

Advance Contract Award Notice (ACAN)

23-58261

High Precision Screen Printer ATMAOE MF44

1. Advance Contract Award Notice (ACAN)

An ACAN is a public notice indicating to the supplier community that a department or agency intends to award a contract for goods, services or construction to a pre-identified supplier, thereby allowing other suppliers to signal their interest in bidding, by submitting a statement of capabilities. If no supplier submits a statement of capabilities that meets the requirements set out in the ACAN, on or before the closing date stated in the ACAN, the contracting officer may then proceed with the award to the pre-identified supplier.

2. Definition of the requirement

The department of Security and Disruptive Technologies has a requirement for the supply of one (1) ATMAOE MF44 screen printer.

It will support the Materials Facility at the NRC's Security and Disruptive Technology (SDT) Research Center's research to aid our collaborator "e2ip" in scaling up the production of Molecular Ink (MINK) and to support the printing and processing requirements for In-mold electronics (IME) and fine-line printing.

The printer must be delivered and installed by the supplier to ensure that the printer is fully operational. The supplier must provide on-site training. Training will be conducted at the NRC site in Ottawa.

3. Criteria for assessment of the Statement of Capabilities (Minimum Essential Requirements)

Any interested supplier must demonstrate by way of a statement of capabilities that its product meets the following requirements:

- HPSP must be with dimensions not bigger than Width 2040 mm x Depth 1400 mm x Height 1860 mm and weight not higher than 800 kg, excluding optional parts.
- Printing area must be within the interval from 120 mm x 120 mm to 400 mm x 400 mm.
- Screen frame size must be within the interval from 700 mm x 650 mm to 850 mm x 750 mm

- HPSP must have hardened aluminum alloyed printing base with height above the floor not higher than 950 mm (+ 50 mm with wheels/supports) and vacuum table top with 1.00 mm vacuum holes located with a pitch of 14 × 14 mm and distributed in clusters of four holes surrounding a center hole to ensure maximum surface contact of substrate with print table throughout the printing cycle
- HPSP must be semi-automatic. System must have manual loading and off-loading and automated control of alignment and print parameters
- HPSP must include three sets of servo motors to control table positioning for X-Y- Θ
- HPSP must be equipped with two (2) high resolution CCD Cameras for optical positioning to alignment, supported by external light sources, and at least 15" color monitor for visualization and monitoring alignment process during printing. Total system accuracy must be ± 10 μm .
- HPSP must have servo driven squeegee and flood coater assembly accurate speed control during printing stroke and depth setting by mechanically adjusted micrometer.
- HPSP must have gear motor with digital control of screen up and down movement and be equipped with dial gage with precise and smooth micro adjustment for screen frame alignment.
- HPSP must include colored touch screen human-machine interface (HMI) for selecting print parameters, not smaller than 7", with automatic diagnostics, important printing parameters for repeat jobs and/or common applications. At least 100 recipes of digital settings containing all important print parameters must be stored, saved, and recalled from the touch screen for repeat jobs and/or common applications. Includes, but is not limited to, off-contact, off-contact delay, all peel-off functions, all print modes, preset number of prints, squeegee and flood coater stroke length, and speed to provide repeatability and efficiency while significantly reducing job set-ups and changeovers.
- HPSP must have the capability to accommodate the accessories, such as optional table vacuum detector, dripless squeegee, cleaning roller device, antistatic bar beside cleaning roller, antistatic bar beside squeegee, and added safety light barriers located at the front and side of the machine.
- HPSP must have servo-driven squeegee and flood coater for stable low to high-speed control, with linear guide rails and cog toothed belt for smooth, precise, vibration free printing, ensuring even and uniform ink deposit.
- HPSP must be equipped with servo driven peel-off synchronized throughout printing stroke, pneumatic screen clamping and position security. Equipped with an SEW gear motor with digital control of screen and down movement, and a

dial gage for screen frame with precise and smooth micro adjustment in the X/Y/Z dimensions.

- HPSP must have open access for accurate substrate registration, efficient off-loading, and easy screen cleaning. All setup controls must be within close reach of the operator.
- HPSP must have horizontal head lift to keep screen parallel with printing table for even ink flow.
- HPSP must have front frame loading for fast setup.
- HPSP cycle speed (throughput) at maximum size, full stroke, full speed must be 600 iph
- HPSP must be equipped E-stop button and other safety protection: error diagnosis, error indication, single touch to restore automatically, safety light barrier comprehensive safety protection.
- HPSP must be compatible for operation with standard Canadian voltages (220 V AC, 3-phase, 50-60 Hz, max 7.3 Amperes).
- HRSP must come with a software pre-installed that must allow for a complete workflow, including system control, data acquisition.
- The Contractor must provide one (1) screen printer inclusive of all parts, cables, accessories, components, documentation, and training.
- The Contractor must also provide at least one two-days on-site start-up, safety, & operations training to NRC staff at the installation location.

4. Applicability of the trade agreement(s) to the procurement

This procurement is subject to the following trade agreements:

- Canadian Free Trade Agreement (CFTA)
- Canada-Korea Free Trade Agreement (CKFTA)

5. Justification for the Pre-Identified Supplier

There are new projects that require use of the High Precision Screen Printer (HPSP) with charged-coupled device (CCD) camera, the fit of which onto HPSP is critical to enabling the advancement of several projects being carried out with NRC-Aerospace and Defence Research and Development Canada (DRDC) where complex, multilayer circuits have to be printed with precise overlap and placement of the inks and dielectrics and graphic inks in stacked prints. Other projects we are starting with DRDC require printing on new types of substrates, including textiles, and the ability to control the print speed and print off-set are important parameters to control in order successfully deposit inks on these substrates. In order to preserve data comparability, NRC is obligated to acquire an identical research system to repeat the scientific methods established during

commercial testing of Molecular Ink (MINK), preserve data comparability and provide analysis results to reach the same conclusions.

6. Government Contracts Regulations Exception(s)

The following exception to the *Government Contracts Regulations* is invoked for this procurement under subsection 6(d)"only one person is capable of performing the work".

7. Exclusions and/or Limited Tendering Reasons

The following exclusion(s) and/or limited tendering reasons are invoked under the:

Canadian Free Trade Agreement, Article 513.1: Limited Tendering

(b) if the goods or services can be supplied only by a particular supplier and no reasonable alternative or substitute goods or services exist for any of the following reason:

(iii): due to an absence of competition for technical reasons;

(v): to ensure compatibility with existing goods, or to maintain specialized goods that must be maintained by the manufacturer of those goods or its representative.

Canada–Korea Free Trade Agreement, which defers to WTO-AGP Article XIII, Limited Tendering

b) where the goods or services can be supplied only by a particular supplier and no reasonable alternative or substitute goods or services exist for any of the following reasons:

iii. due to an absence of competition for technical reasons.

8. Period of the proposed contract or delivery date

The ATMAOE MF44 must be delivered on or before September 3rd, 2024.

9. Cost estimate of the proposed contract

The estimated value of the contract is \$ 118,101.00 CAD.

10. Name and address of the pre-identified supplier

RH SOLUTIONS LLC
4295 Armstrong Blvd, Ste 1
Batavia, OH 45103,
USA

11. Suppliers' right to submit a statement of capabilities

Suppliers who consider themselves fully qualified and available to provide the goods, services or construction services described in the ACAN may submit a statement of capabilities in writing to the contact person identified in this notice on or before the closing date of this notice. The statement of capabilities must clearly demonstrate how the supplier meets the advertised requirements.

12. Closing date for a submission of a statement of capabilities

The closing date and time for accepting statements of capabilities is May 9th, 2024 at 2:00 p.m. (EST).

13. Inquiries and submission of statements of capabilities

Inquiries and statements of capabilities are to be directed to:

France Lemelin
Senior Contracting Officer
Finance and Procurement Services
National Research Council Canada
Telephone: (343) 550-6252
E-mail: France.Lemelin@nrc-cnrc.gc.ca