INDIA SECURITY PRESS

(A Unit of Security Printing and Minting Corporation of India Limited)
Wholly owned by Government of India
Nashik Road – 422 101 (Maharashtra)

Tel: 00 91 253 240 2419 Fax: 00 91 253 2462718
Email: purchase.isp@spmcil.com Website: www.spmcil.com
Date of Issue: 11.05.2026

1. Name of the organization: India Security Press, Nashik (a unit of Security Printing and Minting Corporation of India Limited)

2 Type of the organization: Wholly owned by Government of India.

3 EOI Reference No: 05/EOI/2026-27 dated 11.05.2026.

4 EOI Title: Expression of Interest for **"SITC for Up-gradation of complete control system including CPU, PLC, HMI and IO Module for 06 color web fed machine".**

5. Category: Non-Security

6. Sub-category: Capital Purchase
7.
8. Date of Announcement: 11.05.2026

9. Pre-bid conference: The pre-bid conference will be conducted on 21/05/2026 at 11.00 Hrs IST. The prospective bidders interested to Submit Expression of Interest are requested to attend the pre-bid conference for clarifications on technical issues, at India Security Press, Nashik Road. The queries of pre-bid conference, if any, shall reach to CGM, ISP Nashik on or before 21/05/2026.

10. Last date for submission: 14:30 Hrs (IST) on 12/06/2026.

11. The Chief General Manager, India Security Press, Nashik invites Expression of Interest from firms for the **"SITC for Up-gradation of complete control system including CPU, PLC, HMI and IO Module for 06 color web fed machine"**

A) Scope of Work:

The Concise Scope of Work for the Brief requirement of ISP for **"SITC for Up-gradation of complete control system including CPU, PLC, HMI and IO Module for 06 color web fed machine"** are as under:

A) <u>Purpose</u>: -

The proposed SITC of latest upgraded PLC and I/O system up gradation for Web fed (4PU+2NU) colour machine; - SITC of PLC and I/O system for Web fed (4PU+2NU) consisting installation of PLC, remote PLC and I/O modules and HMI control system along with software & communication protocol development as per machine requirement. At present machine is having S7-300 main PLC, remote PLC along with the various Analog /Digital input-output modules, number of station PLC & I/O modules, operator control desk i.e. HMI MP270 along with the number of Siemens make micromaster drives

installed at different stations of machine.

B) Brief details of require system: -----

1. The existing machine having Unwinder unit, in line with 06 nos. of Printing units (02 units can be used as numbering units), perforation and sprocket hole punching unit, delivery desk, stacker unit, kiss-cut unit with matrix removal system & fanfold unit etc.
2. ISP required upgradation of outdated control system (PLC, IO module & HMI) along with the development of the software, PLC programme as per requirement of machine at various modes of operation like reel to sheet fed delivery, reel to reel delivery, reel to fanfold and reel to kiss-cut and matrix removal alongwith rewinding mode.

The overall structure of existing system and general unit wise working function: –

1) Main Electrical Control Panel: Main Electrical panel contains the electrical control units such as air brake power contactors, relays, chokes, including the Rewinder and main drive with Profibus communication.

2) Unwinder Unit: This is unwinder unit.
   In this unit following operation performed: -
   a) Paper length registration: This system is used to provide the paper tension during printing operation by using registration motor. For tensioning the paper during printing, operator give the +/- command from main Register control unit as well as from individual control unit. This system is used only in Running mode.
   b) Web Guide system: - This system is used for the paper lateral registration.
   c) Web reel Lifting Up/Down: - For New web reel loading and finished reed unloading.
   d) Hotter/Alarm: - To warn the delivery operation for giving any massage.
   e) Start/Stop/Emergency stop/ Inch operation: - Emergency stop is a safety function, while start/ Inch and stop are the regular function used by operations from each unit.
   f) Safety Guard: -From safety point of view safety guard points are incorporated at each unit of machine, they also acknowledge/reset and control by control panel at each unit of machine.
   All these operations are performed by the operator as & when required.
   g) Various encoders for reference of machine.

3) On line printing Unit: This is in line printing unit. There is total 06 nos of printing units. Out of which 02 nos of units can be used for numbering purpose.
   a. Impression On/Off.
   b. Actuation On/Off.
   c. Start/Stop/Emergency stop/ Inch operation: - Emergency stop is a safety function, while start/Inch and stop are the regular functions used by operations from this unit.
   d. Lateral Registration: This system used to provide the lateral registration during running by using registration motor

having Micro master 420 drive. Operator gives the +/- command for forward & reverse direction from HMI control desk or from individual unit.

4) Perforation unit & Sprocket unit: - This unit performs the following operations:
    a. Start/Stop/Emergency stop/ Inch operation: - Emergency stop is a safety function, while start/ Inch and stop are the regular functions used by operator from this unit.
    b. Lateral Registration for Perforation unit & Sprocket unit: This system is used to provide the lateral registration for different size 22" and 25" during running or in standby condition by using registration motor. Operator give the +/- command from main Register control unit or from unit as per requirement.

5) Fanfold unit with stacker: - This unit perform the following operation:
    a) This unit is used to stack papers in fan fold style operation.
    b) Start/Stop/Emergency stop/ Inch operation: - Emergency stop is a safety function, while start/ Inch and stop are the regular functions used by operator from this unit.
    c) Operator selects the mode from HMI control desk for Fanfold operation activation.

6) Sheet stacker unit: - This unit performs the following operations:
    a) This Unit is used to stack the paper sheet in sheeter mode in two sizes of paper 22" and 25" (inch) insert.
    b) Start/Stop/Emergency stop/ Inch operation: - Emergency stop is a safety function, while start/ Inch and stop are the regular functions used by operator from this unit.
    c) This unit is having various functions like: Paper Jogging operation, Conveyor belt operation, Delivery pile up and down movement, auxiliary pile up /down movement.

7) Rewinding Unit: This unit performs the following operations:
    a) This Unit is used to rewind the paper after printing into a reel form.
    b) Start/Stop/Emergency stop/ Inch operation: - Emergency stop is a safety function, while start/ Inch and stop are the regular functions used by operator from this unit.
    c) This unit also have its paper tension controlling with rewinding control mechanism.

8) Matrix removal system with kiss-cut operation along with the rewinding of reel.: -This Unit is used to rewind the paper after kiss-cut operation into reel form along with the matrix rewinding station.

    a) Start/Stop/Emergency stop/ Inch operation: - Emergency stop is a safety function, while start/ Inch and stop are the regular functions used by operator from this unit.
    b) This unit also have its tension controlling with rewinding control system.

The details of the PLC & I/O system with the quantity and place unit wise is given below:

-

1) Main Consol panel:

a) Module: PROFIBUS-DP, IM 151-1, 01 No.
b) Power PM-E 24VDC module, 6ES7 138-4CA00-0AA0, 01 No.
c) Digital Input 4 DI DC24V module, 6ES7 131-4BD00-0AA0, 03 Nos.
d) Digital Output 4 DO DC24V/0.5A module, 6ES7 132-4BD00-0AA0, 01 No.

a) Operator control desk:
   a) HMI-PLC, SIEMENS- MP-270, 01 No.
   b) Module: PROFIBUS-DP, IM 151-1, 01 No
   c) Power PM-E 24VDC module, 6ES7 138-4CA00-0AA0, 01 No.
   d) Digital Input 4 DI DC24V module, 6ES7 131-4BD00-0AA0, 03 Nos.
   e) Digital Output 4 DO DC24V/0.5A module, 6ES7 132-4BD00-0AA0, 01 No.
b) Power:
   a) Module: PROFIBUS-DP, IM 151-1, 01 No.
   b) Power PM-E 24VDC module, 6ES7 138-4CA00-0AA0, 01 No.
   c) Digital Input 4 DI DC24V module, 6ES7 131-4BD00-0AA0, 03 No.
   d) Digital Input 4 DI DC24V/0.5A module, 6ES7 132-4BD00-0AA0, 02 No.
   e) Digital Output 4 DO DC24V/5A module, 6ES7 132-4HB00-0AB0, 01 No.
   f) Rewinder and Main drive, 02 Nos

c) Unwind:
   a) Main PLC: CPU315 2-DP, 315-2AF0-0AB0, 01 No.
   b) FM350 COUNTER module, 350-1AH01-0AE0, 03 No.
   c) Analog Input SM334 module- AI4/AO2×12 Bit, 334-0KE00-0AB0, 01 No.
   d) Digital Input SM321 module- DI 32×DC24V, 321-1BL00-0AA0, 01 No.
   e) Digital Output SM322 module- DO 16×DC24V/0.5A, DO 16×DC24V/0.5A , 01 No
   f) Unwinder drive,01 No.

d) Offset unit: CFC machine having 06 Nos of offset unit out of which 02 can be used for numbering purpose also. Each unit having the following electric and electronic auxiliary. Nos of Units: - 06 online printing units.
   a) Module: PROFIBUS-DP, IM 151-1, 01 No.
   b) Power PM-E 24VDC module, 6ES7 138-4CA00-0AA0, 01 No.
   c) Digital Input 4 DI DC24V module, 6ES7 131-4BD00-0AA0, 05 No.
   d) Digital Output 4 DO DC24V/0.5A module, 6ES7 132-4BD00-0AA0, 04 No.
   e) Digital Output 4 DO DC24V/5A module, 6ES7 132-4HB00-0AB0, 02 No.
   f) Analog Input 2 AI U module, 6ES7 134-4FB00-0AB0, 01 No.
   g) Micro master 420 drive: -01 No
   All material same for 06Nos. printing units

e) Process-Sheeter:
   a) Module: PROFIBUS-DP, IM 151-1, 01 No.
   b) Power PM-E 24VDC module, 6ES7 138-4CA00-0AA0, 01 No.
   c) Digital Input 4 DI DC24V module, 6ES7 131-4BD00-0AA0, 14 Nos.

d) Digital Output 4 DO DC24V/0.5A module, 6ES7 132-4BD00-0AA0, 09 Nos.
e) Micro master 420 drive: -02 No

f) Rewind-Folder:
   a) Module: PROFIBUS-DP, IM 151-1, 01 No.
   b) Power PM-E 24VDC module, 6ES7 138-4CA00-0AA0, 01 No.
   c) Digital Input 4 DI DC24V module, 6ES7 131-4BD00-0AA0, 08 Nos.
   d) Digital Output 4 DO DC24V/0.5A module, 6ES7 132-4BD00-0AA0, 03 Nos.
   e) Analog Input2 AI U module, 6ES7 134-4FB00-0AB0, 01 No.
   f) Micro master 420 drive: -02 Nos
   g) Encoder – Type- ROD 436 1024 27 S12-03
      Id. Nr.- 376 836-20, Sr. No.- 25 107 857 B
      Make –
      Heidenhain,
      Germany. Qty.-
      01No.

g) High-Pile:

   a) Module: PROFIBUS-DP, IM 151-1, 01 No.
   b) Power PM-E 24VDC module, 6ES7 138-4CA00-0AA0, 01 No.
   c) Digital Input 4 DI DC24V module, 6ES7 131-4BD00-0AA0, 06 Nos.
   d) Digital Output 4 DO DC24V/0.5A module, 6ES7 132-4BD00-0AA0, 03 Nos.
   e) Micro master 420 drive: -02 Nos

h) Total Micro masters mounted on machine :- 13Nos. (Pus- 06Nos +Perforation – 02Nos.+ High pile -01No+ Sheeter – 01No.+ Jogger -01No.+Conveyor -01No.+ Delivery pile UP/down – 01No.) Main motor drive – 01No., Rewinder drive- 01No.
i) Main master PLC Siemens S7 300 -01 No. Station PLCs – 12Nos.
j) Mechanical Transmission gear/grinder gear Boxes: During the machine upgradation, if any issue occurred in the Transmission gear /grinder gear boxes, the firm will have to replace the same with in 03 days.

Currently machine working on profibus communication between the PLC, HMI and drive. After upgradation firm will have to convert the same in to high-speed communication protocol like ether cat or ethernet.

C) **SCOPE OF WORK**: -----

1. This is a turnkey basis job, only supply will not be acceptable.
2. The firm must have to installed all required PLC, Remote IO modules, HMI, communication cable and electrical auxiliary units complete integration with control system and necessary software development as per machine requirement for CFC machine for machine operation in all types of mode of operation. The existing micro master drives should function with new installed PLC, new software/upgraded programme otherwise firm has to supply & install the drives compatible to new system. Replacing all data communication cables with new communication protocol.
3. It should be a complete SITC work with On Load and No-load trials for

min. 07 working days.

4. The firm will have to devolve the programme as per machine requirement in ladder logic network. The firm will have to supply the service laptop along with all necessary PLC, HMI & drive programme software, loading parameters for easy fault finding. The technical details of service Laptop :- Lenovo ideapad slim3, 12th generation intel core i5-12450H (16GB LPDDR5 512GB SSD) antiglare, FHD 15.6", Windows 11, office home 2024, thin & light, backlit KB laptop, Qty.- 01No.
5. Installation, testing & commissioning of Upgraded PLC & HMI system for direct replacement in place of existing Upgraded PLC & HMI system along with all required interfaces with machine. After successful completion of SITC work the inspection report will be forwarded after successful trial with On Load and No-load trials at 22" and 25" insert for 7 days.
6. Bidder has to specify the exact control system with its architecture they are going to offer along with the system schematic, circuit diagrams, control system details etc along with the quotation.
7. In case of any system other than above mentioned Type of PLC and HMI, the firm will have to give a complete solution with required hardware, software along with operating software, if any required, power supply, I/O units, data cables, Rotary encoder/incremental encoder, Connectors, interfacing equipment's/switchgear etc as required, to integrate the new system with machine as a complete unit suitable for direct replacement and suit all the functional requirements of the machine without affecting the machine operation.
8. In case, if firm offers a new system, adaptation of the same in the existing panel or supply of a new control panel to be integrated with existing Panel, with necessary changes/ modifications and improvements in the wires/cables/controls etc to suit the new control system will have to be made by the firm.
9. ISP does not have copy of PLC software/Programme of system/programme of HMI hence, bidder firm has to either copy the programme from the existing units without any damage to the programme/software and installation of the same in the new control system or development of new altogether software/programme to suit the machine specific requirements.
10. During the process of copying from existing PLC, HMI, counter and register control unit, if the existing programme gets corrupted due to static or any reasons, it will be the sole responsibility of the firm to recover or develop the same at their own cost.
11. The successful Bidder, who intends to copy programme from ISP's CFC machine will have to give an Indemnity Bond to ISP before undertaking such copying work that "They undertake to pay ISP the equal amount as may be required to develop or procure the corrupt programme from OEM or otherwise along with if any loss of production that occurs to ISP, if any losses occur to ISP due to such failures.
12. ISP being a Security Organisation, they will have to Certify that they will not divulge or use/sell or obtain proprietary rights or any

information, by any way, related to this works (Mach Quantity required. -- SITC of Job work: 01 AU.

13. SITC of 250A 3-pole MCCB with neutral link as main power ON/OFF control at machine panel complete with handle, extension rod, rotary switch, along with incoming & outgoing cable connection. The MCCB should be mounted on panel with required mounting accessories & arrangement.
    Qty.- 01AU. Make of MCCB – Siemens, ABB only.

D) Testing and Trial (after upgradation):

The firm will have to give 07 days (08 hours in one shift) on load trial of machine with reel to reel, reel to sheet, reel to fanfold operation

S.No.	Operation type	Speed
1.	Reel to reel operation	40-60 meter/ sec.
2.	Reel to sheet operation	100 meter/ sec.
3.	Reel to fanfold operation	100 meter/ sec.

E) Terms & conditions of SITC job: -

1. This is SITC job and only supply of material will not be acceptable. The new system must be interfaced with old system of machine. The offered/developed programme shall match to our machine requirement/functional requirements in all respect.
2. The firm will have to give undertaking before start the work that due to upgradation of the PLC and IO system, there should not be any adverse effect on

   machine performance and mechanical assembly. If any issue occurred due to upgradation than, the firm have to rectify the same within 72 hours.
3. The firm will have to confirm that, they will be able to provide after sales services for next 10 years as and when required by ISP.
4. The firm will have to depute their engineers for the installation, testing, commissioning and training of the said PLC along with all auxiliary and integration in place of existing old relays, contactor logic system by removing the old system.
5. For Installation, Testing and Commissioning of new system, dismantling old switchgears, wiring, the charges should be quoted on lump sum basis for the whole work.
6. After completion of the work, the firm will have to provide four hard copies of Electrical drawings, circuit diagrams, fault finding list, detail spare part list, PLC ladder diagram, PLC cross reference list, machine programme and Operating software (as the case may be) in English language in hard copy format & soft copy in pen drive.
7. After completion of installation work firm should give 05 days training to maintenance team about new PLC, drives, communication system, fault finding, loading the required parameters through service laptop
8. Since the existing machine on which the above system is required, has heavy production load, the firm will have to complete all the works, within minimum time to ensure minimum shut down period. The firm will have to specify the required time to complete the SITC job work in their offer.
9. The firm will have to give one-year warranty of the offered material and workmanship.

10. The firm will have to give on load and no-load trials for min. seven working days to ISP satisfaction to ensure optimum performance of the new system installed.
11. Before submitting the quote, the firm may visit ISP with prior intimation to see the exact application, requirement, to access the scope of work to avoid any ambiguity at later stage.
12. The firm will have to carry out the works on ISP's working Days from 8.00am to 5.00 PM however, ISP reserves the right to permit the works during silent hours/lunch hours or Sundays/Holidays.
13. As the machine is having heavy production load, therefore, ISP will provide 02 week shut down time for SITC job work. The firm will have to carry out the complete SITC job work with in 02 weeks.
14. The firm and their Team of manpower will have to submit the PVR copy for all representative to prepare the entry permission at ISP. The firm will have to follow all the fire, Safety and Security regulations of ISP's Safety Department and CISF.
15. PAYMENT: -Payment for the SITC work will be 100 % against completion of the work in all respect and after taking On Load trials of the machine for 07 working days.

EXCLUSION: ----------

1. ISP does not have copy of Software/programme of the controller however; the successful Bidder will be provided all the drawings/details which are available with ISP, along with PLS/PLC programme subject to clause of indemnity, as mentioned above.
2. All the tools, tackles, skilled and unskilled Engineers/technicians will have to be brought by the firm.
3. ISP will provide only free electricity.

E) Preferable Makes: -

1. For PLC – Siemens, Mitsubhishi, ABB only.
2. For Laptop – Lenovo, HP only
3. Communication protocol Ethercat- Beckhoff

B) Pre-Qualification Criteria:

(a) The bidders should give a declaration that they have not been blacklisted or debarred for dealing by Government of India or any Government / PSU/ Reputed organisation in the past.

(b) The documents in support of Expression of Interest need to be submitted duly signed by authorized representative of the company.

(c) The bidder shall be a manufacturer of items (such as CPU, PLC, HMI and IO Module) for at least last three years and supplied & commissioned the System with the same or higher specifications of at least one number in last three years ending on "31.03.2025". At least one number of the product offered for supply should be in successful operation for at least one year on the date of bid opening. The bidder should provide the documentary evidence for the same.

(d) The interested bidders shall also submit copies of Audited financial statement for the last Five (05) years i.e. 2020-2021, 2021-2022 and 2022-2023, 2023-2024, 2024-2025.

C) The bidder should also confirm specifically that:

(a) Applicant is competent and legally authorized to submit and/ or to enter into legally binding contract.

(b) The firm should confirm their annual installed capacity for SITC for Up-gradation of complete control system including CPU, PLC, HMI and IO Module**.**

(c) Applicant will absolve the purchaser against any infringement of patent rights and other contract provisions.

D) The duly filled details along with supporting documents and budgetary offer(s) with respect to SITC for Up-gradation of complete control system including CPU, PLC, HMI and IO Module with after sales services as & when required at India Security Press, Nashik.

The same may be submitted in person or through courier/ registered post/ speed post so as to reach the following address on or before the prescribed date and time as under:

The Chief General Manager,
India Security Press,
Nashik-422 101
Phone No 0253 2402219, 0253 2402435
Fax No 0253 2462718
Email: purchase.isp@spmcil.com

Last date and time for receipt of Expression of Interest: 12/06/2026 at 14:30 Hrs. (IST)

Date and time of opening of Expression of Interest at 15:00 Hrs. (IST) on 12/06/2026.

Place of opening of Expression of Interest

India Security Press,
Nashik Road 422 101
Maharashtra, India

E) Delay due to postal/Courier etc, will not be entertained. Expression of Interest received after the due date and time will be rejected.

ARINDAM BISWAS

Digitally signed by ARINDAM BISWAS
DN: c=IN, o=Personal, title=6250, 2.5.4.20=19028f07034f07f249370c266191285d80dc39591d5d5b0663f6dd7a94cea90e, postalCode=741238, st=West Bengal, serialNumber=0fe6cae7d5389e103aab4002b65cfbd48efcf980ba237ee3457b37766d298a51, cn=ARINDAM BISWAS
Date: 2026.05.11 11:43:29 +05'30'

Jt. General Manager (TO)/Purchase
For Chief General Manager
India Security Press,
Nashik Road-422101