

# Spotlight on Automation Engineers



The petroleum industry uses sophisticated systems to monitor, measure and control wells, facilities and pipeline operations. Control of all 'mission-critical' processes is fundamental to business performance, economics and safety.

If you can see the big picture, but can also focus on the many details behind it, a job as an Automation Engineer might be for you. Imagine designing an automated system, choosing the right technology and suppliers, and managing the system's installation from start to finish. Do you anticipate going live with the system, the challenge of troubleshooting and the satisfaction of affecting the entire organization?

Automation Engineers are the masterminds behind all of this! They ensure that systems run smoothly and safely, production is maximized and bottom line costs are kept in check. Automation is growing in importance within the industry. This could be your opportunity to be on the leading edge of technology!



Pipeline Control Centre.  
Courtesy of Enbridge Pipelines.



## What does an Automation Engineer do?

**Automation Engineers** design, develop, install and oversee instrumentation and control systems that sense, measure, and run operational processes. Jobs vary from managing broad system projects, to providing expertise on specific portions. Responsibilities can include:

- Designing, engineering, testing and troubleshooting control systems.
- Ensuring field devices, instrumentation systems, communication networks, data management and interfaces work properly.
- Interacting with field teams, consulting firms, contractors and vendors.



## How do I become an Automation Engineer?

Automation Engineers need a degree from an accredited college or university in a discipline such as:

- Computer engineering
- Electrical engineering
- Mechanical engineering
- Chemical engineering
- Engineering physics

You will also need a license to practice as an engineer. Provincial engineering associations are responsible for administering and issuing licenses. For more specific information about engineering qualifications and professional certifications, check out the following website: [www.engineerscanada.ca](http://www.engineerscanada.ca).

International Society of Automation (ISA) certification is considered an asset. See details at [www.isa.org](http://www.isa.org). Information for foreign-trained engineers is provided on the Canadian Information Centre for International Credentials website at [www.cicic.ca](http://www.cicic.ca).





## What are the working conditions like?

Most Automation Engineers perform their work indoors, in comfortable office settings. However, trips to the field and remote sites are required. Travel with overnight stays can be expected.



## Do I fit the bill?

Do you think you have what it takes to become an Automation Engineer?

- I have a natural curiosity about the world and have a knack for figuring out how things work.
- I like to build new things and enjoy making improvements.
- I am creative, imaginative and consider myself an idea person.
- I can apply critical thinking and enjoy problem solving.
- I am good at math, sciences and technology.
- I am very comfortable working with computers and database systems.
- I enjoy reading about new technology.
- I am a multi-tasker and can handle changing priorities when under pressure.
- I can balance details with the 'big picture'.
- I consider myself a great team-player – I can build personal and professional relationships easily.
- I am interested in pursuing a university education that may require at least four or more years of study.
- I think a career as an Automation Engineer is exciting and I'm up for the challenge and adventure!



*Engineer examining automated equipment drawings.*



## Quick tips and next steps!

- Choose a university that offers co-op engineering programs. These programs combine academic classes with practical work experience.
- Browse the information for students on the Association of Professional Engineers and Geoscientists of B.C. website at [www.apeg.bc.ca](http://www.apeg.bc.ca).
- Review 'Engineering Your Future – a Career Planning Guide in Engineering' at [www.apegga.ca](http://www.apegga.ca).
- Check out the P-Eng website for helpful information, including a section of Frequently Asked Questions at [www.peng.ca](http://www.peng.ca).
- Read up on automation technologies like Distributed Control Systems (DCS) and Supervisory Control and Data Acquisition (SCADA) Systems.
- Participate in *National Engineering Month* ([www.new-sng.com](http://www.new-sng.com)) and *National Science and Technology Week* ([www.cctt.ca](http://www.cctt.ca)).
- Get a summer job that will give you some exposure to automated systems.

## Want more info?

For information on other industry occupations check out [www.careersinoilandgas.com](http://www.careersinoilandgas.com).