

## International Update

International and regional items of interest for August 2017 are as follows:

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## International

### 1. WTO issues annual flagship statistical publications

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The WTO issued on 28 July new editions of its flagship statistical publications: the World Trade Statistical Review, Trade Profiles and World Tariff Profiles.

[The World Trade Statistical Review 2017](#) opens with an overview of world trade developments over the past ten years. This is followed by an analysis of world trade in 2016 and an assessment of the trade outlook for 2017. The publication highlights global trends in both merchandise and services trade, revealing which sectors and economies have achieved the strongest growth and which have been hit the hardest.

The publication also looks into trade in value-added terms and the latest trade policy developments, highlighting recent trends in WTO members' use of trade-restrictive and trade-facilitating measures. In addition, it provides information on the participation of developing economies in world trade, Aid-for-Trade financial commitments and implementation of the WTO's landmark Trade Facilitation Agreement.

[Trade Profiles](#) provides a series of key indicators on merchandise trade and trade in commercial services for 196 economies, highlighting the major exports and imports for each economy as well as their main trading partners. For each profile, the data is presented in a handy two-page format, providing a concise overview of global trade.

[World Tariff Profiles](#), a joint publication of the WTO, International Trade Centre (ITC) and the United Nations Conference on Trade and Development (UNCTAD), provides comprehensive information on the tariffs and non-tariff measures imposed by over 170 countries and customs territories. Cross-country comparison tables are followed by one-page profiles for each economy with a detailed breakdown of tariffs by product and the tariffs imposed by major trading partners. The special topic in this year's edition is "export diversification", which analyses to what extent economies have diversified their exports over time.

The three publications can be downloaded from the WTO website. Printed copies will be available in August. French and Spanish editions will also be available in August.

Additional data is available through the WTO's statistical webpage, the WTO statistical database and the International Trade and Market Access online data application. A further update of merchandise exports and imports will be available online at the end of September.

The WTO also provides short-term trade data through the WTO statistics webpage. Time series data on merchandise and commercial services trade, on an annual basis, may also be downloaded by clicking [here](#).

Source: [https://www.wto.org/english/news\\_e/news17\\_e/publ\\_28jul17\\_e.htm](https://www.wto.org/english/news_e/news17_e/publ_28jul17_e.htm)

### 2. Goods negotiations restart, members divided on transparency proposal

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WTO members on Friday (21 July) took up a proposal which proponents said would facilitate the participation of micro, small and medium-sized enterprises (MSMEs) in global trade by establishing rules to bring about greater transparency and access to information pertaining to government regulations on food and product safety.

The discussion took place in the negotiating group on non-agricultural market access (NAMA), which held its first substantive meeting since 23 July 2015. Since that time, negotiations in the group had stalled as members could not agree on the scope and level of ambition of talks to open markets for trade in industrial goods.

The transparency proposal - put forward by the European Union; Hong Kong, China; Chinese, Taipei; and Singapore — calls for WTO ministers to agree by the 11th Ministerial Conference in Buenos Aires this December on a series of actions, including the development of a common internet portal for sharing information, greater consultation with stakeholders and notification of final changes to domestic regulations covered in the WTO's agreements on sanitary and phytosanitary (SPS) measures and technical barriers to trade (TBT).

The proposal received support from many Asian and European delegations as well as several delegations from Latin America. These supporters of the proposal said timely access to thorough information on any changes to members' SPS and TBT regulations would lower trade costs for MSMEs while helping these smaller companies better understand market access opportunities in other countries. In their view, lack of information disproportionately affects these companies.

But opponents, which included many African members, including the African Group coordinator, some Latin American members and the United States, raised different types of concerns. Some are concerned that the adoption of this proposal might lead to an increased administrative burden in developing countries and may impinge on governments' right to regulate. Others questioned whether the NAMA negotiating group was the right forum for such discussion given that agricultural products would also be covered by the proposal and some opponents doubted there was enough time to have an agreement by the December Ministerial Conference.

Finally, some of the opponents considered that the proposal raised complex legal issues which would be best discussed in the SPS and TBT committees, where the experts could look at the issues in more detail.

Responding to questions and concerns on the proposal, the European Union said the text was relatively short, so if members were focused it would not be difficult to achieve agreement by December on its text. The EU delegate said the NAMA negotiating group was the right forum for discussing this issue because many members have concerns that TBT and SPS measures have been used as non-tariff barriers which are taken up in the committee. Excluding agricultural products would be the easy way out, but they should also be addressed in the committee, said the EU, because trade in such products are of great importance to developing countries. The EU said it was open to discussions on how best to ensure that developing countries received adequate technical assistance and special provisions should the proposal be agreed by ministers.

Didier Chambovey, the Swiss ambassador to the WTO who chairs the NAMA negotiations, concluded by saying that the negotiating group had taken note of the comments, advised the EU and other proponents to meet with delegations opposing the proposal, and concluded by saying that he stood ready to hold informal consultations on the matter "should further developments take place".

Source: [https://www.wto.org/english/news\\_e/news17\\_e/mark\\_21jul17\\_e.htm](https://www.wto.org/english/news_e/news17_e/mark_21jul17_e.htm)

### 3. Indonesia–Australia Standards Mapping Project for the IA-CEPA agreement

Standards Australia is working with the national standards body of Indonesia, Badan Standardisasi Nasional, on a Standards Mapping Study as an early outcome of the Indonesia-Australia Comprehensive Economic Partnership Agreement (IA-CEPA). This study will help identify opportunities for enhanced standards harmonisation, technical alignment and regulatory coherence.

Your feedback is sought on where standards harmonisation could be undertaken to support the successful development and implementation of the Technical Barriers to Trade chapter of IA-CEPA.

Please [complete the survey](#) to support Indonesia-Australia business opportunities for the future.

#### 4. Standards Australia attends the APEC Sub-Committee on Standards and Conformance

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Earlier this month Standards Australia attended the Asia-Pacific Economic Cooperation Sub-Committee on Standards and Conformance (APEC SCSC) and related meetings in Ho Chi Minh City, Viet Nam.

Standards Australia was joined by National Standards Body representatives and Trade and Industry officials from 18 APEC member economies as well as the International Electrotechnical Commission (IEC), and the International Standardization Organization (ISO). Standards Australia reported on the APEC SCSC project: “The Role of Standards and Innovation for Driving APEC’s Silver Economy” and will be progressing the next phase of work in 2018. In addition, Mr Varant Meguerditchian, General Manager Stakeholder Engagement, Standards Australia was invited by the USA to present an Australian case study on Best Practices in Standards Development: Water and Energy Efficiency at the 2017 APEC Conference on Good Regulatory Practice.

Next year Papua New Guinea will host APEC for the first time and will receive strong support from the Australian government to assist in the success of this event.

Visit [this page](#) to find out more about the APEC SCSC.

## ISO

### 1. A New Field of Technical Activity – Ageing Societies

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ISO has received a New Field of Technical Activity (NFTA) proposal from the British Standards Institute (BSI) to form a new technical committee: **Ageing Societies**.

The scope of the activity is – *Standardization in the field of ageing societies*.

The program of work will promote lifelong support and quality of life in ageing populations. This will enable people to remain independent throughout their life with a sense of value and contribution to their communities. It will take a holistic approach in addressing services and products that will help manage the advancement of ageing societies. It will take note of where innovation and technology require standards to support this demographic. The Technical Committee will establish a Strategic Business Plan Task Group to consider the report prepared for the TMB by the ISO Strategic Advisory Group on Ageing Societies (SAG A), as a basis for their work program.

Standards Australia will be consulting with stakeholders on this proposal. For more information or to make a submission, please contact the Stakeholder Engagement Manager, Brett Lovett at [brett.lovett@standards.org.au](mailto:brett.lovett@standards.org.au).

### 2. New ISO standard on video fire detectors will help save lives

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Early detection of fire and smoke is essential to save lives, property and the environment. Modern technology such as video fire detectors, especially in some high-risk places like tunnels, oil and gas environments, public buildings or storage areas, enable a fast response to a potential fire. A new ISO technical specification on video fire detectors helps ensure more efficient and reliable equipment.

According to the Center of Fire Statistics (CFS) of the International Association of Fire and Rescue Services (CTIF), among 31 countries representing 14% of the world's population, fire services reported 3.5 million fires, 18.5 thousand civilian fire deaths and 45 thousand civilian fire injuries in 2015.

Video detection technology detects, identifies and analyses smoke at the first sign of fire or flame. The equipment's understanding of the behaviour and movement of smoke enables users, located on site or remotely, to raise the alert and take appropriate action early.

Keith Shinn, Chair of ISO subcommittee ISO/TC 21/SC 3 that developed the standard, says: "In large open compartments, it can remove the delay in smoke travelling to the detector and result in a quicker response by emergency services. It can also permit smoke detection in harsh environments where it may otherwise be impractical."

ISO/TS 7240-29:2017, *Fire detection and alarm systems – Part 29: Video fire detectors*, specifies requirements, test methods and performance criteria for video fire detectors (VFD) operating in the visible spectrum, for use in fire detection and alarm systems installed in and around buildings.

Isaac Papier, Convenor of ISO subcommittee ISO/TC 21/SC 3, explains: "Industrial fire detection serves two vital functions. First in preventing loss of the facility, but actually, more importantly, in providing a fast response such that operation is not interrupted resulting in severe revenue loss. Today's modern automated production facilities comprise of huge investments with revenue flows often exceeding millions of dollars per hour. Any downtime can very quickly amount to huge sums. Further, any shutdown can involve complex and lengthy start-up procedures that further exacerbate the loss. A video fire detector is an excellent tool to effectively monitor a large area in real time."

Until now, there has been no comprehensive international specification for video fire detectors and ISO/TS 7240-29 provides the first platform for international acceptance of a uniform specification.

Shinn explains: "The community at large should be the greatest beneficiary of the release of this technical specification. It now has the opportunity for enhanced protection of life safety at reduced cost. The closed-circuit television sector (CCTV) is the fastest-growing segment of the security industry and the synergy with life safety cannot be ignored."

Papier adds: "Considering that many of the facilities where VFDs are to be installed are owned by international conglomerates, an internationally accepted specification is ideal." He believes the publication of this technical specification should significantly expand the VFD market. "Often, in a large industrial facility, VFDs are the only viable solution. Unfortunately, without the existence of a published International Standard, owners and insurance carriers were hesitant to rely on this solution without a comprehensive International Standard."

With the new technical specification, facilities owners and their insurance carriers, as well as manufacturers, stand to benefit directly. Papier again: "The new ISO/TS 7240-29 provides owners and insurance carriers with the international consensus metrics for performance of VFDs. The manufacturers will benefit because the existence of the technical specification gives users and specifiers the confidence to include VFDs in their fire protection schemes, creating a market for these products. For manufacturers, the technical specification provides a design specification for building the products."

A fire detection and alarm system is required to function satisfactorily, not only in the event of a fire, but also during and after exposure to conditions likely to be met in practice, including corrosion, vibration, direct impact, indirect shock and electromagnetic interference. Tests are intended to assess the performance of the video fire detectors under such conditions.

According to Shinn, this technical specification will allow the industry to move forward in an organized way. The ISO subcommittee recognized that a number of questions will still need to be answered and this would be best achieved by gaining practical experience from the industry using the specification, which it is hoped will be converted to a standard in future years.

ISO/TS 7240-29:2017 was prepared by technical committee ISO/TC 21, *Equipment for fire protection and fire fighting*, subcommittee SC 3, *Fire detection and alarm systems*. Standards Australia holds the secretariat for this committee.

Source: <https://www.iso.org/news/ref2207.html>

### 3. New publication helps organizations get full benefit from ISO 26000 for social responsibility

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Getting the most out of ISO 26000, the world's first and most widely used International Standard for social responsibility, is the aim of a new guidance document just published.

In its seven years of existence, ISO 26000 has become one of the key references for implementing social responsibility practices in any organization. It has been adopted nationally in 80 countries across more than 20 languages and was one of the sets of guidelines upon which the European Commission built its corporate social responsibility (CSR) strategy.

Now, a newly published International Workshop Agreement – IWA 26, Using ISO 26000 guidance on social responsibility in management systems – helps organizations reap even greater benefits from the standard using the management systems standard (MSS) approach.

With ISO 26000 being developed before the introduction of ISO's "high-level structure" for MSSs, designed to bring consistency among all management systems within an organization, this IWA will help users of management systems standards more effectively integrate social responsibility into their business.

Staffan Söderberg, Chair of the technical committee that created IWA 26, said the extra guidance it provides will be a welcome aid for anyone implementing a social responsibility programme.

“Even for those organizations with experience in management systems, social responsibility is complex and challenging,” he explained. “IWA 26 provides detailed guidance to help organizations benefit more fully from ISO 26000, and thus contribute more effectively to sustainable development.”

IWA 26 is available online here: <https://www.iso.org/obp/ui#iso:std:iso:iwa:26:ed-1:v1:en>

Source: <https://www.iso.org/news/ref2198.html>

#### 4. July-August ISOfocus now available: Making History

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The bi-monthly ISOfocus has now been released for July-August 2017: *Making History*.

This edition of ISOfocus depicts an evolving organization. From the birth of the first ISO standard in 1951 to the emblematic management systems standards and the latest adaptation for educational institutions, the issue takes a look back at ISO's 70-year journey and some of the formative events that shaped its history.

It offers a forward-looking view of the evolution of International Standards, accounting for factors such as globalization, technology trends, the development of new products and the state of the global economy, all of which, ultimately, highlight the demand for standards.

The ISOfocus is available online: [https://www.iso.org/isofocus\\_123.html](https://www.iso.org/isofocus_123.html)

#### 5. ISO Annual General Assembly fast approaching

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The International Organisation for Standardization (ISO) annual General Assembly will be held in Berlin, Germany over 15 – 22 September 2017.

DIN, the German member for ISO, is enthusiastic about hosting the upcoming meetings. The theme for this year's event is '*Open-minded. Open for change.*' The theme will encompass a range of sessions on topics from digital transformation, to cross-industry cooperation, managing stakeholder expectations, and attracting young individuals to engage in standards development.

Over 500 delegates are expected to attend the ISO week, representing ISO's 163 member countries. Together, the delegates will participate in interactive discussions that will produce new ideas and best practices to help ISO be even more successful in meeting customer need.

To find out more about the 40<sup>th</sup> ISO General Assembly and hear what the 'Open-minded. Open for change' theme means to standardisation professionals around the world, visit <https://open-zone.org/home.html>

## 1. IEC supports the boom of virtual reality

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Becoming a part of everyday life, virtual reality (VR) is being used across many industries. From advertising, gaming and the military, to construction, training surgery and teaching, the uses for this technology are numerous and expanding.

According to a report by Digi-Capital, a company advising augmented reality (AR)/VR, mobile and games leaders in Asia, Europe and the US, AR/VR could hit USD 108 billion revenue by 2021, with AR accounting for USD 83 billion and VR for the remaining USD 25 billion.

### **How does it work?**

Today, VR displays follow technology that was created for smartphones. The hardware is comprised of gyroscopes and motion sensors for tracking body, hand and head positions, small screen displays and fast processors. Headsets have further advanced in recent years, thanks to 360-degree cameras, which can produce VR images and video in all directions.

### **The key role of standardization**

Several IEC technical committees (TCs) and their subcommittees (SCs) produce International Standards for hard and software used in this domain. For example:

- ISO/IEC JTC 1, the Joint Technical Committee of IEC and the International Organization for Standardization (ISO), cover standardization for information technology.
- Subcommittee, ISO/IEC JTC 1/SC 24 works on interfaces for information technology-based applications relating to computer graphics and virtual reality, image processing, environmental data representation, support for mixed and augmented reality, and interaction with, and visual presentation of information. *Standards Australia is a P-member of ISO/IEC JTC 1/SC 24.*
- Sensors are vital components of VR technology. IEC TC 47 and its Subcommittees produce Standards for microelectromechanical systems (MEMS), to ensure that sensors and such systems work reliably and efficiently.
- The activities of IEC TC 100 contribute to the quality, performance and interoperability of audio, video and multimedia systems and equipment. *Standards Australia is a P-member of IEC TC 100.*
- IEC TC 110 covers electronic display devices and certain components, such as dashboard touchscreens in cars.

### **VR takes a road trip**

VR programmes can be used for road testing and to train drivers safely. They allow authorities and car manufacturers to carry out road safety research and test specific needs of certain cars, such as electric vehicles (EVs). They are of great benefit to transport planners and authorities, tasked with planning smart urban transport systems, because these apps can create highly accurate and realistic 3D models of fully smart environments, which have yet to be constructed in the real world.

Source: <https://blog.iec.ch/2017/08/the-boom-of-virtual-reality/>



## 2. From toys to human organs – the diversified world of 3D printing

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Today, 3D printing is considered as a disruptive technology that has the potential to radically change the way we produce and consume.

The term "3D printing", also known as additive manufacturing, originally referred to a process that deposits a binder material onto a powder bed with inkjet printer heads layer by layer. Recently, it has been used increasingly to include a broader set of additive manufacturing techniques, such as directed energy deposition, material extrusion, material jetting, powder bed fusion, sheet lamination and photopolymerization.

3D printers range from small table units to room-size equipment and can handle simple plastics, metals, biomaterials, concrete or a mix of materials. They can produce objects as diverse as toys, aircraft engine components or human organs.

### **Disrupting the manufacturing landscape**

3D printing will have a profound impact on the business models, value chains and economics of global manufacturing. It makes possible the fabrication of customized and individual objects, in completely new business environments and potentially at home at some point in the future. It also opens up new opportunities for producing, in a cost-effective way, devices and components that cannot be manufactured efficiently using traditional techniques.

This change of paradigm also raises significant challenges, such as how intellectual property and copyright will be handled if any of us has easy access to 3D printing capabilities with object models circulating freely on the internet.

### **The key role of international standards**

International standards play an important role in developing the additive manufacturing market. Besides standards for hardware and processes, information technology constitutes an essential element in the overall standardization value chain.

The data that drive a 3D printer can be generated either by a computer aided design (CAD) system, or a 3D scanner, or both. Their format must be interpretable by a machine and they need to be stored, exchanged, indexed and secured.

Protecting data integrity is also critical when manufacturing safety or mission-critical devices or components. IEC and the International Organization for Standardization (ISO) established ISO/IEC JTC 1: Information technology, a joint technical committee which produces International Standards for information and communication technologies (ICT) for business and consumer applications.

### **Next steps – ISO/IEC JTC 1 study group to assess 3D printing and standardization**

ISO/IEC JTC 1 is currently investigating which IT-related Standards will be required to support the development of 3D printing and 3D scanning and has created a study group on 3D printing and scanning (ISO/IEC JTC 1/SG 3).

The Group is led by Byoung Nam Lee, an expert in ICT/telecommunications standardization strategy and special fellow and principal researcher at the Electronics and Telecommunications Research Institute (ETRI) in Korea. Lee has participated in the ISO/IEC JTC 1 plenary and its advisory group (JAG) since 2010. In 2016, he served as Convenor of the JAG group for 3D printing and scanning. He also received the IEC 1906 Award in 2014 for his activities in IEC TC 47 for semiconductor devices.

Comprised of a broad range of international 3D printing and scanning experts, the group's mission is to develop a comprehensive report for the upcoming ISO/IEC JTC 1 plenary in October 2017. This will include:

- description of key concepts
- overview of current technology and market trends
- assessment of the current state of 3D printing and scanning standardization
- recommendations for next steps

ISO/IEC JTC 1 hopes to use the report to leverage these opportunities and become a driver in 3D printing and scanning standardization.

### **Broad scope of IEC work for 3D printing**

Many IEC technical committees (TCs) are already involved in 3D printing, whether as suppliers of Standards used in printers or scanners, or as users of additive manufacturing Standards that are foreseen to play an important role in their domains of activities. Examples include, but are not limited to:

- IEC TC 62: Electrical equipment in medical practice
  - (Standards Australia is an O-Member)
- IEC TC 65: Industrial process measurement, control and automation
  - (Standards Australia is a P-Member)
- IEC TC 107: Process management for avionics
- IEC TC 113: Nanotechnology for electrotechnical products and systems
  - (Standards Australia is a P-Member)
- IEC TC 119: Printed electronics
- IEC TC 124: Wearable electronic devices and technologies
  - (Standards Australia is an O-Member)
- Standardization Evaluation Group (SEG) 7: Smart manufacturing

Close cooperation between IEC technical committees and any future ISO/IEC JTC 1 group considering taking over responsibility for 3D printing and scanning standardization, would be strongly encouraged.

Source: <http://iecetech.org/Technical-Committees/2017-05/From-toys-to-human-organs-the-diversified-world-of-3D-printing>

### **3. Wear your health on your sleeve – International Standards for medical wearable devices**

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New flexible and organic printing technologies are revolutionizing the medical wearable device market and the IEC is establishing the key relevant International Standards.

The craze for wearables could be waning in the consumer market, according to some of the latest figures published in the trade press. A report published by US-based marketing consultancy eMarketer estimates that by 2020 only one in five US adults will use a wearable device on an ongoing basis. As the US is one of the biggest markets for wearables in the world, the report caused quite a flurry of concern when it was published in March 2017. One of the reasons for this rather lacklustre growth prospect is the disappointing take-up of Apple watches, according to the same press reports. They also blame a lack of new consumer-based applications.

In the world of healthcare, it is quite the opposite. New applications seem to be found on a daily basis, most of which relate directly to printed electronics. The technology enables the creation of numerous electronic devices and components using various printing methods. Among these, a host of wearable devices help medical staff keep track of their patients' health. The most ubiquitous are self-monitoring

devices for diabetes patients, one of the success stories of the printed electronics industry in recent years.

A host of new technologies are emerging which push the envelope even further. Looking towards the future, scientists envisage the arrival of self-powered devices created by using nanotechnology. The idea is for wearable sensors to be powered by body heat or movement and do away with chargeable batteries which are cumbersome and power hungry.

### **Body heat power**

In the US, the centre for Advanced Self-Powered Systems of Integrated Sensors and Technologies (ASSIST), a state-funded university-based research hub, is working in such a field. The wearables its students are seeking to develop are expected to indicate levels of pollution and inform asthma sufferers of potential dangers. The aim is to prevent illness rather than cure it, which will be of a lesser cost to the taxpayer.

ASSIST has recently teamed up with a leading US start-up in the bio-integrated sensor market to develop an ultrathin flexible patch reader worn on the skin. The patch is expected to monitor oxygen levels in patients undergoing treatment for peripheral artery disease. The joint research project has recently been awarded a USD 1,5 million state-funded grant.

### **Sweat and (no) tears**

Another US-based medical university has created a device that adheres to the skin and analyzes key biomarkers from the person's sweat, enabling him or her to see whether something is medically amiss. It can detect cystic fibrosis, for example.

In other parts of the world, the wearable medical device market is predicted to go through the roof. According to the report *Wearable Medical Devices* published by Indian-based B2B research consultancy Markets and Markets, Asia is poised to be the fastest-growing region in the wearable medical device market from 2016 to 2021. The growth will be driven in part by technological breakthroughs in medical devices. The market is also expected to grow at a rapid pace in Europe, in line with the increase of chronic illnesses in an aging population, according to similar reports. Many of the leading companies in the wearable medical device market are based in Europe, some of the better-known in Switzerland and in the Netherlands.

### **Clever clothes**

Researchers at the Holst Centre at Eindhoven University in the Netherlands, working with colleagues from Belgium's Ghent campus, have been at the forefront of the European drive to develop the latest printed electronics technology for the wearable medical devices market. For instance, they have come up with a thin-film printing technology which enables the development of more complex medical wearables. These stretch and conform to the body but also integrate various types of sensor-based measurements in a smaller and therefore less intrusive body patch. The technology combines cheap organic and large area electronics (OLAE), already used for glucose diagnostic devices for example, with thin-film technologies such as thin-film metallization, which makes the layering of multiple electronic circuits possible.

Ultimately sensors will be integrated in our clothing. Automated production techniques will allow manufacturers to integrate electronics and sensors directly into the yarn during the production of smart textiles. In the future, the garment itself is expected to become the sensor. Other researchers, also based on the Eindhoven campus and in Ghent, together with imec, a Belgian innovation hub in nanoelectronics and digital technologies, have demonstrated one of the first stretchable and body-conformable thin-film transistor (TFT) driven LED displays to be laminated into textiles, paving the way for wearable displays in textiles to provide users with feedback.

## Standards are key

As these new technologies prepare for mass production, the requirement for International Standards gets more pressing. The IEC has already paved the way in some of these new fields of research. IEC Technical Committee (TC) 47: Semiconductor devices, produces International Standards for the design, use and reuse of sensors as well as their testing and certification. Internet of things (IoT) and human body communication (HBC) are two of the new application areas the TC is involved with. The IEC 62951 series of International Standards, in particular, covers the field of flexible substrates and thin film. IEC 62951-1, Semiconductor devices - Flexible and stretchable semiconductor devices - Part 1: Bending test method for conductive thin films on flexible substrates, was published in April 2017. Parts 2 to 6 of the series are currently under development.

Another all-important TC is IEC TC 62: Electrical equipment in medical practice, and its subcommittees, for instance IEC SC 62B: Diagnostic imaging equipment. The IEC 60601 family of International Standards provides the essential foundation for the work carried out in that area.

IEC TC 100: Audio, video and multimedia systems and equipment, and IEC TC 110: Electronic display devices, cover all areas related to display technology. Electronics related to printing technologies are standardized under the remit of IEC TC 119: Printed electronics. The IEC 62899 family of International Standards encompasses a huge raft of technologies, including the latest flexible substrates. One of the most recent TCs to have been set up is IEC TC 124: Wearable electronic devices and technologies. Its scope is to prepare International Standards for applications such as patchable, implantable, electronic textile and even edible materials and devices.

The wide-ranging and increasingly all-encompassing IoT is being standardized under the umbrella of IEC and the International Organization for Standardization (ISO) in a Subcommittee, ISO/IEC JTC 1/SC 41, of the Joint Technical Committee ISO/IEC JTC 1: Information Technology. Health and safety issues are crucial in anything that relates to medical applications and a number of TCs are involved in those areas, including IEC TC 108: Safety of electronic equipment within the field of audio/video, information technology and communication technology.

**IECEE**, the IEC System of Conformity Assessment Schemes for Electrotechnical Equipment and Components, which offers global testing and certification based on International Standards, is also doing essential work in providing medical equipment with the right safety, quality, efficiency and overall performance verification.

**IECQ**, the IEC Quality Assessment System for Electronic Components, plays a major role in the testing and certification of the electronic components, notably sensors that are essential parts of any wearable device.

Source: <http://iecetech.org/issue/2017-05/Wear-your-health-on-your-sleeve>