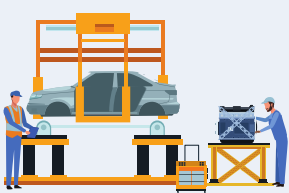


## Industrial and Manufacturing Engineers



Industrial and manufacturing engineers play a diverse role, which oversees many areas of production in a manufacturing environment. The insights and expertise they provide spans functional roles within businesses, as they conduct studies, supervise and develop programs to maximize the productivity of equipment, human resources, technology, materials and procedures. As regulatory environments and technologies evolve, these engineers play a critical role in future proofing industrial and manufacturing settings.

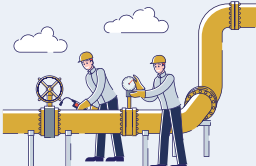
### Where do Industrial and Manufacturing Engineers work?



Vehicle Assembly and Body Parts Manufacturing



Aerospace Products and Parts Manufacturing



Oil and Gas Industry



Architecture, Engineering & Related Services



Management & Technical Consulting Industry

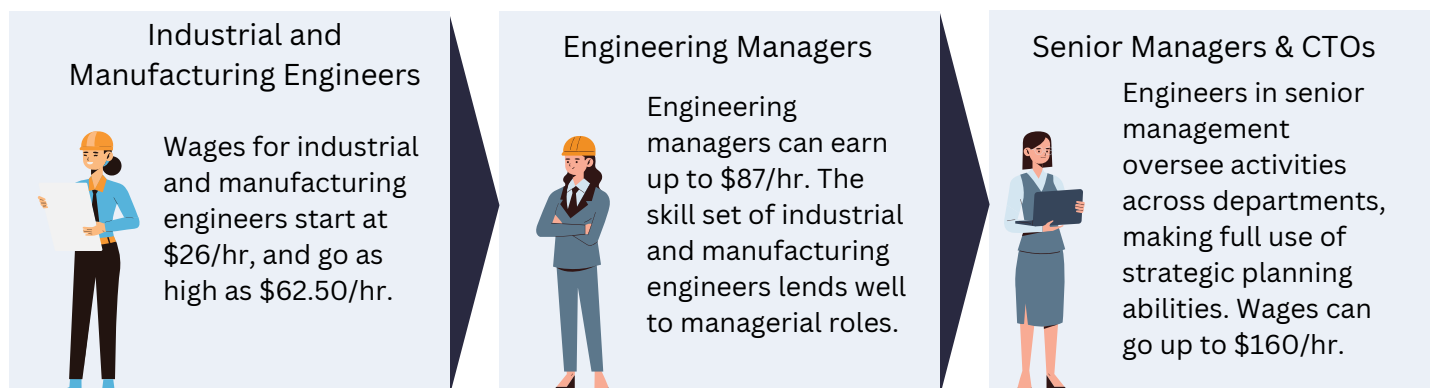
### What do Industrial and Manufacturing Engineers do?

Industrial and Manufacturing Engineers' primary objective is ensuring resources are used efficiently to maximize production. They use data gathered from studies and apply engineering theory to increase not only product and process efficiency, but also plant security and safety. They also create performance standards used in evaluation systems for incentive programs and other human resource investment.

- Plan and design plant layouts and facilities
- Determine human resource and skill requirements, and develop training programs
- Establish programs and conduct studies to enhance industrial health and safety or to identify and correct fire and other hazards
- Study new machinery and facilities, and recommend or select efficient combinations
- Supervise technicians, technologists, analysts, administrative staff and other engineers

### Career pathways & potential earnings of Industrial Engineers

Industrial Engineers can progress to other roles and positions with adequate experience and skills:



Industrial and Manufacturing Engineers can also apply their skills and expertise in other occupations such as the following:

- Mining engineers
- Natural and applied science policy researchers, consultants and program officers

## How do I become an Industrial or Manufacturing Engineer?

There are several requirements to become an Industrial or Manufacturing Engineer. Some requirements may vary by province or company. Below are the most commonly required qualifications to work as an industrial or manufacturing engineer:

- **Minimum Education:** A bachelor's degree in industrial engineering or a related discipline. Some roles may require additional post-graduate education.
- **Certification and Licensing:** Licensing by a provincial or territorial body of engineers is required to approve engineering drawings and reports, and to practice as a professional engineer (P. Eng.). Three to four years of supervised work experience and the passing of an exam are required to obtain licensing.



## What are the most important skills to have as an Industrial Engineer?

Industrial and Manufacturing Engineers have a diverse set of technical skills, however the implementation of those skills is reliant on strong strategic planning, coordination, and communication skills as the impact of their work manifests across entire business units.

### Technical Knowledge and Skills

- Production & Processing
- Strategic Planning
- Supervising
- System Analysis & Evaluation
- Supervising
- Public Safety & Security

### Soft Skills

- Critical Thinking
- Complex Problem Solving
- Coaching & Mentoring
- Task Coordination
- Judgement & Decision Making

## Industrial Engineering jobs in Canada

There is a consistent demand for Industrial and Manufacturing engineers in Canada. In 2021, more than 15,600 industrial and manufacturing engineers were employed across Canada's sectors and industries. FOCAL projects more than 350 job openings in Canada's automotive manufacturing sector between 2021 and 2030. FOCAL also forecasts that during the same period, more than 270 workers are needed to fill recruitment gaps in the automotive manufacturing sector.



Learn more about the job market for Industrial and Mechanical Engineers, as well as about many other developments and new technologies in Canada's automotive manufacturing by visiting our website [futureautolabourforce.ca](https://futureautolabourforce.ca).

You can also check our social media by following these links:

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