Mechanical Engineer

Construction and Public Works

?? Although eight criteria, including the complexity and creativity of primary tasks and associated risk levels, indicate this job has significant automation potential, its physical dimension acts as a substantial hurdle to further automation

While certain AI-based tools can aid in simulating and testing mechanical designs, the creation of original designs, supervision, and collaboration necessitate human expertise and intervention.

Automation degree: 8,25%

Job Still Minimally Affected by AI Due to Its Physical Dimension

8,25%

Main tasks

This section reviews the 3 main tasks associated with the job studied and assesses the potential level of automation induced by AI **(« AI Automation Impact »)**.The modeling uses 8 criteria detailed on the **« Methodology »** page.

Tasks	AI Automation Impact
Design, develop, and test mechanical systems based on needs and specifications	Low
Oversee the manufacturing and installation of mechanical components to ensure their conformity	Moderate
Collaborate with multidisciplinary teams to integrate mechanical systems into broader projects	Very Low

Impact on skills

At-risk Skills ↓	
Mastery of specialized calculation and basic CAD/CAE software	Although these tools remain essential today, AI is simplifying their use. Increasingly, these tools are equipped with AI-based assistants that guide the user through the design process, making deep mastery of each feature less crucial.
Manual management of supply chain and stock	As previously mentioned, automation and AI-based systems are taking over in these areas. Mechanical engineers might have less need to directly involve themselves in these administrative tasks in the future.
Future-proof Skills ↑	
Eco-design and energy efficiency	In a world where sustainability has become essential, the mechanical engineer must integrate eco-design to develop products with a lower environmental impact. Simultaneously, with the rise in energy costs and concerns related to climate change, energy efficiency is paramount.
Multidisciplinary collaboration and integration	With the convergence of fields (mechanical, electronic, software, biotechnology, etc.), the ability to work in multidisciplinary teams and understand how to integrate different systems becomes increasingly valuable. This skill requires both technical knowledge and interpersonal skills, and it is hard to automate.

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