

100

100 Years of
Holding the Future to
a Higher Standard

*CSA Group's
Centennial Anniversary
2019*



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Our First 100 Years, from the Beginning

100 years. It's truly incredible how much can change in a century—the breakthroughs, discoveries, and inventions that can alter the course of history and impact everyday life. The last century has been no exception. Staggering progress has been made that few could have predicted, from the speed and comfort with which we travel, to the buildings where we live and work, to the numerous products, systems, and services that add ease and efficiency to our lives.

For all that has changed, one thing has remained constant: CSA Group's unrelenting commitment to safety and steady presence supporting the protection of people and the environment.

Our First 100 Years,
from the Beginning
(continued)

Through the standards developed with our 10,000 members and the work of our testing, inspection, and certification subsidiaries, we have been there for 100 years to provide guidance, knowledge, and peace of mind, helping to ensure that safety always accompanies innovation.

That sense of purpose and duty is why we exist. It drives everything we do—and it has since our founding in 1919.

Let's take a moment to reflect on our century of impact as we look back at CSA Group's 100-year history, and let's remember how we've always held the future to a higher standard.

A Bold New Canadian Organization is Born



A stylized, handwritten signature of Sir John Kennedy in black ink.

In 1917, World War I had entered its third tumultuous year. The Allied armies were strong, but their technical resources were not always compatible, causing hazards on the battlefields and in the trenches. Great Britain turned to Canada with an urgent request: Create standards that would unify the nations' resources, help bolster the war effort, and ultimately save lives.

Led by Sir John Kennedy, Chairman of the Civil Engineers' Canadian Advisory Committee, the country's leading engineers gathered. They committed to a mission of moving Canada forward as an industrialized nation, which they knew would require an independent standards organization that recognized the country's unique qualities: the vastness, diversity, and varying weather conditions.

Pledging to “introduce order in industrial work,” the Canadian Engineering Standards Association (CESA) was born in 1919.

Letters Patent issued by The Secretary of Canada on January 21, 1919.

Letters Patent



CANADA.

By the Honourable MARTIN PURCELL,

Secretary of State of Canada.

To all to whom these presents shall come, or whom the same may in anywise concern.
GREETING:

Whereas, in and by The Companies Act as amended by The Companies Act Amendment Act of 1917, it is amongst other things, in effect enacted, that the Secretary of State of Canada may, by Letters Patent, under his Seal of Office, grant a Charter to any number of persons, not less than five, who having complied with the requirements of the Act, apply therefor, constituting such persons, and others who thereafter become members in the Corporation thereby created, a Body Corporate and Politic for any of the purposes or objects to which the Legislative Authority of the Parliament of Canada extends, except the construction and working of Railways or of Telegraph or Telephone lines, or the business of Banking and the issue of paper money, or the business of Insurance or the business of a Loan Company or of a Trust Company, upon the applicants therefor establishing to the satisfaction of the Secretary of State of Canada, due compliance with the several conditions and terms in and by the said Act set forth and thereby made conditions precedent to the granting of such Charter.

And Whereas, Sir JOHN KENNEDY, Knight Bachelor and Consulting Engineer,

ROBERT FULFORD RUTTAN, Doctor of Medicine and Professor of Chemistry, JOHN BONNALL

PORTER, Doctor of Science and Professor of Mining Engineering, RICHARD JOHN DURLY,

Member of the Most Excellent Order of the British Empire, and Engineer, and HENRY

HAGUE VAUGHAN, Engineer, all of the City of Montreal, in the Province of Quebec,

have made application for a Charter under the said Act, constituting them and such others as may become members in the Corporation thereby created, a Body Corporate and Politic, under the name of

" CANADIAN ENGINEERING STANDARDS ASSOCIATION "

for the purposes hereinafter mentioned, and have satisfactorily established the sufficiency of all proceedings required by the said Act to be taken, and the truth and sufficiency of all facts required to be established previous to the granting of such Letters Patent, and have filed in the Department of the Secretary of State a duplicate of the Memorandum of Agreement executed by the said applicants in conformity with the provisions of the said Act.

Now know ye that I, the said Martin Purcell, Secretary of State of Canada, under the authority of the hereinbefore in part recited Act, do by these Letters Patent, constitute the said

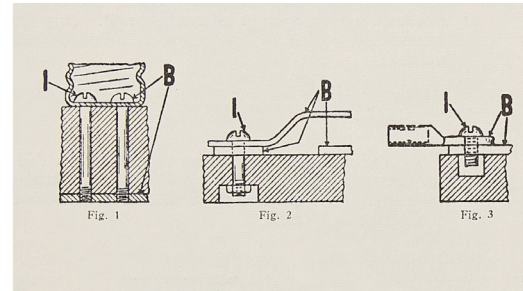
Sir John Kennedy, Robert Fulford Ruttan, John Bonnall Porter, Richard John Durlay
and Henry Hague Vaughan, _____

and all others who may become members in the said Corporation, a Body Corporate and Politic without share capital, by the name of

" Canadian Engineering Standards Association "

with all the rights and powers given by the said Act and for the following purposes and objects, namely:—

The First Groundbreaking Standards



The early 20th century was a time of rapid, exciting innovation—electricity was replacing steam, which revolutionized industry, homes, and transportation. But with manufacturers and builders hurrying to keep up with demand, disasters occurred, including railway accidents, collapsing bridges, and exploding boilers. Standards were desperately needed.

To begin improving safety and protecting freight trains and their conductors, and vehicles and their passengers, CESA developed two of its first standards: Specification for Steel Railway Bridges in 1920, followed by the Canadian Highway Bridge Design Code in 1922—CSA Group's oldest active standard.



A New Name, A Broader Vision

The name CESA was accurate and fitting in 1919. But over time, we found our services were needed in more areas to provide leadership and develop additional standards, so we expanded our capabilities and scope. To better reflect all we had to offer, and to acknowledge our growth, both past and future, we changed our name.

CESA became the Canadian Standards Association, which today operates as CSA Group.



Leading the Way in a Globalized World



As the world became more connected and markets started to become more accessible, there was the potential for huge strides to be made in safety and efficiency—but only if thought leaders emerged to promote consistency, harmony, and collaboration. Canadian Standards Association answered the call.

In 1947, we joined the International Organization for Standardization (ISO) in Geneva, Switzerland, enabling Canadian participation in ISO's founding year. In 1957, we met with British and North American organizations to facilitate the harmonization of national standards. Then in 1959, we hosted a conference and invited Canadian Commonwealth standards organizations for the



purpose of sharing knowledge, combining strengths and resources, and facilitating collaboration.

Today, CSA Group is accredited as a standards-writing organization in both Canada (by the Standards Council of Canada) and the United States (by the American National Standards Institute). We continue to actively participate in international standards development and harmonization efforts through global organizations, including ISO and the International Electrotechnical Commission (IEC).

Leading the Way in a Globalized World

Through our commercial subsidiaries, we are also accredited as a conformity assessment body, counted on by manufacturers to help ensure their products conform to the requirements of global markets they wish to enter. With offices in Canada, the U.S., and Mexico (as well as throughout the world), we help manufacturers obtain mandatory North American third-party certifications, and we also help North American, European, and Asian manufacturers achieve CE marking requirements for products bound for Europe.



Evolution of Our Name

1919



The Canadian Engineering Standards Association (CESA) is born

1944



CESA updates its name to the Canadian Standards Association (CSA)

1982



Certification programs are expanded to meet national and international needs of Canadian manufacturers

1990



The Far East Operational Center opens in Hong Kong bringing CSA closer to customers' factories

2001



CSA aligns its divisions under the singular CSA Group name and brand

2012



CSA Group continues investing in solutions that focus on sustainability and on increasing transparency and credibility in environmental claims

2018



CSA Group newly defines its mission and stands ready for its second century

1. Safeguarding People

- 1.1 Their Health and Well-Being
- 1.2 Where They Live, Work, and Play
- 1.3 The Products They Use



1.

When it comes to the role standards play, it is often products and services that come to mind first—their safety, performance, dependability, and quality.

CSA Group has always seen things differently.

We first think of the inventors whose vision will revolutionize whole industries. We think of the workers whose jobs will be made easier and more efficient by the improved products and services with which they engage. And we always think of the consumers whose voices we value and whose safety we help protect.

For 100 years, we've been a standards leader by putting people first.

1.1

People: Their Health and Well-Being

For all the positive changes that progress and innovation can make, the most important might be their impact on human lives, measured in improved health, quality of life, and increased life expectancy. CSA Group has long developed standards to help ensure that when breakthroughs occur, they're implemented safely and efficiently, directly affecting real outcomes.

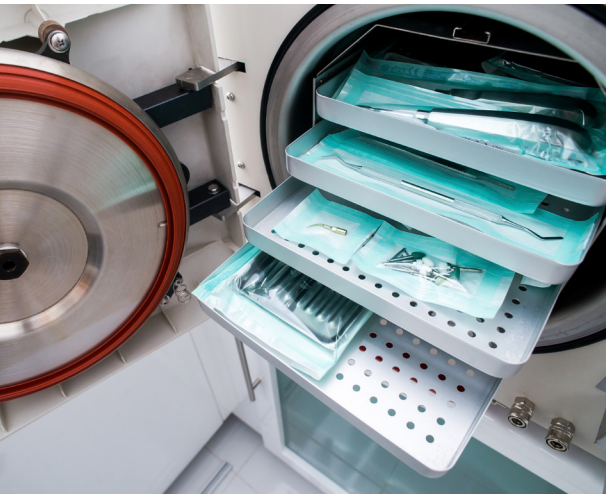
1.1 THEIR HEALTH AND WELL-BEING

Health Care

As technology has rapidly advanced, the effect on health care has been profound—with new methods and equipment developed, and state-of-the-art facilities built. CSA Group has been there to develop standards that promote safety and establish consistency, starting with technology and medical devices (1959), followed by medical gas piping systems (1975).

In the early 1980s, tragedy struck Canada: about 2,000 Canadians were infected with HIV, and as many as 30,000 more were infected with hepatitis C, from tainted blood products. A landmark 1997 report found that Canada lacked a clear national blood handling policy. CSA Group went to work to help prevent a tragedy like this from happening again. The resulting safety management standard on blood and blood components became the first of its kind in Canada. Similarly, a series of standards addressing cells, tissues, and organs for transplantation (2003) was incorporated by reference into Canadian legislation.

1.1 THEIR HEALTH AND WELL-BEING



We also developed standards to promote surgical safety on topics such as the reprocessing of reusable medical devices (1979) and surgical plume (2009), the surgical smoke generated whenever a hot tool interacts with human tissue, which carries harmful chemicals.

In 2011, we turned our attention to hospitals and other types of health care facilities, developing the first standard in Canada to address their planning, design, and construction.



1.1 THEIR HEALTH AND WELL-BEING



Over the years, our standards have led the way to address new topics, provide insight, and help protect the safety of more people. The stories below represent just a few.

Taking Precautions During Wartime

While the likelihood of an air attack on Canada during World War II was low, people took the threat seriously. In 1942, CESA developed specifications for air raid precautions and standards for bomb-proof shelters.

Addressing Workplace Psychological Health and Safety

In 2013, CSA Group developed the first national standard addressing psychological health and safety in the workplace, which was championed by the Mental Health Commission of Canada and developed collaboratively with the Bureau de normalisation du Québec.

Supporting Surgical Advancements

We developed safety and performance requirements for medical electrical equipment, including for Robotically Assisted Surgical Equipment (RASE), Robotically Assisted Surgical Systems (RASS), and medical robots used in rehabilitation, assessment, compensation, or alleviation.

Protecting First Responders

We also developed a series of standards for first responders, including topics such as personal protective equipment, psychological health and safety in the paramedic service organization, and community paramedicine.

1.2

People: Where They Live, Work, and Play

As populations have grown substantially, so has the need for new structures—houses, offices, stadiums, and buildings of all kinds, designed to accommodate people comfortably and efficiently. Throughout our first century, we've developed standards to address all aspects of the planning, construction, and maintenance of those buildings, helping ensure that structures are sound and accessible.

1.2**WHERE THEY LIVE,
WORK, AND PLAY***The Rogers Centre, originally known as SkyDome*

Focusing on Construction and Infrastructure

The construction of buildings involves electricity, plumbing, complex machinery, and countless parts and materials, making the need for standards—and the safety and consistency they promote—essential. CSA Group has contributed to safe and reliable buildings in Canada through the development of structural design standards. These design standards, along with a multitude of construction product, material, and system standards, have helped safeguard human life and have contributed to the progressive improvement of the construction industry.

In addition to over 160 CSA standards used in the construction of Canadian buildings through national building codes, critical projects of all sizes and scope were made possible with CSA standards. In 1989, our standards were used in the construction of Toronto's Rogers Centre (originally named SkyDome), the world's first stadium with a fully retractable motorized roof. In 2019, the Champlain Bridge, a landmark construction project in Montreal, opened after being rebuilt to the CSA Canadian Highway Bridge Design Code.

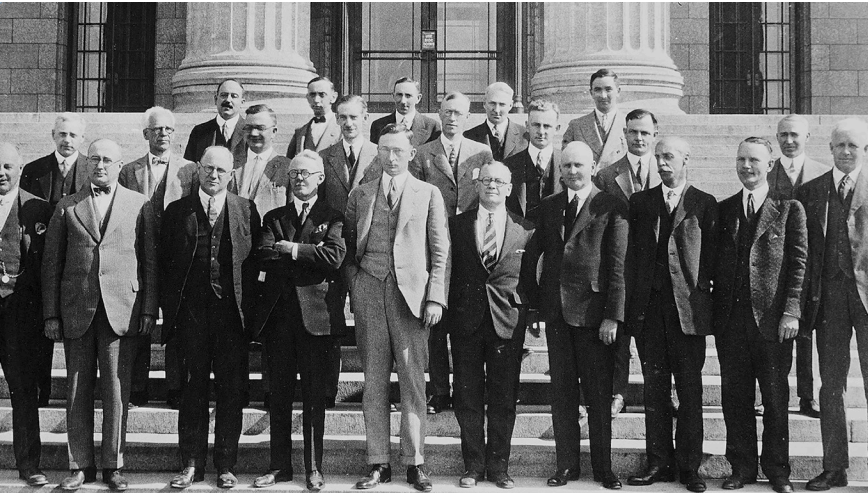
1.2 WHERE THEY LIVE, WORK, AND PLAY



And we keep working to ensure that we do not lose focus on the safety of Canadians. In 2012, we began to address the threat of terrorist attacks on buildings by developing a standard that helps designers mitigate risks. Then, after a number of highly publicized balcony guardrail failures, in 2016 we developed the first comprehensive standard to promote the safe and reliable design and installation of building guards. Today, we are also taking a leadership role in climate change resiliency by enhancing our construction standards so that our buildings and infrastructure are designed to resist the impacts of climate change.

But CSA Group standards address more than safety.

CSA Group published a standard on barrier-free design, covering virtually every aspect of construction and renovation, from doors and ramps, to floor surfaces, lighting, fixtures, and communication devices. Five editions later, the standard continues to help improve the overall design and safety of public and private spaces for users with disabilities, and to increase community involvement by making public spaces more accessible.

1.2**WHERE THEY LIVE,
WORK, AND PLAY***Members of the first Canadian Electrical Code Committee*

Electrical Safety

Our leadership in electrical safety began in 1923, when the first Canadian Electrical Code committee formed with representatives from across the country. The landmark standard they developed, Canadian Electrical Code, Part I, Safety Standard for Electrical Installations, was first published in 1927. It defined consistent wiring methods to improve the safety of electrical installations in Canada. Now in its 24th edition, the Canadian Electrical Code, Part I, remains CSA Group's most widely used standard.

In 1932, recognizing the expanding use of electrical products, CESA published the first of what has become a series of over 600 product standards in the Canadian Electrical Code, Part II, addressing the electrical safety of a variety of electrical products. This was followed in 1940 by the first Canadian Electrical Code, Part III, series standard on Overhead Systems, to support continued expansion of Canada's electrical distribution system.

1.2

WHERE THEY LIVE,
WORK, AND PLAY

Occupational Health and Safety Standards

We have a rich history of putting worker safety at the forefront by developing standards that are valued by workers, employers, and regulators across all occupations and industry sectors in Canada—from standards addressing personal protective equipment to elevation hazards to workplace electrical safety. We set the OH&S standards in occupational diving, agriculture, and mining, and for occupations subject to extreme conditions, such as remote locations, with difficult access, and often under harsh Canadian weather conditions. Canadian OH&S professionals also rely on us to establish leading OH&S management system and training standards—with clear requirements and guidance on performing risk assessments and incident investigations.

1.2

WHERE THEY LIVE, WORK, AND PLAY

Going beyond physical worker safety, we show leadership by developing standards that recognize that overall worker well-being, including psychological and social needs, is critical to organizational success. Our volunteers and researchers are tackling complex workplace subjects such as psychological health and safety, management of substance-related impairment, worker fatigue, and violence and harassment.



1.3

People: The Products They Use

Consumer products have immeasurable power to make everyday life easier, more efficient, and more enjoyable—but only when consumers can count on those products to work safely and reliably. For years, CSA Group has developed standards that promote product safety and quality and that help make consumers feel more confident and better informed about the products they purchase.

1.3 THE PRODUCTS THEY USE



Consumer Voices Heard

Above all else, earning the trust of consumers starts with understanding their expectations, hearing their concerns, and welcoming their input. That's why CSA Group was one of the first standards developers to invite consumers into its development process.

It started by welcoming individual consumers to the table of various technical committees and consulting with consumer groups across Canada. We then formed the Consumer Advisory Council in 1970, which yielded invaluable insights into product quality and performance, and inspired us to begin regularly publishing consumer safety tips. In 1976, the Toronto Consumer Advisory Panel met to give consumers a better understanding of standards and a valued voice in the process of writing them.

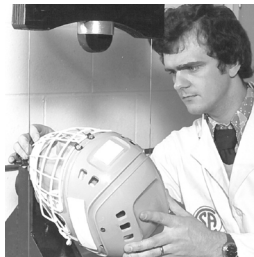
Staffers who contributed to the publication of more than 90 new National Standards of Canada in 1994

1.3 THE PRODUCTS THEY USE



Consumer Protection

When innovation caused consumerism to surge in the middle of the century, countless new products were developed—and CSA Group began developing standards to promote the safety of these products. In addition to our 1972 Consumer Goods standards, addressing child-resistant and senior friendly packaging for drugs and other substances, we promoted the safety and quality of helmets used for different sports and recreational activities by developing the first standards for hockey helmets (1973) and cycling helmets (1989).



Hockey helmet testing



1.3 THE PRODUCTS THEY USE



Leading in Cybersecurity

As digital devices and tools have become an indelible part of daily life, we've developed standards for cybersecurity and related concerns as technology has advanced.

CSA Group provided thought leadership with the early formation of a Telecom Steering Committee in 1982. We continued by doing extensive work on personal information and privacy—and in 1996, published a landmark standard addressing privacy rights of individuals relating to government and businesses, which became The Model Code for the Protection of Personal Information incorporated into Canadian legislation.

By 2017, we had also developed standards that addressed cybersecurity, specifically for the nuclear and oil and gas industries. More recently, we initiated development of a standard for software and cybersecurity evaluation programs, which will utilize a maturity model to evaluate product cybersecurity integrity, from design to production to end of life.

2. Protecting the Planet

- 2.1 Energy Leadership
- 2.2 Clean Technology
- 2.3 Environmental Responsibility



2.

When standards are developed by experts and widely utilized, it can serve the best interests of our planet. Resources are used more efficiently, emissions are reduced, and waste is disposed of safely and responsibly.

So protecting our planet is at the very core of what we do. That mission has never been more urgent or a greater challenge. Nothing less than the future of the planet and its people is at stake.

CSA Group's work over the last century has prepared us to lead, uniting stakeholders in a commitment to advancing technologies and using new, sustainable sources of energy.

2.1

Planet: Energy Leadership

With booming growth in population, manufacturing, and consumerism, life in the early and mid-1900s required viable, affordable energy solutions. CSA Group emerged in its early years as an energy thought leader, empowering scientists and engineers to apply new and better sources of power, and assess those sources for safety and efficiency. We're proud to remain an energy thought leader today.

2.1 ENERGY LEADERSHIP



Nuclear Power

Nuclear power emerged in the middle of the 20th century as a promising new form of energy, leading countries all over the world to plan and build the facilities required to generate and harness it.

In order to mitigate risks, strict measures were required so that nuclear power plants and facilities were designed and operated safely. With the first commercial Canadian nuclear reactors entering service in 1971, CSA established a number of standards beginning in 1975, covering the design, construction, and operation of structures, systems, and components for nuclear power plants.

2.1 ENERGY LEADERSHIP

Aligning with the various activities within the nuclear industry, over the following decades, we continued to maintain and expand the suite of nuclear standards to address topics such as fire protection, seismic design, environmental radiation protection, and radioactive waste management. By 2013, the scope of facilities addressed by the standards had also expanded to include mines and mills, research and isotope processing facilities, and radioactive waste management facilities.

We also responded to external events. Following the Fukushima Daiichi nuclear event in 2011, we conducted a review against international lessons learned, which confirmed that the existing CSA nuclear standards were robust, and we facilitated the further strengthening of Canada's nuclear power industry by developing new standards on nuclear emergency management programs, as well as reactor safety and risk management analyses and methodologies.



2.1 ENERGY LEADERSHIP

Oil & Gas

The energy produced by oil and gas led to significant innovation throughout the early and mid-20th century, which gave Canada a tremendous advantage, given the country's abundant resources. CSA worked diligently to develop standards that promoted safety across the oil and gas sector, from production to delivery and storage.

In 1967, we issued our first oil pipeline transportation systems standards, addressing the design, construction, operation, maintenance, deactivation, and abandonment of oil and gas industry pipeline systems. We updated those standards continually over the next 50 years as the industry evolved and new needs and technologies arose. Our portfolio also includes comprehensive standards that provide a similar life cycle approach to other systems and facilities, including liquefied natural gas facilities, wells, and underground storage.

2.1 ENERGY LEADERSHIP

At the beginning of the 21st century, our standards scope expanded to cover complex and wide-ranging topics in the evolving petroleum and natural gas industry such as security management, emergency preparedness and response, damage prevention, pipeline safety metrics, and land use planning. These standards further enhance the safety of the industry, and help protect people, the environment, and property.

We also developed and published a suite of Offshore Structures standards in the 1980s to help improve safety in the offshore exploration and production activities for Atlantic Canada's oil and natural gas industry. Today, our offshore structures program provides leadership and promotes multi-stakeholder participation in international standards.



2.2

Planet: Clean Technology

As climate change became more widely observed and understood, priorities in the energy sector began to shift. It was no longer enough for energy sources to be plentiful and affordable—they needed to be created, stored, and used in ways that led to substantially reduced harmful greenhouse gas emissions.

CSA Group is proud, thanks to the contributions of our members, to have applied thought leadership to the development of standards that address clean technology and advance clean energy.



2.2 CLEAN TECHNOLOGY

Testing, Storing, and Using Alternative Energy

As awareness of climate change grew, so did an overall sense of responsibility to address it, leading manufacturers to recognize the importance of exploring methods of production and transportation that utilized alternative and sustainable resources. CSA Group committed to helping them do it.

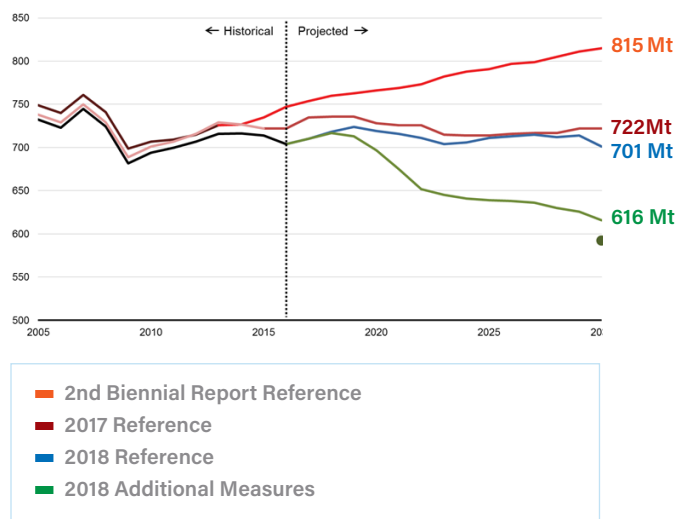
That commitment led us to work over the last 25 years in more than 54 areas of technology, including new technologies such as electric vehicle charging infrastructure, compressed natural gas, hydrogen and fuel cell power, nano materials, and wind and solar energy. It started in 1998 with the publication of North America's first fuel cell standard.

In 1998, the work we completed was adopted by the American National Standards Institute (ANSI), which published these requirements as the national standard for the U.S. In 2004, it was renamed CSA FC-1 Stationary Fuel Cell Power Systems. We also wrote standards for portable systems and for fuel cell modules, which were then used as seed documents to develop the correlating international standards for the International Electrotechnical Commission (IEC).

2.2 CLEAN TECHNOLOGY



**Historical greenhouse gas emissions
and projections, Canada, 2005 to 2030***



* SOURCE: WWW.CANADA.CA

In 2017, we issued standards that focused on exploring new innovations and uses of hydrogen fuel such as on-site evaluation testing equipment for hydrogen fueling stations. That same year, we began an ambitious new initiative in collaboration with the National Research Council to incorporate strategies for addressing climate change into existing and new Canadian standards and codes.

Providing Leadership in Energy Efficiency

CSA Group first emerged as an energy efficiency thought leader during the 1980s, when we developed energy efficiency standards that covered a wide range of products, including major household appliances. By the early 1990s, Canadian provincial and federal energy efficiency regulations incorporated CSA standards by reference in regulations.

Since 2013, CSA Group has advanced energy efficiency management systems in Canada, being the first in the world to adopt the *ISO 50001, Energy Management* standard. Energy savings are essential to meeting global greenhouse gas emissions reduction goals, and provide an opportunity for organizations across all sectors to realize ongoing energy consumption reductions.

2.3

Planet: Environmental Responsibility

CSA Group has always believed that a key part of enabling innovation is carefully assessing its impact on the environment and the planet. That's why we have developed standards and taken measures to help protect natural resources—so that they are used sparingly and responsibly—to support manufacturers' implementation of sustainable practices, and to empower consumers to make sustainable choices.

2.3 ENVIRONMENTAL RESPONSIBILITY

Protecting Natural Resources and Reducing Greenhouse Gas Emissions

Canada is blessed with some of the world's most abundant natural resources, which have the potential to play a key role in innovation and progress for years to come—as long as they are responsibly managed. In 2013, we expanded our focus on new standards for Canada's natural resource sectors. We are now pioneering standards for new forest by-products such as lignin, advancing automation in underground mines, expanding water resource protection and erosion control, and we are investing in research for emerging processes such as environmental DNA sampling and rare earth traceability.

When it comes to addressing greenhouse gas emissions and pollution, our commitment and leadership dates back to 1956, when we began working on pollution control standards. We've helped address the storage of carbon dioxide by developing the world's first carbon capture and storage (CCS) standard, issued in 2010, for the geologic storage of carbon

2.3 ENVIRONMENTAL RESPONSIBILITY

dioxide and led the establishment of the ISO Technical Committee on Carbon Dioxide Capture, Transportation, and Geological Storage.

In 1996, we published Canada's national standard for sustainable forest management, which was the first of its kind in North America. We also created an accompanying sustainable forest products marking program, helping retailers, manufacturers, home builders, and consumers to support responsible forest management by identifying which products come from forests certified to our standard.



2.3 ENVIRONMENTAL RESPONSIBILITY

We've helped
establish
41 world-leading
environmental
standards



Providing Sustainability Leadership

Starting in 1993 and spanning several decades, CSA Group acted as Secretariat of ISO TC 207 on Environmental Management on behalf of the Standards Council of Canada. Through the work of the Canadian Mirror Committees to ISO TC 207, which we continue to support today, we helped establish 41 world-leading environmental standards, including ISO 14001 on environmental management, standards on environmental labeling, and a series on greenhouse gas accounting and verification, with the involvement of 123 countries.

In 2005, CSA acquired greenhouse gas registries that have since been expanded to incorporate various aspects of effective and transparent greenhouse gas accounting. Over our history, we have registered over 470 greenhouse gas reduction projects across our regulated and voluntary registries, and have serialized over 137 million tonnes of CO₂e reductions on behalf of the project developers advancing these projects. We have also added an Environmental Product Declaration Registry (2014), which helps educate consumers on the environmental impacts of the products they purchase, as we continue to grow our programs supporting transparent environmental reporting and disclosure.

3. Shaping the Future

- 3.1 Supporting Policy and Advancing Society
- 3.2 Investing in Tomorrow



3.

In many cases, the impact of standards is present and immediate, such as when consumers safely use household products on a routine basis, or when people spend their workdays in buildings that have been designed for safety and efficiency.

Standards have the power to play another role, however, that's less easily measured or defined, but just as important: **Creating a better, safer tomorrow.**

That's why we have always made it our responsibility to promote and stimulate progress, and to help define the future.

We do this by developing standards that support public policy and advance society. We also help technology innovators globalize their products and enhance trade opportunities for Canada.

3.1

Future: Supporting Policy and Advancing Society

Standards have the greatest power to widely impact society when they are incorporated by reference in government regulations. CSA Group has worked throughout its history with a variety of industries and governments at all levels to ensure that the standards we develop are fully utilized to the benefit of all.

3.1 SUPPORTING POLICY AND ADVANCING SOCIETY



The Economic Growth of Canada

Our support for national policy development and implementation dates back to the very first standards we developed. We began by standardizing the requirements for Canada's railway bridges, and expanded rapidly in the early to mid-1900s to address numerous new infrastructure issues. These included the Canadian Highway Bridge Design Code, mandated by provinces and territories, and the Canadian Electrical Code, Part 1, referenced by every jurisdiction in Canada.

3.1 SUPPORTING POLICY AND ADVANCING SOCIETY



Occupational Safety and Consumer Protection

When Canada experienced a construction boom in the middle of the century, we turned our focus toward public policy that helped to support the protection of workers and builders. Many of the resulting standards—including those addressing occupational health and safety management systems, hearing protection, eye and face protectors, and protective footwear—are referenced in occupational health and safety legislation and guidance documents across Canada.

During this time there was also significant growth in consumerism, which compelled us to address and promote consumer safety. Our ice hockey helmet and face protector standards are referenced in the federal Consumer Product Safety Act and the Hazardous Products Act, and mandated by Hockey Canada. Our natural gas and propane installation code is referenced by all provincial jurisdictions in Canada.

We also took crucial steps to support and advocate for improved health care policy, specifically working closely with Health Canada to develop national management standards that address blood and blood components, as well as cells, tissues, and organs for transplantation. These standards became part of Canadian legislation.

Emphasis on the Energy Sector

The growth of infrastructure, construction, and consumerism in Canada led to a heavy reliance on the energy sector. As new sources of energy emerged, we supported their safe application by developing standards, beginning in the late 1960s, for the petroleum and natural gas industry and in the mid-1970s for the nuclear industry. The standard on oil and gas pipeline systems is referenced in multiple provincial and national regulations. Our suite of standards for nuclear facilities are referenced extensively by the national Canadian regulator.

3.1 SUPPORTING POLICY AND ADVANCING SOCIETY

Model Code for the Protection of Personal Information

For all the excitement and efficiency that digital tools and technology have created, they also present new risks surrounding the privacy of personal information. In 1996, we published a landmark standard, The Model Code for the Protection of Personal Information, Canada's first national privacy standard. It addressed the privacy rights of individuals, establishing guidelines for government and businesses to protect personal data. It is referenced in the federal Personal Information Protection and Electronics Documents Act and serves as a model for privacy initiatives internationally.



3.1 SUPPORTING POLICY AND ADVANCING SOCIETY



The Environment and Sustainability

In the 1980s, CSA Group began developing energy efficiency standards for a wide range of products, including major household appliances. By the early 1990s, Canadian provincial and federal energy efficiency regulations mandated the standards' requirements.

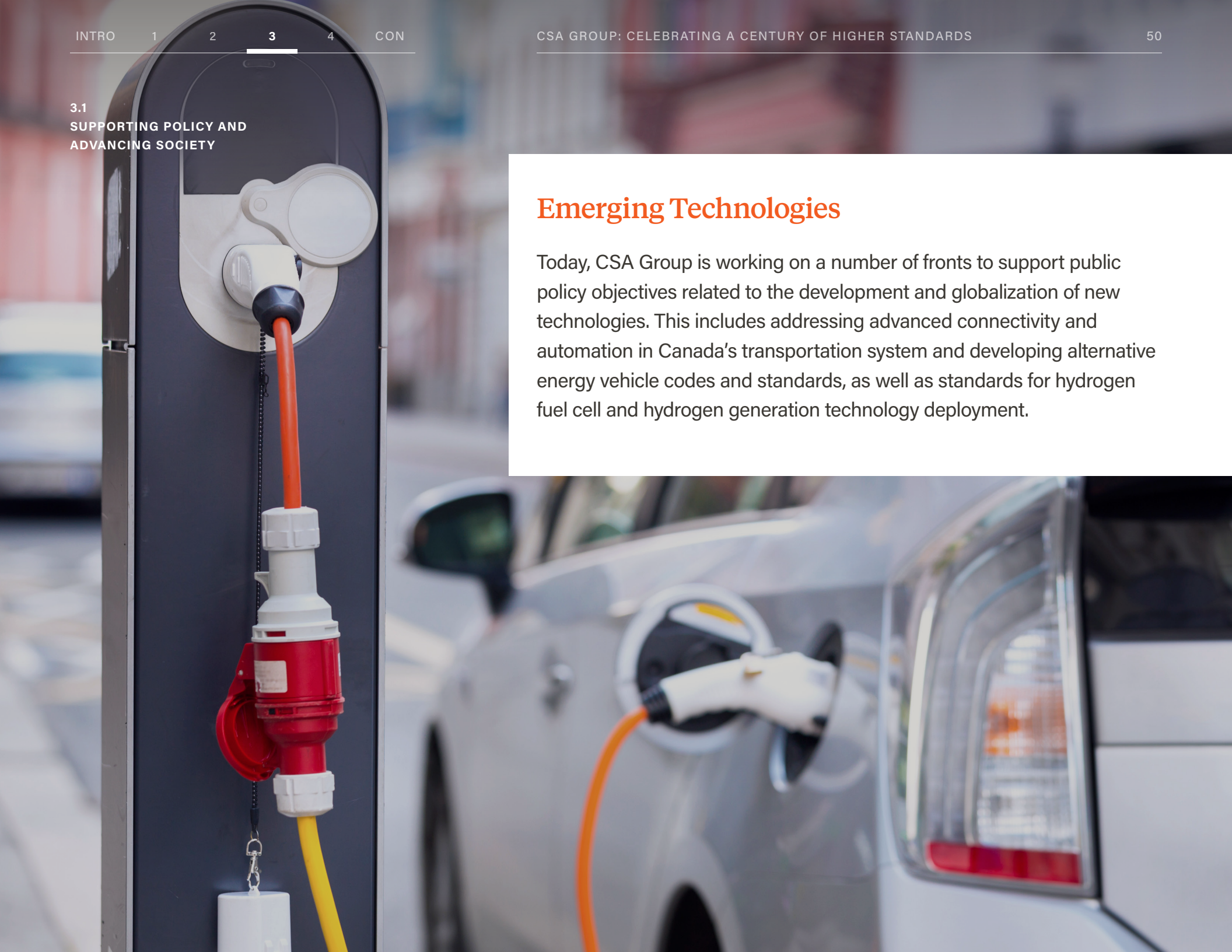
Our standards have formed the foundation of federal policy and have been incorporated by reference in the Energy Efficiency Act, as well as relevant provincial regulations.

CSA Group is also working to update a number of standards contained within the National Building Code to help ensure they appropriately cover climate change resilience.

3.1 SUPPORTING POLICY AND ADVANCING SOCIETY

Emerging Technologies

Today, CSA Group is working on a number of fronts to support public policy objectives related to the development and globalization of new technologies. This includes addressing advanced connectivity and automation in Canada's transportation system and developing alternative energy vehicle codes and standards, as well as standards for hydrogen fuel cell and hydrogen generation technology deployment.



3.2

Future: Investing in Tomorrow

At CSA Group, we anticipate and meet the changing safety needs of Canadians by developing robust, scalable standards. But when it comes to truly shaping the future and promoting safety and sustainability, our history in standards development is only the start—we increasingly apply our expertise and leadership to inspire collaboration, explore new technologies, and invest in research and discovery.

3.2 INVESTING IN TOMORROW

Putting Research First

Research is fundamental to anticipating how emerging issues and disruptive technologies will evolve in the future. CSA Group is making research a foundation of its work. With a substantial portfolio of thought-provoking and diverse research papers published since the program was launched a few years ago, our goal is for our entire standards portfolio to be informed and supported by research. That's how we will continue to ensure that our work is impactful and relevant in a rapidly changing and increasingly complex world.



3.2 INVESTING IN TOMORROW

Leading the Way in Education

We have always believed that our expertise, findings, and knowledge should be shared with others. This principle is also held dear by our members, who generously volunteer their time to help develop CSA standards. That's why CSA Group is proud to be a major educator in the application of standards, sharing our expertise, findings, and knowledge with others for the good of all.

As new technologies develop and have the potential to impact our lives—including augmented reality and artificial intelligence—CSA Group is leveraging these transformative technologies to enhance accessibility, application, and comprehension of our standards.



3.2 INVESTING IN TOMORROW

CSA Group has taken steps to modernize the development process, so that our members have the flexibility to participate in draft development virtually at times and locations most convenient to them.

Taking an Agile, Adaptable Approach

With innovations and breakthroughs happening so frequently, and new data and findings being made widely available, standards development has to change to keep up. It simply must be agile and adaptable.

CSA Group has taken steps to modernize our standards development process—for example, by enabling simultaneous and collaborative authoring, so that our members have the flexibility to participate in draft development virtually, and at times and locations most convenient to them. We also offer key stakeholders a more robust set of solutions than ever before, including full-consensus standards, workshop agreements, express documents, private standards, and guidance materials that are developed using online, open-source approaches.

4. Testing, Inspecting, and Certifying

- 4.1 Growth and Expansion
- 4.2 Home, Commercial, and Industrial
- 4.3 Power and Energy
- 4.4 Medical, Digital, and Emerging Technologies



4.

While the standards community knows CSA Group for its expertise in consensus-building and thought leadership, the world often recognizes us in a different way: by our mark. It is accepted by regulators and Authorities Having Jurisdiction (AHJs) and appears on billions of products all over the world. When manufacturers or consumers see the CSA mark, they know a product has been certified to meet the requirements of a standard.

We owe that trust to our 1,600 committed Testing, Inspection, and Certification (TIC) experts. They help generate necessary funding that supports the mission of our Standards Development Organization, and their knowledge and hard work are the reasons why our mark has been able to establish credibility and build confidence in the marketplace.

Our TIC experts run countless tests and conduct over 7,500 field evaluations and 50,000 factory inspections every year. They perform certification services to help manufacturers take their products confidently to 150 global markets. They're based in CSA Group locations in Canada and all over the world—including twelve offices throughout Asia, eight in Europe, and ten in the U.S. and Mexico.

4.1

Growth and Expansion

With technology making the world more connected, CSA Group saw the opportunity to reach more regions and benefit more people with our expert testing, inspection, and certification methods.

In response, we expanded our geographic presence—first across Canada, then the world—establishing the right facilities and resources to test products at or near the point of manufacture, and covering an ever-broader range of global testing requirements.

4.1 GROWTH AND EXPANSION

The Widely Recognized Mark

The CSA Certification mark was first introduced in 1946. It could only be applied to products that we had tested and certified, communicating that those products had met the requirements of the relevant standard. As our expertise has grown and our techniques have evolved over time, we have added new categories of marks to our portfolio.



CSA Certification Marks and Labels for North America

Signifying that a product has been tested and certified against applicable North American requirements.



CSA Energy Efficiency Marks

Signifying that a product has met the energy efficiency requirements for Canadian and U.S. regulators.



Sustainability Mark

Signifying that a product has met defined environmental performance and corporate responsibility criteria.

4.1 GROWTH AND EXPANSION



Our Accreditations

An inherent part of delivering a full suite of TIC services is having the right recognitions and accreditations. In addition to our many Canada-based recognitions and accreditations, in 1992, our Toronto facilities in Rexdale were recognized as a Nationally Recognized Testing Laboratory, which launched the use of the CSA NRTL mark. Two years later, after the North American Free Trade Agreement (NAFTA), we established our C-US Certification Mark, which covers testing against applicable standards on both sides of the Canada/U.S. border.

Over the years, we have expanded our accreditations and recognitions to include accreditation from the American National Standards Institute (ANSI), the International Accreditation Service (IAS), the China National Accreditation Service (CNAS), the Deutsche Akkreditierungsstelle (DAkkS), the United Kingdom Accreditation Service (UKAS), and recognition by the IECEE as a National Certification Body, the EC as a Notified Body, the IECEx as an Ex Certification Body and Test Lab, the U.S. DOE, Energy Star, the California Energy Commission, NRCAN, and many others.

4.1 GROWTH AND EXPANSION

Our Presence Across Canada

We first set our sights on supporting product testing and certification across the provinces of Canada. In 1950, we opened our first fully equipped testing facility in Toronto and established a new inspection agency in Winnipeg, followed in 1968 by a new office and laboratory in Vancouver. Then, in 1969, we moved our Standards Development Organization (SDO) from Ottawa to Toronto, where it joined our testing facility and laboratories.

Later, we also broadened our reach by opening new expanded regional offices in Pointe-Claire QC, Winnipeg, and Richmond BC. We opened a new Certification Division in Edmonton in 1975, and another regional branch in Moncton NB in 1982.

Just last year, 2018, we expanded our resources at our Rexdale headquarters with the opening of an ambitious, innovative new Learning Centre. One part, equipped with advanced Microsoft collaboration technology, is designed for classroom learning. The second part was created to accommodate the certifiers and is set up as a laboratory, with electrical test benches and software for simulating product testing and certification activity.



4.1 GROWTH AND EXPANSION

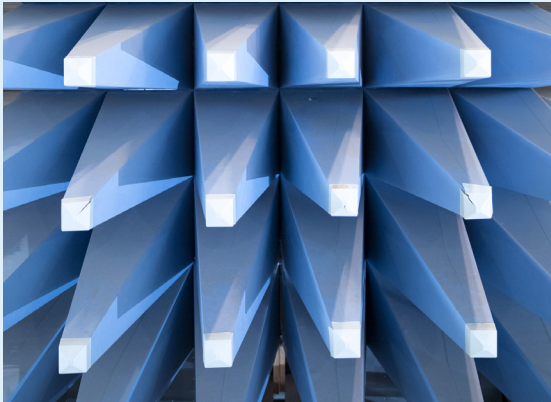


Exploring and Unifying Global Markets

Starting in 1950 with the entry into a relationship with the British Standards Institution to assist British exporters interested in accessing the Canadian market, we began building international alliances in order to expand our scope and services. Over time, these grew beyond Britain to the Netherlands, where we established an affiliation with an international network in 1951 to support the inspection of products manufactured in factories throughout Europe.

Our commitment to expanding our global presence increased in the 1990s, first with the opening of a new CSA Group office in Tokyo in 1991. That same year we became the first North American company accepted to the IECEE/CB Scheme, specifically for our expertise in information technology. Created by the International Electrotechnical Commission (IEC) System of Conformity Assessment Schemes for Electrotechnical Equipment and Components (IECEE), the IECEE/CB Scheme is an international system for accepting test reports and certificates dealing with the safety testing of electrical and electronic components, equipment and products.

4.1 GROWTH AND EXPANSION



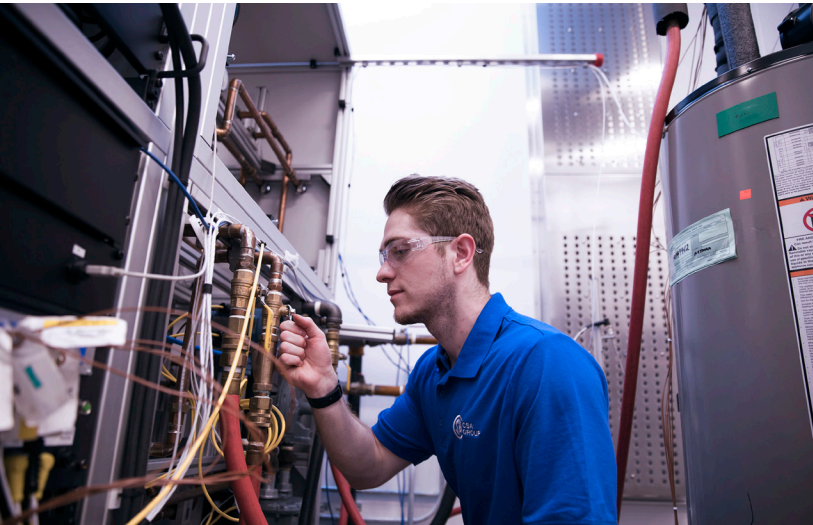
In 1997, we opened a CSA Group office in India, expanding our already robust presence in Asia, which included facilities in Japan, Hong Kong, Taiwan, South Korea, Singapore, and China. That same year, we acquired International Approval Services (IAS) including the facilities and activities of the American Gas Association (AGA) and Canadian Gas Association (CGA).

Our expansion continued in the 2000s with the establishment of a branch office in Italy and acquisition of SIRA testing in the UK in 2009, followed in 2011 by the acquisition of Mikes and Emitel in Strasskirchen, Germany, giving us state-of-the art laboratory facilities for performance of environmental testing for automotive, e-vehicles, electromagnetic compatibility (EMC), power tools, IT, and home appliances.

4.2

Home, Commercial, and Industrial

Throughout our history, CSA Group has focused on helping improve safety where people live and work by testing products for quality and performance and by conducting inspections.

4.2**HOME, COMMERCIAL,
AND INDUSTRIAL**

Household and Appliances

In 1969, we took steps to help reduce accidents by developing certification programs for ladders, helping manufacturers ensure that ladders of all sizes and kinds met the requirements of various safety standards.

Then, in the early 1980s, we began addressing the safety of water heaters. That's when one of our acquired organizations, American Gas Association (AGA), responded to the frequent reports of water heater incidents taking place in North America by creating a spill laboratory in Cleveland, Ohio.

4.2**HOME, COMMERCIAL,
AND INDUSTRIAL***Blue Star mark (U.S.)**Blue Flame mark (Canada)*

Gas Safety

In 1997, we acquired International Approval Services, Inc. (IAS), a leading North American organization that developed standards for and certified various products fueled by natural and liquefied petroleum gas, including both the American Gas Association and the Canadian Gas Association.

This not only strengthened our presence in the U.S., but also made CSA Group the certification body responsible for applying the Blue Star (U.S.) and Blue Flame (Canada) marks, which are often required or recommended under state, provincial, and municipal regulations, as well as by insurance companies, local gas utilities, liquefied petroleum gas suppliers, trade associations, and consumer groups.

4.2**HOME, COMMERCIAL,
AND INDUSTRIAL**

Plumbing

We first developed a certification program for plumbing products in 1952. Later, as water efficiency became more of a priority for manufacturers and consumers, we gained accreditation to certify for the WaterSense product certification system.

Personal Protective Equipment (PPE)

We first launched certification programs in 1967 for protective equipment that included motorcycle helmets and safety footwear, followed in 1973 with a certification program for hockey helmets. The Z262 standard series for helmets is now referenced in Canadian legislation.

Today, we have many clients in the PPE industry, and provide testing and certification services to the regulation (EU) 2016/425 requirements, passed in 2018, as well as to other international requirements.

4.2**HOME, COMMERCIAL,
AND INDUSTRIAL***Hazloc bunker*

Hazardous Locations (HazLoc)

We first published our standard on electricity in confined spaces (for radio interference and the use of electricity in coal mines) in 1949, and today we're the number one issuer of HazLoc certifications worldwide.

In 2009, CSA Group acquired the UK-based SIRA Group of companies. By 2013, SIRA had gained both Occupational Safety and Health Administration (OSHA) and Standards Council of Canada (SCC) recognition, allowing our certificate (U.S. and Canada) for equipment used in hazardous locations to be issued from the UK and other global jurisdictions.

We are a leading notified body for ATEX certificates (the required passport for hazardous area products in Europe) and in 2013 we became the first certification body to offer IECEx, ATEX, and North American certification from a single lab.

4.2 HOME, COMMERCIAL, AND INDUSTRIAL

Industrial Controls

The rise of cyber-related attacks on the Internet of Things (IoT) and the Industrial Internet of Things (IIoT) infrastructure has made it increasingly vital to have cybersecurity protocols in place. CSA Group helps minimize risk by testing against key international standards.

4.3

Power and Energy

As greater emphasis has been placed on finding cleaner, more efficient forms of energy, CSA Group has updated our capabilities, providing expert testing and certification services to help manufacturers safely store and transport those new forms of energy.

4.3 POWER AND ENERGY



Energy Efficiency Testing

CSA Group began our Energy Efficiency Verification Program in 1991 to help manufacturers comply with new regulations in Ontario. We then expanded the program in 1995 to cover Canadian Federal Energy Efficiency Regulations and developed an energy efficiency verification mark, which signifies that products bearing the mark comply with various energy efficiency requirements. In 2011, our Energy Efficiency Verification Program was recognized by ENERGY STAR®.

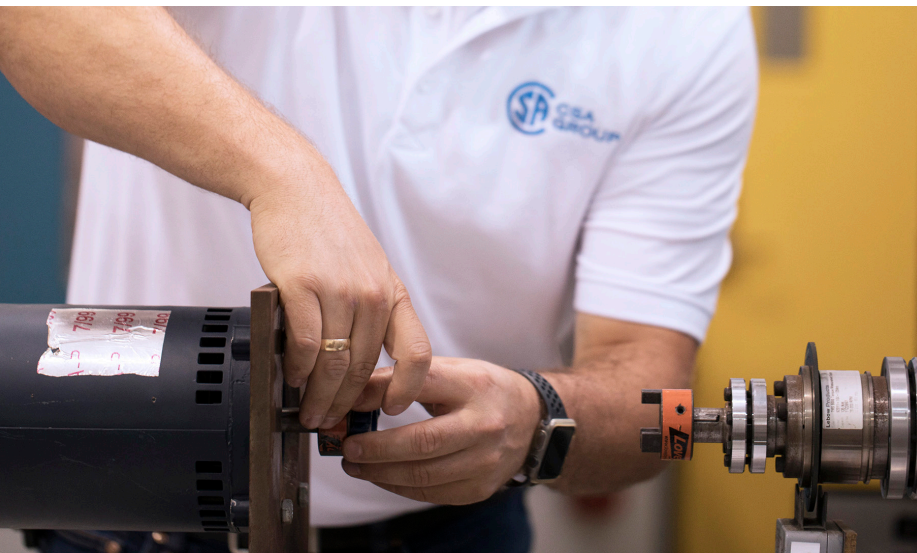
In 2002, the U.S. Department of Energy (DOE) authorized CSA International (one of our former divisions) for energy efficiency verification testing.

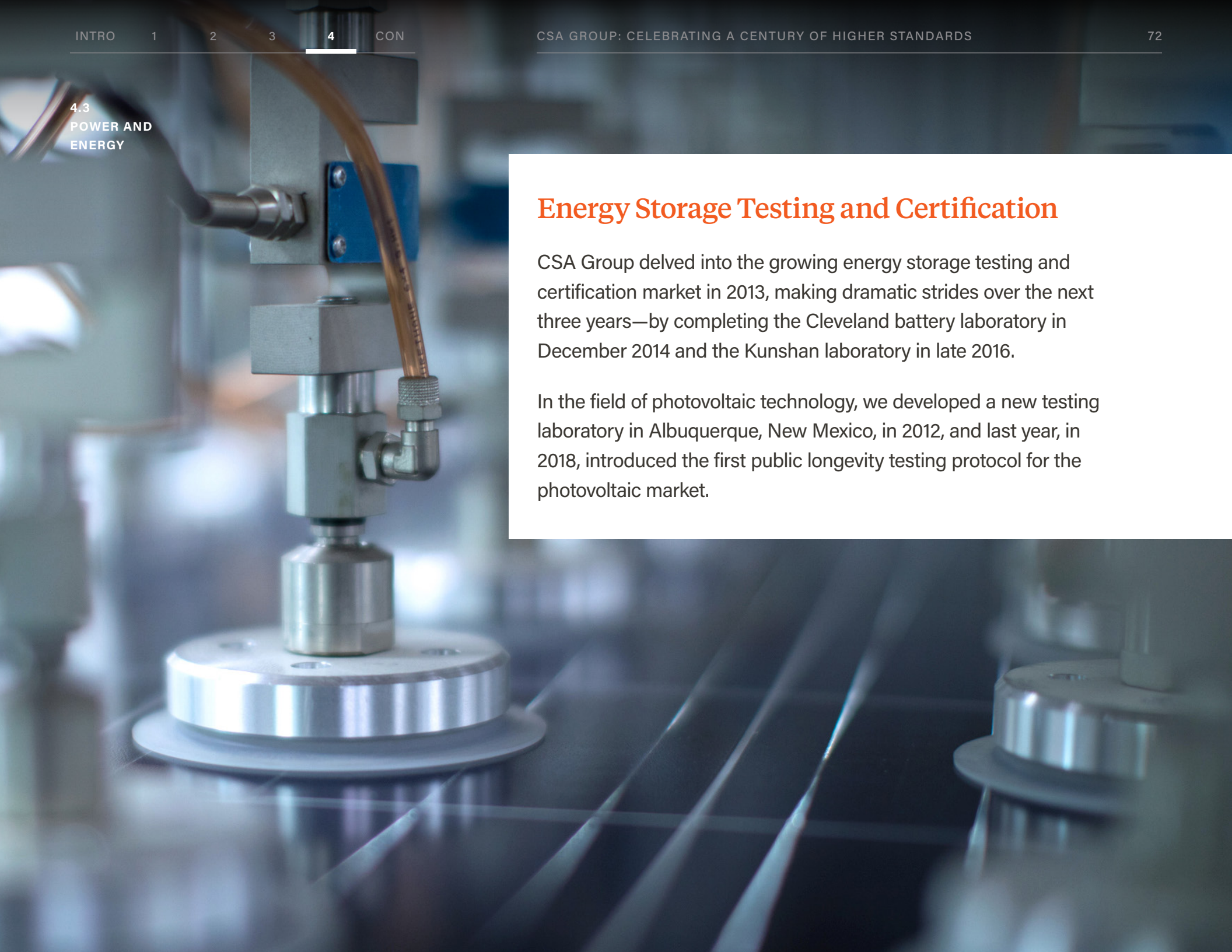
Additionally, we were the first third-party testing laboratory to be accredited for Illuminating Engineering Society of North America LM-80 testing, a method to determine how well the LED light source, LED luminaire, performs over time.

4.3 POWER AND ENERGY

Today, we are recognized by governmental agencies such as the U.S. Environmental Protection Agency (EPA), the U.S. DOE; the California Energy Commission (CEC); the Natural Resources Canada (NRCAN); and the provinces of British Columbia, Manitoba, Ontario, Quebec, New Brunswick, and Nova Scotia.

We are accredited by the DOE to conduct energy efficiency testing on electric motors and by NRCAN to provide the efficiency testing against three-phase induction motors.





4.3 POWER AND ENERGY

Energy Storage Testing and Certification

CSA Group delved into the growing energy storage testing and certification market in 2013, making dramatic strides over the next three years—by completing the Cleveland battery laboratory in December 2014 and the Kunshan laboratory in late 2016.

In the field of photovoltaic technology, we developed a new testing laboratory in Albuquerque, New Mexico, in 2012, and last year, in 2018, introduced the first public longevity testing protocol for the photovoltaic market.

4.3 POWER AND ENERGY



Automotive (CNG and Hydrogen) Testing

To test the fuel systems used on board low-emission natural gas and zero-emission hydrogen fuel cell electric vehicles, we opened a high-pressure testing facility in Langley BC, in April 2015.

Fuel Cell Certification and Testing

In 1990, we were approached by a leader in the fuel cell industry, a company that had originally developed fuel cell power systems for the space shuttle programs. They sought to sell fuel cells in the regular marketplace and needed our help to obtain the proper safety certification. The work we completed was adopted in 1998 by ANSI, which published these requirements as the national standard for the U.S. In 2004, it was renamed CSA FC-1 Stationary Fuel Cell Power Systems. We also wrote standards for portable systems and for fuel cell modules, which were then used as seed documents to develop the correlating international standards for IEC.

4.4

Medical, Digital, and Emerging Technologies

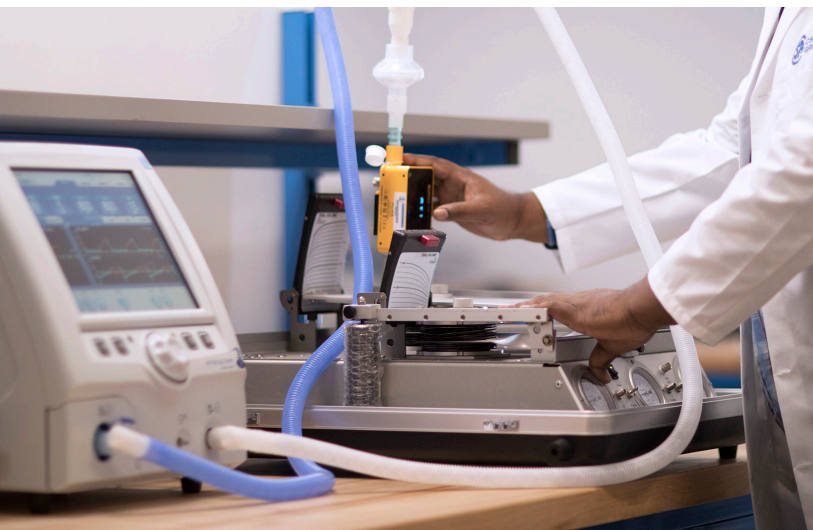
New technology will continue to be explored and developed at exciting speeds, impacting many aspects of life. CSA Group's approach is to remain prepared and responsive, providing the testing and certification services needed to help new technology advance and perform in the safest possible way.

4.4**MEDICAL, DIGITAL, AND
EMERGING TECHNOLOGIES**

Health Care

As a new generation of pioneers in the medical field has created more advanced equipment, CSA Group has supported manufacturers with testing services to help prepare that equipment for market.

Since then, we have worked with medical manufacturers to support their various certifications. In the medical robotics space, for example, we became involved in 2005 by testing devices, equipment, and components used for therapy and rehabilitation.



4.4 MEDICAL, DIGITAL, AND EMERGING TECHNOLOGIES

Cybersecurity

As digital technology has advanced, cyber threats have become an even greater concern for makers of network-connected products, software, medical devices, and industrial systems. Since the early 1970s, CSA Group has worked with manufacturers to help mitigate those threats.

We have done this by using our unmatched expertise to identify gaps, analyze weaknesses, and conduct top-notch testing and certification for cybersecurity products. And as the Internet of Things has evolved and advanced, we've updated our services—this includes the 2016 launch of groundbreaking cybersecurity services, including a security testing laboratory.

4.4 MEDICAL, DIGITAL, AND EMERGING TECHNOLOGIES

Information & Communication Technology (ICT)

In the last 30 years, CSA Group has worked with ICT manufacturers to help ensure the safety, privacy, and security for an ever-broadening range of products, which include consumer electronics, communications networks and storage, power supplies and backup power systems, and computers and work stations. We have also demonstrated our expertise and leadership through the publication of more than 1,200 ICT-related standards.

3D Printing

With businesses and innovators finding more and more uses for 3D printers—including printing high-resolution product prototypes and building full-color 3D models—3D printing technology shows immense potential. CSA Group entered this promising and growing space in 2015 when we began certifying 3D printers for professional and educational applications.



CSA Timeline

1919

Canadian Engineering Standards Association (CESA) is formed as an independent Canadian standards operation.



1944

CESA becomes the Canadian Standards Association.



1947

CSA joins the International Organization for Standardization (ISO) in Geneva, making Canada a founding member.



1974

CSA is officially accredited by the newly formed Standards Council of Canada as a standards-writing organization.

The same year, CSA starts work on standards for the nuclear industry, leading to the development of the Z299 series of quality assurance standards. These and other standards eventually lead to the ISO 9000 series of quality management standards, among the most widely adopted standards in the world.

CSA forms a Consumer Advisory Council, which yields invaluable insights into quality and performance.

1927

The first Canadian Electrical Code is published. Now in its 24th edition, it remains CSA Group's most widely used standard.

Later, in 1940, CESA becomes the official certification agency for all electrical equipment intended for sale or installation in Canada.

**CANADIAN
ELECTRICAL
CODE**

1946

The CSA mark is born, and CSA becomes Canada's representative international organization for standardization.



1952

CSA's first Board of Directors is formed.



1978

Two association awards are established: The John Jenkins Award for distinguished long-standing service to the cause of voluntary standardization, The Award of Merit for productive service in CSA committee activities.

CSA Timeline

1989

The Canada-U.S. Free Trade Agreement is finalized (CUSFTA), followed four years later by the North American Free Trade Agreement (NAFTA), which included Mexico. This leads to CSA's full access to the U.S. market and the creation of the CSA C-US certification mark, indicating that a product has been certified to U.S. and Canadian standards.

1997

CSA acquires International Approval Services, Inc. and becomes an authorizing organization in the U.S. for the American Gas Association's Blue Star mark and in Canada for the Canadian Gas Association's Blue Flame mark for gas fired products.



2004

CSA is officially accredited by the American National Standards Institute as a standards-writing organization.



2013

Together with the Mental Health Commission of Canada and the Bureau de Normalisation du Québec, CSA publishes the first-ever national standard designed to help organizations and their employees improve workplace psychological health and safety.

The same year CSA Group creates a new Natural Resources Standards Program in support of advancing and expanding on new and existing standards for the Canadian natural resources industries such as forestry, mining, and water.

2019

Today, CSA Group provides services to businesses, industries, and consumers worldwide. We work in more than 54 areas of technology, including new technologies such as electric vehicles, alternative fuels, nano materials, wind and solar energy, and fuel cells.

1992

CSA Rexdale is accredited as a Nationally Recognized Testing Laboratory (NRTL) by the U.S. Occupational Safety and Health Administration (OSHA).



2002

U.S. Department of Energy authorizes CSA International for energy efficiency verification testing.



2012

CSA aligns all of its divisions under the singular CSA Group brand, operating as CSA Group. CSA Group also begins adding SCC-accredited locations in Europe and Asia, allowing products bound for Canada to be certified using services in local areas.

The same year, CSA Group begins obtaining ISO/IEC 17025 accreditation for labs in Taiwan (IAS), Kunshan (IAS), Tokyo (IAS), and India (NABL). Also in 2012, CSA Group begins the addition of new CBTL sites in China, UK, India, Taiwan, Korea, and Germany.

2016

CSA Group introduces a new research program to support its standards development activities.



CSA Group today

At CSA Group, we excel in addressing emerging, complex issues and technologies. CSA Group is comprised of two organizations: Standards Development and Testing, Inspection, & Certification.

Not-for-Profit Standards Development

The mission of CSA Group's Standard Development organization is to enhance the lives of Canadians through the advancement of standards in the public and private sectors. We are a leader in standards research, development, education, and advocacy. The technical and management standards developed with our 10,000 members improve safety, health, the environment, and economic efficiency in Canada and beyond.

Global Testing, Inspection, and Certification

CSA Group's global commercial subsidiaries generate funding for continued standards research and development in support of our mission. Our commercial subsidiaries provide expert testing, inspection, and certification services that enable manufacturers to demonstrate that their products are in compliance with applicable safety, environmental, and operating performance standards for markets around the world. We offer deep expertise and industry-leading service delivery across a wide range of current and emerging technologies.

The first 100 was only the start

The world has changed and advanced profoundly in the last century, leading to changes in every aspect of life—how we travel, where we live and work, the many products we use, and the incredible technology we rely on. And CSA Group has been there to help establish quality, promote safety, and even save lives.

We're proud of these accomplishments. But it doesn't end there. Our first 100 years was only the beginning.

We will take the right approach by engaging in relevant research and, with the help of the generous contributions of our members' time

The first 100
was only the start
(continued)

and experience, by staying agile enough to adapt as technologies emerge and new breakthroughs are made.

We will empower the right people by continuing to attract the most passionate talent to our organization, contributing to safe and reliable technologies, and encouraging collaboration.

And together, we'll keep looking forward and helping shape the exciting changes that are to come. We'll keep holding the future to a higher standard.



*Celebrating a century
of higher standards.*