

EMERGING TECHNOLOGIES - BIOTECHNOLOGY

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Issue

Engineers Canada supports a regulatory framework for biotechnology that integrates social, ethical, health, economic, and environmental considerations within a public safety framework.

Why Is This Important?

BIOTECCanada defines biotechnology as the application of science and engineering in the use of living organisms, such as plants, animals and micro-organisms, to develop and improve products and quality of life.

Federal government research shows that biotechnology may be the world's next generation of transformative technologies, potentially rivaling information and communications technology in potential scope and economic impact.

Over the past decade, the area of biotechnology has expanded rapidly and ranks high with the federal government as an important economic sector and a key enabling technology.

Biotechnology directly affects Canadians' well-being, safety and quality of life. As an emerging technology, new legislation, regulations, and policies are being developed at a rapid rate and will set the direction for the future development of biotechnology in Canada.

There is already extensive involvement from national and international authorities in regulating biotechnology products. Such authorities include:

In Canada:

- Canadian Food Inspection Agency
- Health Canada
- Environment Canada
- Human Resources and Social Development Canada

Internationally:

- United Nations
- World Health Organization
- World Trade Organization

While biotechnology promises great advances in medicine, health care, food production, nutrition, and the environment, it has caused controversy and protest from some groups concerned with unforeseen risks to the food supply, human and animal health, and the environment. The public debate requires technical, objective and ethical advice.

As part of their codes of ethics, engineers are compelled to respect their obligations to society, the public and the environment.

What Has Engineers Canada Done To Date?

Policy on emerging technologies

Engineers Canada has adopted a policy on emerging technologies and biotechnology in order to provide direction and recognize the importance that emerging technologies have on public safety. Research was also conducted in the areas of tissue and genetic engineering as well as nanotechnology.

Engineers Canada completed a survey of employers in the information technology and biotechnology sectors to obtain solid research for future policy and regulation development. Findings led to further knowledge on the importance of non-technical skills and the increasing prominence of the engineering profession.

How Can Engineers Canada Contribute?

Systems created using emerging technologies are often complex and developed by multidisciplinary teams. Along with other disciplines involved, the engineering profession is ready to contribute its technical and regulatory expertise to the development of national policies.

THE PROFESSION'S POSITION

Engineers Canada acknowledges the need for a regulatory framework for biotechnology that integrates social, ethical, health, economic, and environmental considerations within a public safety framework, and will pursue opportunities to offer the engineering profession's expertise to the federal government.

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