
BOARD AGENDA ITEM

Information/Discussion _____

Future Action _____

Action _____ **x** _____

Item: Mechatronics Process Control Training System

Submitted by: Tim Peraino

Date: 5/2/24

Recommended by: Kevin Philipps *KP*

Board Meeting Date: 5/13/24

RECOMMENDATION:

It is recommended that the Kent ISD School Board approve the purchase of a Process Control Training System from Advanced Technologies Consultants for the KCTC Mechatronics program in the amount of \$124,805.00.

BACKGROUND:

A Process Control Trainer would give students a better hands-on understanding of the complex systems used to control an automated process which will better prepare them for industry needs. The quote from Advanced Technologies is using the TIPS Contract #210902 pricing and conforms with our bid specifications and cost estimates. We will use Capital Outlay funds for this project.



Prices valid for 60 days
 110 West Main St. | P.O. Box 905
 Northville, MI 48167
 800-348-8447 | www.atctrain.com

Presented to: Mr. Travis Respotnik
 Kent Career Tech Center
 1655 East Beltline, NE
 Grand Rapids, MI 49525
 travisrespotnik@kentisd.org
 (231) 342-8577

4/25/2024
 Andy Close
 (760) 818-5336
 andyclose@atctrain.com
 Tips Contract #210902

Terms	Project	Delivery	FOB Point
Net 30	Lab-Volt Instrumentation and Process Control	est. 120 Days ARO	Lab Volt

v.1/1/2024

Item#	Qty	Description	SAP #	Part#	Unit Cost	Extended
1	1	Pressure/Flow/Level Process	582464	3531-A0	\$71,500.00	\$71,500.00
		<i>Includes:</i>				
		Emergency Switch Station	582352	5926-A0		
		Digital Pressure Gauge (High Range)	582387	46761-B0		
		Process Workstation	582390	46801-F0		
		Instrumentation Workstation	582393	46900-F0		
		Column (Large Diameter)	582394	46901		
		Rotameter	582402	46910		
		Venturi Tube	582403	46911		
		Differential-Pressure Transmitter (High Range)	582408	46920		
		Differential-Pressure Transmitter (Low Range)	582410	46921		
		Pneumatic Control Valve	582424	46950-B0		
		Solenoid Valve	582426	46951		
		Electrical Unit		46970-B0		
		Pneumatic Unit	582433	46971-A0		
		Color Paperless Recorder	582434	46972		
		AC Drive (Ethernet)	582436	46975-A0		
		Instrumentation Mounting Pipe	582444	46990		
		Process Supports	582445	46991-C0		
		Drip Tray (Front)	582447	46992-B0		
		Piping and Accessories		46993-E0		
2		Basic Temperature Process-Add-On	582470	3531-C0	\$94,753.00	
		<i>Includes:</i>				
		Pumps Add-On	582396	46904-A0		
		Pumping Unit Add-On	582398	46904-B0		
		Brazed Plate Heat Exchanger	582400	46905		
		Heating/Cooling Unit	763447	46908		
		J-Type Thermocouple	582406	46916		
		Platinum RTD 100	582407	46917		
		Temperature Transmitter	582422	46940		
		Three-Way Pneumatic Control Valve	582430	46955-B0		
		AC Drive (Ethernet)	582440	46975-C0		
		(2) AC Drive	582442	46975-D0		
		Drip Tray (Back)	582448	46992-C0		
		Piping and Accessories	582452	46993-J0		
		Electrical Distribution Box	582453	46997		
3	1	Pressure/Flow/Level Process-Second Team Add-On	588488	3530-K0	\$47,110.00	\$47,110.00
		<i>Includes:</i>				
		Digital Pressure Gauge (High Range)	582387	46761-B0		

Item#	Qty	Description	SAP #	Part#	Unit Cost	Extended
		Column (Large Diameter)	582394	46901		
		Rotameter	582402	46910		
		Venturi Tube	582403	46911		
		Differential-Pressure Transmitter (High Range)	582408	46920		
		Differential-Pressure Transmitter (Low Range)	582410	46921		
		Pneumatic Control Valve	582424	46950-B0		
		Solenoid Valve	582426	46951		
		Color Paperless Recorder	582434	46972		
		Instrumentation Mounting Pipe	582444	46990		
		Process Supports (P/F/L) Add-On for 2nd Team	588427	46991-G0		
		Drip Tray (Back)	582448	46992-C0		
		Piping and Accessories (2nd Team)	588429	46993-A0		
		For Independent Operation, add Items 4 and 5				
4	1	2nd Pump Add-On	582398	46904-B0	\$3,571.00	\$3,571.00
5	1	AC Drive-Single Phase	8122680		\$5,574.00	\$5,574.00
6		Advanced Process Control-P/F/L Add-On	588490	3530-M0	\$14,623.00	
		<i>Includes:</i>				
		Column (Small Diameter)	582395	46902		
		Upper Tank	588307	46903		
		Orifice Plate	588315	46912		
		Pneumatic Control Valve (Air)	582424	46950-B0		
		Ball Valve	588365	46952		
		Piping and Accessories (Advanced)	588432	46993-G0		
7		Pressure/Flow Air Process - Add-On	588507	3533-A0	\$18,206.00	
		<i>Includes:</i>				
		Air Tank (Large)	588312	46906		
		Air Tank (Small)	588313	46906-A0		
		Muffler Assembly	588314	46907		
		Orifice Plate (Air)	582404	46914		
		Rotameter (Air)	582405	46915		
		Solenoid Valve (Air)	582427	46951-A0		
		Pneumatic Control Valve (Air)	582428	46953		
		Instrumentation Mounting Pipe	582444	46990		
		Piping and Accessories (Air)	588430	46993-B0		
8		Boiler Simulation (Water/Air) Add-On	582474	3531-K0	\$27,378.00	
		<i>Includes:</i>				
		Pumping Unit	582398	46904-B0		
		Orifice Plate (Air)	582404	46914		
		Rotameter (Air)	582405	46915		
		Differential-Pressure Transmitter (Low Range)	582410	46921		
		Solenoid Valve (Air)	582427	46951-A0		
		Pneumatic Control Valve (Air)	582428	46953		
		AC Drive (Ethernet)	582436	46975-A0		
9		Advanced Temperature Process Add-On	582461	3531-20	\$34,888.00	
		<i>Includes:</i>				
		(3) RTD 100-pt	582407	46917		
		Energy Manager	582435	46974		
		Accessories Advanced (3531)	582435	46993-D0		
		Electromagnetic Flow Transmitter	588319	46922		
		Electromagnetic Flow Transmitter (2nd Team)	582419	46922-10		
10		Boiler Simulation (Water/Air) Add-On	582478	3531-M0	\$17,071.00	

Item#	Qty	Description	SAP #	Part#	Unit Cost	Extended
		<i>Includes:</i>				
		Orifice Plate (Air)	582404	46914		
		Rotameter (Air)	582405	46915		
		Differential-Pressure Transmitter (Low Range)	582410	46921		
		Solenoid Valve (Air)	582427	46951-A0		
		Pneumatic Control Valve (Air)	582428	46953		
		Optional Equipment				
		Process Options - Pressure				
11		Digital Pressure Gauge (Low Range)	588300	46761-C0	\$2,029.00	
12		Pressure Switch with Analog Output	588328	46926	\$2,395.00	
13		Pressure Transmitter	588333	46928-00	\$4,262.00	
		Process Options - Flow				
14		Orifice Plate	588315	46912-00	\$1,451.00	
15		Pitot Tube	588316	46913-00	\$2,340.00	
16		Electromagnetic Flow Transmitter	582413	46922	\$10,519.00	
17		Electromagnetic Flow Transmitter (2nd Team)	582419	46922-10	\$10,519.00	
18		Vortex Flow Transmitter	588320	46923	\$9,276.00	
19		Coriolis Flow Transmitter	588323	46924	\$27,513.00	
20		Paddlewheel Flow Transmitter	588326	46925	\$4,406.00	
21		Ultrasonic Flow Transmitter	588330	46927	\$12,263.00	
		Process Options - Level				
22		Ultrasonic Level Transmitter	588337	46930	\$5,600.00	
23		Guided Radar Level Transmitter	589127	46932-10	\$8,647.00	
24		Vibrating Fork Level Switch	588344	46933	\$2,830.00	
25		Conductivity Level Switch	588346	46934	\$2,087.00	
26		Float Switch	588348	46935	\$580.00	
27		Capacitive Level Transmitter	588350	46936	\$6,592.00	
		Process Options - Valves				
28		Pneumatic Control Valve w/Digital Positioner-DVC 200C	588357	46950	\$15,549.00	
29		Pneumatic Control Valve w/Digital Positioner-DVC 6000	588363	46950-E0	\$16,255.00	
30		Pneumatic Control Valve	582424	46950-B0	\$11,308.00	
31		Electric Control Valve	588360	46950-C0	\$8,411.00	
32		Solenoid Valve	582426	46951	\$1,336.00	
33		Ball Valve	588365	46952	\$178.00	
		Process Options - Accessories				
34		20" Touch-Screen Computer with touch screen computer mount	589677 / 587644	6299/3451-A0	\$6,348.00	
35		Touch Screen Graphic Terminal (5.5 in.)	587866	5922-B0	\$5,342.00	
36		Signal Tower 3530	587869	5924-C0	\$1,350.00	
37		Indicator Light/Push-Button Station	587871	5925-A0	\$996.00	
38		Pumping Unit	582398	46904-B0	\$4,171.00	
39		Fuzzy Logic Software add-on for PLC	587902	5938	\$5,738.00	
40		Touch Screen Graphic Terminal (10 in.)	8103425	46973-10	\$10,118.00	
41		Storage Station	588301	46801-D0	\$5,321.00	
42		Instrumentation Workstation (Assembled)-without Heating/Cooling Unit	588306	46900-G0	\$4,328.00	
43		Electrical Distribution Box	582453	46997	\$2,882.00	
		Calibration				
44		Calibration Package Basic	588416	46980	\$17,805.00	
45		Calibration Kit with Pressure Modules	588417	46980-A0	\$26,147.00	
46		Calibration Package Advanced	588418	46981	\$37,883.00	

Item#	Qty	Description	SAP #	Part#	Unit Cost	Extended
47		Calibration Kit	588419	46981-A0	\$57,938.00	
48		Hart Software Configurator	588420	46982	\$13,579.00	
49		Software Configurator	588422	46982-B0	\$13,579.00	
Supervisory Control & Data Acquisition (SCADA)						
50		FactoryTalk View SE Studio (1 license educational) for 3530 (PLC only)	588384	46968	\$2,140.00	
51		FactoryTalk View ME Station	588397	46968-20	\$3,451.00	
Controllers:						
52		Honeywell Controller	588517	3539-10	\$11,741.00	
53		Controllogix PLC (Education)	588519	3539-50	\$33,150.00	
54		Micrologix PLC	588521	3539-70	\$5,951.00	
55		CompactLogix PLC	588522	3539-80	\$16,308.00	
56		ControlLogix PLC (Industry)	588513	3539-A0	\$48,415.00	
57		MicroLogix 1100 PLC	588514	3539-C0	\$6,444.00	
58		CompactLogix PLC	588515	3539-D0	\$19,504.00	
Manuals on CD-ROM						
59		Optional Manual CD-ROM	585124	85990-A0	\$1,610.00	
Festo LX Learning Experience						
<i>Includes full access to all courses for one year</i>						
60		50 Student Access for One Year	8153748-50		\$3,357.00	
61		100 Student Access for One Year	8153748-100		\$3,620.00	
62		200 Student Access for One Year	8153748-200		\$3,949.00	
63		500 Student Access for One Year	8153748-500		\$9,871.00	
64		Curriculum CD-ROM, Unlimited Copies	585106	85980-A0	\$1,625.00	
Training by Factory Certified Representative						
65	1	2 Day On-Sight Training by Festo Factory Certified Specialist (2 day minimum)			\$4,000.00	\$4,000.00
66		Additional Days On-Sight Training			\$1,755.00	

All orders must include the following information:

- Name, E-Mail and Phone Number for Delivery
- Days/Hours that Deliveries are Accepted
- Liftgate Available, Yes or No

Sub-Total	\$131,755.00
Shipping & Handling	\$1,250.00
Installation	\$800.00
Discount	(\$9,000.00)
Grand Total	\$124,805.00