

# Machining process optimization using simulation in Flexsim

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## Abstract

One of the best methods to deliver your costumers' demand is to use manufacturing or machining cells to produce in large scale with a high product mix. To maximize production and serve the demand, the challenge is to balance labors and manufacturing capability. As the system can be very complex, one approach is to simulate the whole system and observe how it behaves, monitoring cell's cycle time, the workflow and the WIP inventory. Then it is possible to find out if the current cycle time attends our current costumers' demand. The main purpose of this paper is to simulate, by using the digital twin software Flexsim, a gear machining cell from a global technology company, located in Sao Paulo, Brazil, that supplies transmissions systems for light and heavy vehicles.

## Keywords

Simulation, productivity, flow, improvement, WIP.

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**Gabriel Cassino** is an undergraduate in Industrial Engineering at FACENS University. His areas of interest are logistics, entrepreneurship, operational research, project management and sustainable development.

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**Talia Pontes** currently works with the development of solutions in the startup area of a multinational. She has knowledge in continuous improvement, Agile project management, and is a certified citizen developer.

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