

# 5 Trends for AI Adoption in Manufacturing

Manufacturers are utilizing AI to unlock greater efficiencies within their production environments, according to a survey of manufacturing leaders conducted by Edge Impulse and Manufacturing Dive's studioID.



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## Production monitoring is the foundation for AI

9 in 10 manufacturers report that they are currently monitoring production output, product quality and consistency, and equipment. This sets the stage for AI integration.



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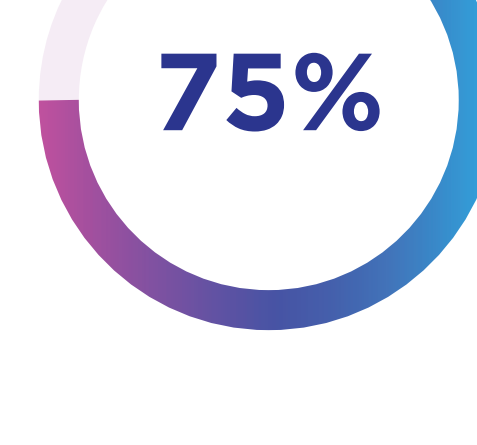
Companies are using edge AI to optimize processes, monitor equipment, inspect products, and predict maintenance issues before they occur, ensuring more consistent production and a stronger bottom line.

**DANIEL SITUNAYAKE**  
Director of ML, Edge Impulse

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## Quality is the name of the game

Improving the bottom line is a clear priority, with over 75% of respondents looking to AI to strengthen their manufacturing process. This is closely followed by production quality.



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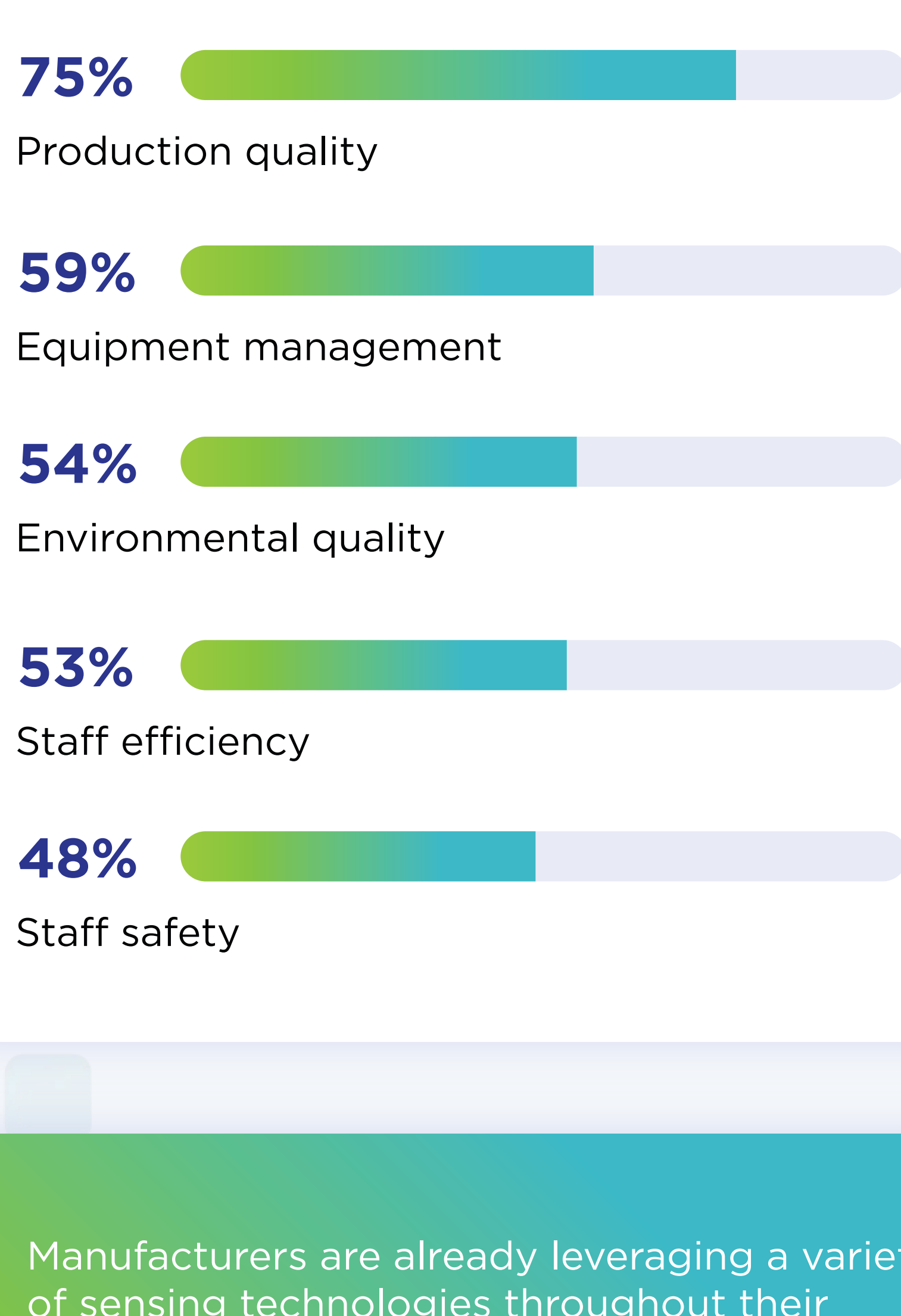
Many of our customers are working to train models that combine human intelligence with the repeatability of a machine, to enhance accuracy and efficiency in their operations.

**JIM BRUGES**  
Staff Solutions Engineer, Edge Impulse

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## Real-time sensor insights boost manufacturing efficiency and safety

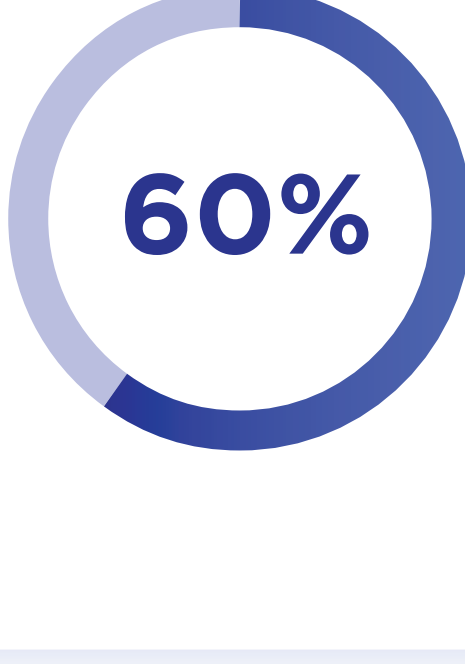
Where are manufacturers looking to use AI/ML to improve manufacturing?



Manufacturers are already leveraging a variety of sensing technologies throughout their production environments. The resulting data enables manufacturers to improve accuracy and automation, which directly increases the value of their output.

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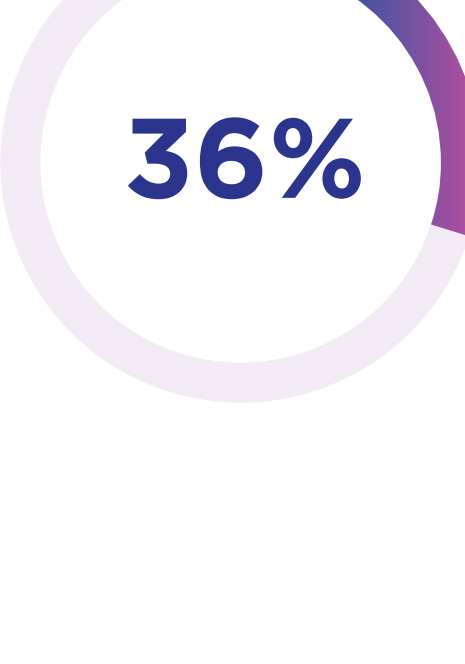
## AI can improve worker safety



Respondents rate staff monitoring as “very” or “extremely” important. Over 60% are considering implementing AI solutions for worker safety as a next step in their projects.

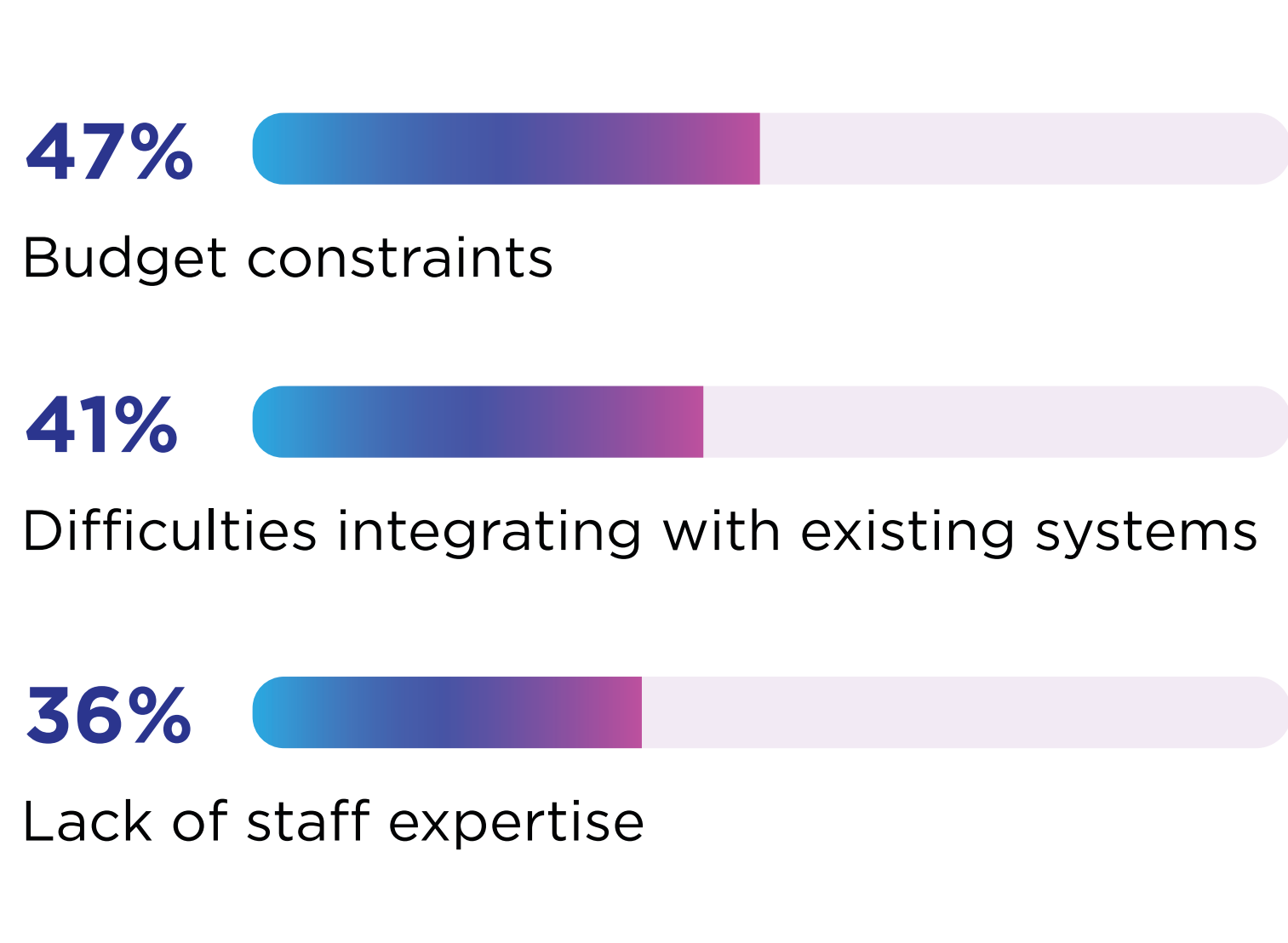
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## Having internal AI expertise is a competitive edge



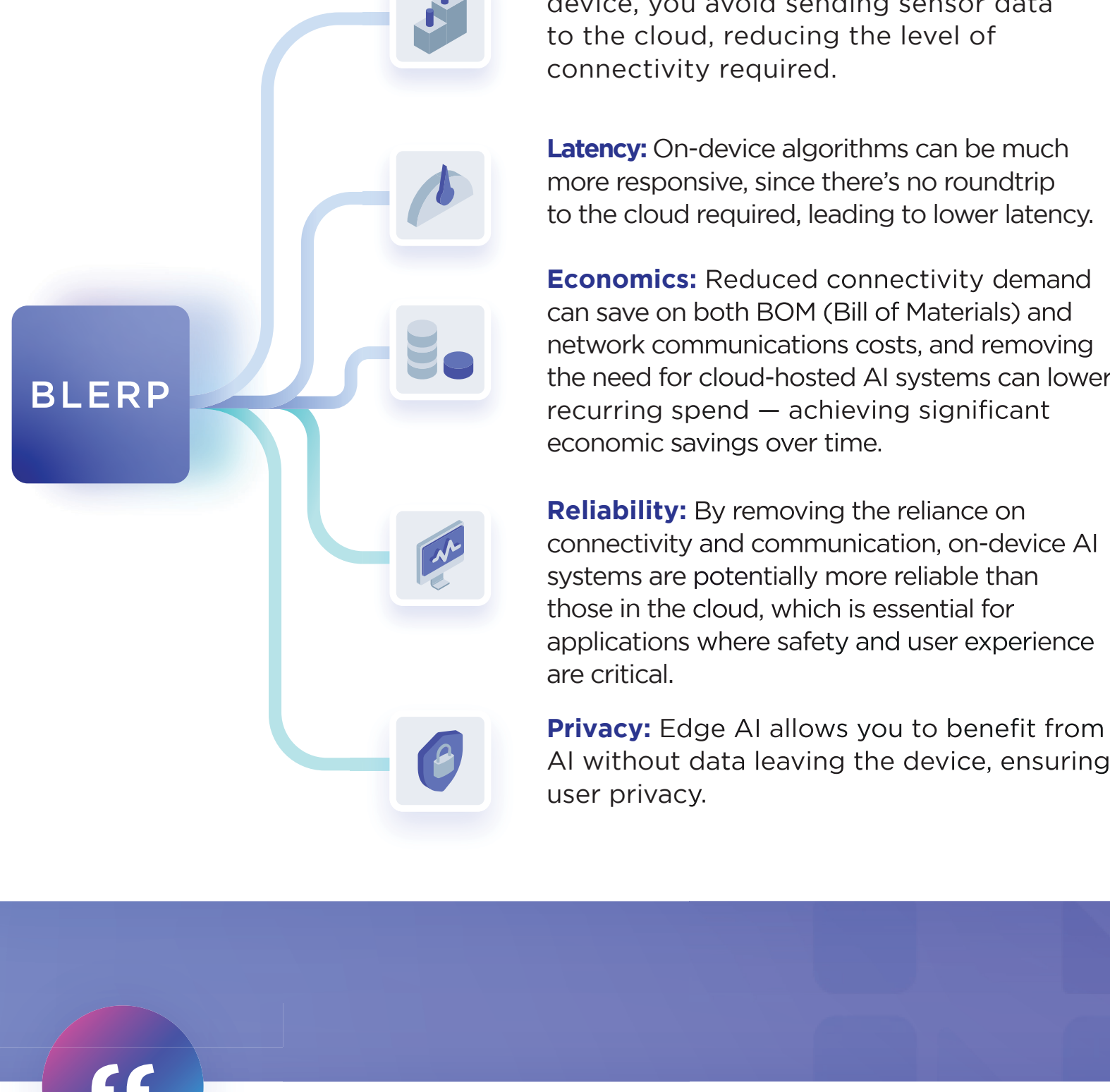
To stay competitive, manufacturers must prioritize building internal expertise. Budget and integration challenges are the top barriers to AI adoption, with more than a third of manufacturers citing a lack of staff expertise as a significant hurdle.

What are manufacturers’ top barriers to adopting AI/ML?



## Conclusion

Manufacturers integrating AI directly on devices — known as **edge AI** — are well-positioned to tackle today’s complex challenges. By processing data within the production environment, they save bandwidth, strengthen data privacy, and achieve faster results.



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Manufacturers now understand and are adopting this technology for a range of applications as a way to lead their industries and stay competitive.

**ALESSANDRO GRANDE**  
Head of Product, Edge Impulse

**See how Edge Impulse can help your business bring edge AI into your manufacturing environment and processes.**

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