

Application: 4189

IBM Engineering Technology Team

Page: General Information

Provide information about the company to be considered for the award. If you will be nominating an individual, specify the nominee's employer.

Name of Organization/Company

IBM Manufacturing Solutions Pte Ltd

Additional Contacts

I do not wish to list additional contacts

Page: Entry Information

Entry Title

IBM Engineering Technology Team

Category

R08. Technology Team of the Year - Manufacturing Technology

Technology Team Submission Format

Written Answers

a. Briefly describe the nominated technology team: its history and past performance (up to 200 words). Required

IBM Manufacturing Solutions, based in Singapore, plays a pivotal role in IBM Global Supply Chain operations. The Engineering Technology team leads the execution of outsourced manufacturing and fulfilment of Linear Tape Open (LTO) drives as the global sole supplier, serving both internal and external clients worldwide. They also manage a network of over 100 component suppliers vital to the supply chain for IBM servers, storage systems, appliances and Quantum platform, [REDACTED FOR PUBLICATION]

With a team of 16 skilled engineering professionals, this team excels in end-to-end supply chain management and advanced manufacturing in commodity engineering. The team is also deeply involved in product development, influencing design through component selection, and ensuring seamless execution by collaborating with suppliers on new product introductions.

Despite challenges such as the COVID-19 pandemic, global semiconductor shortages, prolonged supply lead times, logistical complexities, tariff implications, and geopolitical tensions, this team is able to navigate through challenging situations. They also leveraged advanced manufacturing technologies to resolve complex problems encountered during execution, improved product quality, reduced production costs, hence contributing to IBM's sustained success in a dynamic global landscape.

b. Outline the technology team's achievements since the beginning of 2022 that you wish to bring to the judges' attention (up to 250 words). Required

In response to the global pandemic and geopolitical challenges, IBM Engineering Technology Team used advanced manufacturing technologies in supply chain operations and execution.

- Automated a legacy manual process of epoxy application that was reliant on operator workmanship. The automation was mapped using a cartesian coordinate tools and multiple Design of Experiments (DOE) to emulate operator hand movement paths. This greatly improve quality and cycle time of the process.
- Drive component suppliers to implement advanced optical inspection imaging on outgoing shipment thus improving process efficiency.
- Collaborated with component suppliers to implement robotic arm handlers to ensure a no-touch assembly of components during the manufacturing process that ensured product quality.
- Pioneered an industry first reutilization process to recover out of warranty Tape head. This process was developed through multiple experimentation and reliability testing to ensure parts quality robustness.
- Redesign of power supplies with different form factors into a singular modular design to enhance design efficiency.
- Implemented Robotic Process Automation (RPA) into Product Compliance data collection process with supplier that reduce overall processing lead time.
- Developed an adaptive process for managing Engineering Changes using cognitive query tools, that resulted in 50% improvement in time to market for new products.

The Engineering Technology team achieved outstanding business results by leveraging technology to drive innovation, enhance efficiency, and elevate product quality while reducing production costs. These initiatives enabled IBM to maintain product quality and solidify its position as an industry leader.

c. Explain why the achievements you have highlighted are unique or significant. If possible compare the achievements to the performance of other players in your industry and/or to the team's past performance (up to 250 words). Required

The achievements of the Engineering Technology team are unique and significant because they challenged status quo and spearheaded series of innovative measures to optimise supply chain operations and enhance product quality.

This team eliminated, simplified and automated several manual processes. This included the mapping of epoxy application process done by an operator to a fully automated system that improve quality and reduce cycle time, collaborated with suppliers to implement Automatic Optical Inspection (AOI) that significantly reduced incidences of defective parts escaping detection and introduced an automated handler that not only streamlined the assembly process but also bolstered the consistency and quality of our products while concurrently reducing production timelines. Amidst these automation, a reutilisation process was also established to recover the functional Tape Head from the failed modules that achieve significant annual scrap reduction of 30%.

In parallel, significant enhancements were made to the labeling and data management protocols. Transitioning from outdated 1D standard labels to advanced 2D standard labels, the team exponentially increased the volume of encoded data, enhancing parts traceability and facilitating more robust analytics-driven decision-making.

The team's commitment to operational excellence led to them using Robotic Process Automation (RPA) in managing supplier compliance data. This strategic adoption significantly expedited the validation process, reinforcing compliance protocols, and optimizing overall efficiency.

These initiatives demonstrated the team's dedication to innovation, operational excellence, and continuous improvement. The team is proud to have achieved tangible results that not only drove positive bottom-line impact but also further solidified IBM as industry leaders.

d. Reference any attachments of supporting materials throughout this nomination and how they provide evidence of the claims you have made in this nomination (up to 250 words). Optional

The IBM Engineering Team demonstrated their thought leadership and resiliency in navigating challenging situations as well as leveraging advanced manufacturing technologies to improve product quality, efficiency and reduced costs. This team made significant contributions to IBM's sustained success in a dynamic global landscape.

[REDACTED FOR PUBLICATION]

Webpage Link

Would you like to add an additional webpage link?

No

[REDACTED]

[REDACTED]

[REDACTED FOR PUBLICATION]

Would you like to add an additional supporting document?

No

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