MARINE & HYDRO POWER

INDUSTRY SPOTLIGHT
Invisible link
Submarine power equipment

TECHNOLOGY FOCUS
20 000 MWs under the sea
Quest for renewables extends to marine environment

Small hydro can go a long way
Tapping smaller hydro resources can help bring power to all

TECHNICAL COMMITTEE AFFAIRS
TC 114
Exploring technologies to convert marine energy into power

IEC WORLD
World Smart Grid Forum 2013
Register, participate, network!
Focus of the month

Marine & hydro energy

This issue reviews some of the technologies developed and deployed to gather power from oceans and rivers throughout the world and explains the role of IEC TC 114 and several other TC/SCs that prepare International Standards for these sectors.
Early bird registration for World Smart Grid Forum 2013
While this issue of e-tech focuses on several aspects of the marine and hydro energy sector, first of all, we want to draw your attention to the World Smart Grid Forum 2013, an event jointly organized by the IEC, SGCC (State Grid Corporation of China) and VDE, the German Association for Electrical, Electronic & Information Technologies. Taking place in Berlin, Germany, on 23-25 September, it is a unique opportunity to get a different perspective on the Smart Grid issue. Don’t miss out on the early bird registration, available until 24 August!

Marine energy
And now back to the topic of the month. Marine energy is emerging as a huge and potentially unlimited source of power. Oceans cover more than 70% of Earth’s surface; they are sources of huge kinetic energy from waves, currents and tides, and of thermal energy in the form of heat they collect from the sun. IEC e-tech reviews some of the technologies that are being developed and deployed throughout the world and explains the role of TC 114, the Technical Committee that prepares International Standards for marine energy converters.

Once gathered, ocean power has to be transferred from the converters to the grid and end users. Many of the systems and parts necessary for this are already available in offshore oil and gas installations and offshore wind turbines. International Standards developed by various IEC TCs (Technical Committees) and SCs (Subcommittees) support this deployment.

Small Hydro projects
On the hydro side, the IEC plays a pioneering role in preparing International Standards for small hydropower, that is installations of up to 15 MW. These can add significantly to the capacities of large and small countries and bring prosperity to communities deprived of electricity.

This issue reviews some of the technologies developed and deployed to gather power from oceans and rivers throughout the world and explains the role of IEC TC 114 and several other TC/SCs that prepare International Standards for these sectors.

Claire Marchand, Managing Editor e-tech.
Twenty thousand MW under the sea

Morand Fachot

With growing global energy needs and concern about the adverse impact of burning fossil fuels, efforts are under way to tap all possible sources of renewable energy. After developments in the solar and wind sectors, harnessing marine energy is set to provide essential additional sources of clean power in the future. IEC TC (Technical Committee) 114 is developing International Standards for wave, tidal and other water current converters.

Huge potential

Oceans cover more than 70% of Earth’s surface; they are sources of huge kinetic energy from waves, currents and tides, and of thermal energy in the form of heat they harness from the sun. They could, in theory, cover a sizeable share of the world’s energy needs. However, technical and other issues greatly limit the amount of energy that can actually be recovered from the various marine resources.

Technologies are being developed to find the best possible systems to convert the various types of marine energy into electrical energy.

Tapping marine kinetic resources

Marine kinetic energy is very strong as the density of water is roughly 850 times that of air.

It comes from different sources – waves, tides or current – some more powerful and predictable than others. Therefore, its conversion into electrical energy requires a wide range of technologies to cover all its aspects.

Waves are generated primarily by winds; they are intermittent and vary in intensity.

Tides are driven by the gravitational pull of the moon, while currents result from the effects of tides as well as from other factors such as the mixing of different water temperatures and degrees of salinity. Both tidal and current resources are more predictable and less intermittent than waves.

The main criteria for selecting sites at which to tap into marine energy sources are tidal current velocity, wave formation and turbulence, water depth and bathymetry, and access to grid connection.

Wave and tidal converters can be fixed to the seabed, tethered or floating and rely on different technologies, some of which are still at the research or early development stages.

Riding on the crest

Tapping into wave energy is particularly challenging. Waves are driven primarily by winds that blow across oceans; they combine and continue to gain energy over long, open stretches of water. Some of the best locations for wave energy converters are the Atlantic coastline in Europe, and the Pacific coast states in the US.

Extraction of wave energy at useful scales is proving challenging owing to the nature and intensity of waves which vary according to the distance from shore and depth of water. A number of devices are being considered to convert wave energy. They include, among others, oscillating devices, floating absorbers that take in wave energy from all directions, pressure differential devices that capture energy from pressure change as the wave moves over them, and overtopping devices that have a wall over which waves break into a storage reservoir where the resulting higher level of water will drive a turbine.

Tidal turbine being installed (Photo: Atlantis Resources Corporation)
and generate power when released back into the sea.

**Going with the tide**
Tides and currents are quite foreseeable and flow in a predictable direction. Many of these devices, as well as wave converters, are being tested at EMEC (the European Marine Energy Centre). Established in 2003 it is the only centre of its kind in the world to provide developers of wave and tidal energy converters with purpose-built open-sea testing facilities spread across the Orkney Islands (UK).

Tidal converters are installed under the surface and include:

- Horizontal and vertical axis turbines that work in a manner comparable to that of land-based and offshore wind turbines. They are placed in the water and currents or tidal streams cause the rotors to spin around their horizontal or vertical axes and generate power.

- Venturi effect devices, which are systems that funnel the water through a duct, increasing its velocity and driving a turbine to produce electricity.

- Tidal kites that are tethered to the seabed and carry a turbine below a wing. They "fly" in the tidal stream, swooping in a figure-of-eight shape to increase the speed of the water flowing through the turbine.

- Archimedes screws, which are corkscrew-shaped devices with a helical surface surrounding a central cylindrical shaft. They draw power from the tidal stream as the water moves up/through the spiral turning the turbines.

**The heat is on!**
OTEC (ocean thermal energy conversion) uses the temperature difference between cold deep waters and warmer waters near the surface to run heat engines that produce electricity. OTEC works best when the temperature difference is around 20°C, typically found in tropical coastal areas.

OTEC has a substantial potential, however, what is currently technically recoverable is much less significant. Japan, for instance, assesses OTEC potential in its territorial waters and exclusive economic zone (220 nautical miles or 370 km from its coast) at 904 232 MW, but feasible OTEC potential (i.e. recoverable in a zone 30 km off its coast) at 5 952 MW.

OTEC also requires major capital investments and there are few, mainly experimental or pilot projects, in operation. OTEC also has other benefits: it can be used to produce desalinated water, to cool nearby buildings or for aquaculture providing cooler water and nutrients from deep waters for a variety of fish and shellfish species.

TC 114 has set up a Project Team to look at guidelines for design assessment of OTEC systems.

**Challenges**
Marine energy conversion is still at an early stage of development and faces a number of challenges. Its future does not depend on technical questions alone, which are the primary focus of IEC TC 114 work, but also on a number of environmental, political and economic issues.

The environmental impact of marine energy converters, which may be deployed in sensitive marine environments, must be low. It is the object of thorough risk assessments that cover various aspects such as the effects of turbine blades on marine mammals and fish, the effects of acoustic output of turbines or changes in water flow and energy removal. Results of some of these surveys so far are encouraging, but more research is required and environmental concern may slow down, or even prevent the installation of marine energy converters in certain zones.

Political obstacles may include the location of installations, particularly when these are in overlapping or disputed...
Small but by no means insignificant

Small hydropower projects have the potential of bringing electricity to many

Morand Fachot

For most people the word hydropower evokes pictures of massive installations and large dams, yet the potential of small hydroelectric projects is huge and expanding. Two IEC TCs (Technical Committee) are developing International Standards for small hydroelectric installations.

Defining small

Small means different things to different people. In the hydroelectric domain small, for the IEC, means installations of up to 15 MW, but in some countries it may cover systems of up to 30 MW.

The concept covers a wide range as it includes micro-hydro schemes, which can be as large as 500 kW and are generally run-of-the-river developments for villages, and pico-hydro systems that have a capacity of 50 W to 5 kW and are generally used for individuals or clusters of households.

IEC pioneering role

International Standards for hydroelectric installations are prepared by IEC TC 4: Hydraulic turbines. This is one of the IEC’s oldest TCs and it celebrates its 100th anniversary this year. The TC covers river and dam installations as well as tidal barrage.

TC 4 prepared IEC 61116, Electromechanical equipment guide for small hydroelectric installations, in 1992. The Standard describes the installation and operating conditions of power station, equipment specifications, as well as specifications concerning the inspection, delivery, operation and maintenance of installations.

In October 2010 TC 4 also published IEC 62006, Hydraulic machines – Acceptance tests of small hydroelectric installations, which “applies to installations containing impulse or reaction turbines with unit power up to about 15 MW and reference diameter of about 3 m”.

zones, and issues related to funding. As costs for developing technologies are often a matter of concern and uncertainty, marine energy conversion will certainly require, like other renewable energy sources, financial support from governments and interested stakeholders, such as utilities. This support may take the form of direct investments, subsidies, cost-leveling mechanisms or guaranteed feed-in tariffs as the cost of electricity produced by marine energy conversion will be initially higher than that produced with other means, including well-established renewables like solar and wind.

The overall return of marine energy conversion in terms of large volumes of additional clean energy resources suggests that a number of governments and other stakeholders are likely to provide substantial support to the sector, as can already be observed in many countries and regions, and as was the case for solar and wind energy projects before.

Small hydropower projects have the potential of bringing electricity to many zones, and issues related to funding. As costs for developing technologies are often a matter of concern and uncertainty, marine energy conversion will certainly require, like other renewable energy sources, financial support from governments and interested stakeholders, such as utilities. This support may take the form of direct investments, subsidies, cost-leveling mechanisms or guaranteed feed-in tariffs as the cost of electricity produced by marine energy conversion will be initially higher than that produced with other means, including well-established renewables like solar and wind.

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New IEC entrant
The scope of the recently created IEC TC 114: Marine energy – Wave, tidal and other water current converters, is being extended to cover aspects of river currents as the technology deployed for certain marine tidal and current installations is also relevant for specific river applications. TC 114 AHG (ad hoc Group) 2, is tasked with assessing the “power performance (…) of electricity producing river current energy converters”.

Some tidal turbines are now being installed in marine and river environments.

Huge needs, significant potential
Many small communities, in certain developing countries in particular, are not connected to a grid and may be entirely cut off from electricity. Small hydro schemes, including pico-hydro installations may be the solution to bring power to these communities.

Small hydro can also be an attractive solution for large countries. In the US, for instance, 85% of the 2,500 operating dams are categorized as small scale as they have a rated capacity of less than 30 MW. However, an estimated 97% of the country’s 79,000 dams are not generating any power, many having been built to control water levels or for other purposes. Equipping these dams to produce electricity could provide an additional 7.3 GW of capacity by 2025. The environmental impact would be minimal as these dams are already built.

In July 2013 the US Senate unanimously adopted two bipartisan hydroelectric power bills, previously passed by a large majority in the House of Representatives. These bills will, among other things, favour the development of small hydro projects by streamlining the Federal Energy Regulatory Commission’s permissions process for low-impact small hydro and close-loop pumped-storage projects. President Obama signed into law the two bills on 09 August 2013.

China has the largest small hydropower market in the world in terms of installed capacity (representing 59% of the world’s total in 2009), driven by programmes for providing rural electrification.

Under the national medium and long-term development plan for renewable energy, China is planning to have 75 GW of small hydro cumulative installed capacity by 2020 (out of a total estimated capacity of 128 GW).

All continents
Small hydro could also benefit from rural electrification programmes in many countries. Chile, for instance, has embarked on various small hydro-programmes, such as the 16.2 MW scheme one in the Bio Bio region that is near completion. The same can be observed in Brazil.

India’s Ministry of New and Renewable Energy estimates the potential for power generation from small hydro at more than 15 GW.

Countries throughout the world, including in Europe are investing in small hydro projects to bring power to rural communities, meet their overall energy requirements and reduce their dependence on imports of oil and gas.

Small hydro is also seen as offering the possibility of bridging the “power divide” in Africa with “new initiatives being launched in Central Africa (Rwanda), East Africa (Kenya, Tanzania and Uganda) and Southern Africa (Malawi, Mozambique and Zimbabwe).”

Not so spectacular, but very effective
Small hydropower schemes are not as spectacular as large hydro projects which often benefit from extensive media coverage, however, they have the potential to add significantly to the power capacities of many countries. Just as important, if not more, to bring electricity and economic prospects to hundreds of millions living in regions and communities that have been deprived of these for too long.
Gathering marine energy is a complex operation, yet it is only one part of the overall equation. The other less visible yet equally crucial part consists in transferring power from marine energy converters to the grid and end users. Many of the systems and parts needed for this are already available and deployed in offshore oil and gas installations and offshore wind turbines. International Standards developed by various IECTCs (Technical Committees) and SCs (Subcommittees) support this deployment.

Pioneering role of IEC first President
Cables are as central to offshore-shore power transmission as they are on land. However, laying and maintaining cables under water presents special challenges, even though the techniques for doing so have been in use for over 150 years. They were used initially to transmit telegraph signals between Britain and France in the 1850s.

Work by the IEC first President, William Thompson, Lord Kelvin, was essential in the successful introduction of submarine telegraph cables. Thompson was knighted in recognition of his work on the transatlantic telegraphic cable project. Today, fibre optic submarine communications cables carrying voice, data and other electronic signals link all continents.

Submarine power cables were introduced much later than their telegraphic counterparts, owing to the far more complex technical issues involved, but were still heavily reliant on technologies developed for telegraphic cables.

Mature technology
Submarine power cable technology is mature now, it has benefitted from developments in land power cables and electric cables for the marine and offshore industry.

Knowledge acquired in the submarine communications cable sector, notably in terms of insulation and armouring for greater abrasion, corrosion and mechanical resistance, has also benefitted submarine power cables. For instance, both use XLPE (cross-linked polyethylene) and EPR (ethylene propylene rubber) insulation which offer high chemical resistance to oil and solvents, excellent tensile strength and high abrasion resistance.

The laying of submarine power cables has improved substantially in recent decades with cable manufacturers able to deliver length of up to 160 km in one piece, and with cable-laying vessels that use satellite navigation systems, ROVs (remotely-operated vehicles) and ROTs (remotely-operated tools) to ensure a more precise installation.

Submarine power cables are being installed around the world; sometimes over hundreds of kilometres are laid, connecting islands to mainland grids, providing power to offshore oil and gas installations and transmitting power from offshore renewable energy installations to the mainland.

Both XLPE AC (alternating current) and HVDC (high-voltage, direct current) submarine cables are used for offshore wind farms. Submarine power cables often include fibre optic cables for data communication and monitoring of installations.
IEC power cable Standards

International Standards for power cables and cables for ships and mobile and fixed offshore units are developed by IEC TC 20 and SC 18A, respectively.

Although IEC International Standards do not specifically cover submarine power cables, and sometimes even explicitly exclude them, as in the case of IEC 60502, major submarine power cable manufacturers like ABB or Nexans rely heavily on IEC International Standards to manufacture high quality products. Mentions such as “the continuous current ratings are calculated according to IEC 60287 series of Standards” (ABB XLPE Submarine Cable Systems), or “Maximum value to IEC 60228” and “Calculated in accordance to IEC publications 60287” (Nexans Submarine Power Cables) are present throughout their marketing literature as evidence of compliance with internationally-recognized Standards.

Other IEC International Standards concerning test methods and requirements for power cables, such as IEC 60840 and IEC 62067, may apply also to submarine power cables following possible “modifications to the standard tests” or the development of “special test conditions”.

The last links

Submarine cables are not the only element in the offshore-shore power chain. Power collected by single, or arrays of, renewable energy converters must be distributed to the power grid onshore.

To enable this, the submarine power industry has developed subsea hubs, or UTUs (underwater termination units). These units, which can be interconnected, are placed on the seabed. They integrate power input from one or several devices and transfer the renewable energy onshore.

Underwater connectors are essential to link cables together or to link to renewable energy equipment, to hubs and to the power grid. They can be mated (i.e. connected) in dry or wet environments (dry-mate / wet-mate connectors). Several subsea electrical equipment manufacturers have developed both types for the renewable industry. Most of these devices, such as the MacArtney 11kV (7.6MW) Wet Mate Connector, comply with IEC International Standards.

This piece of equipment is marketed by its manufacturer as an “IEC 60502-4 compliant connector solution specifically designed to meet the needs of the marine renewables industry”. It “eliminates the need to bring cables to the surface by wet mating and de-mating cable infrastructure, wave energy converters (WECs), tidal energy converters (TECs) and floating wind turbines”.

IEC 60502-4 has been prepared by IEC TC 20: Electric cables.

Overall the industry represents a significant and expanding market when also taking into account associated services and equipment such as supply and cable-laying vessels, ROVs and ROTs.

Fast-growing submarine cable market

The demand for submarine cables has been growing significantly for a number of years and is likely to continue doing so in the future. According to an August 2012 report from the Pike Research consultancy company, the installation of “an additional 6 800 kilometres of high-voltage submarine cables in almost 70 new projects around the world over the next 6 years (...) is nearly double the level of construction during the previous five-year period.”

Cable manufacturers are ramping up production to meet the demand of a USD 3.9 billion market growing at 7-8% a year. Nexans, a major power cable maker, was the latest manufacturer to announce, on 16 July 2013, the construction of a new plant to produce submarine power cables.

Key drivers for the subsea cable market are the needs of the offshore renewable energy sector (wind, marine), the power requirements of offshore oil and gas installations that receive electricity from shore-based grids rather than producing it onsite, and international power connections between countries.

International Standards for cables, associated connectors and other necessary systems prepared by IEC TCs will ensure the cable industry will be able to meet demand.
On and under the surface

TC work supports a wide range of technologies to convert marine energy into electrical energy

Morand Fachot

As the quest for a greater share of renewables in the global energy mix gathers momentum, marine energy is emerging as a huge and potentially unlimited source of power. IEC TC (Technical Committee) 114: Marine energy, prepares International Standards for this promising sector.

Recent TC for developing technologies

Harnessing marine energy presents particular challenges, which explains why investments in this sector have been relatively modest so far compared to efforts in other renewables.

As oceans represent a huge source of power that can be partly converted into electrical power, the drive to develop existing technologies, or new ones, led to the creation of IEC TC 114 in 2007.

Its title: Marine energy – Wave, tidal and other water current converters, gives a clear indication of its scope, although the TC adds that it is open to “other conversion methods, systems and products”. However, it also specifically excludes “tidal barrage and dam installations”, which are covered by IEC TC 4: Hydraulic turbines.

TC 114 remit is to prepare International Standards that allow technologies developed for marine energy conversion to evolve beyond early stages of developments, in which they have remained for some 30 years, to reach full commercial deployment.

Wide-ranging tasks

To achieve this objective TC 114 has adopted a structure that brings together 96 experts from 14 Participating countries and 8 Observer countries into 9 PTs (Project Teams) and 3 AHG (ad hoc Groups).

The TC prepares International Standards that address essential aspects of marine energy conversion such as:

- system definition
- performance measurement of wave, tidal and water current energy converters
- resource assessment requirements, design and survivability
- safety requirements
- power quality
- manufacturing and factory testing
- evaluation and mitigation of environmental impacts

The TC’s work so far has led to the publication of three TS (Technical Specifications) that cover terminology, and power performance assessment of wave and tidal energy converters. More are due to be released in the coming months.

Its current work programme includes the preparation of publications that cover Guideline for design assessment of OTEC (Ocean Thermal Energy Conversion) and the assessment of mooring systems for marine energy converters as well as for wave and tidal energy resource assessment and characterization.

Paving the way for large-scale deployment

As marine energy conversion projects now shift from research and prototype schemes to grid-connected commercial deployments, the need for standardization is obvious. International Standards will help reduce the technical and financial risks associated with the wide range of new technologies and enable a quicker adoption of marine energy conversion.

To prepare these Standards TC 114 set up PTs for design, device performance and resources assessment. It also set up a PT for electrical power quality requirement issues to address grid connection and integration, and a PT to move forward on OTEC.

TC 114 is now dealing with the full spectrum of technical issues from scale testing to grid integration.

Since marine energy projects share some technical issues with offshore wind farms on common elements, such as mooring and floating installations, TC 114 is liaising with TC 88: Wind turbines.

The IEC’s CAB (Conformity Assessment Board) set up WG (Working Group) 15 to develop a Framework for an internationally standardized approach of addressing the conformity assessment needs of the marine energy industry.

Obvious customers for TC 114 Standards are the industry (device and project developers and manufacturers), test centres, certifying bodies and regulators, national and local authorities, and potential investors.

Considering the publications already issued, the projects that have been launched or are near completion it is safe to assume that TC 114 work will give the marine energy industry and utilities all the necessary Standards to manufacture and deploy the best possible systems.
He did it his way
IECEE Executive Secretary and COO Pierre de Ruvo to step down at end 2013

Claire Marchand
IECEE Executive Secretary and COO Pierre de Ruvo will step down at the end of 2013. As in previous years, IECEE, the IEC System of Conformity Assessment Schemes for Electrotechnical Equipment and Components, held its annual series of meetings at the beginning of the summer, this time in Vancouver, Canada, from 17 to 21 June 2013. What distinguished this year’s gathering was the announcement that IECEE Executive Secretary and COO Pierre de Ruvo would step down at the end of the year.

The (not quite yet) final curtain
In a very personal and heartfelt speech inspired by Frank Sinatra’s song My Way, de Ruvo took the opportunity to reminisce about the 14 years he has spent at the helm of the IECEE, “a system where there are no premium Members, but Members adhering to a common objective…[to] facilitate trade through mutual recognition”.

Together we are stronger
In his speech, de Ruvo paid a special tribute to the founders of the IECEE, whom he met in the early 1980s and who were instrumental in leading him towards conformity assessment, instilling in him the maxim: “United there is little we cannot do in a host of cooperative ventures. Divided there is little we can do”.

He then expressed his gratitude to the past and current Chairmen and the Officers of the System, thanked his team profusely for their extraordinary assistance and hard work over the years and voiced his appreciation of the IECEE stakeholders and community at large for their infallible support, encouragement and confidence.

On a more personal note, de Ruvo said that none of this would have been possible without the limitless support he has received from his wife.

The future is bright...the future is...
IECEE
Making his the famous words pronounced by John Fitzgerald Kennedy, de Ruvo urged his colleagues to ask themselves “not what the IECEE can do for you but what you can do for the IECEE”, to make the world a better, safer and more efficient place.

The following lines, taken from de Ruvo’s speech, highlight the spirit in which he is leaving the IECEE: “I am confident that the work we’ve done thus far will put the IECEE in good stead for many years ahead. […] Whatever major challenges may lie ahead, I hope that the future IECEE will remain the reference, the unique global recognition system, yet one that truly facilitates trade and be invaluable across industrialized countries to developing nations”.

In-depth review of IECEE work
On a more traditional note, the Vancouver event was an opportunity for the CMC (Certification Management Committee) to review all IECEE activities undertaken since the 2012 annual meeting. Over two days, 19-20 June, the System’s various Committees and Working Groups reported on their specific attributions and tasks. The huge number of items under scrutiny, mostly pertaining to the smooth running of the System, also included:

- the launch of INDAT, the new product category for industrial automation (see e-tech June 2013);
- new services that are currently under development, such as Smart Grid and a Global EEE (Electrical Energy Efficiency) Labelling Programme;
- cooperation with other international organizations, citing as an example the long-standing and successful collaboration efforts with IAF (International Accreditation Forum) and ILAC (International Laboratory Accreditation Cooperation)

All decisions made by the CMC in Vancouver will be submitted to IEC CAB (Conformity Assessment Board) for approval at their October meeting in New Delhi, India, during the IEC General Meeting.
Explosions avoided
IECEx, UNECE and IEC Brazilian NC conference on safety in the Ex field

Aliyah Esmail
Safety is paramount when you work in Ex (explosive) areas. If equipment is not installed, maintained, inspected or repaired by competent persons and according to strict Ex standards, the results can be devastating. To help industry and regulators, IECEx the IEC System for Certification to Standards Relating to Equipment for Use in Explosive Atmospheres, will be holding a workshop on safety in Ex areas.

Workshop to learn about Ex safety
Over the past decade, South American countries have seen growth in many Ex industries, including furniture manufacture, automotive manufacture and repair, pharmaceuticals, food processing, grain handling and storage, sugar refineries and coal mining. As a result, IECEx will be holding its annual meetings from 16 to 20 September in Fortaleza, Brazil. As part of these meetings, IECEx, the IEC National Committee of Brazil and UNECE (United Nations Economic Commission for Europe) will be hosting a special one day workshop on safety in the Ex field.

The event will provide a unique opportunity for industries throughout South America to get better acquainted with IEC International Standards and Conformity Assessment Systems in general and find out how they can derive most benefit from the IECEx services. These cover Ex equipment and systems, repair and overhaul facilities, and certification of personnel competence.

The one day event’s keynote address will be given by IEC President, Dr Klaus Wucherer. It will reach out to regulators and the oil, gas and mining industries in Latin America for whom knowledge of the Ex field can help them move forward safely at the same time as reducing costs.

All services are formally endorsed by the United Nations, through UNECE, as an international model for safety regulations in Ex areas. UNECE will be presenting the conclusions of its global questionnaire into regulations for the Ex field called “Common Regulatory Framework for Equipment used in Environments with an Explosive Atmosphere”.

Who should attend?
The event is for experts, senior staff and professionals from any Ex industry sectors in South America who are involved in the standardization, manufacture, inspection, repair, exploitation, maintenance and overhaul of equipment as well as systems evaluation and certification of personnel competence.

Practical information
For registration and more information on the event and venues, please go to: http://www.iecex.com/fortaleza/index.html

IECEx plays a major role in testing and certifying that equipment, systems and personnel competence meet the highest international standards of safety

Industrial automation has increased the need for electric equipment in hazardous areas like sugar refineries

Oil rigs and other Ex industries have the obligation to provide the required levels of safety in equipment and personnel
When you think of explosive atmospheres, oil and gas or petrochemical industries are the first areas that spring to mind. But, as economies in Asia grow, the list grows of industries that carry a risk of fire or explosion. They include transportation – including aerospace – furniture manufacturing, automotive manufacturing and repair, pharmaceuticals, food processing, grain handling and storage, sugar refineries and coal mining.

A two day event to understand IECEx services
Schemes covered by IECEx, the IEC System for Certification to Standards Relating to Equipment for Use in Explosive Atmospheres, are important in Asian economies for enhancing safety. To help educate interested parties about the System and learn about how the region can benefit from it, the IEC National Committee of Malaysia, Department of Standards Malaysia and Ministry of Science, Technology and Innovation (MOSTI) have taken the initiative and approached IECEx to host this major event.

Organized by the IEC and IECEx, together with Department of Standards Malaysia, and in conjunction with UNECE (United Nations Economic Commission for Europe), the 2014 IECEx International Conference will take place on 19 and 20 February 2014.

The two day event will provide a unique opportunity for industries in the region to get better acquainted with IEC International Standards and Conformity Assessment Systems in general and find out how they can derive most benefit from the IECEx services that cover Ex equipment and systems, repair and overhaul facilities, and certification of personnel competence. All services are formally endorsed by the United Nations, through UNECE, as an international model for safety regulations in Ex (explosive) areas.

Knowledge stops explosions
This conference will bring together experts from all over the world who...
Life and property on the line

IECQ CAP battles counterfeit components

Aliyah Esmail

Counterfeiting has proven to be a viable and lucrative industry in many areas of the world, specifically the counterfeiting of microcircuits used in electronic devices. IECQ, the IEC Quality Assessment System for Electronic Components, has launched a programme designed to address the international counterfeit crisis faced by the aerospace, defense and high performance (ADHP) sectors.

Counterfeit components harm everyone

Counterfeit components often originate from material meant to be recycled from e-waste programmes. The fraudulent components are often recycled with cheap materials, improper assembly, substitute dye and then exposed to harsh environments that significantly reduce the life and reliability of such components.

Recently, there have been increases in counterfeit electronic parts entering the supply chain, posing significant performance, reliability, and safety risks worldwide. The IECQ CAP (Counterfeit Avoidance Programme) encompasses management processes associated with avoidance and mitigation for dealing with counterfeit or fraudulent electronic components.

Explosive atmospheres can be caused by flammable gases, mists or vapours or by combustible dusts

IECQ CAP can help ADHP sectors avoid counterfeit components
components. The scheme was designed for and by manufacturers and distributors and the brochure, "Flying away from counterfeit parts," has more information on IECQ CAP.

First company to receive IECQ CAP certification
Secure Components is an independent distributor specializing in sourcing no longer manufactured and hard to find components for the aerospace and defense industries. It is the first company to achieve Certification under IECQ CAP.

“The dramatic rise in counterfeit material, combined with an economy built on global trade over the past five to 10 years has led some of the world’s largest companies to seek an industry based solution to this growing epidemic of counterfeit components. Before IECQ CAP, industry had no reliable programme at an international level to ensure a company’s compliance to an effective counterfeit avoidance plan. A broker or distributor could claim compliance to systems without third party oversight or international recognition,” explained CEO of Secure Components Todd Kramer.

IECQ CAP Certificate of Conformity explained
The IECQ CAP Certificate of Conformity provides confidence internationally that manufacturers or distributors have the processes in place to manage counterfeit avoidance in the selection and use of components.

With IECQ CAP, manufacturers and distributors will be able to promote their products and services with more confidence as the Certification will be internationally recognized; obtain independent monitoring and verification of their components and systems, including their auditing system; benefit from advanced detection of potential technical problems in the supply chain; eliminate duplicate testing; and achieve easier acceptance by regulators and others in the supply chain in many countries.

What the future holds
In the future it is expected that other industries will make use of this International Scheme. Other industries may include telecommunications, biomedical and automotive.

“Counterfeiting is something that affects all industries across the board,” said Kramer. “Everyone is suffering from intellectual property being stolen and safety being compromised. Embracing this change will not only help business but more importantly this will increase the safety of the men and women using the equipment.”

About IECQ
IECQ (IEC Quality Assessment System for Electronic Components) is a worldwide approval and certification system that covers the supply, assembly, associated materials and processes of a large variety of electronic components that are used in millions of devices and systems. The IECQ Certification System provides manufacturers with independent verification that IEC International Standards and other specifications were met by suppliers who hold an IECQ certification. The avionics and increasingly other industries depend on the IECQ Electronic Component Management Plan to assess suppliers and safely manage their components’ supply chain also to avoid counterfeit merchandise. IECQ also allows manufacturers to more easily comply with increasingly strict hazardous substances regulations. IECQ operates five certification schemes: HSPM (Hazardous Substances Process Management), ECMP (Electronic Component Management Plan), AP (Approved Process), AC (Approved Component) and ITL (Independent Testing Laboratory).
World Smart Grid Forum 2013

A unique business, regulatory and technical executive perspective on the Smart Grid issue

Claire Marchand

Registration for the World Smart Grid Forum 2013 is open. The event, which will take place in Berlin, Germany, on 23-25 September, is a great opportunity to get a different perspective on the Smart Grid issue. Don’t miss out on the early bird registration, available until 24 August!

The present and the future

The aim of the Forum is to stimulate thought processes that are freed from the technology or commercial restraints of ordinary Smart Grid events. It will build on real world cases and just the right level of technical insights to:

- analyze and crystallize key Smart Grid success factors
- develop the decision matrix that will bring projects to broad implementation
- outline a clear path forward.

The challenges ahead

After establishing what the Smart Grid situation is today, the Forum will spend time identifying the future challenges posed by the development of complex interconnected and interdependent systems, including:

- risk Management (energy security and safety)
- implications for present day planning
- major trends and migration steps (what, when and where)
- potential short, medium and long-term cost savings
- evaluation of energy efficiency potential
- policy and regulatory requirements
- opportunities of innovation and value creation.

Who should attend?

In hosting the World Smart Grid Forum 2013, IEC, SGCC (State Grid Corporation of China) and VDE, the German Association for Electrical, Electronic & Information Technologies, will bring together CEOs and technical experts from the global Smart Grid scene to share their expertise, listen and learn to derive concrete lessons from Smart Grid experience so far.

The event will provide participants with a framework of interactive sessions, as well as invaluable networking opportunities with other key global stakeholders from industry, regulators and utilities.

Decisions and recommendations published in strategy paper

The concrete outcomes of the Forum will be published immediately following the event in a strategy paper comprising decisions and recommendations that will define the path towards strong Smart Grids, Smart Communities and Smart Cities.

Be part of the solution

Don’t miss this unique opportunity to draft the most efficient path forward to make Smart Grids enable optimal electricity delivery to private houses...
the Smart Grid vision a reality. Register today!

http://worldsmartgridforum2013.org/

**IEC work on Smart Grids**

In addition to the IEC Smart Grid Roadmap more than 100 IEC Standards have been identified as relevant to the Smart Grid. For more information visit the Smart Grid section of the IEC website.

Smart Grids are key to future energy security because without them, existing power networks will become increasingly unreliable, will not be able to integrate renewable energy sources or decentralized power generation.

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**Sharing knowledge**

IEC work helps build the trust needed to sell globally

Claire Marchand

IEC Global Visions interviewed Gang Wu, Chairman and CEO of Goldwind, the largest manufacturer of wind turbines in China, and among the largest globally. In this interview, he explains how active participation in IEC work allowed his company to jump development hurdles and learn from the mistakes others had made before them.

They didn’t understand that the use of standards and active participation in standardization work would help them jump development hurdles, learning from the mistakes others had made before them.

That all changed about 10 years ago, says Wu. Talking to peers and initiating cooperation activities beyond national borders, Goldwind started to recognize that active participation in IEC work would allow them to benefit from shared knowledge.

**Better, faster market access**

When Goldwind was established more than 15 years ago, its executives didn’t realize the importance of standards.

Goldwind headquarters

Gang Wu, CEO and Executive Director, Goldwind
Xinjiang Goldwind Science & Technology Co., Ltd. (Goldwind) is the largest manufacturer of wind turbines in China, and among the largest globally. With strong R&D capabilities, the company is the world’s largest manufacturer of PMDD (Permanent Magnet Direct-Drive) wind turbines, representing the industry’s next generation technology. Goldwind is listed on both the Shenzhen Stock Exchange (Stock Code: 002202) and the Hong Kong Stock Exchange (Stock Code: 2208).

IEC Standards will help Goldwind face challenges in the coming years. There is increasingly fierce market competition and wind turbines need to operate offshore, in low wind speeds and at high altitudes. Increasingly large equipment, more complicated designs as well as new materials all bring higher risks with them. IEC Standards allow Goldwind to mitigate this risk. On the IEC platform they can share and learn from their peers’ experiences and expertise. This helps overcome difficulties and improves risk management.

Need to cover wind power projects from start to end
Wu adds that with the increasing scale of the wind power industry, IEC work needs to penetrate the whole industrial chain of wind power, not only the manufacturing of the turbines, but also take into account transportation, installation, maintenance and safety considerations. He hopes that the IEC will systematically cover entire wind power projects, from start to end.

Wu concluded saying that participating in standardization and following IEC Standards can provide industry with a double advantage: reduce R&D risks and have a more direct path to better products that are easier to sell.
Welcome IEC Young Professionals
2013 Workshop

Janice Blondeau

Almost 30 NCs (National Committees) have registered participants for the IEC Young Professionals - 2013 workshop which will be held in New Delhi in October during the 77th IEC General Meeting. For many participants the workshop provides the first exposure to an IEC General Meeting and to standardization and conformity assessment at such a high level.

An introduction to standardization on an international scale
To help make the IEC YPs (Young Professionals) feel welcome, delegates in New Delhi are encouraged to reach out, introduce themselves and welcome the newcomers to the IEC community. You’ll know the YPs by their green badge.

Reaching Generation Y
The IEC launched its Young Professionals programme four years ago to bring the next generation of experts into the world of the IEC. Already involved in standardization and conformity assessment, they are up-and-coming experts in engineering, technical or management roles. Through this programme, the Young Professionals have fast-track access to join in the work of the IEC early on in their professional lives.

It’s clear that participation of the IEC community is vital to ensure that Young Professionals continue to expand their expertise and broaden their horizons in international standardization.

Who the IEC Young Professionals are
A breakdown of the IEC Young Professionals programme participants from the last three years shows that 18% came from manufacturing, supply, retail or distribution; 16% of participants came from industry, professional, trade or consumer associations; 15% came from certification and testing; 12% were from government or public institutions and 10% came from utilities.

Thirty-eight National Committees have been represented during the first three years of the YP programme, with participants coming from all geographical regions. With 48% of participants, Europe had the highest number, followed by Asia (22%) and the Americas (17%).

Workshop insights
Three post-workshop participant surveys and a survey of NCs represented in the programme have helped the IEC to see how the programme has been successful and also where the Young Professionals say that they need further support. The programme has been very successful: 92% of participants indicate that their expectations where fulfilled or surpassed and plan to increase their involvement in IEC work. National Committees directly benefit from sending participants to the IEC Young Professionals programme.

More than half of programme participants have increased their involvement at the national level and later joined a national equivalent programme.

As far as next steps for the 2012 Young Professionals, many are keen to become further involved in the work of Technical Committees, Subcommittees and Working Groups; some are interested in developing national YP programmes; and others plan to develop their professional skills further and receive training in international standardization as experts.

The fact that the programme focuses solely on electrotechnology is seen as clear advantage. Participants particularly value the opportunity to network with peers who work in similar fields. This also increases insights and knowledge of overall industry developments and issues.

The IEC Young Professionals workshop, Oslo, October 2012
In their words
Gladys Cabrera López (Mexico) says that the IEC Young Professionals programme has been the most important professional experience in her career to date as it gave her the opportunity to obtain a new role. One of her tasks is to promote the participation of Mexican industry in all the activities related to standardization and she attends regional organizations’ events, such as those of CANENA and COPANT.

Chen Shu Kai (Singapore) says that based on the insights on how International Standards are developed that he gained during the workshop, he is currently involved in a HAPUA (Head of ASEAN utilities/Authorities) work group project to develop a generic guideline for inter-connection of distributed energy resources to the grid for ASEAN utilities.

Nipun Sibal (United Kingdom) says that he has started looking into more detail about the standards that affect the product family he manages in his business. If the competitors do not have the necessary standards, then he uses this as a unique value proposition for his products and explains the benefits to the customers.

Tools and resources
The survey also asked YP programme participants if they were satisfied with the post-workshop information and activities. The majority of YPs expressed satisfaction with the information received and activities following the workshop. Some participants requested more activities in between workshops, including web discussions and mid-year workshops. Others have asked for more opportunities to get involved in their specific technical area of interest.

In response to these suggestions, the 2011 YP Leaders have organized web discussions with the third e-Discussion held in June 2013 on the subject of Smart Grids. Several online training courses on IT tools have also been offered.

Also to help participants stay involved after the workshop ends the 2011 Young Professionals have developed mentoring programme guidelines for NCs to use on a voluntary basis and IEC Central Office has developed guidelines for NCs on how to establish national YP programmes which would support these activities. Many NCs have indicated that they have established or are planning to establish a national IEC Young Professional programme.

Call for NCs to continue Young Professionals support
The IEC General Secretary has called on all National Committees to enhance the opportunities for Young Professionals in their countries to attend technical meetings. Ninety percent of the NCs who responded to the survey have contacted their Young Professionals after the workshop, which has helped increase YP involvement in national meetings, technical work and the development of national YP programmes. Programme participants have also helped with the selection of future IEC Young Professionals at a national level.

The 2013 workshop will include an interactive session on how YPs can stay more involved with the IEC after the workshop. Under the guidance of the 2012 YP Leaders, the 2012 Young Professionals are also looking into pre- and post-workshop support.

IEC Young Professionals manual
Three-quarters of the National Committees who responded to the survey have shared the IEC Young Professionals manual with others and other NCs were planning to do so. The YP Manual was developed by the 2010 Young Professionals as a tool for newcomers, with a comprehensive overview of the IEC’s structure and operations, and tips on how to make the most of participating in the IEC community.

2013 workshop
This year the workshop will start with a welcome gathering on the first evening, followed the next day by a plenary session with an overview and insights into the workings of the IEC. This is followed by lunch with the IEC community, observing the SMB (Standardization Management Board) meeting, and attendance at the IEC General Meeting Opening Ceremony.

On the 2nd day of the workshop the Young Professionals will attend a technical meeting of their choice, followed by lunch with the IEC community and the opportunity to observe the CAB (Conformity Assessment Board) meeting. The day winds up with a dinner for the Young Professionals.
The 3rd day of the workshop starts with a working breakfast where the YPs meet and network with their country’s NC Officers. Interactive sessions on four different subjects follow, including how YPs can become more involved with the IEC after the workshop. There is also an Open Space session, facilitated by the 2012 Young Professional Leaders and the day wraps up with an industry visit.

Reach out
Whatever your role in International Standards and conformity assessment, you can help foster and encourage the IEC Young Professionals. If you are at the General Meeting, you might want to take a few minutes to share some of your experiences in electrotechnical work.

If your country is represented at the IEC Young Professionals - 2013 workshop you may like to see how you can support your country’s Young Professionals once the General Meeting has finished and everyone is back in their work environments.

If your country hasn’t yet chosen a Young Professional to participate in this valuable programme, take note for 2014! It’s well worth it.

Contact
To have more information about the IEC Young Professionals programme, see the YP section of the IEC website or contact Robert McLaren, IEC Young Professionals Programme Coordinator.

IEC Young Professionals programme
This programme brings together the world’s upcoming expert engineers, technicians and managers and provides them with opportunities to shape the future of international standardization and conformity assessment in electrotechnology.

Go Ahead, Get Ahead
René Jensen
IEC 2010 YP from Denmark: is making new standards and fighting for the existence of small and medium size companies in the big company market.

Mentoring, a central force
Transmitting best practice

Aliyah Esmail
The IEC has launched a mentoring programme for its Members as well as Affiliate countries. The purpose of this programme is to broaden participation at all levels by encouraging well-developed NCs to mentor and share their experience with other NCs (National Committees) and Affiliates’ NECs (National Electrotechnical Committees).

Mentoring helps everyone succeed
“Bill is learnin’ me his experience,” said Yankees catcher Lawrence Peter “Yogi” Berra. At the beginning of his career he was coached by Bill Dickey, another catcher of some renown. Berra was being groomed as Dickey’s replacement. This mentoring helped Berra become the catcher he is remembered as being in the Baseball Hall of Fame.

More than 90% of participants indicated that their expectations for the programme have been met
More than half the Young Professionals have increased their involvement at a national level

IEC FAMILY

Go Ahead, Get Ahead
René Jensen
IEC 2010 YP from Denmark: is making new standards and fighting for the existence of small and medium size companies in the big company market.

This student could be one of IEC’s future expert. It could be you!
Mentoring is a central force. It can help students succeed, baseball players break records and it can help countries move forward in their work with the IEC.

**A mentoring programme advances learning**

The IEC has been a pioneer in bringing the benefits and advantages of involvement in the IEC to the developing world, not only through its Associate membership and the Affiliate Country Programme, but also for example by opening up membership of its conformity assessment systems to countries that are not yet IEC Members. Through its mentoring programme, the IEC will further increase support to these countries, both as customers for IEC International Standards and users of the IEC Conformity Assessment Systems, with a view to building their capacity for greater participation in the Commission’s technical work.

**Benefits for NCs and Affiliates**

The mentoring programme will help NCs and Affiliate NECs at the management and technical levels. Mentoring at the management level will focus on the reinforcement of the NC or NEC structure and its mirror committees. Technical mentoring will enhance the participation of experts, focusing on the procedures for commenting on IEC International Standards during the development and providing guidance in understanding the requirements laid out in these Standards.

Both mentor and mentee, not to forget the IEC, are bound to gain from the partnership they engage in. Stronger ties may provide mentoring countries with new business opportunities in developing or emerging markets. The fast-track approach will help mentees enhance their participation in IEC standardization work and have their voice heard sooner rather than later, thus reinforcing the truly global and leading role played by the IEC in the electrotechnical field.

**Participation required**

For the purpose of the mentoring programme, the Affiliate Countries are split into different categories so that they can each get the type of learning that best reflects their needs.

The Affiliate Plus countries with an established NEC, with up to 50 or with more than 50 adoptions of IEC International Standards will be offered mentoring at the management and technical levels provided by volunteer IEC experts.

Affiliate Countries that do not have a NEC, whether or not they have adopted IEC International Standards, will be offered training to help establish their NEC by the Affiliate Team and Regional Centers, with support from IEC TISS (Technical Information and Support Services).

Training on the adoption procedure for Standards as well as on the fundamentals needed for active participation in IEC work will continue to be offered by the Affiliate Secretariat.

**More information**

For more information about the Mentoring Programme or to register please contact:

NCs interested in participating either as a mentor or as a mentee: Reena Teuber.

Interested Affiliates: Thomas Robertson
IEC Affiliate Countries Secretariat.
A status to help ensure safety
IEC launches Affiliate Conformity Assessment Status

Aliyah Esmail
Conformity assessment is an expectation in many countries throughout the world. In most of the countries participating in the IEC Affiliate Country Programme, however, the concept has not necessarily been fully integrated. Recognizing the need to raise awareness and provide a better understanding of the specific requirements linked to conformity assessment activities, the IEC Affiliate Country Programme Secretariat is launching the new ACAS (Affiliate Conformity Assessment Status) in August 2013.

ACAS is an opportunity to learn
This status will offer Affiliate Countries new benefits in all of the IEC CA (Conformity Assessment) Systems that exist today and any that are developed in the future.

Benefits of the new status
Regional events

Having ACAS will mean that the participating country can take part in regional awareness events. These events will be done on request from international or regional organizations, or a group of Affiliate Countries. The CA Systems, in collaboration with the Affiliate Secretariat, will organize these events. The events can cover IEC symposiums and awareness, and speakers for joint capacity-building events with other international or regional organizations.

The CA Systems will provide experts and/or specialist speakers and can carry out local visits or audits for participating factories, laboratories or government CA facilities - whenever possible in the host country.

First mentoring agreement between Austria and Rwanda

Soon after the official launch of the Programme in June, a first mentoring agreement was signed between Austria and Rwanda. Under the terms of the agreement, the Austrian NC will provide assistance to the Rwandan NEC both on the management and technical levels. The mentoring will focus on the following topics:

- reinforcing the existing NEC
- establishing a mirror committee

The mentoring will begin on 1 September 2013 for a period of up to two years. During that time, the Austrian NC will be able to advise the Rwandan NEC via regular Skype conversations, participation in NEC meetings via webinars, one-to-one meetings during the IEC General Meeting, and workshops either in Austria or in Rwanda.
The SMB (Standardization Management Board) has approved the nomination of the new ACEC Chairman as well as that of new country members of two Strategic Groups and one Advisory Committee.

New ACEC Chairman
Donald N. Heirman has been nominated Chairman of ACEC (Advisory Committee Nominations Advisory Committees and Strategic Groups) by the SMB. Heirman will chair the first seminar of the new-look ACEC on 30 January 2013 in Luzern, Switzerland.

Webinars
IEC CA expert(s) will hold seminars organized by the Affiliate Secretariat. The presentations will be on subjects relevant to the audiences attending.

Participation in CA Systems
Affiliate Countries that take part in ACAS will have observer status in each system at management, committee and working group meetings with commenting rights when appropriate. They will also have ample networking opportunities and knowledge will be gained through effort and participation.

Learning modules
E-learning modules are being developed and will be available through the IEC website or on CD-ROM. Once the first level module has been completed, the participant will pass a test to obtain a recognition certificate to move up to the next level. Knowledge will be gained through effort and participation, and higher knowledge will give access to greater benefits.

Database
The Affiliate Secretariat will collect materials to provide a database (Affiliate Resources Database) for the benefit of Affiliate countries which will include publications, developing country case studies/testimonies (once available), possibly international organizations capacity building projects, and others on request from the Affiliate countries.

Who can benefit from ACAS?
Any Affiliate Country that has officially declared the adoption of IEC International Standards as national standards; made the commitment to use the ACAS Learning Modules; and signed the ACAS Pledge.

For more information or to receive the ACAS Pledge, please contact the Affiliate Secretariat in order to benefit from the new Affiliate Conformity Assessment Status.

Nominations
Advisory Committees and Strategic Groups

Laurianne Trimoulla
The SMB (Standardization Management Board) has approved the nomination of the new ACEC Chairman as well as that of new country members of two Strategic Groups and one Advisory Committee.

Don Heirman (right) with then IEC President Jacques Régis at the Lord Kelvin Award ceremony during the IEC General Meeting in São Paulo, Brazil, in 2008
on Electromagnetic Compatibility), effective immediately. His term of office will end on 30 June 2016.

Don Heirman is American and holds his own training and educational consultation corporation in electromagnetic compatibility. Previously, he had been with Bell Laboratories for over 30 years.

Heirman is Chairman of CISPR (International Special Committee on Radio Interference) and is also involved in many groups and organizations – ANSI (American National Standards Institute) and IEEE EMC Society among others. He is recognized by his peers as an authority in the EMC field and was awarded the IEC Lord Kelvin Award in 2008.

ACEC considers all aspects of the ability of an equipment or system to function satisfactorily in its electromagnetic environment without introducing disturbances. ACEC ensures consistency and avoids duplication in IEC Standards.

Country nominations
The SMB Strategic Groups are also welcoming new members: Philip Groenewald has been appointed South Africa member of SG 3: Smart Grid, and Dr Seongil Lee becomes Korea member of SG 5: Ambient Assisted Living.

Obituary
Stephan Bürgin, President of the Swiss NC

Stephan Bürgin, President of the Swiss NC (National Committee) of Switzerland, was fatally injured in a glider accident in the South of France. Forest wardens discovered the crash site on Tuesday 2 July, seven days after Bürgin was reported missing.

President of the Swiss NC
Bürgin was the CEO (Chief Executive Officer) of the ELMA Group, based in Wetzikon, near Zurich. He had been appointed President of the Swiss NC in 2011.

Trained as an electrical engineer in the field of telecommunications, Stephan Bürgin also studied business economics at the Engineering School in Zurich and “building and energy” at the Engineering School in Winterthur.

In 1979, Bürgin joined Siemens Schweiz AG where he occupied various managerial positions before his appointment as Head of Development and Production in 2000, a position he held until 2003. Between 2003 and 2007, Bürgin served as CEO of several Swiss companies active in the electronics sector, such as Swisstronics Contract Manufacturing AG and Electronicparc Holding AG, later acquired by Cicor Technologies.

Stephan Bürgin, who had been CEO of the Elma Group since April 2007, was also the company’s Regional Manager for Asia and a member of its Executive Board.

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First upgraded Consolidated version of IEC International Standard released as package

Morand Fachot
The first upgraded Consolidated version of an IEC Publication has been released. These documents are now issued as packages that include both the Redline version, which shows changes, and the Final version that does not show where the technical content is modified by amendment(s).

Upgrading consolidated versions
Consolidated versions of Publications are now released as packages that include both the Redline version and the Final version. The Final version does not show where the technical content is modified by amendment(s).

The Final version is a natural complement to the Redline version.

Users’ convenience in mind
Users of IEC International Standards may need to see where changes that are published in Amendments fit in the base Publication. To help them find out, Consolidated versions with vertical lines in the margin, showing where the base Publication is modified, have been made available since 1997.

Since May 2010, additions and deletions are redlined, with deletions being struck through in all new consolidated versions.

The release of the Consolidated version has been strictly synchronized with that of the amendment since May 2012.

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The Final version is a natural complement to the Redline version.

The first upgraded Consolidated version of an IEC International Standard was published in July 2013.

Industrial network (Photo: Siemens)

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Improving usability
This first upgraded Consolidated version of an IEC Publication that includes both the Redline and Final versions will prove essential for experts who need to see changes made to the previous version, who want to access the latest technical content or who want to benefit from both versions.

This new format, the latest in a series that has undergone several enhancements over time, was introduced as part of constant efforts to improve the usability of the technical content of IEC publications for IEC customers and technical experts.
Issue 07/2013 of e-tech will focus on lighting and lasers.

The lighting industry is in constant expansion: new technologies, global population growth, increasing urbanization, rising incomes, environmental and energy saving concerns account for the rapid evolution and growth of this particular sector.

The gradual phasing-out of incandescent light bulbs in many countries around the world has led to the development of new types of energy-efficient electric lights, be they CFLs (compact fluorescent lamps) or LEDs (light-emitting diodes).

As a result, lighting for residential, commercial, industrial and public spaces is undergoing a radical transformation with the introduction of new and more energy-efficient lighting solutions. The question for all users – individuals and collectivities – is whether to buy new installations and systems or to upgrade/update existing ones.

A number of IEC TCs and SCs prepare International Standards for components and systems in the lighting industry in general, including in its management dimension. In particular, the work done by IEC TC 34 enables new types of energy-efficient light bulbs and compatible fixtures to be introduced across all sectors and domains of the lighting industry.