

MANUFACTURING AND HIGH TECH

**HUMAN AMPLIFICATION IN
THE ENTERPRISE**



THE DIGITAL TRANSFORMATION JOURNEY



A majority of enterprises in the Manufacturing and High Tech sector (80%) are undergoing full-cycle digital transformation. 15% are transforming partially or in pockets and 5% are not currently transforming but will do so in the near future. The respondents who say their organizations are transforming indicate that the following AI-supported activities play a significant role in their digital transformation:

Machine learning	79%
Institutionalization of enterprise knowledge using AI	66%
Cognitive AI-led processes and tasks	60%
Automation of decision making	54%
Building AI-based applications to amplify and improve products and services	53%
Robotic automation	46%

According to the respondents, the top three digital transformation goals of their organizations are to become more agile and customer-centric (52%), build a mobile enterprise (51%) and deliver great employee experiences (42%).

“The economics of investing in robotic efficiencies is not lost on manufacturers. An example is Bosch, the German manufacturing company, which hopes to earn one billion dollars in additional revenue, and save one billion in costs by using machine learning for predictive maintenance and self-monitoring. With robots attaining greater degrees of sensitivity in their touch capabilities, they will be able to take over many assembly and movement-dependent activities on the future manufacturing floor. At the same time, improvement in sensor and vision technology is creating smarter, lighter and friendlier co-bots that humans can work with safely. For instance, automobile maker BMW’s self-driving Smart Transport Robot travels the floor and sends out communication on any critical situation it sees.”

TRANSFORMATION PRIORITIES



Over one in three respondents indicate that their organizations' first priority for automation initiatives is to automate processes. This is followed closely by data as the next most important priority ranked by 30% of the respondents. The main reasons for these are to increase productivity (66%), minimize manual errors (61%), reduce costs (59%) and refocus people's efforts on non-repetitive tasks that benefit from human intervention (50%).

Of the various applications of AI that Manufacturing and High Tech sector senior level employees want to adopt in the next 12 months, the respondents indicate:

- 60%** want AI to provide human-like recommendations for automated customer support/advice
- 58%** want AI to process complex structured and unstructured data and to automate insights-led decisions
- 48%** want to use AI to create a simulated experience that is essential to a decision making process
- 38%** want to use AI to create a decision-making system in which machine learning allows the system to learn from humans and improve itself
- 20%** want to use AI to institutionalize enterprise knowledge

To become more innovative, 71% of the respondents indicate that they need freedom from having to perform mundane tasks, 61% say they need more avenues for experimentation, 58% say they need opportunities to learn new skills, 49% say they need exposure to new, breakthrough technologies and 42% need more collaboration with other people.

Two-third of the respondents from the Manufacturing and High Tech sector say employee lifelong learning is extremely important to their organizations. Of the reasons for why lifelong learning programs are important, 61% say it improves their ability to fit into new roles and jobs, 25% say it improves their productivity, and 10% say it prevents skills loss when employees with highly specialized skills retire or switch jobs.

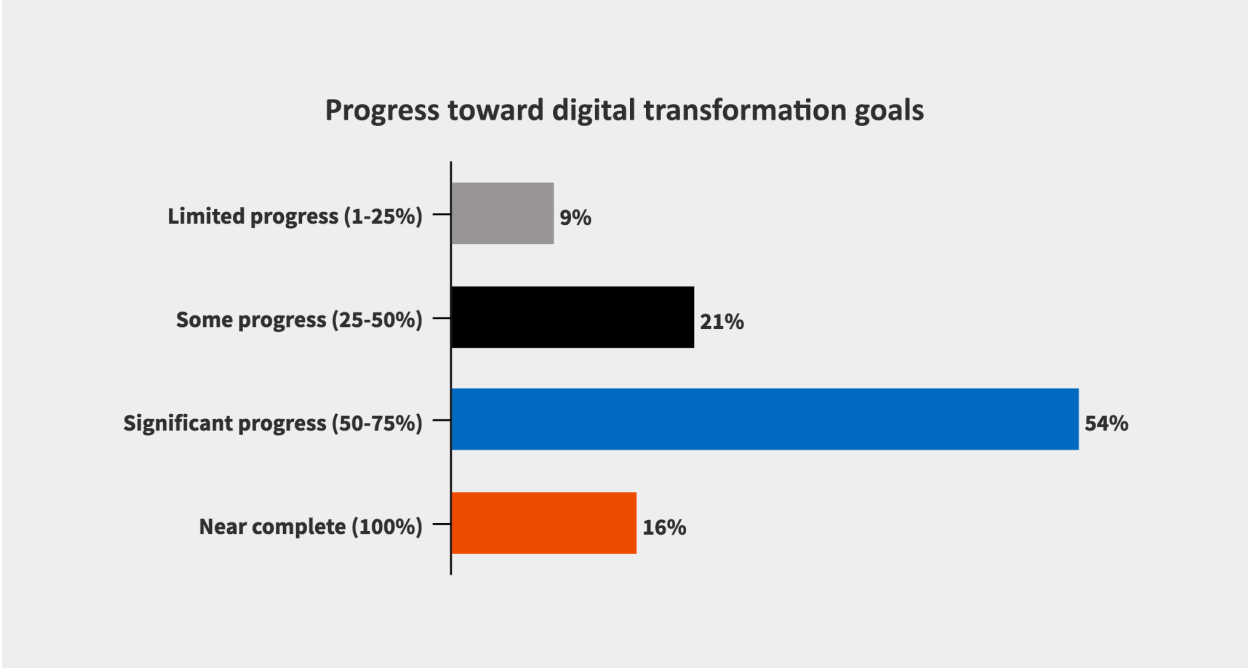
TRANSFORMATION CHALLENGES

Even though a majority of enterprises in the Manufacturing and High Tech sector are undergoing digital transformation, few have fully accomplished their stated goals. The respondents indicate that only 16% of the enterprises have accomplished their digital transformation goals, 54% have made significant progress, 21% have made some progress and 9% have made limited progress.

The main reasons listed for why these digital transformation goals are difficult to achieve are lack of data-led insights on demand (67%), lack of collaboration among teams (51%) and lack of time (40%).

When IT professionals were specifically asked about difficulties in achieving their enterprises' full-cycle digital transformation, they highlight IT misalignment (68%), entrenched resistance to change within the organization (59%) and time constraints (51%).

When asked about the challenges of adopting more AI-supported activities as a component of their digital transformation initiative, 58% of the respondents indicate lack of in-house knowledge and skills around the technology, 57% mention lack of clarity regarding the AI value proposition and 54% say there's lack of financial resources.



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SCOPE OF RESEARCH/METHODOLOGY

Infosys commissioned LEWIS Research to undertake the research upon which this report is based. 1,070 IT and business decision-makers were interviewed between 27th March and 18th April 2017. All are from organizations of more than 1,000 employees, with \$500 million or more annual revenue and from a range of sectors, in the United States. The majority of interviews were conducted using online interviewing with a small number of follow-up telephone in-depth interviews. All were undertaken using a rigorous multilevel screening process to ensure that only suitable candidates were given the opportunity to participate. Unless otherwise indicated, the results discussed are based on the total sample. The overall margin of error is +/- 2.91% at a 95% confidence interval.



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