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Smart Factories to add \$500 billion to the global economy in next 5 years

Paris, May 15 2017 – [Capgemini](#), a global leader in consulting, technology and outsourcing services, has today announced the findings of its [Smart Factories report](#). According to the research from Capgemini's Digital Transformation Institute, manufacturers expect that their investments in smart factories will drive a 27% increase in manufacturing efficiency over the next five years which would add \$500 billion¹ in annual added value² to the global economy.

Often described as a building block of the 'Digital Industrial Revolution', a smart factory makes use of digital technologies including the Internet-of-Things, Big Data Analytics, Artificial Intelligence and Advanced Robotics to increase productivity, quality and flexibility. Smart factory features include collaborative robots, workers using augmented reality components³ and machines that send alerts when they need maintenance. By the end of 2022, manufacturers expect that 21% of their plants will be smart factories. Sectors, such as aerospace and defense, industrial manufacturing and automotive, where people are working alongside intelligent machines, are expected to be the leaders of this transition.

Digitization of factories is a necessity

As a result of productivity, efficiency and flexibility improvements, smart factories will benefit from significant reductions in operating costs. For example, the report estimates that the average automotive manufacturer could drive up to a 36% improvement in operating margin⁴ through improved logistics and material costs, equipment effectiveness and improved production quality. As such, the majority of industrial companies have already embarked upon their digitalization of plants to stay competitive; only 16% of those surveyed say they don't have a smart factory initiative in place, or upcoming plans to implement one.

Early-adopters, including factories in the US and Western Europe are leading the pack; half of respondents in the US, France, Germany and the UK have already implemented smart factories as opposed to 28% in India and 25% in China. A divide is seen across sectors as well; 67% of industrial manufacturing and 62% of

¹ In the next five years, manufacturers expect smart factories to drive performance improvements that significantly exceed previous efforts:

- Productivity to grow annually at 7 times the rate of growth since 1990
- Important cost items such as inventory, Capex and materials, expected to be rationalized at more than 11 times the rate of improvement since 1990
- Quality indicators such as on-time delivery and scrap reduction, expected to improve at more than 12 times the rate of improvement since 1990

² The US Bureau of Economic Analysis defines industry value added as the contribution to the overall GDP of an industry or sector. It is calculated as the difference between an industry's gross output and the cost of its intermediate inputs.

³ Components can include helmets, projections, lenses, tablets, wearables, etc.

⁴ With smart factories, an average automotive manufacturer with \$1 billion revenues and 5% operating margin would be able to boost its margin by 36% - or 2 percentage points to 7%.

aerospace and defense organizations have smart factory initiatives. Yet a little more than a third (37%) of life science and pharma companies are leveraging digital tech, opening their business up for industry disruption.

Economic gains likely conservative, smart factories could add as much as \$1,500 billion to global economy

Money is pouring into smart factories; more than half (56%) of those surveyed have invested \$100 million or more in smart factory initiatives over the past five years and 20% have invested \$500 million or more. Yet, according to analysis by Capgemini's Digital Transformation Institute only a small number of organizations (6%) are at an advanced stage of digitizing production. Further, only 14% of those questioned stated that they felt 'satisfied' with their level of success.

As manufacturers' smart factory efforts ramp up and returns improve the report predicts further investments in digitization. The upper end of the Digital Transformation Institute's forecast is that half of factories could be smart by the end of 2022 with the increased productivity gains adding up to \$1,500 billion to the global economy

"This study makes it clear that we are now in the digital industrial revolution. The impact on overall efficiency will be profound," said Jean-Pierre Petit, Global Head of [Digital Manufacturing](#) at Capgemini. *"The next few years will be critical as manufacturers step up their digital capabilities and accelerate their digital outcomes to maximize company benefits."*

Smart Factories will change the skill demand globally

The shift to smart factories will transform the global labor market, and while previous waves of automation have reduced low-skill jobs, organizations have recognized the skills imperative and are now acting on it.

Respondents see automation as a means to remove inefficiencies and overheads, rather than jobs, so more than half (54%) of respondents are providing digital skills training to their employees and 44% are investing in digital talent acquisition to bridge the skill gap. For highly skilled workers in areas such as automation, analytics and cyber security, there are even more employment opportunities.

Grégoire Ferré, Chief Digital Officer at Faurecia and Capgemini client said, *"At Faurecia, we are seeing the greatest success in our employees working alongside intelligent tech. For example, we use smart robots in our business where there are ergonomic issues, ultimately creating a safer environment for workers and it gives them time back to focus on other, more-important tasks."*

On Faurecia's smart factory plans, he added: *"Launching Greenfield smart factories as well as digitizing Faurecia's more than 300 plants is a key building block of our digital transformation program. We are also seeing success in 'revamping' old processes to be more efficient, for example making our shop floor paperless, or using technology as part of our predictive maintenance scheme – all of which save our employees time."*

Capgemini's Smart Factories Report Methodology

The research, which was conducted from February to March 2017, interviewed 1,000 executives holding director or above rank in manufacturing companies with a reported revenue of more than \$1 billion each. The research was conducted across six sectors; industrial manufacturing, automotive & transportation, energy & utilities, aerospace & defense, life science & pharmaceuticals and consumer goods. Directors from the US, UK, France, Germany, Sweden, Italy, India and China were interviewed in both qualitative and quantitative interviews.

About Capgemini

With more than 190,000 people, Capgemini is present in over 40 countries and celebrates its 50th Anniversary year in 2017. A global leader in consulting, technology and outsourcing services, the Group reported 2016 global revenues of EUR 12.5 billion. Together with its clients, Capgemini creates and delivers business, technology and digital solutions that fit their needs, enabling them to achieve innovation and competitiveness. A deeply multicultural organization, Capgemini has developed its own way of working, [the Collaborative Business Experience™](#), and draws on [Rightshore®](#), its worldwide delivery model.

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About the Digital Transformation Institute

The Digital Transformation Institute is Capgemini's in-house think-tank on all things digital. The Institute publishes research on the impact of digital technologies on large traditional businesses. The team draws on the worldwide network of Capgemini experts and works closely with academic and technology partners. The Institute has dedicated research centers in the United Kingdom and India.