

The Future of Food Manufacturing: Workforce, Technology Adoption & Organizational Readiness
Please use as a guide for your online response.

A. About You Note that all responses are confidential.

1. **What is your role/title, and organizational level?** (check one; response required)

- ☐ Executive (CEO, President, Owner)
- ☐ Senior Management (C-suite, VP, Senior VP, Asst VP)
- ☐ Middle Management (Director, Supervisor)
- ☐ Staff position without supervisory responsibility
- ☐ Other (please describe) _____

2. **What is/are your primary functional area(s) of responsibility?** (select all that apply; response required)

- ☐ Executive Management
- ☐ Sales & Marketing
- ☐ Engineering/Technology
- ☐ Human Resources or Training
- ☐ Other (please describe) _____
- ☐ Research & Development
- ☐ Plant Management
- ☐ Project Management

2a. **Which best describes your company?** (check one; response required)

- ☐ OEM
- ☐ Food Processor
- ☐ Other (please describe) _____
- ☐ Solution/Service Provider
- ☐ Consultant

Please describe your area(s) of focus: _____ [if A2a.3-4]

B. Your Current State of Modernization, Automation, and AI Adoption

1. **To what extent has your company adopted these technologies in the past 3 years?** [if A2a.1,2,5]

1. **To what extent has your company helped clients adopt these technologies in the past 3 years?** [if A2a.3-4]

Full deployment / Partial deployment / Planning or piloting / None

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
| Robotics/collaborative robots on the production line | ☐ | ☐ | ☐ | ☐ |
| AI-driven quality inspection/vision systems | ☐ | ☐ | ☐ | ☐ |
| Predictive maintenance software | ☐ | ☐ | ☐ | ☐ |
| Industrial IoT/sensor-based monitoring..... | ☐ | ☐ | ☐ | ☐ |
| AI-assisted scheduling or production planning | ☐ | ☐ | ☐ | ☐ |
| Automated material handling | ☐ | ☐ | ☐ | ☐ |
| Generative AI tools (design, documentation, training content) | ☐ | ☐ | ☐ | ☐ |

2. **Over the next five years, which of these do you expect your company to expand or adopt?** [if A2a.1,2,5] [rotate]

2. **Over the next five years, which of these do you anticipate helping your clients to expand or adopt?** [if A2a.3-4]

- | | |
|---|--|
| ☐ Robotics/collaborative robots on the production line | ☐ Industrial IoT/sensor-based monitoring |
| ☐ AI-driven quality inspection/vision systems | ☐ AI-assisted scheduling or production planning |
| ☐ Predictive maintenance software | ☐ Automated material handling |
| ☐ None | ☐ Generative AI tools (design, documentation, training content) |
| ☐ Other (please describe) _____ | |

3. **What do you see as the primary drivers of investment in modernization at your company?** [if A2a.1,2,5]

3. **What are the primary drivers of investment in modernization among your clients?** [if A2a.3-4]

- | | |
|--|--|
| ☐ Address labor shortages | ☐ Pressure to remain competitive |
| ☐ Achieve cost reduction | ☐ Meeting customer demand |
| ☐ Improved quality & safety | ☐ Change management: it's needed to improve performance |
| ☐ Other (please describe) _____ | |

3a. As your organization expands its use of AI and other modernization initiatives, how prepared do you believe your organization is in the following areas?

Fully prepared / Well-prepared / Somewhat prepared / Somewhat unprepared / Not at all prepared / No opinion

Our leadership capability to guide change	☐	☐	☐	☐	☐	☐
Employee skills and training.....	☐	☐	☐	☐	☐	☐
Change management and communication	☐	☐	☐	☐	☐	☐
Technology integration.....	☐	☐	☐	☐	☐	☐
Organizational culture and willingness to adapt.....	☐	☐	☐	☐	☐	☐

4. What kinds of modernization and automation projects has your company been involved in? [if A2a.1,2,5]

4. What kinds of modernization and automation projects does your company facilitate? [if A2a.3-4]

- ☐ Replacement of specific equipment on production lines or
- ☐ Retrofitting older facilities to accommodate changes
- ☐ Replacement of entire factories that have become dated
- ☐ Addressing training gaps effectively to maximize the impact of changes
- ☐ Addition of vision equipment for better alignment
- ☐ Use of AI to streamline internal administrative functions
- ☐ Use of analytics to more rapidly stop or adjust lines during regular production
- ☐ Other (please describe) _____ [if A1.4 and not A2.4 skip to C]

5. How successful do you believe modernization has proved to be for your company over the past five years? [if A2a.1,2,5]

5. How successful do you believe modernization has proved to be for your clients over the past five years? [if A2a.3-4]

- ☐ Extremely successful ☐ Very successful ☐ Somewhat successful ☐ Somewhat unsuccessful ☐ Not at all successful

5a. What factors do you feel have contributed most to the success of modernization within your company? [if A2a.1,2,5]

5a. What factors do you feel have had the most negative impact on modernization within your company? [if A2a.3-4]

6. To what extent are these impediments to modernization and automation in your company? [if A2a.1,5] [rotate]

6. To what extent are these impediments to modernization and automation among your clients? [if A2a.3-4] [rotate]

Extremely Important / Very Important / Somewhat Important / Somewhat Unimportant / Not at all Important / No opinion

Our lack of confidence in having sufficient payback/ROI from investing in it	☐	☐	☐	☐	☐
A general resistance/risk aversion to changing how we operate	☐	☐	☐	☐	☐
Difficulties with retraining/upskilling our existing staff	☐	☐	☐	☐	☐
Challenges recruiting and hiring skilled new staff.....	☐	☐	☐	☐	☐
General avoidance of being an innovator or early adopter of technology.....	☐	☐	☐	☐	☐

C. Impact of Workforce Skills on Your Company or Clients

1. Has automation changed the nature of existing jobs in your company (such as manual tasks and machine oversight or troubleshooting)?

- ☐ Yes, significantly ☐ Changed somewhat ☐ Not yet, but we anticipate it will ☐ No, and we don't expect it to

2. How do you expect headcount by key positions in your company to change over the next several years due to increasing automation and AI?

Sharply increase / Increase somewhat / Stay the same / Decrease somewhat / Decrease sharply / No opinion or not applicable

Sales and marketing staff [if A2a.3-4]	☐	☐	☐	☐	☐
Administrative staff [if A2a.3-4]	☐	☐	☐	☐	☐
Fabricators [if A2a.1-2,5].....	☐	☐	☐	☐	☐
Service technicians [if A2a.1-2,5].....	☐	☐	☐	☐	☐
Electrical controls/assembly technicians [if A2a.1-2,5]	☐	☐	☐	☐	☐
Line operators/handlers [if A2a.1-2,5].....	☐	☐	☐	☐	☐
Quality/QA staff	☐	☐	☐	☐	☐
Engineering and maintenance	☐	☐	☐	☐	☐

[if A1.4 skip to D]

2a. In what ways have jobs in your company been most affected? *[if C1.1-2]*

3. To what extent do the skills of your staff align today with the needs of your company for the following positions/roles?

Severe shortage / Some shortage / Well aligned with needs / Some surplus / No opinion or not applicable

Sales and marketing staff <i>[if A2a.3-4]</i>	☐	☐	☐	☐	☐	☐
Administrative staff <i>[if A2a.3-4]</i>	☐	☐	☐	☐	☐	☐
Fabricators <i>[if A2a.1-2,5]</i>	☐	☐	☐	☐	☐	☐
Service technicians <i>[if A2a.1-2,5]</i>	☐	☐	☐	☐	☐	☐
Electrical controls/assembly technicians <i>[if A2a.1-2,5]</i>	☐	☐	☐	☐	☐	☐
Line operators/handlers <i>[if A2a.1-2,5]</i>	☐	☐	☐	☐	☐	☐
Quality/QA staff	☐	☐	☐	☐	☐	☐
Engineering and maintenance	☐	☐	☐	☐	☐	☐

3a. In five years, what do you predict will be the alignment of your skilled staff with the company's needs?

☐ Severe shortage ☐ Some shortage ☐ Well aligned with needs ☐ Some surplus ☐ No opinion

4. Which specific technical and other skills related to automation/AI do you see being most deficient with your newly-hired staff? (select all that apply) *[rotate]*

☐ PLC/controls programming	☐ Digital twin/simulation tools
☐ Robotics operation & maintenance	☐ Basic digital literacy
☐ Data interpretation/analytics	☐ Problem-solving skills
☐ AI/ML literacy	☐ Change management
☐ Cybersecurity for OT (operational technology) systems	
☐ Other (please describe) _____	

5. To what extent do your current employees express hesitancy or resistance to automation/AI adoption?

☐ Considerable hesitancy or resistance
☐ Some hesitancy or resistance
☐ No hesitancy or resistance
☐ I don't know

5a. What factors or concerns seem to drive hesitancy or resistance? (check all that apply) *[if C5.1-2]*

☐ They are concerned with their personal job security	☐ They are generally resistant to change
☐ The complexity of automation/AI is of some concern	☐ They don't trust the decisions that AI makes
☐ Other (please describe) _____	

D. Recruitment & Retention Challenges

1. What factors do you see as challenges in hiring in areas where you and/or your plants are located today?

Serious challenge / Somewhat of a challenge / Not a challenge / No opinion

Upward wage pressure due to competition from other industries and employers ...	☐	☐	☐	☐
Generally, our market has lower skilled employees than we need	☐	☐	☐	☐
Demanding physical conditions for workers on the line	☐	☐	☐	☐

What other key challenges do you face in hiring? _____

1a. To what extent do you find it challenging to recruit candidates with automation/AI-relevant manufacturing skills?

☐ Extremely challenging ☐ Very challenging ☐ Somewhat challenging ☐ Relatively easy ☐ Very easy

[if A1.4 skip to F]

2. To what degree are you recruiting from different talent pools* than, 5 or 10 years ago because of automation? (check all that apply)

☐ Different to a considerable degree
☐ Different to some degree
☐ Not different at all

* Such as IT/software backgrounds, mechatronics grads, robotics technicians

2a. How have the talent pools you recruit from changed over time? *[if D2.1-2]*

3. What recruitment strategies are you using to attract automation/AI-capable talent? *(check all that apply)*

- ☐ Partnerships with technical/mechatronics programs
 - ☐ Recruiting from adjacent tech industries
 - ☐ Offering upskilling as a hiring incentive
 - ☐ Other *(please describe)* _____
-

4. To what extent do you believe automation/AI adoption affects your employee retention?

- ☐ Improves retention ☐ No effect ☐ Hurts retention

Why do you feel it improves retention? _____ *[if D4.1]*

Why do you feel it reduces retention? _____ *[if D4.3]*

4a. Which issues are you concerned with regarding employee retention driven by technology? *(check all that apply)*

- ☐ Lost institutional knowledge
 - ☐ Changing expectations of employees
 - ☐ Lower morale from remaining employees
 - ☐ Distrust of technology due to its role displacing experienced employees
 - ☐ Higher overall employee turnover
 - ☐ Other *(please describe)* _____
-

5. What change management practices do you use when introducing automation? *(select all that apply)*

- ☐ Advance communication/transparency
 - ☐ Employee involvement in tool selection
 - ☐ Guaranteed no-layoff commitments
 - ☐ Retraining guarantees
 - ☐ None formalized
 - ☐ Other *(please describe)* _____
-

E. Training & Reskilling Strategies

1. To what extent do each of these training-related challenges apply specifically to automation/AI in your company?

To a very great extent / To a considerable extent / To some extent / To a small extent / Not at all / No opinion

Pace of technology change outstrips training capacity..... ☐ ☐ ☐ ☐ ☐ ☐

Lack of internal expertise to train on new systems..... ☐ ☐ ☐ ☐ ☐ ☐

Cost of vendor/OEM-provided training ☐ ☐ ☐ ☐ ☐ ☐

Difficulty measuring training ROI on automation skills..... ☐ ☐ ☐ ☐ ☐ ☐

2. What training approaches are you using for automation/AI upskilling? *(check all that apply)*

- ☐ Vendor/equipment-manufacturer training
 - ☐ Internal formal programs
 - ☐ On-the-job shadowing
 - ☐ Other approaches *(please describe)* _____
 - ☐ Online/self-paced courses
 - ☐ Partnerships with technical colleges
 - ☐ Certification programs
-

3. Do you have a formal reskilling path for employees whose roles are displaced or changed by automation in areas where you and/or your plants are located today?

- ☐ Yes, formal ☐ Informal only ☐ No plan

F. Strategic & Business Impact

1. In summary, how important is modernization, including automation and AI, to your company's business success over the next 5 years?

- ☐ Extremely important ☐ Very important ☐ Somewhat important ☐ Somewhat unimportant ☐ Very unimportant ☐ No opinion

2. **To what extent has modernization, including automation and AI adoption affected your operations in the following areas to date:**

Great Impact / Considerable Impact / Some Impact / Not Much Impact / No Impact

Production capacity	☐	☐	☐	☐	☐
Product quality and consistency	☐	☐	☐	☐	☐
Customer service levels.....	☐	☐	☐	☐	☐
Cost structure.....	☐	☐	☐	☐	☐
Ability to compete for new business.....	☐	☐	☐	☐	☐

3. **What do you regard as the biggest barriers to further automation/AI adoption at your company? (select all that apply)**

- | | |
|--|---|
| ☐ Capital cost | ☐ Uncertain ROI |
| ☐ Lack of skilled staff to implement/maintain | ☐ Organizational/cultural resistance |
| ☐ Integration with legacy equipment | ☐ Customer/regulatory requirements |
| ☐ Other (please describe) _____ | |

We will be developing several case studies of companies at various stages of implementing modernization, automation and AI. These will help us illustrate the state of technology adoption in our industry, on an anonymous basis.

4. **Would you be willing to participate in this step of our research by participating in an interview following the survey?**

- ☐ Yes
☐ No
☐ Not sure—need more information

Please provide your email address: _____ *[if F4.1,3]*

G. Your Company Profile

1. **What are your company-wide annual gross sales?**

- ☐ Less than \$10 million ☐ \$10.1-\$35 million ☐ \$35.1-\$100 million ☐ More than \$100 million

2. **Please tell us the following about your company and yourself:**

How many manufacturing facilities do you have? _____

Approximately how many total employees does your company have, company-wide? _____

3. **In what countries and regions are your manufacturing facilities located? (select all that apply)**

- | | | |
|--|---|---|
| ☐ United States | ☐ Europe | ☐ Southeast Asia |
| ☐ Canada | ☐ Africa | ☐ Oceania (Australia, NZ, Pacific Islands) |
| ☐ Mexico | ☐ Western Asia/Middle East | |
| ☐ South/Central America | ☐ Central Asia | |

4. **Which food processing sectors do your predominantly serve or work in? (select all that apply)**

- | | |
|---|--------------------------------------|
| ☐ Meat, poultry, and seafood | ☐ Dairy |
| ☐ Prepared foods | ☐ Baked goods |
| ☐ Pet food | ☐ Beverage |
| ☐ Others (please describe) _____ | |

In what U.S. state(s) are your company operations primarily located? *[if G3.1]* _____

In what other countries do you primarily operate? *[if G3.4-10]* _____

Thank you for participating in The Future of Food Manufacturing survey.