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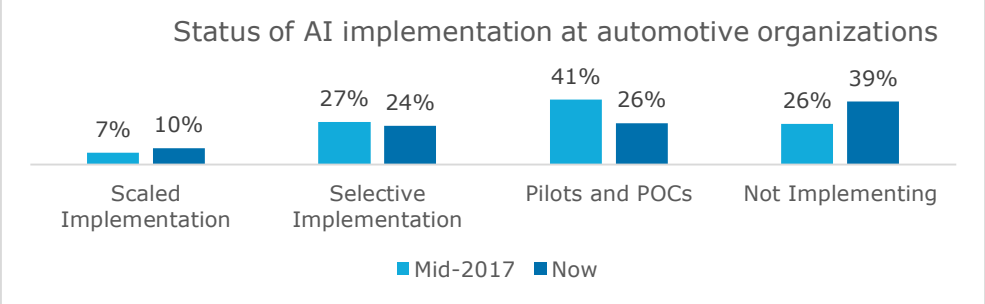
# Capgemini research shows modest AI implementation progress in the automotive sector

***Uptake on large scale AI projects stalls, however research shows successful adoption can add millions to operating profit***

**Paris, March 26, 2019 – A new study from the Capgemini Research Institute has found that just 10% of major automotive companies are implementing artificial intelligence[1] (AI) projects at scale, with many falling short of an opportunity that could increase operating profit by up to 16%. The research also shows that fewer automotive companies are implementing AI than was the case in 2017, despite the cost, quality and productivity advantages, many report it delivering.**




The "Accelerating Automotive's AI Transformation: How driving AI enterprise-wide can turbo-charge organizational value" study surveyed 500 executives from large automotive companies in eight countries, building on a comparable study from 2017, to establish recent trends in AI investment and deployment. The research highlighted the following potential reasons for the modest progress in relation to AI implementation:

- The roadblocks to technology transformation are still significant, such as legacy IT systems, accuracy and data concerns, and lack of skills.
- The hype and high expectations that initially came with AI may have turned into a more measured and pragmatic view as companies are confronted with the reality of implementation.

**Key findings include:**

**Scaling of AI has seen a slow growth:** Since 2017, the number of automotive companies that have successfully scaled AI implementation has increased only marginally (from 7% to 10%). However, more significant was the increase in companies not using AI at all (from 26% to 39%). According to the report, just 26% of companies are now piloting AI projects (down from 41% in 2017). This is maybe due to companies finding it harder to realize a desired return on investment. The results also reveal a significant

[1] *Artificial intelligence (AI) is a collective term for the capabilities shown by learning systems that are perceived by humans as representing 'intelligence'. Today, typical AI capabilities include speech, image and video recognition, autonomous objects, natural language processing, conversational agents, prescriptive modeling, augmented creativity, smart automation, advanced simulation, as well as complex analytics and predictions.*

regional disparity, with 25% of US firms delivering AI at scale, compared to 9% in China (note, this is a significant increase from 5% to 9%), 8% in France, 5% in Italy and 2% in India.

**Automotive organizations can drive significant reward from scaled AI:** The modest progress in implementing AI projects at scale represents a major missed opportunity for the industry. Modelling in the report, based on one typical Top 50 Original Equipment Manufacturer (OEM), estimates that delivering AI at scale could achieve increases in operating profit ranging from 5% (or $232m) based on conservative estimates, to 16% (or $764m) in an optimistic scenario.

*"With AI-empowered visual inspection we have sensibly reduced the ratio of false positives with respect to the previous systems,"* said Demetrio Aiello, head of the AI & Robotics Labs at Continental. *"I am very confident that if we can deploy AI to its fullest potential it would have an impact on performance equivalent to almost doubling our capacity today."*

**AI is seen more as a job-creator than a job-replacer:** The report showed that the industry has become more positive about AI's job-creation potential - 100% of executives say that AI is creating new job roles, up from 84% in 2017.

**Where AI is being deployed, it is achieving results:** The survey found a consistent story of AI delivering benefits across every automotive business function. On average, it delivered a 16% increase in productivity across Research and Development (R&D), operational efficiency improvements of 15% in the supply chain and 16% in manufacturing/operations, reduced direct costs of 14% in customer experience and 17% in IT, and reduced time to market by 15% in R&D and 13% in marketing/sales.

Additionally, a number of successful AI projects are identified and detailed in the research report. One example is Continental generating 5,000 miles of vehicle test data an hour through an AI-powered simulation, compared to 6,500 miles a month it was getting through physical test driving.

Others include:

- Volkswagen accurately modeling vehicle sales across 250 auto models in 120 countries using machine learning[2]
- Mercedes-Benz testing an AI-recognition system for parcel delivery that can reduce vehicle loading time by 15 percent[3]

Markus Winkler, Executive Vice President, Global Head of Automotive at Capgemini concludes, *"These findings show that the progress of AI in the automotive industry has hit a speedbump. Some companies are enjoying considerable success, but others have struggled to focus on the most effective use cases, vehicle manufacturers need to start seeing AI not as a standalone opportunity, but as a strategic capability required to shape the future which they must organize investment, talent and governance around."*

*He continues, "As this research shows, AI can deliver a significant dividend for every automotive business, but only if it is implemented at scale. For AI to succeed, organizations will need to invest in the right skills, achieve the requisite quality of data, and have a management structure that provides both direction and executive support."*

[2] Automotive World, "VW says OK to AI", March 2018
[3] Daimler website, "Vans as motherships", September 2018

**To deliver at scale, companies must invest, upskill and create infrastructure:** The report also examined the behaviors of the companies in the survey who have had the most success implementing AI at scale ('Scale Champions'). It found they had typically,

- invested much more in AI (more than $200m a year for 86% of Champions),
- focused hiring and training efforts on AI skills (32% said hiring was relevant to their AI strategy, versus 14% of others; 25% said they proactively upskilled and re-skilled current employees, compared to 8% of others); and
- created a clear governance structure to prioritize and promote AI, with measures including a central steering to govern AI investment, and a cross-functional team of tech, business and operations experts.

**Research Methodology**

The Capgemini Research Institute conducted a primary survey of 500 automotive executives from large automotive organizations in eight countries: China, France, Germany, India, Italy, Sweden, United Kingdom and the United States. The research team then conducted in-depth interviews with a number of industry experts and entrepreneurs.

The report can be downloaded here.

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