Next-Gen Industrial AI

Regional Spotlight: Asia-Pacific

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Next-Gen Industrial AI: Leading with a New Edge

The Asia-Pacific region is home to some of the world's largest and most advanced industrial complexes and infrastructure networks. The combination of economical labor pools and the world's most efficient supply chains allows the region to offer world-leading scale and value across dozens of verticals in manufacturing, heavy industry, energy, infrastructure, and transport.

However, as the next generation of industrial AI matures, other regions will have new ways to compete with the region's industries. In fact, more intelligent automation, coupled with rising labor costs in Asia-Pacific, could allow industrial competitors in Europe and North America to move their value chains from east to west.

To investigate that shift to next generation industrial AI, we conducted a survey of 515 senior leaders. Each respondent needed to be responsible for, involved in, or knowledgeable about their organization's existing or planned use of AI. Here, we discuss some of the findings from the 124 respondents in Asia-Pacific; the overall findings have been published in our Next-Gen Industrial AI report.

Organizations expect a leap forward in AI benefits

Over the next three years, Asia-Pacific respondents are expecting a significant increase in the benefits they will see from AI. More than eight in 10 expect that by 2022 they will benefit from using AI to automate quality control; to improve existing products; to optimize systems automatically; and provide market or system forecasts. All of these are expected to benefit roughly twice as many organizations by 2022 than today.

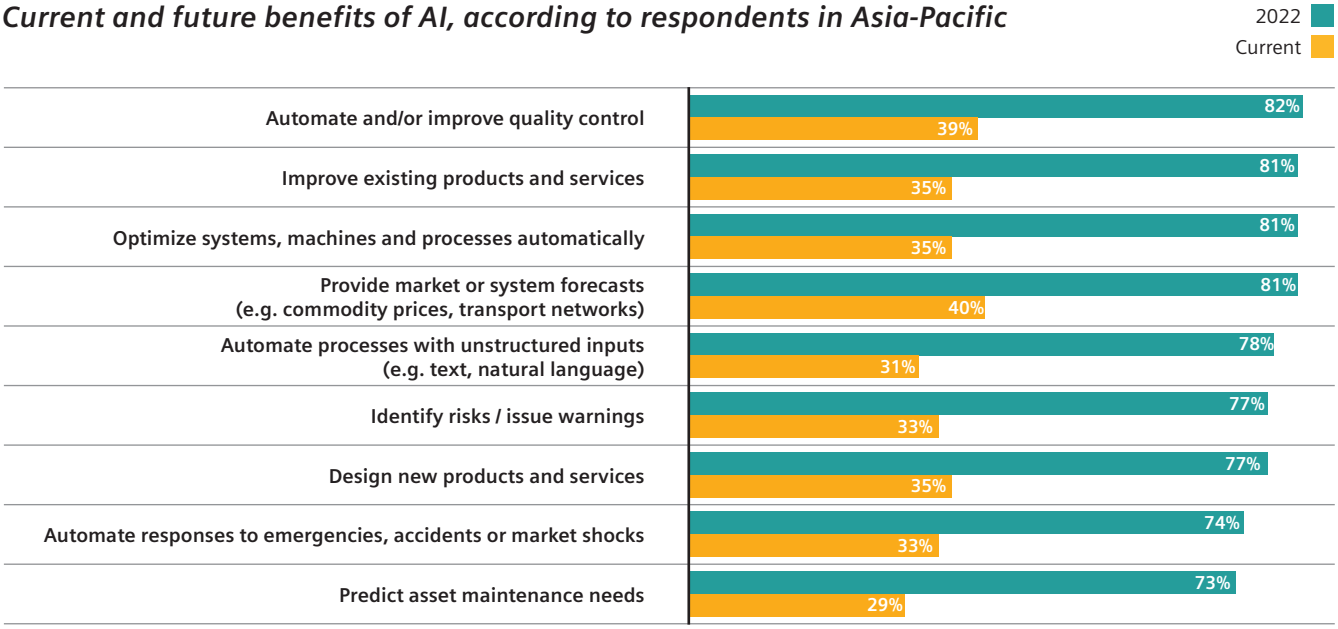
More Asia-Pacific respondents are expecting to benefit from AI by 2022 than respondents in other regions.

One explanation for this could be the attitude of Asia-Pacific respondents to obstacles to AI, many of which they are expecting to overcome. For example, their top barrier today is a lack of a strategic approach to AI, which is cited by 75% of respondents. This will fall by more than half by 2022, to 31%. Resistance to change, which is a barrier for 72% today, will fall more than any other barrier, to 28%.

AI in a post-covid world

When this research was commissioned, there was a lot of hype around the potential of consumer AI, and fewer insights available on industrial AI. While we at Siemens, with over 30 years' experience in industrial AI, are no strangers to this field, we wanted to learn more about the experience of other organizations. This research sought to uncover the benefits and barriers of industrial AI applications, and to highlight its potential, especially when combined with other technologies like IoT and digital twin. Suddenly the world is a different place. However, as organizations seek to recover, rebuild and adapt in a post-covid environment, the potential of industrial AI is more relevant than ever.

Current and future benefits of AI, according to respondents in Asia-Pacific



Respondents are expecting safety risks and cybersecurity risks to fall the least, and these are predicted to become the most prevalent barriers in three years – leap-frogging the more organizational barriers that lead today.

What does this reveal about how AI is likely to unfold in Asia-Pacific? One important point is that organizations will be invited to put ever more trust in AI. Already, there are use cases where AI-driven automation controls valuable assets and potentially hazardous machines, vehicles, and infrastructure.

As this shift in control becomes more commonplace, Asia-Pacific industry leaders will grapple with new challenges, such as when to put AI control ahead of human control, how to convince teams to put their trust in AI and how to ensure the right levels of governance are in place to control risk while allowing innovation in industrial AI to flourish.

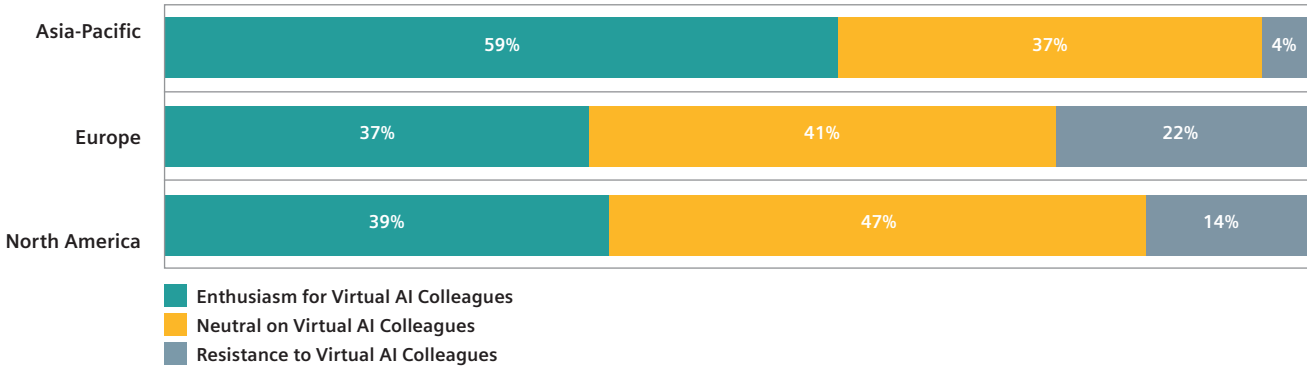
New colleagues: AI in the workforce

Compared with North America and Europe, Asia-Pacific respondents report greater openness to adopting industrial AI.

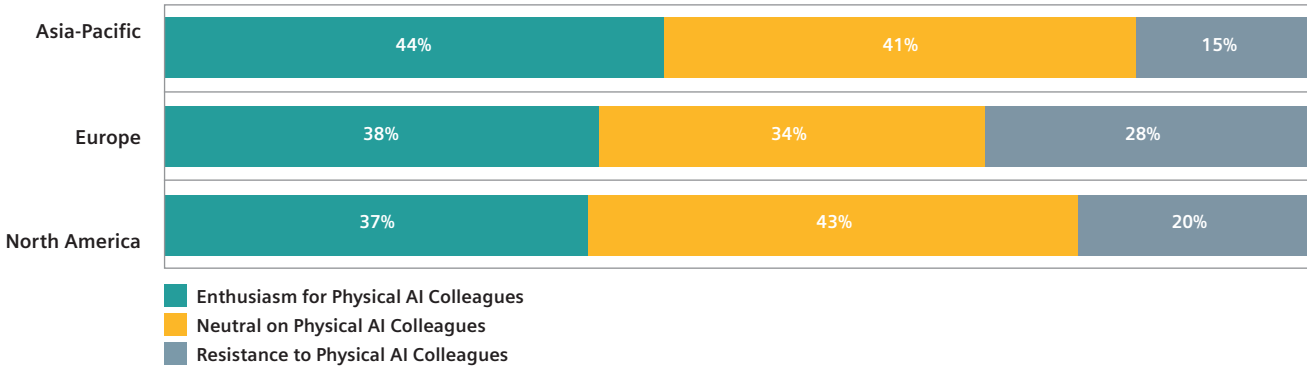
For example, we asked respondents to imagine that in the coming years AI systems begin to function much more like human colleagues, making independent decisions and acting autonomously. We described how we could classify these new colleagues as virtual AI colleagues (e.g. AI assistants, analysts, market traders) or physical AI colleagues (e.g. robots, vehicles, machines). We then asked respondents what they thought their workforce's attitude – from strong enthusiasm to strong resistance – would be to adopting these two kinds of autonomous AI colleagues.

For both virtual and physical AI colleagues, Asia-Pacific respondents are much more likely than either North American or European respondents to say their organization would be enthusiastic. And on the flipside, just 4% of Asia-Pacific respondents say they would expect resistance to virtual AI colleagues, while more than three times as many expect resistance in North America (14%), and more than five times as many in Europe (22%).

Attitudes towards working with virtual AI colleagues



Attitudes towards working with physical AI colleagues



Asia-Pacific appears one step ahead

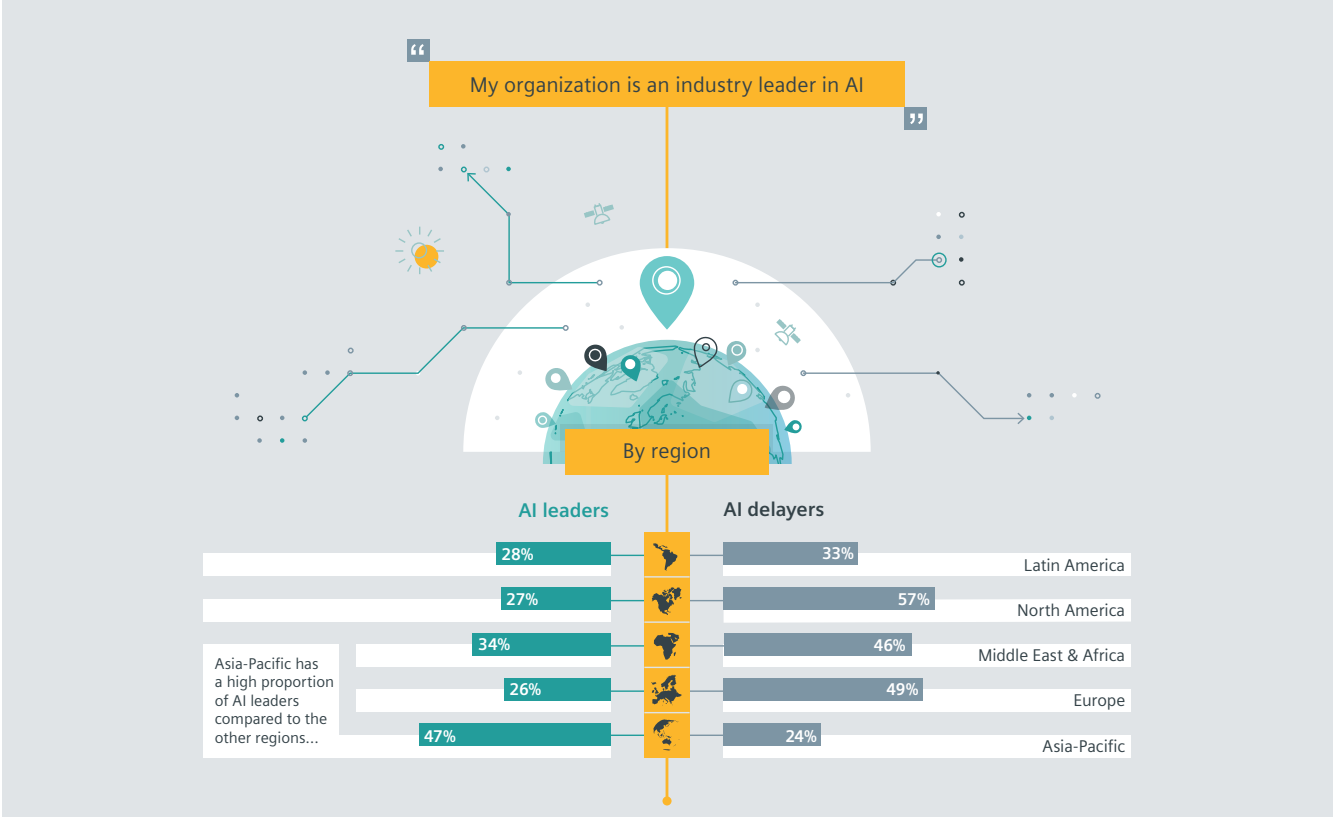
Asia-Pacific respondents in our research suggest that the region is already ahead in industrial AI, with 61% saying it has already had a significant positive impact on their organization, compared with 51% in Europe and 43% in North America.

And nearly twice as many (47%) report that their organization is an industry leader in the use of AI, compared with just 26% in Europe and 27% in North America. If organizations in the region build on that advantage, it could help them to offset competitive pressure from rising wages, regulatory change, and economic turmoil.

Many in North America and Europe see the potential of industrial AI applications to transform their global competitiveness, but they are not moving fast enough to make it a reality. Industrial powerhouses in Asia-Pacific, on the other hand, are racing ahead, replacing one advantage with another in the battle to maintain their edge.

What is AI?

In this report, and the research that supports it, 'artificial intelligence' and 'AI' refer to a broad spectrum of methods or technologies that perform tasks which would normally require functions of human intelligence such as learning, judging, and problem-solving. This is more in keeping with the contemporary business understanding of AI than any technical or academic conventions.



ABOUT THE RESEARCH: Siemens and our research partner Longitude conducted primary research[1] into the uses of, attitudes to, and outlooks for AI in industrial organizations. We surveyed 515 senior business leaders in the energy, industrial/manufacturing, urban infrastructure, and transportation sectors. The research included respondents from North America, Latin America, Europe, the Middle East and Africa, and Asia-Pacific. All respondents were from organizations with an annual revenue of at least $100 million. In order to qualify for the survey, respondents needed to be responsible for, involved in, or knowledgeable about their organization's existing or planned use of AI and related technologies, strategies, budgets, and applications. The research included respondents from North America, Latin America, Europe, the Middle East and Africa, and Asia-Pacific and was concluded in September 2019.

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