









The American Welding Society and the National Electrical Manufacturers Association developed this questionnaire as part of a project to research the status of automated welding in the U.S. We hope you will take the time to answer these questions. By answering, you will help AWS and NEMA to provide an accurate, detailed description of where the welding industry is headed. Your answers will be incorporated, along with those of your peers, into a summary report in a future issue of the *Welding Journal*. Feel free to contact NEMA or AWS for more details on this project.



NEMA  
Arc Welding Section  
2101 L. Street, N.W.  
Suite 300  
Washington, DC 20037



AWS Research  
550 N.W. LeJeune Rd.  
P.O. Box 351040  
Miami, FL 33135

Thank you for your assistance.

## AUTOMATED WELDING USER SURVEY

1. Which of the following types of welding technology do you presently utilize, or plan to utilize within the next five years? (Check both if appropriate.)

	Presently utilize	Plan to utilize
Manual shielded metal arc ("Stick")	_____	_____
Manual gas tungsten arc ("Tig")	_____	_____
Semiautomatic gas shielded arc welding ("Mig")	_____	_____
Automatic gas shielded arc welding	_____	_____
Plasma arc welding	_____	_____
Resistance welding	_____	_____
Laser welding	_____	_____
Electron beam welding	_____	_____

2. What factors limit your use of automated welding?

	Very much a problem	Somewhat a problem	Minor problem
In-house technical capability	_____	_____	_____
Readily available technical information	_____	_____	_____
Controller capabilities	_____	_____	_____
Power supply capabilities	_____	_____	_____
Software capability	_____	_____	_____
Labor acceptance	_____	_____	_____
Middle management acceptance	_____	_____	_____
System reliability	_____	_____	_____
System cost	_____	_____	_____
System maintenance	_____	_____	_____
Operator training	_____	_____	_____
Equipment safety	_____	_____	_____

Other: \_\_\_\_\_

3. If you utilize automated welding, do you use now, or plan to use within the next five years, any of the following technologies? (Check both if appropriate.)

	Presently utilize	Plan to utilize
Through-the-arc sensing	_____	_____
Contact seam tracking	_____	_____
Non-contact seam tracking	_____	_____
Real time weld pool analysis	_____	_____
Machine-to-machine communication via hard wiring or networks	_____	_____
On-line inspection operations	_____	_____
Positioning sensing	_____	_____

4. Within the field of automated welding, which organization presently has, and which organization will have five years from now, the primary responsibility for each of the following functions: (Please check one organization per function.)

	Equipment manufacturers	Distributors	System integrators	End user
System design	_____	_____	_____	_____
System installation	_____	_____	_____	_____
Service	_____	_____	_____	_____
Training	_____	_____	_____	_____

5. What is your formal title or descriptive job function?

\_\_\_\_\_

6. What is your role in purchasing welding equipment within your firm? (Please check the appropriate space.)

Recommend \_\_\_\_\_ Specify \_\_\_\_\_ Approve \_\_\_\_\_ None \_\_\_\_\_

7. What is the approximate number of employees involved in direct manufacturing labor at your facility?

1-24 \_\_\_\_\_; 25-99 \_\_\_\_\_; 100-499 \_\_\_\_\_; 500 and over \_\_\_\_\_

8. What is the principal type of welding application at your company? (Check only one.)

Heavy industrial \_\_\_\_\_ Light industrial \_\_\_\_\_  
 Automotive \_\_\_\_\_ Other consumer products \_\_\_\_\_  
 High tech \_\_\_\_\_ Military \_\_\_\_\_ Aerospace \_\_\_\_\_  
 Transportation \_\_\_\_\_

Return to:

AWS Research  
 P.O. Box 351040  
 Miami, FL 33135