driver with SDK kit for integration purposes of the peripheral in CMS thin client Image. Such peripheral will only be used after its integration in thin client software is verified.

- 8) It has been observed that Railways are required to test the BA device on a daily basis. Standard test kit for positive testing of BA devices have been developed by M/s Preksha, M/s. Tayaltech, M/s Addsoft Technologies (P) Ltd, M/s N I Globalsoft. These test kits have been tested by CRIS at CMS KIOSK & at different lobbies and functioning is found satisfactory. It is recommended that Railways may use these standard test kits for positive testing of BA devices in order to avoid the malfunctioning of devices due to use of non-standard alcoholic mixture.
- 9) Details may please be circulated to Railways to facilitate procurement by them.

D/A: As Above

  
(A.K. Goswami)  
GM/FOIS

**Copy to:**

1. Principal Executive Director (Rolling Stock), Railway Board, New Delhi – for kind information please
2. Executive Director(C&IS), Railway Board, New Delhi – for kind information please

To Letter No. 2007/CRIS/NDLS-HQ/CMS/Project//Rollout-II/0030/Pt-II, date: 25.07.2024.  
26

Table of Content		
Sl. No.	Description	Page No.
1	Thin Client with accessories	2
2	Off-Line UPS (Stand Alone Type)	3
3	Printer	4
4	Kiosk	4
5	Biometric Device for fitment inside Kiosk	5
6	Breath Analyzer Device for fitment inside Kisok	6
7	Camera	7
8	Explanatory Note	7



To Letter No. 2007/CRIS/NDLS-HQ/CMS/Project//Rollout-II/0030/Pt-II, date: 25.07.2024.  
26

### 1. Thin Client with accessories

S. No.	Item	Requirement
1	Make	HP, IBM, DELL, HCL, SUN, VXL, THINVENT, Lenovo, Fijitsu, Breeze, Tayaltech, Addsoft or Equivalent
2	Processor	Minimum 2 GHz Dual Core x86 processor or better
3	Main Memory	Minimum 4 GB DDR3 Memory, Expandable to 16 GB Memory or higher
4	Flash ROM	Thin Client- Minimum 32 GB SATA/mSATA Flash Expandable to 256 GB Flash or higher
5	Operating System	Customized Linux OS (provided by CRIS as part of Client Image)
6	Operating System Compatibility	Option to change the OS from Linux to Windows Embedded Standard 8 or better (provisioning of other OS not in the scope)
7	Network Interface card	10/100/1000 Mbps, LAN auto sensing, NIC RJ45
8	Parallel port	Optional
9	Serial port	Optional
10	Power Supply	External
11	USB 2.0 port	6 (minimum 4 no. integrated on board),
12	Resolution	Support 1600 X 1200 Resolution at 32 bit colour depth or higher
13	Power Consumption	Less than 40 watts including LCD/LED Display
14	Expansion Slot	Optional
15	Pen Drive	Pen drive loaded with CRIS provided Self bootable client image for Linux and windows with the following specification – (i) 16 GB or higher USB 2.0 (ii) Standard Flash Drive (iii) Make-SanDisk, Moser Baer, HP, Transcend or equivalent (iv) Supporting Windows XP Embedded, Windows CE, or Windows Embedded Standard, Linux v.2.6.x&Customized Linux OS (provided by CRIS as part of Client Image)
16	Linux and Client Image	Loading of Image (OS with client application) as provided by CRIS and its testing for proper integration with peripherals supplied with this tender.
17	Regulatory Compliance	Self-certified RoHS (Restriction of Hazardous Substances) compliance. BIS certification for Thin Client
<b>Accessories</b>		
18	Display	18.5" LCD/LED monitor for standalone Thin client as per item no 1.1 of technical specification
		17" LCD/LED with touch screen for Thin client for kiosk as per item no 1.2 of technical specification
19	Keyboard	104/107 Keys Standard USB Keyboard with keyboard skin for standalone Thin Client
		Compact USB keyboard or wireless USB keyboard for kiosk
20	Pointing Device	Standard Optical USB Mouse with Mouse pad for Thin Client
		Compact USB mouse or wireless USB mouse for kiosk

#### 1.1 LCD / TFT Display (For Thin Client)

S. No.	Item	Requirement
i.	Type	18.5" or higher LCD/LED monitor
ii.	Horizontal Viewing Angle	90 degree or more
iii.	Vertical Viewing Angle	65 degree or more
iv.	Aspect Ratio	4:3 or 5:4
v.	In-built speakers	optional
vi.	Luminance	250 Cd/m <sup>2</sup> or more

To Letter No. 2007/CRIS/NDLS-HQ/CMS/Project//Rollout-II/0030/Pt-II, date: 25.07.2024.

26

S. No.	Item	Requirement
vii.	Contrast Ratio	600:1 or more
viii.	Colours supported	16.7 million
ix.	Native resolution	1280X1024 or more (should also support 800X600)
x.	Security	Kensington Lock
xi.	VESA mount	Yes
xii.	Energy Star	Yes

**1.2 Touch screen LCD / TFT Display (For Kiosk)**

S. No.	Item	Requirement
i.	Type	17" LCD/LED monitor
ii.	Aspect Ratio	4:3 or 5:4
iii.	Luminance	250 Cd/m <sup>2</sup> or more
iv.	Contrast Ratio	600:1 or more
v.	Colours supported	16.7 million
vi.	Native resolution	1280X1024 or more (should also support 800X600)
vii.	VESA mount	Yes
viii.	Energy Star	Yes
ix.	Protection	IP54 rating or above
x.	Response time	6ms or less
xi.	Touch screen properties	
a.	Touch Screen Construction	Conductive coating on glass with ClearTek or similar hard coat and top coat / SAW (Surface Acoustic Wave) type
b.	Glass Thickness	3.1 mm $\pm$ 1mm
c.	Durability	Greater than 225 million touches
d.	Viewing Angle	H $\pm$ 65: V +50/-60 degrees
e.	Activation	Bare Finger
f.	Operating Temperature	Touch Screen -40 to 70° C
g.	Mounting	To be integrated with the monitor with preferably IP54 rating
h.	Light Transmission	91.5% ( $\pm$ 1.5 %) light transmission
i.	Touch Resolution	2K x 2K or more
j.	Surface Scratch Hardness	Exceeds severe abrasion test per MIL C675C Scratches by pick of Moh's hardness rating less than 7 should not affect performance
k.	Accuracy	Within 1% of true position
l.	Surface Obstructions	Not affected by surface contaminants like dirt, dust, grease, liquids
m.	Chemical Resistance	Resistant to corrosives as per ASTM-D-1308-02 and ASTM-F-1598-95
n.	Controller Electronics	ESD +/- 8KV Contact, +/- 27KV Air, MTBF > 7,00,000 hrs USB power consumption < 75 mA, 5V DC, UL, FCC-B, CE compliant

**2. Off-Line UPS (Stand Alone Type)**

S. No.	Description	Specification
1	Power Rating	500VA/ 1 KVA, 300 Watt
2	Technology	Line Interactive
3	Operating Mode	Stand Alone
4	Input Specifications	
a	Single Phase AC Input	165 Volts to 275 Volts on full load
b	Input Frequency	50 Hz +/- 5%
5	Output Specifications	
a	AC Output Voltage	Single Phase 230Volts +/- 2%
b	Wave Form	Modified/Stepped/Quasi sine wave

To Letter No. 2007/CRIS/NDLS-HQ/CMS/Project//Rollout-II/0030/Pt-II, date: 25.07.2024.

c	Output Frequency	50Hz +/- 0.5% (constant Frequency)
d	Output Power Factor	>+0.6 at full load
e	Overload Capacity	125% for 1 min
<b>6 Battery</b>		
a	Type	Sealed Maintenance free
b	Backup	As per Battery
c	No. and AH capacity	2 No., 12 Volt, 7AH
<b>7 Visual Indications</b>		
a		AC normal (Green)
b		Mains Failure/On Battery (Yellow)
c		Short Circuit, Overload, Fault (Red)
<b>8 Audible Alarm with silence option for:</b>		
a		Mains Failure
b		Inverter Overload
<b>9 Environmental:</b>		
a	Operating Temperature	0 degree -40 degree Celsius
b	Relative Humidity	90% max.
c	Noise Level	Less than 40db
<b>10 Certifications</b>		
		Manufacturing Facility should be ISO 9001 certified, Test certificate from any one of the reputed Govt. agencies viz. ETDC, ERTL, SAMEER for the UPS model quoted.

### 3. Printer

S. No.	Item	Requirement
1	Number Of Columns	132/136
2	Number Of Pins	9
3	Printing Method	Impact Dot matrix
4	Print Speed Draft 10CPI	225 cps or more
5	Print Speed High Speed Draft 10CPI	300 cps or more
6	Interfaces Standard	USB (1.1) and Bi-Directional Parallel
7	Fonts	Roman, Sans Serif, Draft
8	Multi Part Forms	1 + 4
9	Optional Feeder	Single-bin cut sheet feeder
10	Print Head Life	400 m
11	Acoustic Noise Level	55 dB(A) maximum
12	Input Data Buffer	64 KB
13	Operating Temperature	0 to 35 deg C
14	Operating Humidity	10 to 80% RH

### 4. Kiosk

S. No.	Item	Requirement
1	Material	MS or Stainless steel or FRP (Material to be specified by purchaser)
2	Type	Wall Mounted / Floor Mounted (to be specified by purchaser)
3	Construction	Enclosure shall be made of minimum 1.6 mm thick MS, 1.2 mm or above for stainless steel
4	Safety	No sharp edges
5	Surface	Polymer powder coated in Siemen's grey color



To Letter No. 2007/CRIS/NDLS-HQ/CMS/Project//Rollout-II/0030/Pt-II, date: 25.07.2024.  
26

S. No.	Item	Requirement
6	Design	Compact space saving design, prior approval shall be taken for final design. The Power and network wiring inside the kiosk shall be secured properly. KIOSK shall have necessary ventilation for cooling. (Forced ventilation if required). Care shall be taken to restrict the entry of rodents etc.
7	Power	The kiosk shall expose a single IEC C14 AC power inlet, for which a suitable computer power cable should also be provided. All remaining power cabling should be internal and rugged.
8	Network	The kiosk shall expose a single Cat 5E RJ45 network socket, compatible with a standard Cat5 Ethernet UTP cable. This socket should internally be wired to the thin client network port.
9	BA device mounting	The kiosk shall have provision for providing Breath Analyzer device, such that device should be completely concealed inside the chassis, with only a small hole visible for fitment of the BA mouthpiece. The mounting arrangement shall be modular in nature to accommodate devices from different manufacturers without requiring any modification in the Kiosk main shell. BA device height shall be adjustable preferably.
10	Biometric device mounting	The kiosk shall have a provision for providing Bio metric device, such that device should be completely concealed inside the chassis, with only a small area open for placement of the finger. The mounting arrangement shall be modular in nature to accommodate device from different manufacturer without requiring any modification in the Kiosk main shell.
11	Display mounting	The kiosk shall have provision for providing 17" Monitor with touch screen, such that monitor is flush / slightly recessed inside the KIOSK. There shall be no gap between KIOSK and face of monitor
12	Thin client mounting	The kiosk shall have provision for providing thin client such that thin client is rigidly secured within KIOSK
13	UPS mounting	The kiosk shall have provision for providing UPS such UPS client is rigidly secured within KIOSK
14	Keyboard and mouse tray	KIOSK shall have slide out tray for keeping keyboard and mouse.

The kiosk can either be floor standing on pedestal, or wall mounted. Prior approval of design and sample shall be taken before commencing bulk manufacture from Railway/CRIS.

#### 5. Biometric Device For fitment inside kiosk

S. No.	Item	Requirement
1	Make	Secugen technologies, Bio Enable technologies or other reputed OEM
2	Dimensions	27 x 40 x 73mm or similar – compact size for easy mounting in kiosk
3	Weight	100gm or similar – easy mounting in kiosk
4	Operating Temperature	0 to 40 deg C
5	Operating Humidity	<90% RH, non-condensing
6	Image Resolution	500 dpi $\pm$ 0.2%
7	Image Size	260 x 300 pixels or higher
8	Platen Size	16.1mm x 18.2mm or higher
9	Sensing Area	12.7mm x 14.9mm or higher
10	Image grayscale	256 shades – 8 bits
11	Image format	Non lossy
12	Distortion	<0.1%
13	Sensing prism hardness	750 Hk (6.8 Mohs)
14	Light source	Red LED



To Letter No. 2007/CRIS/NDLS-HQ/CMS/Project//Rollout-II/0030/Pt-II, date: 25.07.2024.  
26

15	Lifetime	60,000 hours MTBF
16	Ambient light tolerance	5,000 Lux
17	Power	Via USB connection
18	Operating voltage	5V $\pm$ 5%
19	Maximum current	120 mA
20	ESD Tolerance	12 kV
21	Communication interface	USB 2.0
22	Image capture speed	80 msec (or less)
23	OS support	Linux, Windows XP Embedded
24	Latent fingerprint rejection	Yes
25	Fingerprint photocopy rejection	Yes
12	Unique serial number	To be reported through USB connection
13	Ambient light sensing	Yes
14	Finger detection	Yes

## 6. **Breath Analyzer Device For fitment inside kiosk**

- 6.1 It shall conform to RDSO Specification No. RDSO/2015/EL/SPEC/0119(Rev'2') dt 15-03-2018 for BA device with Fuel Cell Sensor based Breath Alcohol Analyzer. Test Certificates from NABL/ILAC as per RDSO spec shall be furnished by the supplier.
- 6.2 It should be possible to check device status (ON as well as OFF) through software command
- 6.3 Should be able to turn ON and OFF by software command with return status
- 6.4 It should be possible to send software command for 'Ready to blow' with return status
- 6.5 Device should return blow fail status
- 6.6 Device shall be able to return blow result once blow successful
- 6.7 The device shall run with USB power and shall not require a battery for its operation.
- 6.8 The mouthpiece shall be suitably modified from RDSO spec for KIOSK mounting,
- 6.8.1 Rigid aluminum adpoter with angular pipe of suitable dia.
- 6.8.2 It shall be possible to attach commercially available straw to the pipe to blow of air to the aluminum pipe.
- 6.8.3 One way flow with sputum trap specified in RDSO spec is optional
- 6.8.4 The device shall be mainstream blowing, with suitable outlet for sputum.
- 6.8.5 Alpha numeric keypad is optional as device will be operated through software.
- 6.8.6 Device should also support contactless blow with addon/change of attachment
- 6.9 Hex command for

Sent to Device	Return from Device
Turn ON	Device turned ON
Turn OFF	Device turned OFF
Check ON	Device is ON
Set Ready to Blow	Device is ready for blow
	Blow in progress
	Blow not successful
	Blow complete
	Blow result in HEX / ASCII
	<ul style="list-style-type: none"> <li>Device SI.No.</li> <li>Calibration date</li> <li>Token No / Record No</li> <li>Date of Test as per device</li> <li>Time of test as per device</li> <li>Result value in mg / 100 ml</li> </ul>
	Optional
	<ul style="list-style-type: none"> <li>Exhale time in sec</li> <li>Exhale volume in litre</li> </ul>

To Letter No. 2007/CRIS/NDLS-HQ/CMS/Project//Rollout-II/0030/Pt-II, date: 25.07.2024.  
26

## 7. Camera

Logitech C270 Webcam Technical Details	
Brand	Logitech
Model Number	960-000694
Color	Black
Item Weight	181 g
Product Dimensions	25 x 12.5 x16.4 cm
Number of USB 2.0 Ports	1
Digital Still Resolution	3 Megapixels

Logitech C310 Webcam Technical Details	
Brand	Logitech
Model Number	960-000638
Color	Black
Item Weight	250 g
Product Dimensions	66.3 x 52.7 x 10.8 cm
Number of USB 2.0 Ports	1
Digital Still Resolution	5 Megapixels

Logitech C505e Webcam Technical Details	
Brand	Logitech
Model Number	960-001372
Color	Black
Item Weight	73.6 g
Product Dimensions	15 x 15 x 15 cm
Number of USB 2.0 Ports	1
Digital Still Resolution	4 MP

## 8. Explanatory Note

1. CRIS has developed its own Linux based thin client image based on UBUNTU 22 LTS with integration of latest Breath analyzer, Biometric devices and web Camera. It is required to use the **latest client image** in all thin clients (particularly at kiosk) being used in lobby for seamless experience.
2. Bidder should get the client software on a self-bootable pen drive from CRIS for loading it on thin clients.
3. The bidder shall ensure that the devices proposed are compatible with latest CMS thin client Image.
4. **With view to develop a large vendor base for equipment used in lobby TSS, Railways may recommend / direct the vendor to CRIS for integration and testing of devices before procurement.**

To Letter No. 2007/CRIS/NDLS-HQ/CMS/Project//Rollout-II/0030/Pt-II, date: 25.07.2024.  
26

**Contact details of few of the likely vendors for Supply of TSS equipment suitable for CMS Application:**

1. M/s Agmatel India Pvt. Ltd.  
E-366, II FLOOR, NIRMAN VIHAR, VIKAS MARG,  
NEW DELHI -110092. phone : 011 011-43064306  
Contact Person: Vikas Jha (9205594819)  
Email: [vikas.jha@agmatel.com](mailto:vikas.jha@agmatel.com)
2. M/s Addsoft Technologies (P) Ltd.  
Plot no : 647/2219, At : Nuapatna, Telengapentha,  
Cuttack – 754001, Odisha, India.  
Phone: +91-671-2356501/ 2356502  
Contact Person:- Mr. Debashish (9555141505)  
Email:- [addsoft@addsofttech.com](mailto:addsoft@addsofttech.com)
3. M/s Palas Software Pvt. Ltd.  
S 74, Okhla Industrial Area, Phase II, New Delhi, 110020  
Contact person: Abhimanyu Shaunik, Mob: 9811322052  
Email: [shaunik@palas-india.com](mailto:shaunik@palas-india.com)
4. Preksha Enterprises  
12b, n.s. road., 2nd floor, room no.-51,  
Kolkata, West Bengal, 700001, India  
Contact person: Mr. Heera, Mob: 8910390590
5. M/s Tayal Tech  
2nd floor, Tayal technology hub,  
near Deendayal park, Vyapar vihar,  
Bilaspur (Chatisgarh), pin 495001.  
ph. 07752-413333, 07752 -414444  
contact person: Ajay Agrawal  
mobile: +91-769 769 1000, +91-769 769 2000  
Email: [ceo@tayaltech.com](mailto:ceo@tayaltech.com) , [tayaltech@hotmail.com](mailto:tayaltech@hotmail.com)
6. M/s HRD Plus Solutions-Gurgaon  
Q-7/18, DLF phase 2, Near Sikandarpur  
metro station Gurgaon, PIN-122001  
Haryana, India  
Contact Person :- Mr. Sunil (888296674)  
Email :- [st@hrdplussolutions.com](mailto:st@hrdplussolutions.com)

**Note: -**

The above list of likely vendors is not an exhaustive list, and any other vendor willing to participate in supply of Lobby TSS equipment shall approach CRIS for suitable integrations of their hardware/equipment with the CMS application.