Republic of the Philippines
NUEVA ECIJA UNIVERSITY OF SCIENCE AND TECHNOLOGY
Cabanatuan City
044-463-0226
www.neust.edu.ph

INVITATION TO BID

The Nueva Ecija University of Science and Technology through its Bids and Awards Committee (BAC), invites entities to bid for the hereunder projects:

Name of Project: **REPLACEMENT OF INDUSTRIAL AUTOMATION AND MECHATRONICS COMPONENT**
Location: College of Industrial Technology – NEUST, Cabanatuan City
Approved Budget for the Contract (ABC): Php 5,333,012,08
Contract Duration:120 Calendar Days
Fund Source: Income
Bid Documents: Php 10,000.00

ITEM DESCRIPTION/SPECIFICATION:

1. **1 unit of 3/2-way valve with pushbutton actuator**

Feature	Data/description
Medium	Compressed air, filtered (lubricated or unlubricated) (or vacuum; port 1)
Design	Poppet valve, directly actuated on one side, with return spring
Actuation	Pushbutton
Pressure range	-90 – 800 KPa (-0.90 – 8 bar)
Standard nominal flow rate 1...2	60 l/min
Actuating force at 600 kPa (6 bar)	6 N
Connection	fittings for plastic tubing, 4mm

2. **3 units of 5/2-way valve with selector switch**

Feature	Data/description
Medium	Compressed air, filtered (lubricated or unlubricated)
Design	Poppet valve, directly actuated on one side, with return spring
Actuation	Selector switch
Pressure range	-90 – 800 kPa (-0.90 – 8 bar)
Standard nominal flow rate 1...2	60 l/min
Actuating force at 600 kPa (6 bar)	6 N
Connection	fittings for plastic tubing, 4mm

3. **1 unit of 3/2-way valve with selector switch**

Feature	Data/description
Medium	Compressed air, filtered (lubricated or unlubricated)
Design	Poppet valve, directly actuated on one side, with return spring
Actuation	Selector switch
Pressure range	-90 – 800 kPa (-0.90 – 8 bar)
Standard nominal flow rate 1...2	60 l/min
Actuating force at 600 KPa (6 bar)	6 N
Connection	fittings for plastic tubing, 4mm

4. **8 units of Proximity switch, pneumatic, with cylinder attachment**

Feature	Data/description
Medium	Compressed air, filtered (unlubricated) 40 µm, free of contamination
Design	Pneumatic signal generator for contactless position indication by means of magnetic field
Display	Visual position indication
Temperature range	-15 – +60 °C to DIN 40040
Pressure range	200 to 800 KPa (2 to 8 bar)
Standard nominal flow rate	60 l/min
Reproducibility of switching value	±0, 1 mm
Response time on:	22 ms
	Off: 52 ms
Connection	fittings for plastic tubing, 4mm

5. **3 units of 3/2-way pneumatic valve, pneumatically actuated, one side**

Feature	Data/description
Medium	Compressed air, filtered (unlubricated) 40 µm, free of contamination
Design	Spool valve, indirectly actuated on one side, with return spring
Pressure range	200 to 1000 kPa (2 to 10 bar)
Operating pressure range	-90 to 1000 kPa (-0.9 to 10 bar)
Standard nominal flow rate 1...2	500 l/min
Switching time at 600 kPa (6 bar)	on: 8 ms
	Off: 18 ms
Connection	fittings for plastic tubing, 4mm

6. **2 units of 5/2-way valve, pneumatically actuated, one side**

Feature	Data/description
Medium	Compressed air, filtered (unlubricated) 40 µm, free of contamination
Design	Spool valve, indirectly actuated on one side, with return spring
Control pressure range	300 to 1000 kPa (3 to 10 bar)
Operating pressure range	-90 to 1000 kPa (-0.9 to 10 bar)
Standard nominal flow rate 1...2	500 l/min
Switching time at 600 kPa (6 bar)	on: 8 ms
	Off: 18 ms
Connection	fittings for plastic tubing, 4mm

7. **5 units of 5/2-way double pilot valve, pneumatically actuated, both sides**

Feature	Data/description
Medium	Compressed air, filtered (unlubricated) 40 µm, free of contamination
Design	Spool valve, indirectly actuated on one side, with return spring
Control pressure range	300 to 1000 kPa (3 to 10 bar)
Operating pressure range	-90 to 1000 kPa (-0.9 to 10 bar)
Standard nominal flow rate 1...2	500 l/min
Response time at 600 KPa (6 bar)	6 ms
Connection	fittings for plastic tubing, 4mm

8. 2 units of Shuttle valve

Feature	Data/description
Medium	Compressed air, filtered (unlubricated) 40 µm, free of contamination
Design	OR-Gate (Shuttle valve)
Pressure range	100 to 1000 KPa (1 to 10 bar)
Connection	fittings for plastic tubing, 4mm
Standard nominal flow rate 1, 1/3...2	500 l/min

9. 1 unit of Dual-pressure valve (AND)

Feature	Data/description
Medium	Compressed air, filtered (unlubricated) 40 µm, free of contamination
Design	Design AND-Gate (Dual-pressure valve)
Pressure range	100 to 1000 kPa (1 to 10 bar)
Connection	fittings for plastic tubing, 4mm
Standard nominal flow rate 1, 1/3...2	550 l/min

10. 2 units of Quick exhaust valve

Feature	Data/description
Medium	Compressed air, filtered (unlubricated) 40 µm, free of contamination
Design	Poppet valve
Pressure range	50 to 1000 kPa (0.5 to 10 bar)
Standard nominal flow rate 1...2	300 l/min 550 l/min
Connection	fittings for plastic tubing, 4mm

11. 20 units of One-way flow control valve

Feature	Data/description
Medium	Compressed air, filtered (unlubricated) 40 µm, free of contamination
Design	One-way flow control valve
Pressure range	20 to 1000 kPa (0.2 to 10 bar)
Standard nominal flow rate	in throttled direction: 0 – 85 l/min Free flow direction: 100 – 110 l/min
Connection	fittings for plastic tubing, 4mm

12. 12 units of Single-acting cylinder

Feature	Data/description
Medium	Compressed air, filtered (unlubricated) 40 µm, free of contamination
Design	Piston cylinder
Operating pressure max.	1000 kPa (10 bar)
Piston diameter	8 mm
Max. Stroke length	50 mm
Thrust at 600 kPa (6 bar)	139 N
Spring return force min.	13.6 N
Connection	fittings for plastic tubing, 4mm

13. **18 units of Double-acting cylinder**

Feature	Data/description
Medium	Compressed air, filtered (unlubricated) 40 µm, free of contamination
Design	Piston cylinder
Operating pressure max.	1000 kPa (10 bar)
Piston diameter	10 mm
Max. Stroke length	100 mm
Thrust at 600 kPa (6 bar)	189 N
Spring return force min.	158 N
Connection	fittings for plastic tubing, 4mm

14. **1 unit of Pressure gauge**

Feature	Data/description
Medium	Compressed air, filtered (unlubricated) 40 µm, free of contamination
Design	Bourdon tube pressure gauge
Indicating range	0 – 1000 kPa (0 – 10 bar)
Connection	10 mm
Quality grade	2.5
Connection	fittings for plastic tubing, 4mm

15. **1 unit of Manifold**

Feature	Data/description
Connection	1 unit of 1/8-6 for plastic tubing, 6mm 8 units 1/8-4 for plastic tubing, 4mm

16. **12 sets of 4mm plastic tubing:**

Feature	Data/description
Nominal size of tubing	4
Internal diameter	2.6 mm
Outside diameter	4 mm
Bending radius min.	17 mm
Operating pressure min.	-0.95 bar
Operating pressure max. At 20°C	10 bar
Operating pressure max. At 30°C	10 bar
Operating pressure max. At 40°C	9 bar
Operating pressure max. At 60°C	7 bar
Suitable for vacuum	Yes
Minimum ambient temperature	-35 °C
Maximum ambient temperature	60 °C
Material of tubing	TPE-U (PU)
Product weight per meter	0.0089 kg/m
Color	silver
Delivery length	10m

17. **12 units of Electronic proximity sensor with cylinder attachment**

Feature	Data/description
Actuation	Magneto-resistive proximity sensor, magnetically operated

Connection	4 mm safety sockets
Switching output N/O contact	(PNP) with switching status indication
Overload and short-circuit proof, on	with reverse polarity protection
Operating voltage	5 – 30 V DC
Output current: max.	100 mA
Switching time (on/off) max.	1 ms
Mounting system	For cylinder diameter 20 mm, 2x T-slot for simultaneous mounting of one pneumatic and one electronic proximity sensor

18. 1 unit of 2 x 3/2-way solenoid valve with LED, normally closed

Feature	Data/description
Design:	Two 3/2-way solenoid valves, normally closed, are contained in a valve housing. This valve housing with push-in fittings is mounted onto the function plate, which is equipped with a supply port and silencer. The electrical connections are equipped with safety sockets. The unit is mounted on the slotted assembly board using the locking system with the blue lever (mounting variant "A"). The component can be moved in the direction of the slot. One of the solenoid valves is reversed when voltage is applied to solenoid coil 1M1 (1 2).The other solenoid valve is reversed when voltage is applied to solenoid coil 1M2 (1 4).
Pneumatics:	
Design structure	Piston slide, piloted
Type of reset	Air spring
Manual override	Detenting/pushing
Pressure range	150 – 800 kPa (1.5 – 8 bar)
Switching time at 600 kPa (6 bar)	on: 6 ms Off: 16 ms
Standard nominal flow rate	150 l/min
Medium	Filtered compressed air, grade of filtration 40 µm, lubricated or unlubricated
Medium temperature	-5 – +60 °C
Pneumatic connection for plastic tubing with	4 mm O.D.
Electrical:	
Operating voltage	24 V DC
Residual ripple	≤ 10 %
Duty cycle	100%
Ambient temperature	-5 – +60 °C
Protection class	IP 40
Electrical connection Sockets for cable with	4 mm safety plugs

19. 2 units of 5/2-way single solenoid valve

Feature	Data/description
Design:	The 5/2-way solenoid valve with push-in fittings is mounted onto the function plate, which is equipped with a supply port and silencer. The electrical connections are equipped with safety sockets. The unit is mounted on the profile plate using a snap-lock system with a blue lever

	(mounting variant "A"). The component can be moved in the direction of the slot.
Pneumatics:	
Design structure	Piston slide, piloted
Type of reset	Mechanical and air spring
Manual override	Detenting/pushing
Pressure range	250 – 800 kPa (2.5 – 8 bar)
Switching time at 600 kPa (6 bar)	on: 7 ms Off: 19 ms
Standard nominal flow rate	220 l/min
Medium	Filtered compressed air, grade of filtration 40 µm, lubricated or unlubricated
Medium temperature	-5 – +60 °C
Pneumatic connection for plastic tubing with	4 mm O.D.
Electrical:	
Operating voltage	24 V DC
Residual ripple	≤ 10 %
Duty cycle	100%
Ambient temperature	-5 – +60 °C
Protection class	IP 40
Electrical connection Sockets for cable with	4 mm safety plugs

20. 3 units of 5/2-way double solenoid valve

Feature	Data/description
Design	The 5/2-way double solenoid valve with push-in fittings is mounted onto the function plate, which is equipped with a supply port and silencer. The four electrical connections are equipped with safety sockets. The unit is mounted on the profile plate using a snap-lock system with a blue lever (mounting variant "A"). The component can be moved in the direction of the slot.
Pneumatics:	
Design structure	Piston slide, piloted
Type of reset	Mechanical and air spring
Manual override	Detenting/pushing
Pressure range	150 – 800 kPa (1.5 – 8 bar)
Switching time at 600 kPa (6 bar)	on: 7 ms
Standard nominal flow rate	220 l/min
Medium	Filtered compressed air, grade of filtration 40 µm, lubricated or unlubricated
Medium temperature	-5 – +60 °C
Pneumatic connection for plastic tubing with	4 mm O.D.
Electrical:	
Operating voltage	24 V DC
Residual ripple	≤ 10 %
Duty cycle	100%
Ambient temperature	-5 – +60 °C
Protection class	IP 40
Electrical connection Sockets for cable with	4 mm safety plugs

21. 6 units Pressure sensor

Feature	Data/description
General:	

Measured variable	Relative pressure
Setting option	Teach-in
Swivel range	210°
Pneumatics:	
Operating pressure	0 – 10 bar (0 – 1,000 kPa)
Operating medium	Filtered, unlubricated compressed air,
Grade of filtration 40 µm	
Temperature of medium	0 – +50 °C
Pneumatic connection	for plastic tubing with 4 mm O.D.
Electrical:	
Operating voltage	15 – 30 V DC
Residual ripple Max.	10%
Analogue output	0 – 10 V
Switching output	PNP
Output function	N/O or N/C contact, switchable
Switching current Max.	150 mA
Protection class	IP 65
Reverse polarity and short circuit protection	Integrated
Electrical connection	Sockets for cable with 4 mm safety plugs
CE mark	In compliance with EU-EMC directive

22. 6 units of Timer relay, 2-off

Design The unit consists of two printed circuit boards with one switch-on and one switch-off relay with time delay, mounted on a plug-in plate. All electrical connections are in the form of 4 mm safety connectors. The component is mounted on the mounting frame or on the slotted assembly board using the set of plug-in adapters.

Function The time period of the relay with switch-on delay can be infinitely adjusted via the rotary knob of the potentiometer. The contact set consists of two normally open contacts and two normally closed contacts. When the voltage is applied to the coil connections, the set time delay takes effect. When the time delay has expired, the contact set is actuated. Circuits are opened or closed via the contact connections. When the time delay has expired, the contact set returns to its initial position without delay. A protective circuit protects the switch-on delay time relay against polarity reversal.

The time period of the switch-off time relay is infinitely adjustable via the rotary knob of the potentiometer. The contact set consists of two normally open contacts and two normally closed contacts. The contact set is actuated without delay when the voltage is applied. Circuits are opened or closed via the contact connections. When the voltage is removed, the set time delay takes effect. When the time delay has expired, the contact set is returned to its initial position. The switch-off time relay is protected against polarity reversal.

Voltage	24 V DC
Contact set	2 normally open, 2 normally closed contacts
Contact load maximum	5 A
Cut-off capacity maximum	100 W
Time delay	0.5 to 10 s (adjustable)
Connection	For 4 mm safety connector plug
Connection	For 4 mm safety connector plug
Emitted interference	tested to EN 500 81-1
Noise immunity	tested to EN 500 82-1

23. 8 units of Preset counter, electronic

"Electronic preset counter with terminals

For count pulse, contact set and reset pulse,	Contact set: 1 changeover contact

as well as bus bars for supply power. "

Contact rating: max.	5 A
Power consumption:	3 W
Maximum counting rate:	30 Hz
Preset value display:	4-place, red (counter reading) and yellow (preselection) illuminated
Preset value	Programmable at each digit with up/down keys
Reset key	for manual resetting
Lock key	for locking the preset value
Electronic counter	EEPROM for retaining the preset value and the current counter value in case of power failure
Place preset value display	4
Reset	Electronic or manual
Changeover contact	1
Supply contact	DIN rail
Earth contact	DIN rail
Connection	For 4 mm safety plug

24. 4 units of Power supply unit

Construction The power supply unit consists of a primary on/off switching controller, which converts the input AC voltage into a DC voltage. The design of the power supply unit with front panel and plastic rear panel is such that it can be clipped into an existing cabinet frame. The front panel comprises all the connection and control elements. These include an industrial device plug with fuse, four 4 mm sockets each for 24 V or 0 V, one 4 mm socket with protective grounding terminal, the mains supply switch with display as well as an LED displaying 24 V.

Function The AC voltage is fed to the input rectifier (EG) via the mains supply switch. The transistor switch (TS) chops the resulting DC voltage into a high frequency AC voltage. The high frequency transformer (HF-TR) and the output rectifier (AG) convert this AC voltage into the required DC voltage. This output DC voltage is then regulated into a constant value via the feedback path (RK).

Input voltage	85 – 265 V
Input frequency	47 – 63 Hz
Input current	1.4 A/100 V; 0.7 A/200 V
Efficiency	80%
Ripple of output voltage	150 mV
Output voltage	24 V 1 %
Output current	4.5 A
Short circuit current	Line side via micro fuse 2.5 A. Output side via electronic overload “Operating temperature range"0+C234 – 40 °C/100 %; 55 °C/60 %
Dimensions (H x W x D in mm)	170 x 240 x 92 mm
Weight Approx.	1 kg

25. 16 units of 600 mm Hose line with quick release coupling

Construction Coupling socket fitting, high-pressure hose, wire braiding inner layer, top layer. The high-pressure hose is made up of three layers. The inner layer consists of polyamide, the second layer of wire braiding and the top layer of polyurethane.

Medium	Mineral oil, 22 cSt (mm^2/s) recommended
Length	600 mm
Inner diameter	6.3 mm
Operating pressure	6 MPa (60 bar)

Max. Permissible pressure	12 MPa (120 bar)
Operating pressure Pmax	12 MPa (120 bar)
Temperature range	-40 - +125 °C
Minimum bending radius	51 mm
Connection	For two coupling nipples

26. **8 units of 1000 mm Hose line with quick release coupling**

Construction Coupling socket fitting, high-pressure hose, wire braiding inner layer, top layer. The high-pressure hose is made up of three layers. The inner layer consists of polyamide, the second layer of wire braiding and the top layer of polyurethane.

Medium	Mineral oil, 22 cSt (mm²/s) recommended
Length	1000 mm
Inner diameter	6.3 mm
Operating pressure	6 MPa (60 bar)
Max. Permissible pressure	12 MPa (120 bar)
Operating pressure Pmax	12 MPa (120 bar)
Temperature range	-40 - +125 °C
Minimum bending radius	51 mm
Connection	For two coupling nipples

27. **8 units of 1500 mm Hose line with quick release coupling**

Construction Coupling socket fitting, high-pressure hose, wire braiding inner layer, top layer. The high-pressure hose is made up of three layers. The inner layer consists of polyamide, the second layer of wire braiding and the top layer of polyurethane.

Medium	Mineral oil, 22 cSt (mm²/s) recommended
Length	1500 mm
Inner diameter	6.3 mm
Operating pressure	6 MPa (60 bar)
Max. Permissible pressure	12 MPa (120 bar)
Operating pressure pmax	12 MPa (120 bar)
Temperature range	-40 - +125 °C
Minimum bending radius	51 mm
Connection	For two coupling nipples

28. **1-unit, Hydraulic oil, 20 Liters**
29. **1-unit, Suction cup compatible for the existing distribution station**
30. **1-unit, Double acting cylinder compatible for the existing testing station**
31. **1-unit, Pneumatic linear drive compatible for the existing handling station**
32. **1-unit, linear drive -12-600 compatible for the existing handling station**
33. **1-unit, Double acting cylinder-18-80 compatible for the existing handling station**
34. **2 units, Double acting cylinder- 16-10 compatible for the existing sorting station**

Warranty, Terms and Conditions:

- 2-years product warranty
- 10 years availability of spare parts

Bidders must submit the following:

- Technical specifications details or Technical data indicating the brand name and model of item/s as additional technical requirements.
- After sales training-workshop at Nueva Ecija University of Science and technology after completion of deliver.

The schedule of the bidding activities are as follows:

Activities	Schedule
1. Advertisement/Receipt of Letter of Intent	January 26, 2021 to February 02, 2021
2. Pre-bid Conference	February 04, 2021 10:30 AM NEUST President's Office Conference Room, Sumacab, Cabanatuan City
3. Submission of Bids	February 16, 2021, UNTIL 5:00 PM NEUST President's Office Conference Room, Gen. Tinio St., Cabanatuan City
4. Opening of Bids	February 17, 2021 10:00 AM NEUST President's Office Conference Room, Sumacab, Cabanatuan City
5. Post Qualification	February 18, 2021 10:00 AM NEUST President's Office Conference Room, Sumacab, Cabanatuan City

Letter of Intent must be submitted personally and in hard copy format at the Office of the BAC Secretariat, NEUST, Gen. Tinio (St.) Cabanatuan City on or before 5:00PM on February 02, 2021.

Bidding will be conducted through open competitive bidding procedures using a non-discretionary "pass/fail" criterion as specified in the 2016 Revised Implementing Rules and Regulations (IRR) of Republic Act (RA) 9184, otherwise known as the "Government Procurement Reform Act".

Bidding is restricted to Filipino citizens/sole proprietorships, partnerships, or organizations with at least sixty percent (60%) interest or outstanding capital stock belonging to citizens of the Philippines, and to citizens or organizations of a country the laws or regulations of which grant similar rights or privileges to Filipino citizens, pursuant to RA 5183.

A complete set of Bidding Documents may be acquired by interested Bidders from February 04 – February 16, 2021 upon payment of the applicable fee for the Bidding Documents, pursuant to the latest Guidelines issued by the GPPB in the amount of P10,000.00.

It may also be downloaded free of charge from the website of the Philippine Government Electronic Procurement System (PhilGEPS) and the website of the Procuring Entity, provided that Bidders shall pay the applicable fee for the Bidding Documents not later than the submission of their bids.

Bids must be duly received by the BAC Secretariat at the address below on or before February 16, 2021 - 5:00PM. All Bids must be accompanied by a bid security in any of the acceptable forms and in the amount stated in the PBD.

Bid opening shall be on February 17, 2021, 10:00AM at NEUST Conference Room, Sumacab, Campus, Cabanatuan City. Bids will be opened in the presence of the bidders' representatives who choose to attend at the address below. Late bids shall not be accepted.

The Nueva Ecija University of Science and Technology reserves the right to reject any and all bids, declare a failure of bidding, or not award the contract at any time prior to contract award in accordance with Section 41 of RA 9184 and its IRR, without thereby incurring any liability to the affected bidder or bidders.

For more information concerning this bidding, please contact the following:

MS. MICHELLE A. SUPEÑA
Bids and Awards Committee Secretariat
NEUST Gen. Tinio St., Cabanatuan City
Telephone No. (044) 463-0226
Email Address: neustmain@yahoo.com

Approved by:

DR. HONORATO P. PANAHON

BAC Chairperson