



# WHEN MACHINES MAKE DECISIONS

## Emerging Liability Exposures in Advanced Manufacturing Food Production

Advanced manufacturing is changing fast. Across industries, companies are using AI-driven inspection systems, automated quality controls, predictive maintenance, and digital twins to improve speed, accuracy, and uptime. This tension is most acute in food manufacturing, where automation directly affects safety, regulatory compliance, and public trust.

These technologies deliver real gains. However, they also create new forms of liability that most risk programs were not designed to handle. As we look at AI in food manufacturing, it becomes clear that responsibilities and exposures are shifting.

### LIABILITY HAS SHIFTED WITH AI

When a product liability claim or regulatory action occurs, all parties in the supply chain are still named. What has changed is the number of decision-makers involved and the difficulty in identifying who made the decision.

In an advanced manufacturing facility, a single event can involve:

- + The manufacturer
- + The robotics or automation vendor
- + The AI or software provider
- + Sensor, vision, or data platform suppliers
- + The systems integrator or maintenance contractor

When algorithms, rather than people, drive outcomes, fault becomes fragmented. Root cause analysis takes longer. Defense costs rise, and resolution becomes harder.

**The duty of care is also evolving.**

AI systems used for early detection, such as contamination alerts, defect recognition, and process drift, raise expectations about what a company “knew” and when. Increasingly, regulators and courts are looking at whether:

- + An alert was generated
- + The alert was reviewed
- + A decision was overridden
- + That decision was documented

In some cases, failure to act on AI-generated insights, or to explain why they were ignored, is being treated as a potential control failure. The standard is shifting from reactive problem-solving to credible prevention and oversight.

This shift doesn’t remove people from responsibility; it actually raises the bar.

Demonstrating human oversight with clear escalation paths, documented overrides, model governance, and active monitoring is moving from best practice to a baseline expectation in advanced manufacturing environments.



## THE AI INSURANCE GAP

Most commercial insurance policies were written for human-driven operations. AI changes that equation, and the insurance market is responding, often by narrowing coverage rather than expanding it.

AI-related lawsuits in the U.S. have grown steadily since 2020, with filing rates accelerating. At the same time, policy language is tightening. Industry groups and major carriers have introduced AI-related exclusions, including specific language around generative and algorithmic decision-making.

For advanced manufacturers, especially those in food production, this creates real exposure across several lines of coverage:

### **General Liability/Product Liability**

AI-driven decisions in quality control or process parameters make algorithms integral to production, potentially leading to unexpected policy responses when losses occur.

### **Technology Errors & Omissions (Tech E&O)**

As software and automation become inseparable from production, failures in code, data, or system logic can trigger physical loss. Tech E&O coverage addresses wrongful acts or performance failures tied to technology. These are gaps that general liability and cyber policies often leave open.

### **Cyber**

Data poisoning, corrupting the datasets that train or guide AI models, can cause defective output, missed defects, line shutdowns, or contamination events. A cyber incident in an AI-enabled plant can simultaneously cause business interruption, product recalls, and third-party liability.

### **Product Recall and Contamination**

AI detection and monitoring systems lower the threshold for what counts as a “known issue.” When alerts, trend data, or anomaly logs exist, claim severity often increases and defensibility decreases.

Underwriters are already responding by asking sharper questions:

- + Who owns and controls training data?
- + How often are models reviewed or audited?
- + What happens when systems disagree with human judgment?



## WHERE TO START: A PRACTICAL CHECKLIST

Advanced manufacturing companies do not need to solve everything at once. But they do need a clear starting point. The following checklist focuses on actions that matter most from a liability and insurance perspective.

- Governance and Oversight
  - + Document when and how humans can override automated systems
  - + Define escalation paths for AI-generated alerts
  - + Require a written rationale for overrides and ignored alarms
  - + Maintain version control and change logs for models in production
  
- Vendor and Contract Risk
  - + Review AI, software, and automation contracts for liability caps
  - + Identify risk transfer gaps between vendors and the manufacturer
  - + Confirm indemnification language aligns with the real operational risk
  - + Understand who bears responsibility for model failure or data issues
  
- Insurance Coverage Alignment
  - + Map AI use cases against existing policies, not job titles
  - + Identify where GL, cyber, and recall policies may stop responding
  - + Evaluate standalone Tech E&O or AI-specific endorsements
  - + Confirm cyber coverage addresses data integrity, not just breaches
  
- Incident Response Readiness
  - + Integrate AI system data into recall and incident response plans
  - + Ensure cyber, operations, quality, and legal teams are aligned
  - + Test how alerts, logs, and analytics will be handled after an event
  
- Underwriter Readiness
  - + Prepare clear explanations of AI governance for renewal meetings
  - + Show how models are monitored, reviewed, and corrected
  - + Demonstrate that automation decisions are understood—not blind



## FINAL THOUGHT

Manufacturers struggling to provide clear answers are facing stricter conditions from insurers, including tighter terms, higher retentions, and reduced capacity.<sup>1</sup>

Automation has already increased exposure in manufacturing. What matters now is ensuring your contracts, controls, and insurance keep pace with your evolving production environment.

For food manufacturers, aligning a risk strategy with an automation strategy is no longer optional; it is part of running a defensible operation.

For more information on how your risk portfolio aligns with your automation strategy, contact your broker or risk advisor.

*IMA's Advanced Manufacturing practice supports clients in identifying emerging exposures, evaluating risk transfer options, and structuring programs suited to advanced production environments. Industry experience and forward-looking insight help manufacturers manage innovation-related risk while maintaining safe, sustainable growth.*

## SOURCES

<sup>1</sup>Duff-Brown, Beth. (2026, January 6). AI-driven insurance decisions raise concerns about human oversight. Stanford Report. <https://news.stanford.edu/stories/2026/01/ai-algorithms-health-insurance-care-risks-research>



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