

Volume 26 Number 3

May / June 1999

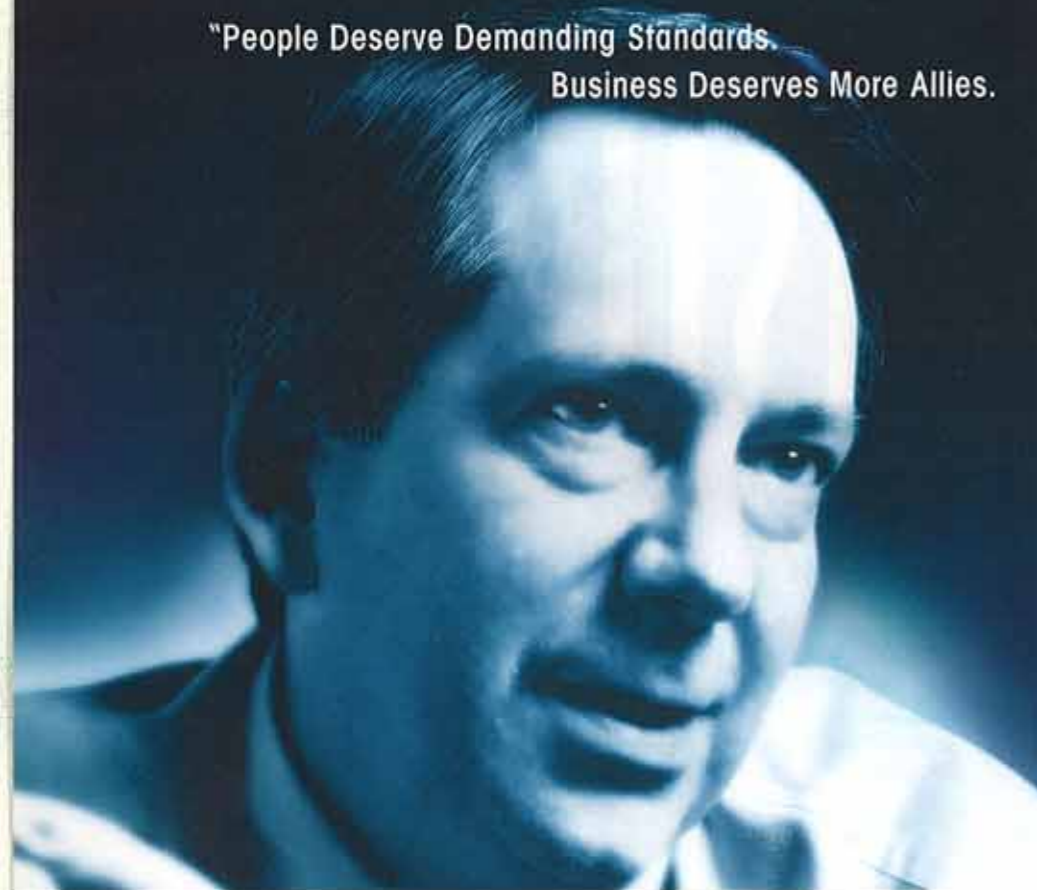
# CONSENSUS

*Canada's Newsmagazine of Standardization*

**Savoring the sweet taste  
of success**

"People Deserve Demanding Standards.  
Business Deserves More Allies."

We Answer With Solutions."



Robert Griffin  
President & CEO - CSA International

Enter CSA International.

Although our tradition is anchored in standards, our philosophy is non-traditional.

As a solutions-oriented organization, we acknowledge two realities. People deserve demanding standards. Business deserves more allies.

Working with a sense of community on the global stage, CSA Members develop standards and we help our customers understand and apply them. We test and certify products and register companies to national and international standards.

Our role model is partnership. Through consensus. Initiative. Ingenuity. And most importantly, through listening.

Our leadership in Standards Development has moved the world closer to a blueprint for global harmonization requirements.

Our Certification & Testing teams have streamlined the process with customized, time-sensitive solutions.

Our QMI Division continues to spearhead global trade by registering companies to the much-heralded ISO 9000 and ISO 14001 Management Systems.



CSA INTERNATIONAL

Standards Development

QMI Management Systems Registration

Certification and Testing



Standards Council of Canada

Canada

CONSENSUS

Canada's Newsmagazine of Standardization

45 O'Connor Street, Suite 1200

Ottawa, Ontario K1P 6N7

tel.: (613) 238-3222, fax: (613) 569-7808,

e-mail: info@scc.ca

CONSENSUS is published six times a year in English and French editions by the Standards Council of Canada on behalf of the National Standards System. Information may be reproduced without permission, providing credit is given to CONSENSUS.

CONSENSUS accepts advertising that conforms to the Canadian Code of Advertising Standards. Acceptance does not imply that advertisers are accredited or endorsed by the Standards Council. The Standards Council is the federal Crown corporation with the mandate to promote efficient and effective voluntary standardization.

Editor, Lesly Bauer ([lbauer@scc.ca](mailto:lbauer@scc.ca))

Associate editor, Derek Stevenson ([d Stevenson@scc.ca](mailto:d Stevenson@scc.ca))

Writer, Christina Van Loon, ([vanloon@scc.ca](mailto:vanloon@scc.ca))

Design, production and advertising sales,

Guy Ethier ([ge ethier@scc.ca](mailto:ge ethier@scc.ca))

Translation, Hélène Couturier, Jeanne Reinhart

Subscriptions, Jeff Holt ([jholt@scc.ca](mailto:jholt@scc.ca))

ISSN 0380-1314

Please direct letters and comments to the editor of CONSENSUS, Lesly Bauer, using the information on this page.



The Standards Council is the Canadian member of the International Organization for Standardization (ISO) and sponsor of the Canadian National Committee of the International Electrotechnical Commission (IEC)



Printed in Canada on recycled and recyclable paper



Canada's newsmagazine of standardization

VOL. 26, NO. 3, MAY / JUNE 1999

## In this issue...

- Peter Clark appointed executive director of SCC ..... 4
- MPEG: promise and peril ..... 6  
This family of standards is changing how we see and hear the world
- Bringing it home ..... 9  
ISO sets new adoption rules
- ISO comes clean ..... 10  
New cleanroom standards will affect food and beverage, pharmaceutical, electronics and aerospace industries
- Savoring the sweet taste of success ..... 12  
Consumers and products benefit from a new national standard that defines organic agriculture
- ISO 9000: summing up the situation in Canada ..... 16  
Will Canadians ring in the millennium with 10,000 registrations?

### ALSO

- News ..... 4
- National Standards of Canada ..... 19
- Laboratory accreditation news ..... 20
- Public review ..... 21
- Accreditation news ..... 22

Search back issues of CONSENSUS on the Web!  
Go to <http://www.scc.ca> and click on "search centre."

### Canadian Standards Strategy Issues Paper

The Standards Council of Canada and its Stakeholders Advisory Council have created an Issues Paper to promote discussion on elements of a Canadian Standards Strategy. The Issues Paper will be posted at the Standards Council's Web site (<http://www.scc.ca>) as of June 30. Drop by the Council's web site to get involved.

### Peter Clark appointed executive director of SCC

Industry Minister John Manley has appointed Peter Clark, MBA, to the position of executive director of the Standards Council of Canada. As the chief executive officer of the Standards Council, Mr. Clark is responsible for overseeing the planning, development, coordination and marketing of an effective and efficient National Standards System.

"Mr. Clark has a long-standing record of exemplary service to the public. I am pleased that he is continuing his career by undertaking the leadership of the Council," said Minister Manley. "His vision and focus on creating efficient and effective organizations will benefit employees of the Council

as well as its clients and users."

A prominent figure in Canada's National Capital Region, Mr. Clark has considerable experience in the management of both finance and human resources functions. As chair of the Regional Municipality of Ottawa Carleton, he was involved in leading the area's economy into a period of strong growth and diversification. Mr. Clark oversaw initiatives that helped build the area's high-tech sector into Silicon Valley North, provide better access to United States markets, and enhance the region's quality of life. He was recognized for extraordinary increases to operational efficiency, business expansion and overall bottom-line performance.

"I look forward to working with Mr. Clark,"

said Linda Lusby, chair of the Standards Council. "He joins me, the Council members and staff in moving the Council's agenda forward into the next century."

A former Mayor of the Township of Cumberland and sessional lecturer at Carleton University, Mr. Clark was also a senior economist with the Canada Transport Commission and has worked as a consultant on community and education issues.

Mr. Clark holds a teaching certification from the Ontario Institute for Studies in Education, a bachelor of commerce degree from the University of Windsor and an MBA from the University of



Peter Clark

Michigan.

He has served on a number of committees and boards of directors, such as Algonquin College, the Windsor and Chimo Region Jaycees, the District Health Council, the Orleans Health Care Planning Group and the Hospital Capital Priorities Committee. He is currently a member of the Kiwanis Club of Ottawa. ■

### First lab accredited to evaluate IT security products

The first laboratory has been accredited in a program that is expected to lead to greater confidence in information technology (IT) security products.

The Standards Council of Canada in partnership with the Communications Security Establishment (CSE) announced on May 13<sup>th</sup> that DOMUS IT Security Laboratory

(ITSL), a division of LGS Group Inc., is the first laboratory to receive an accreditation recognizing its ability to test the effectiveness of IT security products.

The accreditation program is the result of an innovative agreement between the Standards Council and CSE that created a broadly based private sector and government partnership.

Under the partnership, the Standards Council accredits laboratories, which includes assessments of technical

resources, independence of operation, staff qualifications and quality management systems. For its part, CSE certifies products on the basis of tests performed against the Common Criteria – an internationally recognized IT security standard devised by CSE and its partners in the US, the UK, Germany, France and the Netherlands.

A product evaluation conducted in a Standards Council accredited lab and certified by CSE against the Common Criteria in Canada is recognized in

the other partner countries, thus providing an international market for the product.

*Guidelines for the Accreditation of Information Technology Security Evaluation and Testing Facilities (CAN-P-1591)* and *Checklist for the Assessment of Information Technology Security Evaluation and Testing Facilities (CAN-P-1592)* are used to accredit the testing facilities. Both are available on the Standards Council's Web site at [www.scc.ca](http://www.scc.ca).

CSE (<http://www.cse-cst.gc.ca>) is a federal

government agency that delivers information technology security solutions to the Canadian government. ■

### Testing firm signs agreement with Argentina

Intertek Testing Services (ITS) has signed an agreement to make it simpler for its clients to export electronic and electrical products to Argentina. At the end of March, ITS signed a mutual recognition agreement with Argentina's leading certification body, the Instituto Argentino de Normalización (IRAM).

The agreement allows ITS, a Standards Council accredited certification organization, to test products in Asia, Europe and North America for compliance with Argentina's safety standards for low-voltage electrical products. Under new regulations, companies that don't meet the standards will not be allowed to market products in Argentina. The regulations affect over \$135 million in electrical goods exported to Argentina annually. ■

### Finding a role for regional standards bodies

Regional standards bodies need to identify their role on the standards stage, according to Linda Lusby, chair of the Standards Council of Canada.

Speaking to a special joint session of the Pacific Area Standards Congress (PASC) and the Pan-American Standards Commission (COPANT) held in Cartagena, Colombia in April, Ms. Lusby suggested several possible roles for regional bodies. For example, they could help to adapt international standards to local languages or technical practices. They could develop standards in areas that are ignored at the international level. By developing a strategic regional approach to international participation, they could pool resources, establish common goals, and even offer their members a stronger voice at the international table.

One way of determining the proper role of regional bodies, she suggested, would be a Pan-American or Pacific Rim Standards Strategy similar to the Canadian Standards Strategy which is currently in development.

PASC and COPANT are regional standards forums made up of national standards bodies representing the countries of the Pacific Rim and of North, Central and South America respectively. ■

### Year 2000 changes to ISO 9000 moving forward

The year 2000 changes to ISO 9000 are expected to

reach the draft international standard stage by the end of 1999. Over the summer the second committee drafts will circulate among experts from around the world. If the committee drafts are approved, draft international standards will be published by December 31, 1999. Due to tremendous worldwide interest in the revisions, the committee drafts, normally considered internal documents, are being made available to the public. Copies of the latest drafts are available from Global Info Centre Canada by calling 1-888-782-6327. ■

### ISO keeps hydraulic systems running smoothly

An international standard is helping to grease the wheels of international trade in hydraulic fluids and the systems that rely on them. The standard is ISO 11158:1997, *Lubricants, industrial oils and related products (class L) – Family H (hydraulic systems) – Specifications for categories HH, HL, HM, HR, HV and HG*. It specifies, among other things, acceptable limits for the colour, density, viscosity and water content of specific types of oil used, for example, in hydraulic power systems. It is written in a general form so that the fluids specified can be used under various climatic conditions throughout the world.

Takao Tabata, Ph.D., is one of Canada's foremost authorities on hydraulic fluids. He was the convenor of the joint hydraulic fluids working group that formulated the standard. His employer, Petro-Canada, sponsored his work for the committee.

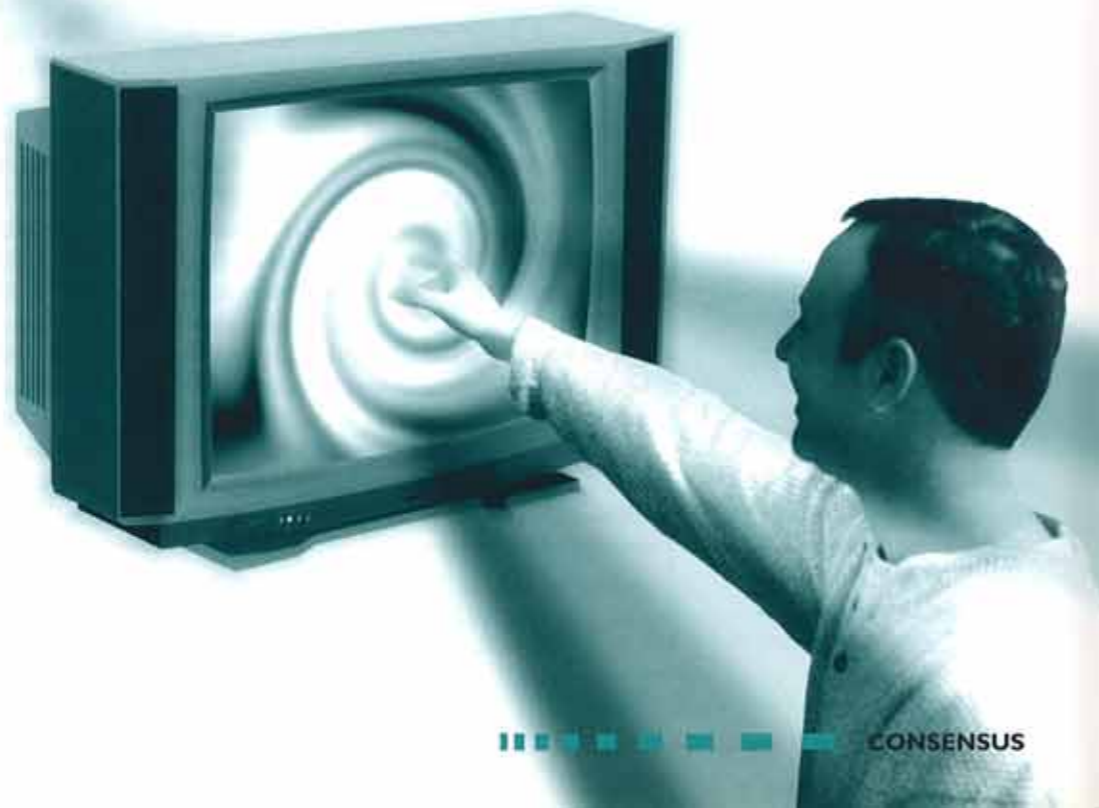
The standard is expected to promote international trade by harmonizing the requirements of fluid suppliers, equipment manufacturers and fluid users. Until this international standard was created, there was no standard in North America specifying requirements for this type of fluid. Tabata has also worked to produce the American Society for Testing & Materials (ASTM) standard for mineral hydraulic oils, and is currently working on ISO 15380, a standard dealing with environmentally friendly hydraulic fluids, and ISO 12922, a standard dealing with fire-resistant hydraulic fluids. ■

*Based on a submission by Paul Strigner, Chairman of the Canadian Advisory Committee to ISO TC 28, petroleum products and lubricants.*

# MPEG: promise and peril

*The way we see and hear the world is changing, thanks to the MPEG family. MPEG — short for “Moving Picture Experts Group” — is a series of digital audio and video coding standards developed by the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC).*

*MPEG standards have already given the world digital satellite television, digital video/versatile discs (DVD), and movies and music you can play on your computer. But the MPEG revolution is just beginning. CONSENSUS looks at the promise — and the peril — of MPEG.*



## MPEG-4: Putting the audience into the picture

Have you ever wanted to show a video of your family's vacation on the moon, wander through the homes on TV's *Road to Avonlea*, guide a hero with your face through the mazes and traps of your favorite video game, or watch a soap opera on your mobile phone?

With MPEG-4, you can.

MPEG-4 is the latest member of the MPEG family. Unlike its predecessors (please see our sidebar, “MPEG by the numbers”), which mainly provided better ways to store and distribute conventional audio and video programming, MPEG-4 is a true multimedia standard.

In MPEG-4, sounds and images that have been captured from the real world or created on a computer are treated as “objects”. When combined in a “scene”, objects can be manipulated in a variety of ways.

For example, you can replace one object with another. That might allow you to choose the narrator in a documentary, or your favorite color commentator for a sporting event. Since objects and scenes can be three-dimensional, you could choose your own camera angles or explore the setting in which a story takes place.

The standard also enables users to interact with the information provided: they will be able to surf around inside the video the same way they can navigate inside the Web. Clicking on a character in your favorite television series, for example, might connect you to a Web page with more information about that character.

MPEG based products will also give home computer users access to a variety of tools that used to be available only in high-end movie and television studios. For example, you'll be able to edit your holiday travel videos, or even create videos of fantasy vacations — trips into the past or to other planets, for example.

MPEG-4 won't just change the way we interact with audio and video, however — it will also change where and when we use them.

The standard is intended to provide universal access to multimedia information by making use of any type of distribution system, from high-bandwidth carriers such as cable to low-bandwidth applications such as mobile telephones. Because the information is transmitted in exactly the same format through all of these channels, viewers can see their favorite programs anywhere at any time.

MPEG-4 allows information to be “scaled” to the communications environment — that is, the method of transmission and the playback device. It does this by separating the most important information from additional but not vital information, and sending only as

much information as the environment can

process. If you're watching a movie on a handheld wireless computer, for example, you probably won't have any use for a five-channel surround-sound signal, so the source will send you only the basic audio information. Similarly, you'll receive a low-resolution version of the picture, rather than the full high-definition image that would be sent to a big-screen television.

The most important feature of MPEG-4, however, is that it's an open standard that can lead to developments that haven't yet been imagined. Any new service offered in this field, any new audiovisual information, should benefit from this standard — the door is wide open on future prospects. The only limits to applicability are in our imagination.

*Adapted from an article in ISO Bulletin*

## MP3: The sound of change

An audio standard known as MP3 is changing the sound of the music industry, and striking a sour note with some record companies.

MP3 makes it possible to transmit CD-quality music and audio files over the Internet. That's led to worries about widespread audio piracy, and could someday change the way musicians distribute their work to their audiences.

MP3 is short for “MPEG audio layer 3”, one of three audio coding schemes in MPEG-1 and MPEG-2. (MP3 shouldn't be confused with MPEG-3, a proposed standard for high-definition television that was incorporated into MPEG-2.) Layer 3 coding allows sound data to be compressed by a factor of 12 with no loss in sound quality. Using MP3, a typical CD track can be turned into a four-megabyte computer file. And there's plenty of software, known as “CD rippers”, available to do it.

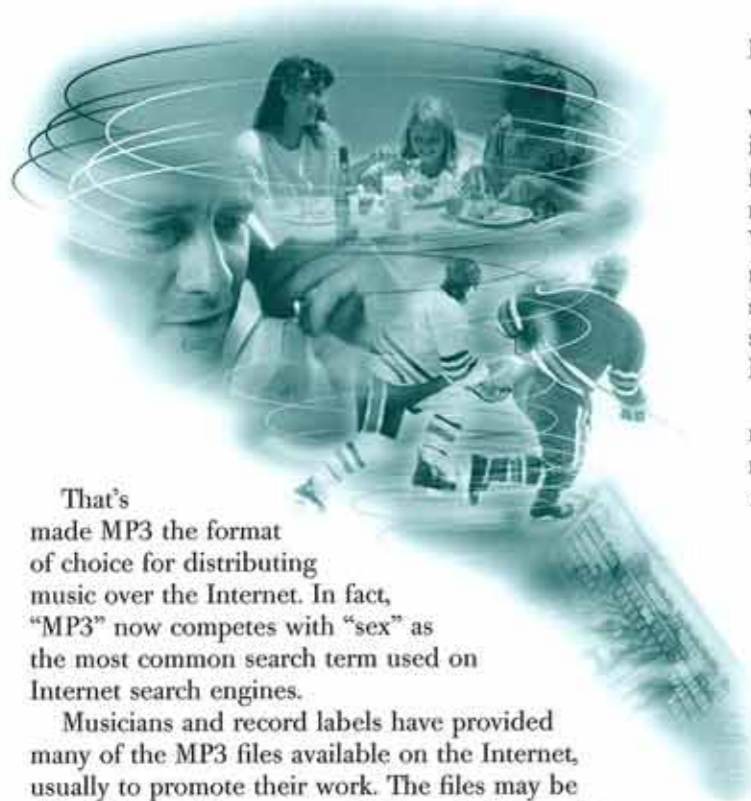
You don't have to be at your computer to listen to an MP3 track, either. Several companies have developed pager-size MP3 players which can store an hour or more of music.

## MPEG comes to Canada

The MPEG working group — known formally as ISO/IEC JTC 1 / SC 29 / WG 11 — will hold its next meeting in Vancouver, July 12 – 16.

The group usually meets three times a year (in March, July and November). Meetings normally draw some 350 experts from about 20 countries around the world.

For more information, please see the MPEG Web page at <http://www.cselst.stet.it/mpeg/>.



That's made MP3 the format of choice for distributing music over the Internet. In fact, "MP3" now competes with "sex" as the most common search term used on Internet search engines.

Musicians and record labels have provided many of the MP3 files available on the Internet, usually to promote their work. The files may be offered free of charge, or sold through sites such as mp3.com or mp3now.com. But other MP3 files are illegally copied from CDs or from bootleg recordings made at concerts.

Naturally, the music industry is concerned about the sales it could lose due to this music piracy. The Recording Industry Association of America (RIAA) and individual record companies have taken legal action to shut down some illegal MP3 sites. They've also tried, so far unsuccessfully, to block the sale of MP3 players.

At the same time, the industry is investigating ways that it can sell music online without worrying about the threat of piracy. Several technology companies have already developed their own systems.

In an effort to harmonize these efforts and arrive at a common, open solution, the RIAA has launched a Secure Digital Music Initiative (SDMI). To ensure its success, they've turned to the man known to some people as the "father of MPEG". Leonardo Chiariglione, the international convenor of ISO and IEC's MPEG working group, was appointed executive director of SDMI in February.

A draft version of the SDMI specification is expected in June, with compliant products in stores by Christmas. Meanwhile, ISO and IEC are ensuring that the new MPEG-4 standard (please see our accompanying story) doesn't lead to similar piracy concerns. MPEG-4 includes a method of identifying the owner of the "intellectual property" contained in a video clip, audio clip, still graphic or sound effect. The standard also permits the use of protection schemes that would, for example, require the user to enter a special code to allow an

MPEG-4 file to be played back or displayed.

Some observers, however, are wondering if privacy is what the recording industry is really worried about when it comes to MP3. Some artists are being discouraged from using MP3. Guitarist Tom Petty recently removed a new MP3 single from his Web site after pressure from Warner Brothers, his record label. And while Canadian rock star Alanis Morissette's current tour is being sponsored by mp3.com, and features a previously unreleased single that will be available online, the track won't be in MP3.

The problem? Many of the performers who make their music available over the Internet aren't signed to any recording company. While they don't get the exposure of more well-known artists, they also get to keep a bigger share of the revenue from each sale they make. While recording companies aren't going to disappear anytime soon, MP3 may signal a significant change in the way performers get music to their fans. ■

## MPEG by the numbers

So far, ISO and IEC have published the following MPEG standards in draft or final form:

MPEG-1: ISO/IEC 11172, *Information technology – Coding of moving pictures and associated audio for digital storage media at up to about 1.5 Mbit/s* (five parts)

MPEG-2: ISO/IEC 13818, *Information technology – Generic coding of moving pictures and associated audio information* (ten parts)

MPEG-4: ISO/IEC 14496, *Information technology – Very-low bitrate audio-visual coding* (six parts)

The MPEG working group is currently at work on MPEG-7, a standard for information describing multimedia content (metadata), which can be used for searching, filtering and management. MPEG-7 is to be published in July 2001.

These and other ISO and IEC standards may be ordered from Global Info Centre Canada, the Standards Council of Canada's sales partner, at 1-888-782-6327 or on the World Wide Web at <http://www.global.ihs.com>.

# Bringing it Home:

## ISO sets new adoption rules

The International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC) are changing the rules for adopting international standards, in recognition of the new needs of regions and nations in the global marketplace.

The new guidelines, set out in ISO/IEC Guide 21:1999, *Adoption of International standards as regional or national standards*, contain three major changes. There are new categories of

correspondence that indicate the degree to which the adopted standard is the same as the international standard, there are new rules for indicating modifications, and the scope has been extended to cover regional as well as national adoption of international standards. Taken together, these changes make for a more transparent adoption process.

That transparency is important because when nations and regions adopt international standards, they often do so to make it easier to buy and sell products internationally. If the standards are the same, it is safer to assume that the products will be compatible. And the importance of compatibility is growing as the global marketplace gains prominence.

Under old guidelines, if a nation had to modify the technical aspects of a standard even slightly to suit its needs, the resulting national standard could not be considered the same as the international standard. Instead, it was said to be "based on" an international standard, but modi-

fications didn't have to be clearly indicated and clearly justified. That made it difficult for other countries to tell whether a standard was really the same as or different from their own.

Under the new guidelines, there are three distinct categories of adoption: identical (IDT), modified (MOD) or not equivalent (NEQ). The categories indicate the extent to which a national or regional standard corresponds to the international standard. The guidelines also

state that any modifications have to be clearly indicated and accompanied by an explanation of why they are necessary. If there are too many changes, or they are too great, the new standard will be considered not equivalent, and cannot be said to be an adoption of the international standard.

The reasons for clearly indicating changes are simple.

First, it makes it easy to tell if a standard is similar enough in different countries to maintain compatibility. Second, if the changes are obvious they cannot be ignored, and consequently the need for them will be re-evaluated constantly. That will encourage regions or nations to eliminate modifications over time, as it becomes possible to do so.

Taken altogether, the changes to the ISO/IEC guidelines increase consistency between national and regional standards and their international counterparts. They make the relationship between them transparent, and, as a result, promote international trade. ■

*Adapted from an article in ISO Bulletin.*



Taken altogether, the changes to the ISO/IEC guidelines increase consistency between national and regional standards and their international counterparts.

# ISO Comes Clean

**New cleanroom standards will affect food and beverage, pharmaceutical, electronics and aerospace industries.**

By Robert L. Giroux

A series of new international standards is expected to help make the world's cleanrooms a little cleaner.

Cleanrooms are specially constructed environments where factors such as airborne particles, temperature, humidity, air movement and lighting are carefully controlled. By enabling manufacturers to control or avoid contamination of their products, cleanrooms help to reduce defects and losses.

Most people associate cleanrooms with the electronics industry, thanks to a recent promotional campaign for a computer processor that featured dancing cleanroom workers in brightly-colored protective clothing. But cleanrooms are also used in the development and manufacture of pharmaceutical products, medical devices, food and beverages, and even cars and trucks.

Because manufacturers, customers and regulators often have very different requirements, a wide variety of cleanroom standards has been developed around the world. Canadian drug manufacturing guidelines, for example, reference cleanroom standards from the United States, Britain and Germany.

That diversity is gradually giving way to harmony. The European Committee for Standardization (CEN) has developed a standard that has been adopted in most European countries. The CEN standards have also influenced a series of international standards for cleanrooms

that are being developed by the International Organization for Standardization (ISO).

In order to provide international agreement on control levels for airborne particle concentration, the ISO standards deal with test methods, testing and monitoring frequencies, facilities designs, operational procedures, and many other parameters that influence laboratory and cleanroom control.

Two sets of standards are currently being prepared for release: ISO 14644, *Cleanrooms and associated controlled environments*, and ISO 14698, *Cleanrooms and associated controlled environments - Biocontamination control*. Several documents are scheduled for publication in the next few months. They include:

- ISO 14644-1, *Cleanrooms and associated controlled environments - Part 1: Classification of air cleanliness*: This standard is now in final draft form. It is expected to replace a U.S. federal standard which is referenced by both Health Canada and the U.S. Food and Drug Administration. These changes will have an impact on aseptic pharmaceutical, drug and food processing.
- ISO 14644-2, *Cleanrooms and associated controlled environments - Part 2: Specifications and testing and monitoring to prove continued compliance with ISO 14644-1*: This standard will mandate testing methods and intervals. Since requirements for testing and certification vary from jurisdiction to jurisdiction or from client to client, the publication of these requirements may save cleanroom operators time and money.
- ISO 14644-3, *Cleanrooms and associated controlled environments - Part 3: Metrology and test methods*: As with the previous standard, this document may save cleanroom operators time and money by replacing a variety of requirements with a single, internationally-recognized specification.

- ISO 14644-4, *Cleanrooms and associated controlled environments - Part 4: Design and construction*: This standard provides guidance on construction, start-up and testing, including considerations for layout, airflows and pressures.
- ISO 14644-5, *Cleanrooms and associated controlled environments - Part 5: Cleanroom operations*: This standard will prescribe controls for equipment, materials, personnel, and facilities.
- ISO 14644-6, *Cleanrooms and associated controlled environments - Part 6: Terms, definitions, and units*: This document will probably take some time to complete, since developers will have to agree on appropriate terminology in English, French, and German.
- ISO 14644-7, *Cleanrooms and associated controlled environments - Part 7: Enhanced clean devices*: This standard will encompass devices such as isolators and glove-boxes that are widely used in medical, biological, and pharmaceutical applications.
- ISO 14698-1, *Cleanrooms and associated controlled environments - Biocontamination control - Part 1: General principles*;

ISO 14698-2, *Cleanrooms and associated controlled environments - Biocontamination control - Part 2: Evaluation and interpretation of biocontamination data*; and ISO 14698-3, *Cleanrooms and associated controlled environments - Biocontamination control - Part 3: Measurement of the efficiency of processes of cleaning and/or disinfection of inert surfaces bearing biocontaminated wet soiling or biofilms*.

This series of standards is based on principles of Hazard Assessment of Critical Control Points (HACCP), which involves evaluating the zones at risk.

ISO's technical committee on cleanrooms and associated controlled environments (TC 209) is developing the standards.

Adopting the new standards may be costly for some Canadian cleanroom operators who have to revise their procedures or upgrade their facilities. But by replacing a variety of different procedures and requirements, the new standards may also save them time and expense. Applying international standards will also help Canadian cleanroom operators and their customers to compete in the world market.

For more information, please contact the Standards Council of Canada (see contact information on page 3) or the Canadian chapter of the Institute of Environmental Sciences and Technology (IEST), care of CERTIFAB Inc., (514) 534-2475, fax (514) 534-2846,

e-mail [certifab@citinet.net](mailto:certifab@citinet.net). Once published, the standards will be available from the Standards Council of Canada sales partner, Global Info Centre Canada, 1400 Avenue du Parc, 6327, fax (613) 237-4251, e-mail [gi@ihis.on.ca](mailto:gi@ihis.on.ca).

**Robert L. Giroux** is executive director of the Canadian chapter of the Institute of Environmental Sciences and Technology (IEST) and president of Certifab Inc., a Bromont, Quebec engineering firm specializing in contamination control. IEST is an international professional society that manages the international secretariat of TC 209 on behalf of the American National Standards Institute (ANSI).

## CSA International's Annual Conference

Renowned keynote speakers, dynamic information sessions and workshops, and valuable networking opportunities are only a few of the conference highlights you won't want to miss.

**It's all happening in exciting  
Calgary, Alberta  
June 20 - 22, 1999.**

For full conference details contact:

The Paragon Conference & Event Group Inc.  
(416) 979-1300; Fax (416) 979-1819  
e-mail: [paragon.will@sympatico.ca](mailto:paragon.will@sympatico.ca)

We Answer With Solutions



CSA INTERNATIONAL

Standards  
Development

QMI  
Management Systems Registration

Certification  
and Testing



# Savoring the sweet taste of success:

*Consumers and products benefit from a new national standard that defines organic agriculture*

**J**ust what does "organic" mean? To a chemist, it might mean something based on carbon compounds. To a writer, it might describe something that is growing or changing. But to anyone who has stood in front of the produce section at a local grocery store, it can be a real mystery. And there's a good reason for that – until recently, Canada had no comprehensive national standard defining what "organic" meant when it came to food products.

All that is about to change, thanks to the new *National Standard of Canada for Organic Agriculture* (CAN/CGSB-32.310). The voluntary standard, developed by the Canadian General Standards Board (CGSB) and approved by the Standards Council of Canada in March, defines the

minimum criteria that must be met for a food to be certified "organic." It advocates ecologically sound practices that protect the environment and ensure that livestock are treated ethically – practices like rotating crops, recycling, and giving livestock enough space to move freely.

But the standard doesn't just cover production. It sets guidelines for

conversion to organic agriculture, packaging, processing, transportation, labelling and distribution of organic products. All that is designed to ensure that the quality of organic products that get to the consumer hasn't been compromised.

And the standard goes further, setting clear rules on the use of some controversial products. Producers certified under the new standard won't be able to use sewage sludge, genetically engineered or modified organisms, or synthetic pesticides or herbicides in the production of organic food. They won't be able to use ionizing radiation in the preservation of their food, either.

Having a national standard has some big advantages for the organic agri-food industry. It increases consumer confidence in organic products because it gives consumers some consistency across brand names and producers. It also levels the playing field for producers, processors, packagers and distributors of organic products, as well as for certification organizations using the national standard. And producers and certification organizations predict that the new standard will allow Canada to compete more effectively in international markets because it references the draft international guidelines for organically produced foods, *Codex Alimentarius Commission Alinorm 99/22* (please see "To Market, To Market" on page 15 for more).

## Creating an appetite for the standard

According to a study by the Canadian Organic Growers, an information network for organic producers and consumers, the number of organic producers reached 1,830 in 1997, an increase of 14 per cent from 1995. And the numbers keep climbing as consumer demand for organic products increases.

Consumers are increasingly looking for organic products, in part because organic agriculture promotes a more environmentally sustainable form of production. It's a holistic system that doesn't rely on synthetic pesticides or herbicides, and strives to maintain healthy soil. That's attractive to consumers who are becoming increasingly environmentally aware.

But although there are already nearly 50 organizations across Canada certifying products as organic, there has been to date no consistent definition of what organic agriculture actually is. That's because the industry is self-administered and self-regulated, meaning that it is up to the certification organization to define organic agriculture. So while ionizing radiation might not be allowed under one certification, it might be permitted under another.

The lack of a Canadian national standard to define organic agriculture led to some confusion on the part of consumers. Stephen Cross, a senior program officer with the Standards Council, says that's understandable. "Consumers started demanding organic products,

but when you go out there and see something labelled organic, what does that mean? No herbicides? No pesticides? There needed to be some sort of consistent definition."

That definition was important for exporting organic goods as well. Foreign buyers weren't sure what standards had been used to certify products, making them a tough sell.

Although Canada is one of the world's largest markets for organic food products, there are bigger markets in Europe and the U.S., and there is a growing market in Japan. Canadian producers needed to find a way to increase their access to these markets.

The solution to both these problems was to create a national standard for organic agriculture.

There was a real incentive on the part of government to create a standard as well. The Canadian Food Inspection Agency and Industry Canada are both striving to improve regulatory activity by relying more on the National Standards System. Standards have the advantage of being more flexible than regulations, thereby allowing for more innovation in the economy.

## A recipe for success

The process of defining a national standard for organic agriculture began with a partnership between the organic production industry, represented by the Canadian Organic Advisory Board (COAB), and government, represented by Agriculture and Agri-food Canada. They turned to CGSB,



# Where to Dig up MORE

Interested in learning more about organic agriculture or the standardization process? The following Web sites can help:

## Sites about Organic Agriculture

- **Food and Agriculture Organization of the United Nations (FAO)** – general information about organic agriculture (including photographs): <http://www.fao.org/WAICENT/FAOINFO/AGRICULT/magazine/9901sp3.htm>
- **International Development Research Centre** – The Northern taste for tropical organic products: <http://www.idrc.ca/books/reports/1996/32-01e.html>
- **European Commission** – Report on the development of organic agriculture in Europe: <http://www.jrc.es/iptsreport/vol20/english/FOO3E206.htm>
- **Ecological Agriculture Projects** – a site hosted by McGill University with information about the organic industry for farmers, consumers, government, universities, agribusiness, and the media: <http://eap.mcgill.ca/>

## Sites about Standards

- **The Canadian Organic Advisory Board** – the organic agriculture industry representative that helped develop the National Standard of Canada for Organic Agriculture: <http://www.coab.ca>
- **Canadian General Standards Board** – the Canadian government agency that helped develop the National Standard of Canada for Organic Agriculture: <http://www.pwgsc.gc.ca/cgsb/>
- **Standards Council of Canada** – the Crown corporation that oversees the National Standards System: <http://www.scc.ca>

part of Public Works and Government Services Canada, to coordinate the development of the standard.

The element of partnership and cooperation continued throughout the development of the standard. CGSB formed the Standards Committee on Organic Agriculture, a group made up of experts representing users, producers, and general interest groups to determine what should be included in the new standard.

Between January 1997 and March 1999, the

Committee prepared and reviewed six drafts of the standard. In February 1999, the draft achieved consensus approval by the participants.

In March, the Standards Council gave its approval of the standard as a National Standard of Canada.

## Reaping the rewards

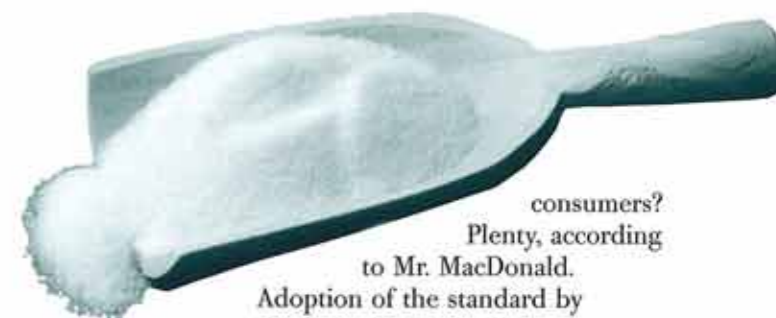
The next step in implementing the standard will be for the Standards Council to accredit certification organizations so they can evaluate whether producers, packagers, processors and distributors of organic products are meeting the standard. Any organization can apply to the Standards Council for accreditation. The Standards Council has already received one application and is expecting to receive more as word of the new standard gets out.

Certification shows that there has been a third party assessment of every step in the production line, allowing consumers to know that what they buy is the product of a real commitment to organic agriculture. There is a big

demand for certification on the part of producers. Bob MacDonald is the executive director of COAB and helped produce the new standard. He says producers have already asked about being certified, wanting to know about technical requirements and the cost of certification. Mr. MacDonald says organic producers are a different breed of farmers, and certification will allow them to set themselves apart. "There's a lot of passion and commitment on the part of organic producers. They're embracing a method of agriculture that is all encompassing, and the demands for processing and production are very different from conventional agriculture," says Mr. MacDonald.

Mr. Cross believes that even producers certified under another standard will probably switch to the national standard. "It gives a producer access to a much broader market. After all, a certification from a local organization in BC may not mean much to a buyer in PEI, but the national standard will be recognized all across Canada, and perhaps internationally as well."

But what difference will the new standard make to



consumers?  
Plenty, according  
to Mr. MacDonald.

Adoption of the standard by organic producers will give Canadians some consistency when it comes to certified organic products. That should lead to an increase in consumer confidence. And although the standard doesn't claim that organic foods are somehow healthier or better for consumers than conventional products, it does assert that they're better for the environment. That should also give consumers some peace of mind.

To purchase a copy of the National Standard of Canada for Organic Agriculture once it is published in June, contact the CGSB sales department by phone at (819) 956-0425 or 1-800-665-CGSB (Canada only), by fax at (819) 956-5644 or by mail at CGSB Sales Centre, Ottawa, Canada K1A 1G6. ■



The new National Standard of Canada for organic agriculture is expected to do more than expand markets at home – it's expected to help Canadian organic producers, processors and distributors get greater access to the largest market for organic products, the European Union (EU). As of this July 1st, the EU will expect imported organic products to meet the same qualifications European products must meet. Right now, in order for

Canadian producers to be recognized as meeting that requirement they have to either go to a certification body in another country, such as the United States, or get their products approved by each European Union country on a case by case basis. That situation hurts the Canadian industry, says Bob MacDonald, executive director of the Canadian Organic Advisory Board, because it's so expensive and inefficient. He says Canada's new standard should help put it on a list of "third countries", which means producers who obtain certification under the national standard would have access to all EU countries.

# To Market, To Market



# ISO 9000: summing up the situation in Canada

Will Canadians ring in the new millennium with 10,000 registrations?

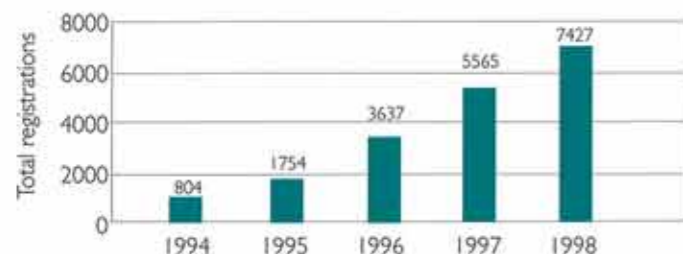
This is the first in a series of articles reviewing ISO 9000 and ISO 14000 adoption trends in the Canadian marketplace. The opinions expressed in this article are those of the author and do not reflect policies or positions of the Standards Council.

By Stewart Anderson

Canadians may want to save one bottle of champagne from their millennium celebrations for another important upcoming milestone. The Globus Registry predicts that Canada will crash through the 10,000 registrations barrier sometime in the year 2000. The prediction is based on trendline analysis applied to recent Canadian registration data.

ISO 9000 registrations have been gaining momentum over the last five years, as shown in Figure 1. The data show that accelerated registration began in 1995 and has continued to gather pace since then.

Figure 1 Registration growth in Canada



Based on Canada's experience to date with ISO 9000, the manufacturing sector is likely to continue to experience the largest share of new ISO 9000 registration activity. Healthy growth can be expected to continue in the traditionally strong industries of transportation equipment, electronics, fabricated metals, and rubber and plastics. ISO 9000 observers might also look for

continued moderate growth in the wholesale trade and distribution industries and further expanded growth in the service sector. It is also expected that the forthcoming TL 9000 requirements for telecommunications suppliers, currently being pilot tested in the United States, will drive significant new registration activity within the telecommunications industry.

With respect to ISO 14000, it is still early days yet, and, as described in last month's issue, the registration pace appears to be quickening among early adopters and industry leaders. Although the standard was only published in late 1996, there were already 300 registrations across North America early this year, including about 80 in Canada.

## The picture today

The number of registrations to ISO 9000 has continued to grow over the past year – over 1,800 new registrations were recorded in the past 12 months. According to first quarter data from 1999 obtained from the Globus Registry, the total number of ISO 9000 registrations issued in Canada stands at 7,872. This represents an increase of 1,862 registrations over the same period last year. Figure 2 shows the breakdown of registrations in Canada, listed by the major management system standards to which accredited third-party registrars are issuing registrations.

Figure 2 Registration by Standard

Standard	Registrations	% of Total
ISO 9001	2,124	24.9%
ISO 9002	5,486	64.4%
ISO 9003	262	3.1%
QS-9000	536	6.3%
AS9000	3	0.0%
ISO 14001	111	1.3%
<b>Total</b>	<b>8,522</b>	<b>100.0%</b>

The sustained strong growth indicates that companies are continuing to find value in the third-party registration process and that there is no let-up in the forces stimulating registration. The desire for continuous improvement remains an important factor in the ISO 9000 picture, as does customer pressure – suppliers are increasingly being required to undertake registration as a means of quality assurance. Other major stimuli include market and competitive pressure, as well as industry driven initiatives, such as the Big Three automotive QS-9000 and aerospace AS9000 supplier quality requirements.

An interesting aspect of the analysis is the fact that the number of organizations that have adopted ISO 9000 is different from the number of registrations that have been issued. Since there is no uniform policy among registrars for the issuance of certificates (one certificate may cover one or more operating divisions or sites), registration counts introduce a certain amount of inflation and distortion into the analysis. Figure 3 shows the relationship between ISO 9000 registrations issued and adopting organizations and their operating divisions. The data show that just over 6,000 organizations in Canada have adopted ISO 9000.

Figure 3 Registered organizations

ISO 9000 registrations	Number of organizations	Number of divisions
7,872	6,045	7,816

There is wide variation among provinces in terms of the number of registrations to ISO 9000. Figure 4 shows the breakdown of Canadian ISO 9000 registrations by province. Although Ontario continues to lead in the registration race, Quebec has narrowed the gap considerably. Strong growth in Quebec may be the result of customer demand, including major supplier registration initiatives from the Quebec government and Hydro Quebec.

Figure 4 Registrations by province

Province	ISO 9000 registrations	% of total
Ontario	3,428	43.5%
Quebec	2,809	35.7%
Alberta	600	7.6%
British Columbia	448	5.7%
Manitoba	176	2.2%
Nova Scotia	148	1.9%
New Brunswick	117	1.5%
Saskatchewan	92	1.2%
Newfoundland	38	0.5%
Prince Edward Island	14	0.2%
Northwest Territories	1	0.0%
Yukon Territory	1	0.0%
<b>Total</b>	<b>7,872</b>	<b>100.0%</b>

Ontario still remains the leading jurisdiction in North America for registrations issued, closely followed by Quebec, California, Michigan and Texas. While such comparisons do not take into account geographic differences or the total business base available for registration, the numbers are indicative of the high level of interest in ISO 9000 within these two key provinces.

Figure 5 lists the ten registrars that have issued the greatest number of registrations in Canada. All of these registrars maintain offices in Canada and are accredited by recognized international accreditation bodies, including the Standards Council of Canada (SCC).

Figure 5 Registrations by registrar

Registrar	ISO 9000 registrations issued	% of total
Quality Management Institute (QMI)	2,703	34.3%
Société Générale de Surveillance (SGS)	1,255	15.9%
Intertek Services Corporation (ITS)	983	12.5%
KPMG Quality Registrar Inc. (KPMG)	917	11.7%
Bureau de normalisation du Québec (BNQ)	435	5.5%
Quality Certification Bureau (QCB)	311	4.0%
Canadian General Standards Board (CGSB)	216	2.7%
International Quality System Registrar (IQSR)	177	2.2%
Quasar	109	1.4%
Automotive Quality System Registrar (AQSR)	108	1.4%
All other	658	8.4%
<b>Total</b>	<b>7,872</b>	<b>100.0%</b>

## Sector and industry trends

By far the majority of Canadian ISO 9000 registrations are occurring in the manufacturing sector. This sector is populated by high registration growth in major industry groups such as electronics, machinery and computer equipment, and transportation equipment. Following manufacturing, the sector with the second highest number of registrations is that of wholesale trade and distribution. The service sector is now starting to see enhanced registration growth in Canada, and an increasing number of registrations are occurring in service-related industries. Figure 6 shows the top ten major industry groups in Canada for ISO 9000 registrations.

Figure 6 Registrations by sector

Sector/Major Industry Group	SIC	ISO 9000 registrations	% of total
Wholesale trade (durable goods) - dist.	50	906	11.5%
Fabricated metal products - mfg.	34	804	10.2%
Machinery & computer equip. - mfg.	35	738	9.4%
Electronic and electrical equip. - mfg.	36	651	8.3%
Business services	73	542	6.9%
Management & related services	87	514	6.5%
chemicals - mfg.	28	491	6.2%
Rubber & plastics products - mfg.	30	460	5.8%
Transportation equipment - mfg.	37	431	5.5%
Primary metals - mfg.	33	318	4.1%

With respect to specific industries, Figure 7 shows the top ten industries for ISO 9000 registrations in Canada. Clearly, the influence of QS-9000 is generating ISO 9000 registrations, with manufacturing of motor vehicle parts and accessories being the leading industry.

Figure 7 Registrations by industry

Industry	SIC	ISO 9000 registrations	% of total
Motor vehicle parts & Accessories - mfg.	3714	296	3.8%
Miscellaneous plastics products - mfg.	3089	270	3.4%
Engineering services	8711	207	2.6%
Electrical equipment - dist.	5063	206	2.6%
Industrial supplies - dist.	5085	177	2.2%
Industrial machinery - dist.	5084	164	2.1%
Miscellaneous industrial machinery - mfg.	3599	148	1.9%
Metal service centres - dist.	5051	141	1.8%
Testing laboratories	8734	137	1.7%
Chemicals - dist.	5169	130	1.7%

Other expansionary industries that are not shown in Figure 7 include construction services (particularly in Quebec), automobile dealerships, trucking services, temporary help agencies, and business consulting services. The Globus Registry has also recorded a small but definite increase in registration activity within the financial services and real estate industries. It is to be expected that registrations within these industries, while perhaps never reaching high aggregate totals, will nonetheless increase over the next few years.

*Stewart Anderson is director of research for Globus International, a worldwide publisher and information resource for management system professionals and procurement specialists. Globus International is a subsidiary of PC DOCS Group International, Inc. The Globus Registry (www.globusregistry.com) provides an international database of organizations registered to ISO management system standards. Stewart may be reached at (416) 497-1906, or via email at stewart.anderson@globusregistry.com.*

## STANDARDS ENGINEERING SOCIETY

### 1999 Annual Standards Conference

## Standards Strategies in a Competitive World

Mark your calendar  
August 16-17, 1999  
Toronto, Canada

Check our Web Site at  
[www.ses-standards.org](http://www.ses-standards.org)

For details contact: Glenn Ziegenfuss  
Tel.: +1 305 971 4798  
Fax: +1 305 971 4799  
e-mail: hgziggy@worldnet.att.net

# National Standards OF CANADA

Since the last issue of *CONSENSUS*, the following standards were approved as National Standards of Canada by the Standards Council of Canada. For information on availability and prices, or to order copies of these standards, please contact the appropriate standards development organizations below. Some documents may be available in only one language.

### Canadian Standards Association (CSA)

Telephone: (416) 747-4044  
Fax: (416) 747-2475



**CAN-CSA ISO/IEC ISP 10609-5** Information technology - International Standardized Profiles TB, TC, TD and TE - Connection-mode Transport Service over connection-mode Network Service - Part 5: Definition of profiles TB1111/TB1121

**CAN-CSA ISO/IEC ISP 10609-6** Information technology - International Standardized Profiles TB, TC, TD and TE - Connection-mode Transport Service over connection-mode Network Service - Part 6: Definition of profiles TC1111/TC1121

**CAN-CSA ISO/IEC ISP 10609-7** Information technology - International Standardized Profiles TB, TC, TD and TE - Connection-mode Transport Service over connection-mode Network Service - Part 7: Definition of profiles TD1111/TD1121

**CAN-CSA ISO/IEC ISP 10609-8** Information technology - International Standardized Profiles TB, TC, TD and TE - Connection-mode Transport Service over connection-mode Network Service - Part 8: Definition of profiles TE1111/TE1121

**CAN-CSA ISO/IEC ISP 10609-9** Information technology - International Standardized Profiles TB, TC, TD and TE - Connection-mode Transport Service over connection-mode Network Service - Part 9: Subnetwork-type dependent requirements for Network Layer, Data Link Layer and Physical Layer concerning permanent access to a packet switched data network using virtual calls

**CAN-CSA ISO 14971-1** Medical devices - Risk management - Part 1: Application of risk analysis

**CAN-CSA Z10651-2** Lung ventilators for medical use - Part 2: Particular requirements for home care ventilators

For a searchable database of all National Standards of Canada, please visit the Standards Council's Web site at <http://www.scc.ca>.

## Upcoming EVENTS

**June 20 - 22:** CSA International annual conference: "Answering With Solutions", Calgary. For information, contact Alysone Will, (416) 979-1300 ext. 24 or 41, fax (416) 979-1819, e-mail paragon.will@sympatico.ca.

**July 11 - 15:** National Conference of Standards Laboratories (NCSL) workshop and symposium: "Metrology - At the Threshold of the Century, Are We Ready?", Charlotte, North Carolina. For information, call NCSL, (303) 440-3339, fax (303) 440-3384, Web site <http://www.ncsl-hq.org>.

**August 16 - 17:** Standards Engineering Society (SES) annual standards conference: "Standards Strategies in a Competitive World", Toronto. For information, contact Glenn Ziegenfuss, (305) 971-4798, fax (305) 971-4799,

e-mail hgziggy@worldnet.att.net, Web site <http://www.ses-standards.org>.

**October 18 - 29:** International Electrotechnical Commission (IEC) annual general meeting, Kyoto, Japan. For information, contact the Standards Council of Canada, using the contact information on page 3.

**October 20 - 22:** International Organization for Standardization (ISO) annual general assembly, Beijing. For information, contact the Standards Council of Canada, using the contact information on page 3.





RETURN REQUESTED  
Standards Council of Canada  
1200 - 45 O'Connor Street  
OTTAWA, Ontario K1P 9Z9



**EXPORT  
ALERT!**

**A smart exporter is  
an alert exporter**

Know about  
changing product  
requirements **before**  
they become the law.  
*EXPORT ALERT!* sends  
you an e-mail warning when  
regulations affecting your industry are changing in  
global markets. Register for this free pilot service at

**<http://www.scc.ca>**

 Standards Council  
of Canada

Canada

