# 2024 Project Category Descriptions

**Full program details at https://www.manufacturingleadershipcouncil.com/leadership-awards/**

**Artificial Intelligence and Machine Learning** - Finalists in this category demonstrate innovative utilization of AI and/or machine learning to achieve performance and process improvements. They achieve better planning, make predictive insights, increase agility, and improve quality through using data and advanced analytics for a competitive advantage.

**Collaborative Ecosystems** – This category recognizes organizational efforts at utilizing M4.0 technologies to enhance internal and external cross-functional collaboration to boost productivity, satisfy customer requirements, accelerate innovation, or achieve greater speed and agility. They create corporate structures and policies that support a collaborative enterprise and develop effective strategies to further its growth.

**Digital Network Connectivity** – Finalists in this category improve their production [perhaps remove the supply chain reference here. This one seems pretty much focused on operations and supply chain is covered in the next category]and supply chain processes through enhanced connectivity of plant equipment to enable more timely maintenance, operations, and quality. They utilize high-powered ethernet, 5G, or WiFi networks along with technologies like cloud or edge computing to enable machine-to-machine communications, allowing for data acquisition, improved cybersecurity, predictive maintenance, and other business benefits.

**Digital Supply Chains** – This category honors those who have created resilient, agile, responsive supply networks that are flexible and responsive. Finalists in this category have developed strategies for predicting and minimizing disruptions, while also rethinking and reengineering how they source materials, manage suppliers, deliver products, and service customers. They demonstrate efficiency in managing the overall value chain and maximizing customer value.

**Engineering and Production Technology** – Finalists in this category embrace new design and production approaches to drive game-changing process improvements. They adopt technologies such as advanced 3D modeling and simulation, sensor networks, advanced materials, process automation platforms, advanced robotics, and additive/3D printing for production applications. Winning projects improve efficiency and quality, increase responsiveness, and reduce costs.

**Enterprise Integration and Technology** – Finalists in this category demonstrate innovative corporate IT and communications strategies and systems, embracing approaches such as edge/cloud computing, advanced enterprise software applications, and mobility platforms. Winning projects enable agile business processes that manufacturers can use to better manage and deliver products and services. They also serve as an example of how transformative technologies can contribute to the development of the manufacturing industry in the future.

**Operational Excellence** – Finalists in this category implement continuous improvement projects and harness M4.0 technologies and processes to reduce costs, streamline processes, reduce waste, improve quality, and enhance overall equipment effectiveness. Winning projects demonstrate commitment over time, measurable results, and enhanced performance of the organization as a whole.

**Sustainability and the Circular Economy** – Finalists in this category have made significant progress in embracing manufacturing processes that minimize pollution, conserve energy and natural resources, and are economically and environmentally safe and sound for employees, communities, and consumers. They undertake Net Zero initiatives, seek innovative methods for product and materials reclamation, and show a broad and deep commitment to sustainability through product design and end-of-life strategies, meaningful metrics, and/or sustainable practices both internally and across supply networks.

**Transformational Business Cultures** – This category honors organizations that have reimagined traditional manufacturing organizational cultures to create one that is agile, empowered, diverse, and data-driven, with demonstrated leadership in employee recruiting, retention, and/or engagement. Finalists in this category encourage decisions at the lowest level possible, demonstrate excellence in employee upskilling and reskilling, and cultivate a mindset of flexibility and ownership among the workforce.

## 2024 Individual Category Descriptions

**Digital Transformation Leadership** – Individual finalists in this category demonstrate excellence in their commitment to digital technology leadership to drive transformational change in their companies. Successful candidates transform their companies by helping to lead changes in culture, in how data is leveraged to improve decision-making, in how work is organized, and in how people are inspired to achieve excellence. They rise to become role models for other individuals and companies in the industry. They are experienced professionals at diverse levels of leadership within their organizations.

**Next-Generation Leadership** – This category honors remarkable manufacturing professionals 30 years old or younger as of December 31, 2022, who embody leadership qualities required in the Manufacturing 4.0 era. Finalists pioneer and execute winning strategies, inspire and manage high-performing teams, and raise awareness of the positive impacts of manufacturing on society.