


INVITATION TO BID		BID DUE DATE AND TIME	
BOARD OF SUPERVISORS OF LOUISIANA STATE UNIVERSITY AND AGRICULTURAL & MECHANICAL COLLEGE		06/25/2026 11:00 AM CT	
SOLICITATION RFQ-0000002838 SUPPLIER # SUPPLIER NAME AND ADDRESS <div data-bbox="180 394 792 604" style="border: 1px solid black; height: 100px; width: 100%;"></div>		RETURN BID TO lsubids@lsu.edu Buyer Amy Hill Bourgeois Buyer Phone Buyer Email ahill5@lsu.edu Issue Date 06/08/2026	
TITLE: Automated Multi-Degree of Freedom Hybrid Manufacturing System			
<p style="text-align: center;">To Be Completed By Supplier</p> <ol style="list-style-type: none"> _____ "No Bid" (sign and return this page only). _____ My Company does not wish to receive future solicitations for this spend category. Specify your Delivery: To be made within _____ days after receipt of order. If applicable, Supplier's Addendum Acknowledgement/Response: As an authorized agent/signatory of the supplier, I/we acknowledge receipt of this Addendum, and _____ submit no alterations/clarifications to our original bid. _____ submit superseding revisions/clarifications to our original bid as written herein or attached hereto. <p style="text-align: center;">General Instructions to Suppliers</p> <ol style="list-style-type: none"> Sealed bids for furnishing the items and/or services specified are hereby solicited, and will be received by LSU Procurement at the "Return Bid To" address stated above, until the specified due date and time. Read the entire solicitation, including all terms, conditions and specifications. All bid information and prices must be typed or written in ink. Any corrections, erasures or other forms of alteration to unit price are to be initialed by the supplier. Bid prices are to be quoted FOB LSU/Destination and inclusive of any and all applicable shipping and handling charges unless otherwise specified in the solicitation. Any invoiced delivery charges not quoted and itemized on the LSU purchase order are subject to rejection and non-payment. Payment is to be made within 30 days after receipt of properly executed invoice, or delivery and acceptance, whichever is later. By signing this solicitation, the supplier certifies compliance with all general instructions to suppliers, terms, conditions and specifications; and further certifies that this bid is made without collusion or fraud. 			
SUPPLIER NAME		MAILING ADDRESS	
AUTHORIZED SIGNATURE		CITY, STATE ZIP	
PRINTED NAME		PHONE #	
TITLE		FAX #	
E-MAIL		FEDERAL TAX ID #	

SOLICITATION RFQ-000002838

DUE DATE 06/25/2026

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Bid Submission Information

All bids must be submitted electronically to LSU Procurement Services. Bids must be received at the "Return Bid To" email address no later than the due date and time specified herein. Bids must be emailed to lsubids@lsu.edu (This email address should be used for bid submissions only). Any bids sent directly to the Buyer of record will not be forwarded to the "Return Bid To" email.

When submitting electronically, the RFQ number and solicitation title should be listed in the subject line of the email. An original and redacted copy (if applicable) must be submitted electronically. Hard copies of bids will not be accepted; therefore, they will not be evaluated.

It is the responsibility of the Supplier to ensure the bid is received by LSU Procurement by the indicated due date and time. Any delays that may occur in transmission of the bid is the responsibility of the supplier. A bid will be considered late if it is not received at the "Return Bid To" email address by the indicated due date and time.

The maximum email attachment size accepted is 125 MB. It is the supplier's responsibility to ensure bid submission is sized such that it is successfully transmitted and received by LSU. If the bid response is too large to be emailed as one document, the bid must be sent as separate documents. Each submittal should be labeled. (Example – Bid Submittal 1 out of 3 for RFQ-00000XXXX - Title; Bid Submittal 2 out of 3 for RFQ-00000XXXX - Title, etc.). If any submittal is received late, LSU will not consider the late submittal(s). Only the submittal(s) received by the due date and time will be considered. Late bids will not be accepted per LAC 34:XIII.515.B.

Bid Opening Information

Bid openings are held electronically. There are no in-person bid openings. To electronically attend the bid opening, use the below link to register in advance:

<https://lsu.zoom.us/meeting/register/QLfFfBZmRqio9DF9ESf0QA>

After registering, a confirmation email will be provided containing information about joining the bid opening. No information or opinions concerning the ultimate contract award will be given at bid opening or during the evaluation process.

If an unforeseen circumstance beyond LSU's control prevents bid opening, the Bid will open at the next scheduled bid opening date.

Additional Information

ALL-OR-NONE-AWARD: It is the intent of the University to award all items on an all-or-none basis to the overall lowest responsive and responsible bidder.

Bid prices for shipping are to be quoted FOB LSU/DESTINATION and inclusive of any and all applicable shipping and handling charges.

LSU is a member of the National Association of Educational Procurement (NAEP) and the E&I Cooperative Purchasing Service.

See attached university insurance requirements. Successful bidder will be required to furnish a certificate of insurance evidencing required coverages naming the Board of Supervisors of Louisiana State University and Agricultural and Mechanical College as certificate holder and additional insured on general liability.

SOLICITATION RFQ-000002838

DUE DATE 06/25/2026

DUE TIME 11:00:00 AM

These standard terms and conditions shall apply to all LSU solicitations, unless otherwise specifically amended and provided for in the special terms and conditions, specifications, or other solicitation documents. In the event of conflict between the General Instructions to Suppliers or Standard Terms & Conditions and the Special Terms & Conditions, the Special Terms & Conditions shall govern.

Bids submitted are subject to provisions of the laws of the State of Louisiana, including but not limited to: the University Procurement Code (LAC 34:XIII. Chapters 3-25) and the terms, conditions, and specifications stated in this solicitation.

1. Supplier Enrollment

Suppliers providing a bid/quote in response to a LSU solicitation must be setup in the University's new procurement system (Workday) for bid tabbing and award of a purchase order. Suppliers should complete the online supplier registration form prior to submitting a bid response and/or the bid due date and time to ensure bid tabbing can be done timely after the bid deadline. This website is used in place of a paper form and must be accompanied with an IRS Request for Taxpayer Identification Number and Certification form (W-9 or W-8 if foreign) to collect the required business and tax information that support the University's reporting and compliance requirements. To inquire if you or your company is setup or for questions regarding setup, email suppliers@lsu.edu. The supplier enrollment form can be located at: http://www.lsu.edu/administration/ofa/procurement/supplier_registration.php

2. Bid Delivery and Receipt

Bids must be received and time-stamped at the "Return Bid To" address no later than the due date and time specified herein. To assure consideration, your bid must be submitted in a sealed envelope or package and should be clearly and prominently marked with the solicitation number and bid due date, or may be submitted in the special bid return envelope if one was furnished for that purpose.

Supplier are advised that the U.S. Postal Service does not make deliveries to our physical location. USPS mail is delivered to the University's mail center and is redelivered using internal resources. Suppliers may deliver bids by hand or by a courier service to the Procurement Office. The University shall not be responsible for any delays caused by the supplier's chosen means of bid delivery. Supplier is solely responsible for the timely delivery of its bid, and failure to meet the bid due date and time shall result in rejection of the bid. Late bids cannot be accepted per LAC 34:XIII.515.B.

3. Bid Forms

Bids are to be submitted on the LSU solicitation forms provided, and must be signed by an authorized agent of the supplier in accordance with LAC 34:XIII.517. Bids submitted on other forms or in other price formats may be considered informal and may be rejected in part or in its entirety. Bids submitted in pencil and/or bids containing no original signature indicating the supplier's intent to be bound will not be accepted. Bid submissions should not be spiral bound.

4. Interpretation of Solicitation/Supplier Inquiries

If supplier is in doubt as to the meaning of any part or requirement of this solicitation, supplier may submit a written request for interpretation to the Buyer-of-Record at the address and/or fax number shown above. Written inquiries must be received in the Procurement Office no later than 4:30 pm CST four (4) business days prior to the opening of bids, and shall be clearly crossreferenced to the relevant solicitation/specification in question.

No decisions or actions shall be executed by any supplier as a result of oral discussions with any LSU employee or consultant. Any interpretation of the documents will be made by formal addendum only, issued by the Procurement Office, and mailed or delivered to all suppliers known to have received the solicitation. LSU shall not be responsible for any other interpretations or assumptions made by supplier.

5. Bid Addenda

Bid Addendum is to be signed and returned with your bid. If you have already submitted your bid, and this Addendum creates a need to revise/clarify your original response in any way, you are required to submit such in writing. To be considered, your addendum response must be submitted to and received by LSU Procurement at the "Return Bid To" address stated above. Submittals for price alterations and addenda to bids must be clearly marked with the solicitation number and the bid due date/time and returned via fax, email, courier service, hand delivery, or USPS mail. Bid revisions received after bid opening cannot be considered, whereupon the supplier must either honor or withdraw its original bid.

6. Bid Opening

Suppliers may attend the public bid opening of sealed bids. No information or opinions concerning the ultimate contract award will be given at bid opening or during the evaluation process. Written bid tabulations will not be furnished.

7. Special Accommodations

Any "qualified individual with a disability" as defined by the Americans with Disabilities Act, who has submitted a bid and desires to attend the public bid opening, must notify the Procurement Office in writing not later than seven days prior to the bid opening date of their need for special accommodations. If the request cannot be reasonably provided, the individual will be informed prior to the bid opening.

SOLICITATION RFQ-000002838

DUE DATE 06/25/2026

DUE TIME 11:00:00 AM

8. Standards of Quality

Any product or service bid shall conform to all applicable federal, state and local laws and regulations, and the specifications contained in the solicitation. Any manufacturer's name, trade name, brand name, or catalog number used in the specification is for the purpose of describing the standard of quality, performance, and characteristics desired; and is not intended to limit or restrict competition. Supplier must specify the brand and model number of the product offered in his bid. Bids not specifying brand and model number shall be considered as offering the exact product specified in the solicitation.

9. New Products/Warranty/Patents

All products bid for purchase must be new, never previously used, of the manufacturer's current model and/or packaging, and of best quality as measured by acceptable trade standards. No remanufactured, demonstrator, used or irregular products will be considered for purchase unless otherwise specified.

The manufacturer's standard published warranty and provisions shall apply, unless more stringent warranties are otherwise required by LSU and specified in the solicitation. In such cases, the supplier and/or manufacturer shall honor the specified warranty requirements, and bid prices shall include any premium costs of such coverage.

Supplier guarantees that the products proposed and furnished will not infringe upon any valid patent or trademark; and shall, at its own expense, defend any and all actions or suits charging such infringement, and shall save LSU harmless.

10. Descriptive Information

Suppliers proposing an equivalent brand or model are to submit with the bid descriptive information (such as literature, technical data, illustrations, etc) sufficient for LSU to evaluate quality, suitability, and compliance with the specifications. Failure to submit descriptive information may cause bid to be rejected. Any changes made by supplier to a manufacturer's published specifications shall be verifiable by the manufacturer. If items bid do not fully comply with specifications, supplier must state in what respect items deviate. Supplier's failure to note exceptions in its bid will not relieve the supplier from supplying the actual products requested.

11. Bids/Prices/F.O.B. Point

- The bid price for each item is to be quoted on a "net" basis and F.O.B. LSU Destination, i.e. title passing upon receipt and inclusive of all delivery charges, any item discounts, etc.
- Bids other than F.O.B. LSU Destination may be rejected.
- Bids indicating estimated freight charges may be rejected.
- Bids requiring deposits, payment in advance, or C.O.D. terms may be rejected.
- Suppliers who do not quote "net" item prices and who separately quote an overall "lump sum" freight cost or discount for all items shall be considered as submitting an "all-or-none" bid for evaluation and award purposes; and risk rejection if award is made on an item or grouped basis.
- Prices shall be firm for acceptance for a minimum of 30 days, unless otherwise specified. Bids conditioned with shorter acceptance periods may be rejected.
- Prices are to be quoted in the unit/package specified (e.g. each, 12/box, etc), or may be rejected.
- In the event of extension errors, the unit price bid shall prevail.

12. Taxes

Supplier is responsible for including all applicable taxes in the bid price. LSU is exempt from all Louisiana state and local sales and use taxes. By accepting an award, resident and non-resident firms acknowledge their responsibility for the payment of all taxes duly assessed by the State of Louisiana and its political subdivisions for which they are liable, including but not limited to: franchise taxes, privilege taxes, sales taxes, use taxes, ad valorem taxes, etc.

13. Terms and Conditions

This solicitation contains all terms and conditions with respect to the purchase of the goods and/or services specified herein. Submittal of any contrary terms and conditions may cause your bid to be rejected. By signing and submitting a bid, supplier agrees that contrary terms and conditions which may be included in its bid are nullified.

14. Supplier Forms/LSU Signature Authority

The terms and conditions of the LSU solicitation and purchase order/contract shall solely govern the purchase agreement, and shall not be amended by any supplier contract, form, etc.

The University's chief procurement officer, or authorized designee, is delegated sole authority to execute/sign any supplier contracts, forms, etc, on behalf of LSU. Departments are expressly prohibited from signing any supplier forms. Any such supplier contracts/forms bearing unauthorized signatures shall be null and void, shall have no legal force, and shall not be recognized by LSU in any dispute arising therefrom. Suppliers who present any such forms to department users for signature without regard to this strict LSU policy may face contract cancellation, suspension, and/or debarment.

15. Awards

Award will be made to the lowest responsible and responsive supplier. LSU reserves the right: (1) to award items separately, grouped, or on an all-or-none basis, as deemed in its best interest; (2) to reject any or all bids and/or items; and (3) to waive any informalities.

All solicitation specifications, terms and conditions shall be made part of any subsequent award as if fully reproduced and included therein, unless specifically amended in the formal contract.

SOLICITATION RFQ-000002838

DUE DATE 06/25/2026

DUE TIME 11:00:00 AM

16. Acceptance of Bid

Only the issuance of an official LSU purchase order/contract, a Notification of Award letter, or a Notification of Intent to Award letter shall constitute the University's acceptance of a bid. LSU shall not be responsible in any way to a supplier for goods delivered or services rendered without an official purchase order/contract or award letter. Bid tabulations may be requested after acceptance of bid.

17. Applicable Law

All contracts shall be construed in accordance with and governed by the laws of the State of Louisiana.

18. Awarded Products/Unauthorized Substitutions

Only those awarded brands and numbers stated in the LSU contract are approved for delivery, acceptance, and payment purposes. Any substitutions require prior approval of the Procurement Office. Unauthorized product substitutions are subject to rejection at time of delivery, post-return at supplier's expense, and non-payment.

19. Testing/Rejected Goods

Supplier warrants that the products furnished will be in full conformity with the specification, drawing or sample, and agrees that this warranty shall survive delivery, acceptance, and use. Any defect in any product may cause its rejection. LSU reserves the right to test products for conformance to specifications both prior to and after any award. Supplier shall bear the cost of testing if product is found to be non-compliant. All rejected goods will be held at supplier's risk and expense, and subject to supplier's prompt disposition. Unless otherwise arranged, rejected goods will be returned to the supplier freight collect.

20. Delivery

Supplier is responsible for making timely delivery in accordance with its quoted delivery terms. Supplier shall promptly notify the LSU Department and/or Procurement Office of any unforeseen delays beyond its control. In such cases, LSU reserves the right to cancel the order and to make alternative arrangements to meet its needs.

21. Default of Supplier

Failure to deliver within the time specified in the bid/award will constitute a default and may be cause for contract cancellation. Where the University has determined the supplier to be in default, LSU reserves the right to purchase any or all goods or services covered by the contract on the open market and to surcharge the supplier with costs in excess of the contract price. Until such assessed surcharges have been paid, no subsequent bids from the defaulting supplier will be considered for award.

22. Supplier Invoices

Invoices shall reference the LSU purchase order number, supplier's packing list/delivery ticket number, shipping/delivery date, etc. Invoices are to be itemized and billed in accordance with the order, and submitted on the supplier's own invoice form. Invoices submitted by the supplier's third party supplier are not acceptable.

23. Delinquent Payment Penalties

Delinquent payment penalties are mandated and governed by Louisiana R.S. 39:1695. Supplier penalties to the contrary shall be null and void, shall have no legal force, and shall not be recognized by LSU in any dispute arising therefrom.

24. Assignment of Contract/Contract Proceeds

Supplier shall not assign, sublet or transfer its contractual responsibilities, or payment proceeds thereof, to another party without the prior written consent and approval of the Procurement Office. Unauthorized assignments of contract or assignments of contract proceeds shall be null and void, shall have no legal force, and shall not be recognized by LSU in any dispute arising therefrom.

25. Right to Piggyback

Where this solicitation may name one department as the primary contract user, LSU reserves the right to authorize additional departments/campuses to use the contract as their needs arise; and Vendor shall honor all such purchase orders.

26. Contract Cancellation

LSU has the right to cancel any contract for cause, in accordance with procurement rules and regulations, including but not limited to: (1) failure to deliver within the time specified in the contract; (2) failure of the product or service to meet specifications, conform to sample quality or to be delivered in good condition; (3) misrepresentation by the supplier; (4) fraud, collusion, conspiracy or other unlawful means of obtaining any contract with the University; (5) conflict of contract provisions with constitutional or statutory provisions of state or federal law; (6) any other breach of contract. LSU has the right to cancel any contract for convenience at any time by giving thirty (30) days written notice to the supplier. In such cases, the supplier shall be entitled to payment for compliant deliverables in progress.

27. Prohibited Contractual Arrangements

Per Louisiana R.S. 42:1113.A, no public servant, or member of such a public servant's immediate family, or legal entity in which he has a controlling interest shall bid on or enter into any contract, subcontract, or other transaction that is under the supervision or jurisdiction of the agency of such public servant. See statute for complete law, exclusions, and provisions.

SOLICITATION RFQ-000002838

DUE DATE 06/25/2026

DUE TIME 11:00:00 AM

28. Equal Employment Opportunity Compliance

By submitting and signing this bid, supplier agrees to abide by the requirements of the following as applicable: Title VI and VII of the Civil Rights Act of 1964, as amended by the Equal Opportunity Act of 1972; federal Executive Order 11246; federal Rehabilitation Act of 1973, as amended; the Vietnam Era Veteran's Readjustment Assistance Act of 1974; Title IX of the Education Amendments of 1972; the Age Act of 1975; the Americans with Disabilities Act of 1990. Supplier agrees not to discriminate in its employment practices, and will render services under any contract entered into as a result of this solicitation without regard to race, color, religion, sex, age, national origin, veteran status, political affiliation, handicap, disability, or other non-merit factor. Any act of discrimination committed by supplier, or failure to comply with these statutory obligations when applicable, shall be grounds for termination of any contract entered into as a result of this solicitation.

29. Mutual Indemnification

Each party hereto agrees to indemnify, defend, and hold the other, its officers, directors, agents and employees harmless from and against any and all losses, liabilities, and claims, including reasonable attorney's fees arising out of or resulting from the willful act, fault, omission, or negligence of the indemnifying party or of its employees, contractors, or agents in performing its obligations under this agreement, provided however, that neither party hereto shall be liable to the other for any consequential damages arising out of its willful act, fault, omission, or negligence.

30. Certification of No Suspension or Debarment

By signing and submitting this bid, supplier certifies that its company, any subcontractors, or principals thereof, are not suspended or debarred under federal or state laws or regulations. A list of parties who have been suspended or debarred by federal agencies is maintained by the General Services Administration and can be viewed on the internet at www.sam.gov.

31. Right to Audit

The University shall be entitled to audit the books and records of a supplier or any subcontractor under any negotiated contract or subcontract to the extent that such books and records relate to the performance of such contract or subcontract. Such books and records shall be maintained by the supplier for a period of five (5) years from the date of final payment under the prime contract and by the subcontractor for a period of five (5) years from the date of final payment under the subcontract, pursuant to LAC 34:XIII.1603.

32. Data Privacy

By signing and submitting this bid, I hereby authorize that all information provided in this solicitation, including any and all personal or company data may be shared with LSU departments, suppliers and other governmental agencies to facilitate procurement transactions. This data will be retained according to LSU's retention schedule. To learn more about privacy at LSU, please see the [LSU Privacy Statement](#).

PRICE SHEET		INVITATION TO BID			Page 7	
SOLICITATION RFQ-0000002838		DUE DATE 06/25/2026		DUE TIME 11:00:00 AM		
ITEM NO.	ITEM DESCRIPTION	QUANTITY	UOM	UNIT PRICE	EXTENDED AMOUNT	
UNLESS SPECIFIED ELSEWHERE, SHIP ALL ITEMS TO: LSU 3261 Patrick F. Taylor Hall Baton Rouge, LA 70803						
1	All or None Automated Multi-Degree of Freedom Hybrid Manufacturing System per attached specifications. Specify Manufacturer / Brand Bid: _____ Specify Model / Number Bid: _____	1	Each	\$ _____	\$ _____	

Automated Multi-Degree of Freedom Hybrid Manufacturing System

We are calling for bids to procure an Integrated Subtractive and Additive Hybrid Manufacturing System (HMS) combining a 5-axes CNC Mill/Machining Center sub-system (CNC-M/MCSS) and a coaxial laser-wire(metal/alloy) Direct Energy Deposition (DED) additive manufacturing sub-system (AMSS).

Each of the two independent sub-systems (the AMSS and the CNC-M/MCSS) must be commercially available. The AMSS and the CNC-M/MCSS shall not be altered, modified or changed from their original manufactured state **except** for the purpose of integration into the single HMS requested.

The HMS must be fully integrated so that it can be programmed to seamlessly manufacture metal parts using the stated combination of subtractive and additive manufacturing technologies. The building of the part must be controlled and executed through a program (code) with continuous transitions between subtractive and additive modes of operation. The Computer Aided Manufacturing software platform used must be MASTERCAM.

The bidder shall provide evidence of their prior track record and experience in successfully integrating, producing and delivering hybrid manufacturing systems incorporating integrated subtractive and additive technologies and sub-systems as described above and according to the specifications for each such sub-system provided below.

The bidder shall provide at least two examples of HMS systems described in these specifications realized and delivered to customers within the past 3 years by the bidder. The information must include a description of the systems along with customer reference information including company names, addresses, contact names, contact tel. numbers, contact e-mail addresses.

The bidder shall also provide documentation from the manufacturers of the CNC-M/MCSS and AMSS they propose for the integrated HMS proving that the bidder is a certified integrator for both of these CNC-M/MCSS and AMSS. This documentation can be in the form of an official letter of certification or a certificate provided by the CNC-M/MCSS and AMSS manufacturers. The bidder shall provide on-site training on the use of the HMS system to designated personnel of the Advanced Manufacturing and Machining Facility of the Mechanical and Industrial Engineering Department at LSU. The cost and details of the training, including the number of training sessions and the duration, must be included in the bid submitted.

The bidder shall provide wire spools of 1-mm diameter wire, each weighing 15 kg (33 lb) or more, that are guaranteed to be compatible with the AMSS of the HMS for the following materials: Stainless Steel 316L, Stainless Steel 308L, Stainless Steel 17-4PH, Tool Steel

H11, Mild Steel ER70S , Nickel 718, Nickel 625, Invar, and Titanium 64. The cost of these wire spools must be included in the bid submitted.

The HMS must have at least a 1-Year comprehensive (parts and labor) warranty on the entire integrated machine, including the control units.

Additive Manufacturing Sub-System (AMSS)

The AMSS system must be one where the print head incorporates multiple laser beams that provide the energy input for the direct energy deposition of the metal material with a coaxial wire feedstock feed directed through the point where the laser beams are focused. Systems where the laser beam(s) are not arranged coaxially with the wire feedstock feed, i.e. not axisymmetrically arranged around the wire feed, are not acceptable.

Specifications in Detail

The AMSS Laser System providing the energy for the deposition of the metal must have 9 or more direct diode lasers at 450 nm wavelength.

The AMSS Laser System providing the energy for the deposition of the metal must have a power of 1.0/1.4 kW.

The AMSS printhead must not weigh more than 35 kg.

The wire feeder system of the AMSS must have quad-point traction servo feeders and frictionless liners for smooth wire feeding.

The AMSS power input must be 200/240 V in 3W+PE wiring configuration or 380/415 V in 3W+N+PE wiring configuration.

The AMSS process control must include a melt pool camera & closed-loop wire modulation.

The AMSS process control must include an integrated thermal sensor designed for real time monitoring of the temperature of a part during printing.

The AMSS human-machine interface must be a tactile screen.

The AMSS must handle wire feedstock diameters in the range of 0.8-1.2 mm at least, with BS300 External wire drum spool(s).

The AMSS metal deposition head (Printhead) must be water-cooled with the chiller included.

The AMSS baseline configuration must be for a double wire (i.e. use of two different wire materials interchangeably).

The AMSS must print at least Stainless Steels, Carbon Steels, Tool Steels, Nickel Alloys, Titanium, Copper Alloys, Gold alloys.

The print envelope size (Width, Depth and Height combination) must be fully compatible with the CNC Mill/Machining Center sub-system.

The bidder must include in the bid submittal the full technical manufacturer specifications of the proposed AMSS. **This information must be submitted with the bid.**

The AMSS must have at least a 1-Year comprehensive (parts and labor) warranty on the entire machine, including the control unit.

CNC Mill/Machining Center Sub-System (CNC-M/MCSS)

Specifications in Detail

The CNC-M/MCSS must be a 5-Axis CNC Vertical Mill (or Machining Center) with 40" x 24" x 24" (1016 x 610 x 610mm) travels or more.

The CNC-M/MCSS must have at least a 12,000-rpm Spindle, with 40 taper, and 30 hp (22.4 kW) vector drive, inline direct-drive.

The CNC-M/MCSS must have at least 1 GB of onboard memory for program storage and backup.

The CNC-M/MCSS must have at least a 55-Gallon (at least) coolant tank and pump system designed to prevent chips from reaching the coolant pump. Pump must be capable to sustain 16 gpm coolant flowrate at 70 psi at 60Hz with quiet operation.

The CNC-M/MCSS must have a tool management function that allows the user to create groups of redundant tools for use within a program.

The CNC-M/MCSS must have internally powered cooling of CNC control cabinet.

The CNC-M/MCSS must have software features to simplify job setup for 4- and 5-axis machining such as dynamic work offsets and tool center point control including a rotary axis calibration tool.

The CNC-M/MCSS must have sensing of power failure or severe drop in incoming line voltage with action to bring all axis motion to a safe and controlled stop quickly.

The CNC-M/MCSS must have an ethernet Interface to allow easy transfer of files to and from the machine over a local wired network.

The CNC-M/MCSS must provide remote monitoring of the machine function/operation via internet connection.

The CNC-M/MCSS must have wireless capability to transfer files from mobile devices (Android and iOS) directly to the CNC machine control unit.

The CNC-M/MCSS must allow for a fast user-defined Home positioning of the machine's axes.

The CNC-M/MCSS must have capability to call up media files (images, videos, PDF files) from memory and display them on the control screen as a program runs.

The CNC-M/MCSS must be equipped with remote handling hardware and an extra-large touchscreen display enabling the operator to get close to the machine's work area while still having control of the machine.

The CNC-M/MCSS must have precision scale feedback on the rotary axes.

The CNC-M/MCSS must allow for synchronized tapping, with built-in tap cycles and up to 8X retract speed.

The CNC-M/MCSS must have control features that prevent significant machine damage during a machine crash.

The CNC-M/MCSS must include high-speed side-mount tool changers, (a) 40 taper, 30+1 tools, and (b) HSK taper, 30+1 tools

The CNC-M/MCSS must have power surge protection.

The CNC-M/MCSS must have a top cover to prevent chip and coolant escaping the build enclosure from the top of the machine during machining with a built-in provision that allows installation of an optional enclosure exhaust or mist extraction system to remove mist and smoke from the enclosure.

The CNC-M/MCSS must have a control touch screen interface for the machine controller allowing screen navigation, data entry, and other control functions on-screen, without using a keypad.

The CNC-M/MCSS must have wireless connectivity between the machine control unit and a local area network.

The CNC-M/MCSS must have CT-Style tool changer grippers

The CNC-M/MCSS must have the functionality of providing high-pressure (300 psi) coolant to be dispensed directly through the cutting tool.

The CNC-M/MCSS must have a system for quick, high-volume chip removal with a chip discharge at standard 55-gallon barrel height.

The CNC-M/MCSS must have a fully enclosed WiFi Camera mounted inside the machine enclosure for remote viewing of machining operations via WiFi.

The CNC-M/MCSS must have 8 spare M functions; providing 8 additional M-code relays for activating other devices.

The CNC-M/MCSS must have M-code/MFIN Cable; providing M-code/MFIN capability for controlling external devices.

The CNC-M/MCSS must have an internal low-voltage transformer for 195-260V operation.

The CNC-M/MCSS must be air vise ready.

The CNC-M/MCSS must have a supplemental chip strainer with a 200-micron filter and metal chip tray basket.

The CNC-M/MCSS must have a work-table LED light, with magnetic mount to amply illuminate the worktable.

The bidder must include in the bid submittal the full technical manufacturer specifications of the proposed CNC-M/MCSS. **This information must be submitted with the bid.**

The CNC-M/MCSS must have at least a 1-Year comprehensive (parts and labor) warranty on the entire machine, including the control unit.



Insurance Minimum Limits and Requirements for Standard Contractor/Vendor Agreements

INSURANCE

The Board of Supervisors of Louisiana State University and Agricultural and Mechanical College (henceforth referred to as "University") requires contractors/vendors to procure the below minimum limits. The insurance must be maintained for the duration of work performed for or on behalf of the University, and for the length of any agreement with the University. Failure to maintain the required insurance throughout the term of the Agreement shall be a material breach, and shall entitle University to all remedies provided for in the Agreement, or by operation of law. The minimum insurance requirements described herein do not in any way limit the contractor/vendors' financial responsibilities as outlined in the agreement's Indemnification requirements. Therefore, the contractor/vendor may opt to have broader coverage and limits to satisfy its financial obligations.

Workers' Compensation

Workers' Compensation insurance shall be in compliance with the laws of the state in which the company is domiciled. Employer's Liability shall be included with a minimum limit of \$1,000,000 per accident/per disease/per employee. If Contractor/vendor is exempt from workers' compensation or fails to provide appropriate coverage, then the Contractor/vendor is or agrees to be solely responsible and hold harmless the University for the injuries of any owners, agents, volunteers, or employees during the course of the agreement.

Commercial General Liability (CGL)

Commercial General Liability insurance shall be maintained on an "occurrence" basis, including property damage, bodily injury, products & completed operations, and personal & advertising injury with limits not less than \$1,000,000 per occurrence and \$2,000,000 aggregate on Insurance Services Office Form CG 00 01, ISO 2007 edition or equivalent.

Automobile Liability

Automobile Liability Insurance shall have a minimum combined single limit per accident of \$1,000,000 on ISO form number CA 00 01 or equivalent. This insurance shall include third-party bodily injury and property damage liability for owned, hired and non-owned vehicles.

Excess Insurance

Umbrella or Excess insurance may be used to meet the minimum limit requirements for liability insurance.

Other Insurance Requirements

Additional Insured Status

The University is to be listed as an Additional Insured on the Commercial General Liability (must use an endorsement at least as broad as ISO Form CG 20 10 11 85 or both CG 20 10 and CG 20 37 forms with edition date 2004 if later revisions used). See *Verification of Coverage* section on how the University should be listed as an Additional Insured.

Waiver of Subrogation/Recovery

All insurances shall include a waiver of subrogation/recovery in favor of the University.

Primary Coverage and Limits of Insurance

For any claims related to work performed for or on behalf of the University or related to an agreement/purchase order, the contractor/vendor's insurance coverage shall be primary insurance as respects to the University. Any applicable insurance or self-insurance maintained by the University shall be excess of the Contractor/vendor's insurance and shall not contribute with it.

Subcontractors

Subcontractors of the Contractor/vendor shall be subject to all of the requirements stated herein. Contractor/vendor shall include all subcontractors as insureds under its policies or shall be responsible for verifying insurance coverages and limits and maintaining Certificates of Insurance for each subcontractor. The University reserves the right to receive from the Contractor/vendor copies of subcontractors' certificates.

Deductibles and Self-Insured Retentions

Any deductibles or self-insured retentions above \$25,000 must be approved by the University or reduced prior to the commencement of work. The University may require the Contractor/vendor to provide proof of ability to pay losses and related investigations, claim administration, and defense expenses within the retention.

Acceptability of Insurers

Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A- VII, unless otherwise approved by the University.

Verification of Coverage

The University shall be listed as Additional Insured and Certificate Holder as follows:

**The Board of Supervisors of Louisiana State University and Agricultural & Mechanical College
213 Thomas Boyd Hall
Baton Rouge, LA 70803**

Certificates of Insurance shall be furnished to the University evidencing the insurance required herein including amendatory endorsements. The University's failure to obtain the required documents prior to the work beginning or acceptance of a non-compliant certificate shall not waive the Contractor/vendor's obligation to have in place the required insurances or to provide the certificate. The University reserves the right to require certified copies of all the insurance policies, including endorsements.

Special Risks or Circumstances

LSU reserves the right to consider alternate coverage or limits and to modify these requirements, based on the nature of the risk, prior experience, insurer, coverage, or other special circumstances.



Insurance Minimum Limits and Requirements for Standard Supplier Agreements (no services to be performed)

The Board of Supervisors of Louisiana State University and Agricultural and Mechanical College (henceforth referred to as "University") requires contractors/vendors to procure the below insurance. The insurance must be maintained for the duration of work performed for or on behalf of the University, and for the length of any agreement with the University. Failure to maintain the required insurance throughout the term of the Agreement shall be a material breach, and shall entitle University to all remedies provided for in the Agreement, or by operation of law. The minimum insurance requirements described herein do not in any way limit the contractor/vendors' financial responsibilities as outlined in the agreement's Indemnification requirements; therefore, the contractor/vendor may opt to have broader coverage and limits to satisfy its financial obligations.

Workers' Compensation

Workers' Compensation insurance shall be in compliance with the laws of the state in which the company is domiciled. Employer's Liability shall be included with a minimum limit of \$1,000,000 per accident/per disease/per employee. If Supplier is exempt from workers' compensation then the Supplier is or agrees to be solely responsible and hold harmless the University for the injuries of any owners, agents, volunteers, or employees during the course of the agreement.

Commercial General Liability (CGL)

Commercial General Liability insurance shall be maintained on an "occurrence" basis, including property damage, bodily injury, products & completed operations, and personal & advertising injury with limits not less than \$1,000,000 per occurrence and \$2,000,000 aggregate on Insurance Services Office Form CG 00 01, ISO 2007 edition or equivalent.

Automobile Liability

Automobile Liability Insurance shall have a minimum combined single limit per accident of \$1,000,000. This insurance shall include third-party bodily injury and property damage liability for owned, hired and non-owned vehicles.

Excess Insurance

Umbrella or Excess insurance may be used to meet the minimum limit requirements for liability insurance.

Other Insurance Requirements

Additional Insured Status

The University is to be listed as an Additional Insured on the Commercial General Liability policy.

Primary Coverage

For any claims related to an agreement/purchase order, the suppliers' insurance coverage shall be primary insurance as respects to the University. Any applicable insurance or self-insurance maintained by the University shall be excess of the supplier's insurance and shall not contribute with it.

Acceptability of Insurers

Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A- VII, unless otherwise approved by the University.

Special Risks or Circumstances

LSU reserves the right to consider alternate coverage or limits and to modify these requirements, based on the nature of the risk, prior experience, insurer, coverage, or other special circumstances.