

Selective Laser Sintering (SLS) 3D Printer

Solicitation Number: W6399-27-SS20 | Reference Number: cb-536-67375359 | Status: 

OPEN

1. Basic Information

Reference Number	cb-536-67375359
Issuing Organization	Department of National Defence (DND)
Solicitation Type	RFP – Request for Proposal (Formal)
Solicitation Number	W6399-27-SS20
Title	Selective Laser Sintering (SLS) 3D Printer
Source ID	PWGSC

2. Agreement Types

- Canada-Chile Free Trade Agreement (CCFTA)
- Canada-Colombia Free Trade Agreement
- Canada-Honduras Free Trade Agreement

- Canada-Korea Free Trade Agreement
- Canada-Panama Free Trade Agreement
- Canadian Free Trade Agreement (CFTA)
- North American Free Trade Agreement (NAFTA)

This procurement is subject to the international and domestic trade agreements listed above, which are designed to ensure open, transparent, and fair competition among eligible suppliers from all signatory countries. Suppliers from signatory nations are encouraged to participate, provided they meet the mandatory requirements set out in the solicitation document.

3. Details

Location

Ontario, Canada

Dates

Publication Date: 2026-09-12

Closing Date: 2026-10-13, 1:00 PM EDT

Required Delivery Date: No later than March 31, 2027

The Selective Laser Sintering (SLS) 3D Printer must be delivered, installed, and fully operational at the designated Department of National Defence facility in Ontario, Canada, no later than March 31, 2027. Submissions received after the closing date and time of 1:00 PM EDT on October 13, 2026 will not be accepted or considered under any circumstances.

4. Contact Information

Contracting Authority: Mélanie Crocker

Email: melanie.crocker@forces.gc.ca

Organization: Department of National Defence (DND), Directorate of Procurement

All enquiries regarding this solicitation must be submitted in writing to the contracting authority at the contact details provided above, prior to the question submission deadline indicated in the solicitation document.

5. Description

Requirement Overview

The Department of National Defence (DND) has a requirement for the acquisition of one (1) Selective Laser Sintering (SLS) 3D Printer intended for high-performance advanced manufacturing applications. The system is required to support a broad range of activities including functional prototyping, tooling fabrication, and the direct production of end-use parts composed of thermoplastic polymer powders. The equipment will be deployed at a designated DND facility in Ontario and must meet all technical, safety, and operational specifications set out in the Request for Proposal (RFP) solicitation document W6399-27-SS20.

Technical Background on SLS Technology

Selective Laser Sintering (SLS) is a powder-bed fusion (PBF) additive manufacturing process in which a high-power laser selectively sinters successive layers of fine polymer powder — most commonly Nylon PA12, PA11, or Thermoplastic Polyurethane (TPU) — into fully dense, three-dimensional solid parts. Unlike many other additive manufacturing technologies, SLS does not require support structures during the build process, as unsintered powder surrounding the part provides inherent structural support throughout the build cycle. This capability enables the fabrication of highly complex internal geometries, undercuts, interlocking assemblies, and lightweight lattice structures that would be impractical or impossible with conventional subtractive manufacturing methods.

Industrial-grade SLS systems are widely recognized for delivering superior mechanical properties, including high tensile strength, impact resistance, and thermal stability, making them well-suited for functional end-use components in demanding operational environments. The process also generates minimal material waste, as unsintered powder can typically be recycled and reused across subsequent build cycles, contributing to efficient and cost-effective production. These characteristics make SLS

technology particularly appropriate for defence, aerospace, and engineering applications where part performance, geometric complexity, and material reliability are critical requirements.

Technical Specifications Required

The SLS 3D Printer supplied under this contract must meet or exceed the following minimum technical specifications. All equipment must fully comply with the detailed Technical Specifications set out within the RFP solicitation document W6399-27-SS20 and all associated annexes:

- **Build Volume:** Minimum 300 mm × 300 mm × 300 mm (length × width × height); larger build envelopes are acceptable and preferred.
- **Laser Type and Power:** CO₂ laser with a minimum output power of 30 W; higher wattage systems offering faster sintering speeds are acceptable.
- **Layer Thickness Resolution:** Adjustable layer thickness in the range of 0.06 mm to 0.15 mm to allow a balance between surface finish quality and build speed.
- **Compatible Materials:** The system must natively support Nylon PA12, Nylon PA11, glass-filled Nylon variants (e.g., PA12-GF), and Thermoplastic Polyurethane (TPU); compatibility with additional engineering-grade powders is advantageous.
- **Connectivity:** Ethernet/LAN network connectivity required; compatibility with standard facility IT infrastructure and secure network environments.
- **Safety Certifications:** Equipment must hold current CE marking and/or UL certification, or equivalent nationally recognized safety approvals acceptable to the Crown.
- **Software Compatibility:** Must be supplied with compatible build preparation software; interoperability with standard STL, 3MF, and STEP file formats is required.
- **Warranty and Support:** A minimum 12-month parts and labour warranty must be included, along with documented access to Canadian-based technical support and spare parts supply.

Procurement Process

This procurement process is conducted by the Department of National Defence under a formal Request for Proposal (RFP) and is intended to result in the acquisition of one (1) SLS 3D Printer. The Crown retains the right to negotiate with any supplier on any aspect of this procurement at any stage of the

evaluation process. Proposals and all related correspondence may be submitted in either official language of Canada — English or French — and will be treated equally in all respects.

Bidders are strongly encouraged to review all attachments, annexes, and supplementary documents included in solicitation W6399-27-SS20 in their entirety prior to preparing and submitting a proposal. Failure to adhere to the stated submission requirements, formats, or deadlines may result in the disqualification of the bid without further consideration.

Evaluation and Award

All proposals received by the closing date and time will be evaluated in accordance with the basis of selection and evaluation criteria specified in the solicitation document. Evaluation will be conducted in two stages: first, mandatory technical compliance will be assessed, and only those bids satisfying all mandatory requirements will advance to the second stage. The second stage will consist of a point-rated evaluation of technical merit criteria, followed by a price evaluation. The contract will be awarded to the highest-scoring responsive bidder whose proposal represents best overall value to the Crown, in strict accordance with the evaluation methodology and basis of selection outlined in solicitation W6399-27-SS20.

6. Disclaimer

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